



REPORT

New International Airport of Cabinda (NAIC Project) - Angola

Environmental and Social Impact Assessment - Chapter 01 - Introduction

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This report is prepared in the period June - September 2023 by WSP Italia and integrated/revised in January 2024 for the benefit of ASGC in accordance with the conditions set out in the Terms and Conditions agreed and signed by both parties.

To the extent practicable, WSP relied on information made available by ASGC and the relevant Project consultants. However, most of the information is commercially sensitive and protected by confidentiality agreements between the parties to the contracts and its accuracy could not be independently verified.

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List of More Frequent Acronyms

AEWA	African-Eurasian Migratory Waterbird Agreement
AFs	Project Associated Facilities
ALS	Approach Lighting System
ANR	Angolan Waste National Agency
AoI	Area of Influence
APUs	Auxiliary power units
ARFF	Aircraft Rescue and Fire Fighting
ASGC	ASGC UK or The Client (during the study rebranded in INNOVO GROUP)
ATC	Air Traffic Control
BAT	Best Available Techniques
BMP	Biodiversity Management Plan
BNA	National Bank of Angola
BUA	Built-up Area
CABGOC	Chevron Cabinda Gulf Oil Company
CAs	OECD Common Approaches
CAPEC	Economic Policy Analysis Unit
CBD	Convention on Biological Diversity
CCRA	Climate Change risk Assessment
CE	Critically Endangered
CESMS	Construction Environmental and Social Management Plan
CH	Critical Habitat
CIA	Cumulative Impact Assessment

CIG	Community Insight Group
CITES	Convention on International Trade in Endangered Species
CMS	Convention on Migratory Species
CO ₂	Carbon Dioxide
dB	Decibel
DEM	Digital Elevation Model
DH	Decision Height
DGPC	Directorate-General for Cultural Heritage
DME	Distance Measuring Equipment
DRC	Democratic Republic of Congo
EASA	European Union Aviation Safety Agency
EBRD	European Bank for Reconstruction and Development
ECA	Export Credit Agency
EDEL	Empresa de Electricidade de Luanda
EHS	Environmental, Health and Safety
ENDE	National Electricity Distribution Company
ENNA	Empresa Nacional de Navegação Aérea
EPIV	Equator Principles IV
EPAL	Empresa Pública de Águas EP
EPFI	Equator Principles Financial Institutions
EIA	Environment Impact Assessment
ES	Environment & Social
ESIA	Environment Social Impact Assessment
ESMP	Environmental Social Management Plan

ESMPs	Environmental Social Management Plans
ESMS	ES Management System
EU	European Union
EUNIS	European Nature Information System
FAA	Federal Aviation Administration
FAO	Food and Agriculture Organization of the United Nations
FSC	Forest Stewardship Council
GBVH	Gender based violence and harassment
GCM	Global Circulation Model
GFDRR	Global Facility for Disaster Reduction and Recovery
GHG	Green House Gases
GIIP	Good International Industry Practice
GN	Guidance Note
GoA	Government of Angola
GSE	Ground Support Equipment
GSI	Global Slavery Initiatives
Ha	Hectares
HDI	Human Development Initiative
HRRIA	Human Rights Risk and Impact Assessment
IATA	International Air Transport Association
IBA	Important Bird Area
ICAO	International Civil Aviation Organization
ICCPR	Covenants on civil and political rights
ICESCR	Covenant on economic, social and cultural rights

IDF	Forest Development Institute
IFC	International Finance Corporation
ILO	International Labour Organization
ILS	Instrument Landing System
INE	National Institute of Statistics of Angola
INPC	National Institute of Cultural Heritage
IPCC	Intergovernmental Panel on Climate Change
IPCN	National Consumer Price Index
ISA	International Standard Atmosphere
ITCZ	Inter-Tropical Convergence Zone
IUCN	International Union for Conservation of Nature and Natural Resources
KBA	Key Biodiversity Area
km	Kilometers
LoS	IATA Level of Service
LPG	Liquefied Petroleum Gas
MASFAMU	Ministry of Social Action, Family and Promotion of Women
MINARS	Ministry of Social Assistance and Reintegration
MoT	Ministry of Transports of Angola
NAIC	New International Airport of Cabinda
NMP	Noise Management Plan
NO	Nitrogen oxides
nvPM	Non-volatile particulate matter
OECD CAs	Organization for Economic Cooperation and Development Common Approaches
OLS	Obstacle Limitation Surfaces

