

# The Badagry Port Project Outline Business Case For Public Private Partnership (PPP)



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Badagry Greenfield Project Site Today



Badagry Port & Free Zone Fully Developed



## **SECTION 1**

### *INTRODUCTION*

## 1. Introduction

### 1.1 Introduction

A New Economic Era is unfolding. The global economy is more interdependent than ever before. Market forces as seen in the slower growing developed economies, the high growth markets, ongoing geopolitical events and increased competition are defining a new economic era that likely lasts longer than other economic cycles. Nigeria, the world's eighth largest oil producer, has the largest economy in sub-Saharan Africa and, with over 178 million people, is the continent's most populous country<sup>1</sup>.

On the back of these immense natural resources, Nigeria has seen unprecedented growth during the last half century. Yet, the rising prosperity level, growing middle class and overall population growth has placed considerable pressure on the country's transportation infrastructure and despite ongoing improvements and upgrades to the country's ports, by all accounts, demand for port handling capacity will likely outstrip supply in country by 2017<sup>2</sup>. This capacity shortage will be particularly evident in the Lagos area, where today these ports collectively handle about **75%** of the country's imports by weight and about **90%** of non-oil exports by weight.<sup>3</sup> Four years from now, the amount of cargo passing through Lagos' ports will reach a tipping point whereby the supporting infrastructure (roads & rail) that today are the lifelines to and from the port, will no longer be capable of evacuating cargo due to sheer congestion. To alleviate this pressure, a suitable alternative location must be found outside of the city.



Figure 1 - Artist Rendition of Badagry Port & Free Zone

Furthermore, while terminal operators in the existing Lagos Ports system have done well since 2006 to improve and upgrade Lagos' terminal infrastructure as a whole, today's terminals still lag significantly behind those of their counterparts in Europe, the US and across Asia. Modern cargo handling equipment and deep water have since become the norm in other countries and in order to ensure that Nigeria does not fall behind the trend, the country must follow suit. Shipping lines, who today call Nigeria's ports with vessels requiring 12.5 meters draft, will in five years require 16.5 meters<sup>4</sup>. 10 years after that, it is expected they will require even deeper draft and this cycle is certain to repeat itself.

As commerce continues to evolve in Nigeria, so too must the country's port infrastructure.

Developing a new, ultra-modern port will create the platform for continued national and regional development. However, the cost for providing such infrastructure is expected to be beyond the immediate financial capability of the Nigerian Government. The ambition behind the Badagry Port project is thus to partner with the Nigerian Government and business leaders to help plan Nigeria's economic future by creating the port and inland solutions necessary to create strong, sustainable long-term growth.

The following proposal aims to address the expected infrastructure challenge and provide shipping lines and supply chain managers with the best productivity, location, flexibility and cost effectiveness to power the global supply chains of Nigeria's leading brands. The state-of-the-art multi-purpose facility will offer its customers superior hinterland connectivity and the deepest water in West Africa, thus creating a sustainable competitive advantage for Nigeria going forward.

<sup>1</sup> IHS Global Insight data, June 2014

<sup>2</sup> Nigeria Marine Freight Market Study, CPCS Transcom July 2012

<sup>3</sup> Nigerian National Bureau of Statistics, Statistical Abstract 2006

<sup>4</sup> Customer Interviews with Maersk Line, MSC and others, April 2014

Every nation, every company wants access to a competitive port system that raises living standards and supports job creation. However, meeting this demand for efficient ports is a tremendous challenge that requires expertise, operational excellence, investment and innovation.

Some of the companies we've assembled as part of our consortium have been helping to drive the country's growth since the early 1980's. We believe that performance is the foundation for success and as companies jointly representing more than a century of progress; we define success by our ability to deliver even in the most uncertain of times. The consortium we've assembled to deliver this project is committed to Nigeria's future and we are highly confident that the experience and work ethic enlisted will ensure this project is a success in the shortest time allowable.

It is thus with the blessing of the Lagos State Government, Nigerian Ports Authority and Federal Ministry of Transport that we have for the last 2 years been advancing plans to develop Africa's largest and most technologically advanced port in the Badagry-axis of western Lagos State. The following Outline Business Case presents our proposal for the broader Government's consideration.