OMGWS	Outer Main Gear Wheel Span
PANS	ICAO's Procedures for Air Navigation
PCL	Local Content Plan
PM	Project Manager or Particulate Matter
PNS	National Health Plan
PNDP	National Health Development Plan
PRODEL	Empresa Pública de Produção de Electricidade EP
PS	Performance Standard
PSZs	Public Safety Zones
RCP	Representative Concentration Pathways
RfP	Request for Proposal
RPZ	Runway Protection Zone
RVR	Runway Visual Range
SARPs	ICAO's Standards and Recommended Practices
SCB	Standard Chartered Bank
SEL	Single Event Level
SEP	Stakeholder Engagement Plan
SGA	Sociedade Gestora de Aeroportos or Section on Great Apes
SIPA	Portuguese Architectonic Heritage Information System
SNIM	Société nationale industrielle et minière
SO	Sulphur dioxide
SOMIVAB	Société de mise en valeur du Bois
SSC	Species Survival Commission
SSP	Shared Socioeconomic Pathways

STD	Sexually Transmitted Disease
TCFD	Task Force on Climate-Related Financial Disclosures
TLV	Timber Legality Verification
TURH	Water Resources Using Titles
UFP	Ultrafine Particulates
UKEF	UK Export Finance
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
UNEP FI	United Nation Environment Programme Finance Initiative
UNFCCC	United Nations Framework Convention on Climate Change
VECs	Valued Environmental and Social Components
VOV	Volatile organic compounds
VOR	Very High Frequency Omnidirectional Range
WB	World Bank
WHO	World Health Organization
WHMP	Wildlife Hazard Management Plan
WMC	Waste Management Centre
WS	Aircraft Wingspan
WWF	World Wide Fund for Nature
WWTP	Wastewater Treatment Plant

1.0 INTRODUCTION

This document is the Environmental and Social Impact Assessment (ESIA) prepared for the construction and development of the New International Airport of Cabinda – NAIC (the Project), located in a greenfield site in the Province of Cabinda, Angola. The ESIA report is presented by ASGC UK¹, an international construction company, and the management contractor of the Project.

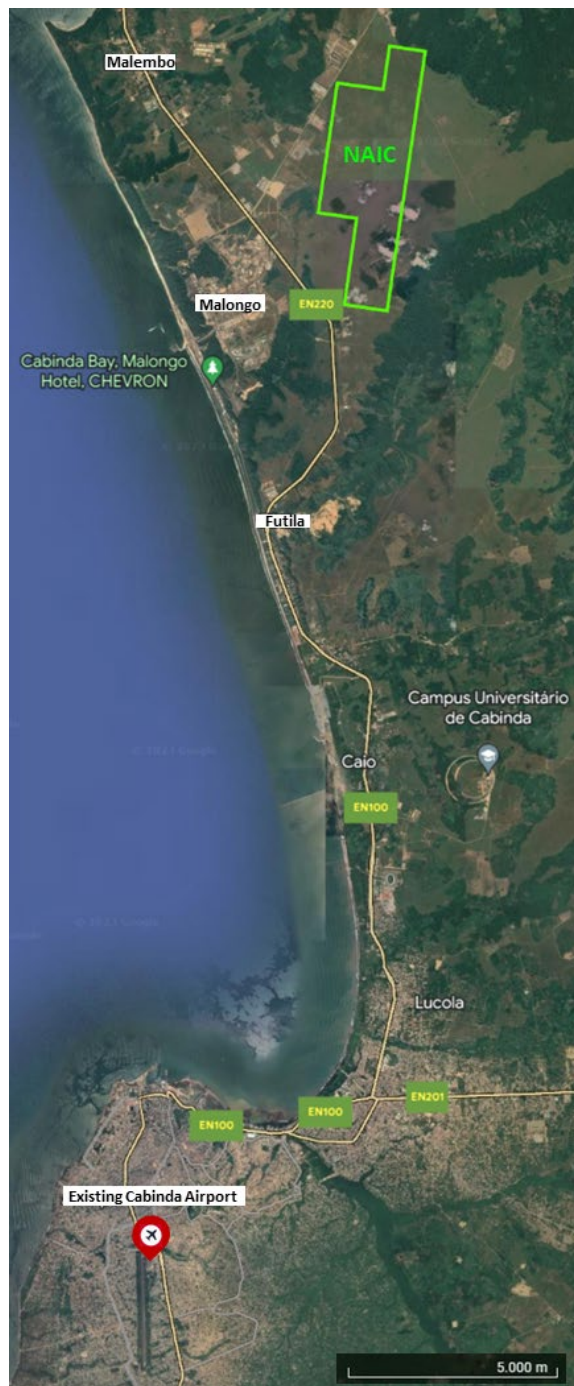


Figure 1: NAIC location in relation to the existing Cabinda airport.

¹ During the study in 2023 ASGC has been rebranded in the INNOVO GROUP. For the purpose of this study the Client name remains ASGC as originally stated.

1.1 PROJECT SUMMARY

The city of Cabinda currently has a single small airport, which is the main gateway into the city. This airport is served with the highest weekly flight frequencies from Luanda and is currently operating at or above capacity due to an increasing flight demand. Bearing in mind the foreseen growth in air traffic demand at the airport, there is an immediate need to increase its passenger and aircraft movement handling capacity to expand, upgrade, or add new infrastructure. However, due to its location in a highly urbanized area, several constraints prevent this expansion from happening.

The solution found, therefore, was to identify an alternative and find a suitable area in the province to build a new airport, which would allow for an adequate expansion of the necessary airport infrastructure. The Ministry of Transport (MoT), responsible for the airport infrastructures, has identified a new greenfield area 36 km north from the city of Cabinda for the construction of the NAIC.

The NAIC construction area has 853 hectares in a polygonal format. Its location in relation to the existing Cabinda airport is shown in Figure 1.

The closest communities are Malombo, Malembo and Futila. In addition, the area is characterized by the presence of various economic activities including the oil processing facilities of the Malongo settlement and the Futila Industrial Development Complex. The new Refinery of Cabinda is under construction in the closest area to the oil processing camp.

1.2 PROJECT PROPONENT, LENDERS AND KEY PARTIES

The Project Proponent is the *Ministry of Transports* (MoT) of Angola which engaged *Dar Angola Consultoria Limitada* (DAR) for preparing the design study of the new airport. In 2022, MoT has launched a tender for selecting the Contractor and *OEC*, a Brazilian privately held company, specialized in the heavy civil construction, has been awarded to prepare a plan for the construction activities.

The operation of the airport, once construction is completed, will be managed by the *Sociedade Gestora de Aeroportos* (SGA), owned by the Ministry of Transports and responsible for the management of all the Angolan airports. Air traffic management including air navigation systems and infrastructure will be under responsibility and control of the *Empresa Nacional de Navegação Aérea* (ENNA). ENNA is a public company indirectly administered by the Angolan state, and supervised by the Ministry of Transport, and responsible for the development, installation, management and operation of air navigation services, systems and infrastructure.

ASGC's mandate includes securing of financing process as well as taking the role of contractor management. The lenders for this transaction will be the *UK Export Finance* (UKEF) acting as the Export Credit Agency (ECA) and *Standard Chartered Bank* (SCB) acting as the Agent. The loan facility will be provided through the Ministry of Finance and will serve to undertake the design and construction costs. The Lenders has selected ERM as the Independent Environmental and Social Consultant (IESC) which in its capacity has reviewed the Scoping Report prepared in February 2023 and provided their initial comments and gaps in an ES Memorandum.

This ESIA study reflects the comments outlined in the ERM ES Memorandum (last version dated 30 May 2023).

A summary of all key parties involved is represented in Figure 2.