## 1.2 Project Delivery

The significance and value of the project lies principally in the capacity, infrastructure and capability building which serve to meet the increased demand of cargo arising from the expected implementation of upcoming oil & non-oil related projects in Lagos State and wider Nigeria. Not only will the proposed Badagry Port expand quayside and yard capacity, but also help to ease port congestion issues at the Apapa and Tin Can Island ports, while creating close to 250,000 new jobs over its lifetime.

We've assembled some of the largest and most successful companies in Nigeria with one ambition, to deliver a successful Greenfield Port capable of being a catalyst for the country's growth for the next 100 years. To advance this goal in the quickest time possible, our focus is on three key tenets: Execution, Operational Excellence and Financing.

### *Execution*

The capability to design, build, operate and maintain a world-class port with creative and state-of-the-art design solutions is one that few global operators truly possess. To design one capable of accommodating the rapidly growing and dynamic Nigerian market takes commitment and ambition on both a global and local level. The group we've assembled has demonstrated their ability to do both.

### *Operational Excellence*

Having operations in more than five continents and in every major global trade lane, APM Terminals is the industry leader when it comes to delivering state-of-the-art port solutions. To complement this experience, we have assembled a group of highly qualified and specialized operators with International container, bulk, refined product and oil supply service experience capable of commencing construction immediately. Our consortium consists of experienced operators whose best practices and competitive advantages draw new businesses to the communities they live in. Badagry will be no exception.

### *Financing*

Corporate stability and the desire to commit long term to Badagry, the Lagos State Government and the whole of Nigeria are the cornerstones of our proposal. The Consortium's strong balance sheet and superior credentials mean we have the financial resources to fund all costs during the development. Our proven track record of delivering lasting and significant returns to the communities in which we operate has long been integral to our success.

### Project Leadership Team

We place a very high value on leadership. Our leadership team is comprised of experts in diverse areas from across the world, including construction, financing, container terminal operations, bulk, manufacturing, shipping, oil and gas logistics and extraction.

Supporting our efforts are several of the world's foremost specialists in the field of marine engineering and project management.

### 1.3 Primary Project Sponsors

#### APM Terminals

As one of the world's leading port operators and developers, APM Terminals is lifting global trade with a Global Terminal Network of over 65 operational ports, 7 new ports under construction, 16 ports being expanded and 165 inland services spanning 68 countries that serve customers, governments and the entire global supply chain.



The company consistently ranks at the top of the industry for port productivity, operational excellence and innovation.

Their team of 20,000 professionals defines their client-facing service with the expertise, trust and reliability to be both the partner of choice – and the employer of choice. They have invested approximately \$2 billion annually in the past few years towards new ports and facility expansions to lead the industry and create a new era in port infrastructure.

#### Orlean Invest

Orlean Invest is today the leading logistic partner for the oil and gas industry in Nigeria, Mozambique and Angola.



In Nigeria Orlean Invest operates four ports and Free Zones fully dedicated to the Oil and Gas Industry: Onne, Lagos (Apapa Port, Bullnose), Warri and Calabar. Onne Oil and Gas Free Zone is today the world's largest Free Zone fully dedicated to the oil and gas industry for dimension, number of clients, volume of cargo (in and out) and volume of investments done to develop its facilities.

Few numbers describe Orlean Invest's achievements in developing port infrastructures in Nigeria: 8,000m of jetty, 3,700,000 sq. meters of industrial area, 250,000 sq. meters of quay apron, 200,000 sq. meters of warehouse 79,000 sq. meters of offices.

Development through continuous investment has been and still is the core drive of the company since its inception.

Today Orlean Invest is embarking on a number of projects with the aim to confirm its role as leader logistic partner for the Oil and Gas industry in Nigeria and Africa contributing to the growth of the Oil and Gas Sector and of the Country: Badagry MegaPort and Industrial Park Free Zone, the continuous development of Onne Oil and Gas Free Zone facilities, Eko Atlantic Economic City & Eko Energy City, Lekki International Airports and Abuja Hill Estate.