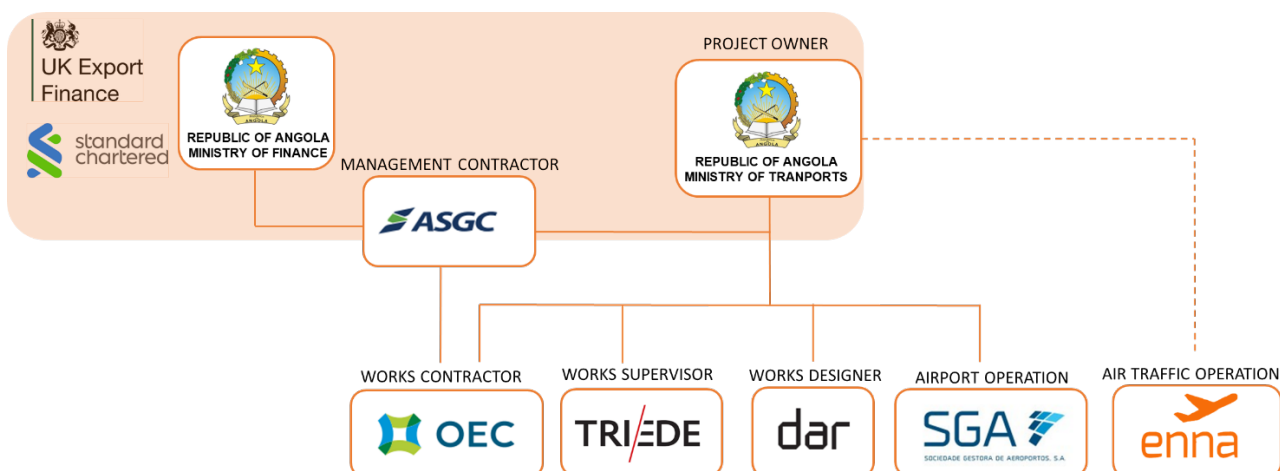


Figure 2: Key parties organization chart.

1.3 SCOPE OF THE ESIA PROCESS

The involvement of the Lenders requires that the Project is developed in accordance with a robust environmental and social impact management structure in line with good international and industrial practice (GIIP). Consequently, the Project was required to carry out an Environmental and Social Impact Assessment (ESIA) process according to national and international standards (Equator Principles and OECD Common Approaches) and to establish an Environmental and Social Management System (ESMS).

In light of this, ASGC engaged WSP Italy, a leading global specialized engineering and consulting organization with over 60 years of successful service to its clients, to develop an ESIA Package to identify potential environmental and social risks and impacts associated with the construction and operation phases of the Project and prepare management documentation of ES risks and impacts as part of the package, with the ultimate goal of achieving compliance with applicable lenders' ES standards.

For executing the assignment, WSP benefited from a collaboration with the local consultant Saioz – Engenharia Ambiental Lda (SAIOZ), as its nominated subcontractor. SAIOZ is an Angolan company that operates in the field of environmental consultancy, with a vast experience from innumerable projects for different clients in several activity sectors. SAIOZ was in charge of the in-country field activities, under the technical direction and supervision of WSP.

The ESIA will be submitted to the Lenders and their IESC for their review and consideration and will be used as the basis for the impact and risks management planning and for establishing the full ESMS. Lenders' ES standards applicable to this Project also require the public disclosure of the bankable ESIA or of a Non-Technical Summary.

1.4 ESIA PHASES

1.4.1 Review of existing documents/information

The first phase of the ESIA process included the review of the following existing Project documentation made available by ASGC, DAR and OEC:

- ASGC' Request for Proposal (RfP);
- A document containing the map of NAIC footprint and a few surrounding elements named "NAIC – Footprint";
- An 8 page document with a few architectural plans, named "NAIC – Preliminary Conceptual Design Project";

- Executive Summary documents, named:
 - “3- *Memória descritiva - NAIC - 17-10-2022*”,
 - “*Memória descritiva_NAIC_Atc. 11-07-2022 (Rev1)*”;
- The Land Use compatibility study (document named “*AN22063-0200D Airport Land-Uses Compatibility Study REVB_pt*”);
- The site evaluation criteria. Document named “*AN22063- Site Evaluation and Selection_Portuguese*”;
- A Project presentation document named “*1.1Apresentação NAIC - Nov22 - Rev2- ING*”;
- The Project description document, named: “*AN22063 - Project's Description (02-05-23)*”;
- Preliminary conceptual design, named:
 - “*AN22063 - NAIC - Projecto Conceptual Preliminar (27-03-2023)*”,
 - “*AN22063 - NAIC - Projecto Conceptual Preliminar (27-03-2023)_Optimized*”,
- “*Plano de Desenvolvimento da Provincia de Cabinda (2013-2017)*”, prepared by the Governo da Provincia de Cabinda;
- “*Plano de Desenvolvimento Nacional (2018-2022)*”, prepared by the Governo da Angola;
- *Set of Corporate Management Plans and Procedures*, made available by OEC.

In addition to these, scientific studies and reports available online and information retrieved from major international research websites were also used, since no local ESIA was available.