#### Oando

From the company's origins in downstream petroleum retailing, Oando has refocused its business model to encompass the complete value chain. Today, the company comprises of six companies that specialize in upstream, midstream and downstream activities; combining to form one of sub-Saharan Africa's leading indigenous energy companies.



Oando is driven by a desire to provide efficient energy solutions for Africa and is committed to exploring, producing and supplying the energy that drives the future growth of West Africa's economy. The company has invested substantially in assets across the energy value chain; formed strategic alliances to maximize productivity; and consistently delivers value to stakeholders in an environmentally safe manner.

With a primary listing on the Nigeria Stock Exchange, Oando is the first African company to have a cross-border inward listing on the Johannesburg Stock Exchange; in addition, a subsidiary company is listed on the Toronto Stock Exchange.

#### OPERATING IN THE COMPLETE VALUE CHAIN

**Upstream** - Oando holds interests in 13 licenses for the exploration, development and production of oil and gas assets located onshore, swamp, and offshore

**Midstream** - Oando's Gas and Power business is the leader in the distribution of natural gas, along with power initiatives aimed at electricity generation and distribution in Nigeria and other West African countries

**Downstream** - The Group's operations in the downstream sector are comprised of its Marketing, Supply & Trading and Refining & Terminal businesses

Today, the group comprises of six main companies that are market leaders in their respective sectors:

1. **Oando Exploration & Production** - A leading indigenous exploration and production company in Nigeria
2. **Oando Energy Services** – The largest indigenous swamp drilling rigs operator delivering world class drilling services solutions through technical leadership
3. **Oando Gas & Power** - The preferred gas and power solution provider for the future of Nigeria's industrialization
4. **Oando Supply & Trading** – Largest private indigenous importer of petroleum products into sub-Saharan Africa. Oando Supply & Trading also trades crude and intermediate petroleum products
5. **Oando Marketing** - West Africa's leading oil retailer with operations in Nigeria, Ghana, Togo, and the Republic of Benin
6. **Oando Refining and Terminaling** - The newest subsidiary of the business currently developing an ultramodern greenfield petroleum refinery and product reception terminal

The Primary Project Sponsors have executed a Memorandum of Understanding on September 14, 2014 confirming their intention to enter into a joint venture company, herein referred to as Badagry Port Development Limited, whose purpose shall be to develop and operate a port in Badagry. A copy of the MOU is included as Appendix 10.

#### 1.4 Other Project Sponsors

##### Macquarie Group

Macquarie Group is a global provider of banking, financial, advisory, investment and funds management services.

Macquarie acts on behalf of institutional, corporate and retail clients and counterparties





around the world and has expertise in specific industries, including resources and commodities, port management, energy, infrastructure and real estate.

Macquarie, through its joint-venture African Funds business, African Infrastructure Investment Managers (AIIM), has raised its 4th African infrastructure equity investment fund, and is a significant player in the Nigerian Infrastructure market, having invested in Lekki Concession Company, Azura Edo Independent Power Plant and most recently in 2014, IHS Towers.

Founded in 1969, Macquarie employs more than 14,200 people in 28 countries. At 31 March 2012, Macquarie had assets under management of \$336 billion and manages over \$2 billion committed to port investments across 12 container/bulk terminals and 12 oil terminals in 9 countries.

### Terminal Investment Limited

Terminal Investment Limited (TIL) is one of the world's largest and most geographically diversified container terminal operators, with material equity interests in 28 operating terminals and 2 greenfield terminals across 19 countries in 5 continents. TIL's assets are highly strategic and located in key gateways for global trade, with 8 of its terminals within the world's top 25 ports by annual container volume. TIL's main customer is MSC Mediterranean Shipping Company SA ("MSC"), the world's 2nd largest container shipping line. The relationship between TIL and MSC is mutually beneficial. It enables MSC to gain strategic access to key markets while also providing significant advantages to TIL, including a stable, growing level of throughput volume.