1.4.2 Site visits

1.4.2.1 February 2023 visit

WSP team and its subcontractor SAIOZ, in the capacity of ESIA advisor, attended a site visit at the Cabinda site from February 6th to 9th, 2023. The following activities have been carried out:

- Visit to the existing Cabinda Airport;
- Visit to the proposed site and the surrounding area;
- Visit to the power station managed by Empresa Pública de Produção de Electricidade EP (PRODEL), the national authority responsible for energy production;
- Visit to the water treatment plant managed by the Empresa Pública de Águas EP (EPAL);
- Visit to Futila and Malembo villages;
- Visit to the Port of Caio site, currently under construction; and
- Meetings with several stakeholders, including:
 - Meetings with the contractor OEC;
 - Meetings with the designer DAR;
 - Meetings with ASGC;
 - Meeting with the Malembo village representative;

- Meetings with the Government of Cabinda and their representatives; and
- Meeting with the Ministry of Transports representative in Luanda; and
- Meeting with SGA representative in Luanda.

1.4.2.2 November 2023 visit

From 6th to 9th November 2023 WSP team attended to a second site visit with the presence of ASGC representatives, UKEF and ERM (the IESC) as part of the lenders site visit. The following activities have been carried out:

- Visit to the existing Cabinda Airport;
- Visit to the proposed site and the surrounding area;
- Visit to Malembo villages;
- Visit to the Port of Caio site, currently under construction; and
- Meetings with several stakeholders, including:
 - Meetings with the contractor OEC;
 - Meetings with the designer DAR;
 - Meetings with ASGC;
 - Meeting with the Malembo village representative;
 - Meetings with the Government of Cabinda and their representatives; and
 - Meeting with the Ministry of Transports representative in Luanda; and
 - Meeting with ENNA representative in Luanda.

1.4.3 Baseline data collection

Using appropriate methodologies, WSP and SAIOZ have collected both field data and secondary information to acquire knowledge on the baseline conditions for components like geology and landscape; ambient air; ambient noise; groundwater and surface water; soils; habitats and species; water quality and resources consumption, and current production of waste. In addition, an assessment of the current socio-economic conditions of the Project Area of Influence (AoI) has been carried out, including an evaluation of social issues associated with any previous use of the areas intended for the Project and of potential impacts on livelihoods. Collected data have also served to determine an ecologically appropriate AoI to assess the species present in the area and the presence of any Natural or Critical Habitats. For those components that required further data, field activities have been carried out in two different seasons (dry and wet). Results are presented in the Baseline information and conditions used to support the assessment process and described in the Chapters 6, 7 and 8.

1.4.4 Stakeholder consultation

Equator Principles IV (EPIV) – Principle 5 and IFC PS1 require that project proponents demonstrate effective stakeholder engagement as an ongoing process in a structured and culturally appropriate manner with affected communities and, where relevant, other stakeholders. For projects with potentially significant adverse impacts on affected communities, the proponent is required to conduct an Informed Consultation and Participation Process. The consultation process needs to be tailored to:

- The risks and impacts of the Project;

- The Project's phase of development;
- The language preferences of the affected communities;
- Their decision-making processes;
- The needs of disadvantaged and vulnerable groups.

This process should be free from external manipulation, interference, coercion, and intimidation.

A Stakeholder Engagement process of this nature is described in Chapter 5 and has been ongoing since the beginning of the ESIA process. A draft Stakeholder Engagement Plan (SEP) compliant with Lenders' requirements has been prepared during the Scoping Phase and commented by ERM. An integrated and revised SEP has been prepared during the ESIA phase and has formed part of such study. It includes detailed information on stakeholder engagement activities performed and planned by the Project proponent to engage with stakeholders and communities for the future.

1.4.5 Impact Assessment and identification of mitigation measures

As requested by EPIV (Principle 2), an impact assessment has been carried out. The general methodology adopted by WSP for ESIA studies is described in Chapter 9 and has been designed to be highly transparent and to allow an analysis of the impacts on the various environmental and social components.

Chapters 10, 11 and 12 include the identification, assessment, and quantification of the potential environmental and social impacts (both positive and negative, direct, and indirect) associated with the Project, as well as risk of accidents, if any identified. Cumulative impacts and effects of unplanned events are described in Chapters 17 and 18.

Once impacts have been assessed, each section of the impact assessment presents a summary of residual impacts with a significance rating, and relevant mitigation measures to avoid, or where avoidance is not possible, minimize, mitigate or compensate adverse impacts (as per the mitigation hierarchy). The mitigation measures presented in the ESIA report will be the basis for the preparation of the Environmental and Social Management Plan (ESMP) for the Project.

1.4.6 Human Rights Risk and Impact Assessment

In compliance with the requirements of the EPIV, this ESIA report includes the results of a Human Rights baseline surveys and the Human Rights Risk and Impact Assessment (HRRIA).

Chapter 13 provides a detailed Human Rights Risk and Impact Assessment at country level and then focuses on the specific risks at Project level, indicating whether these risks are considered likely to decrease or exacerbate at the Project level. For risks that have been considered medium to high at Project level, mitigations are proposed for inclusion in the ESMP, an element of the ESMS; such mitigations are considered sufficient to reduce the risk to an acceptable level.

1.4.7 GHG Calculation and Climate Change Risk Assessment

In accordance with the Lenders requirements (Equator Principles IV and OECD Common Approaches), this ESIA report includes the results of a Greenhouse Gases Calculation (Chapter 14) and of a Climate Change Risk Assessment (CCRA) for Physical (chapter 15) and Transition Risks (Chapter 16).

There are disclosure requirements that relate to GHG for all Category A and, as appropriate, Category B Projects. According to EPIV 10² and the OECD³:

“The client will report publicly, on an annual basis, GHG emission levels (combined Scope 1 and Scope 2 Emissions, and, if appropriate, the GHG efficiency ratio) during the operational phase for Projects emitting over 100,000 tonnes of CO₂ equivalent annually” (EPIV).

“Adherents shall report the estimated annual greenhouse gas emissions, where such emissions are projected to be in excess of 25 000 tonnes CO₂-equivalent annually and where the applicant or project sponsor has provided the Adherents with the necessary information, e.g., via an ESIA report” (OECD).

The CCRA provides a screening of climate hazards that may affect the Project Aol and, for each hazard, it determines a risk level in consideration of the Project’s sensitivity and exposure, and of its ability to adapt to increasing climate hazards over a temporal scope of up to 80 years. Mitigations are finally proposed for consideration in the detailed design for the Project and in the ESMP.

1.4.8 Establishment and implementation of an ESMS

Mitigation, compensation, and monitoring measures will become part of the Project ESMP, a component of the overall Project ESMS to be established to ensure that the Project ES impacts and risks are duly managed over the life of the Project. The Environmental and Social Management and Monitoring (Chapter 19) will outline the Contractor strategy for establishing and implementing the ESMS and provide a brief description of the ESMS components in line with the requirements of IFC PS1. An external Environmental and Social Management System Framework document will provide more details on the ESMS and its structure.

1.5 STRUCTURE OF THE ESIA REPORT

This ESIA report is organized in the following sections:

- Introduction (Chapter 1);
- Project Description (Chapter 2);
- Alternatives Analyses (Chapter 3)
- Legal Requirements (Chapter 4);
- Stakeholder Engagement Process (Chapter 5);
- Baseline Conditions – Physical Environment (Chapter 6);
- Baseline Conditions – Biological and Ecological Resources (Chapter 7);
- Baseline Conditions – Socio-economic Environment (Chapter 8);
- Impact Assessment Methodology (Chapter 9);
- Impact Assessment and Mitigations – Physical Components (Chapter 10);
- Impact Assessment and Mitigations – Biological Components (Chapter 11);
- Impact Assessment and Mitigations – Social Components (Chapter 12);

² [The Equator Principles EP4 July2020 \(equator-principles.com\)](https://equator-principles.com/EP4_July2020) (page 16)

³ [OECD Legal Instruments](#) (item 46)

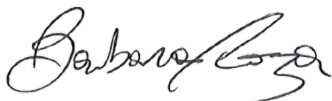
- Human Rights Risk and Impact Assessment (Chapter 13);
- GHG Calculation (Chapter 14);
- Climate Change Risk Assessment – Physical Risks (Chapter 15);
- Climate Change Risk Assessment – Transitional Risks (Chapter 16);
- Cumulative Impact Assessment (Chapter 17)
- Unplanned Events (Chapter 18); and
- Environmental and Social Management and Monitoring (Chapter 19).

Baseline chapters are completed with their Appendixes directly inside the chapters whilst two separate Annexes complete the study as follows:

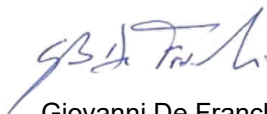
- Annex A: BASELINE supporting data collected organized in three PARTS:
 - Part 1 – Results of Physical Baseline;
 - Part 2 – Results of Biological Baseline:
 - Sub-part A - First campaign results,
 - Sub-part B - Second campaign results;
 - Part 3 – Results of Socio-economic Baseline; and
- Annex B: NOISE modelling and assessment.

Signature Page

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