### 1.5 Project Background

Given that the Nigerian ports will be fully stretched by 2017-2018, a clear need for a multi-functional, Greenfield mega-port located nearby Lagos, but outside the main commercial center has emerged. This new, mega-port should cater for:

- Containers;
- Dry bulk & liquids;
- Ro-Ro;
- Oil & gas supply services;
- Refined Product Imports; and
- Free trade, logistic zones.



Figure 2 - Badagry Project Concept

However, the intense demand for capital investment in pursuit of developing such a port has become the major impetus for the Nigerian Ports Authority (NPA) to consider new strategies and means for delivering on this responsibility. This requirement has consequently encouraged Management to seek ways to leverage on the existing policy framework on public private partnership (PPP) for the provision of shipping trade infrastructure/facilities in Nigeria. Accordingly, the NPA has considered private sector investment necessary and important because it would not only bridge the needed resource gap, but would equally bring the entrepreneurial acumen of the private sector to bear in improving the overall efficiency in the port domain.

It is our shared ambition that the Badagry Port will thus serve as a primary catalyst for the sustainable economic development of the greater Lagos State and wider Nigeria going forward. It will subsequently provide a quality solution for the anticipated shortage of multi-cargo capacity and ensure that the

infrastructure of the Lagos State is aligned to and sufficient enough to support the growing Nigerian and West African markets for the foreseeable future. The project should also be a catalyst for job creation in the region and collaborate with the host community to meet their growing needs.

The preferred PPP delivery methodology for this development is the Port Development & Management Company PPP model (PDMC), which in this case will consist of a Joint Venture (JV) between the aforementioned private sector partners. It is envisaged that the new mega-port will be privately operated as a common-user, public facility. To facilitate this, under a Concession the **Badagry Port Development Limited (BPDL)** or one of its nominees intends to invest in, develop, and operate the mega-port and seek to **recoup** their investment through a pre-agreed ratio of applicable port charges accruing to the new facility. In turn, the BPDL will issue sub-concessions to various operators for the individual terminals.

The first phase of the project is scheduled to open in late 2018.

## 1.6 Approach and Methodology to the Outline Business Case Study

In line with the PPP procurement process, the project proponents are required to prepare an Outline Business Case (OBC). The OBC was prepared by the BPDL, working with the following technical advisors:

- Royal Haskoning
- Trevi
- Fugro
- DEEP, B.V.
- ENVACCORD
- Josh Tob
- Dredging International
- Prodeco
- rePlan
- New Nigeria Foundation
- Uduotek & Associates
- Five Oceans
- Argenti Capital Partners
- Pro-Natura International
- Environmental Resources Management
- CPCS Transcom
- TBA
- Baird
- Worley Parsons/DeltAfrik
- Holman Fenwick Willan LLP
- Adepetun Caxton-Martins Agbor & Segun

The team defined the outcome specification, based on an independent market assessment and our inherent understanding of the supply / demand imbalance from experience at some of the existing facilities in Nigeria. Subsequently, the technical advisors carried out a detailed investigative analysis to provide the technical specifications of the future Port based on international best practices.

Each of the consortia members provided the financial advisors with relevant current and forecasted financial data which was analyzed, tested and reviewed to produce the financial model and other sensitivity analysis for this OBC.

Additionally, in conjunction with our legal advisors, Messrs. Holman Fenwick Willan LLP & Adepetun Caxton-Martins Agbor & Segun, we have carefully considered the legal framework, scope of services, outcome specification and performance standards required to develop and operate a world class port such as the one



envisioned here, to determine the appropriate risk allocation, apportionment and mitigation to achieve the optimal risk management for the entire project.

## SECTION 2

### *STRATEGIC AND LOCAL CONTEXT OF THE PROJECT*



## 2. Section 2: Strategic and Local Context of the Project

### 2.1 Roles of Government

#### Role of the Federal Ministry of Transport

- The Federal Ministry of Transport is a ministry of the Federal Government of Nigeria responsible for the formulation and implementation of policies regarding ports, shipping, waterways and rail systems.
- It consists of the following parastatals:
  - Nigerian Ports Authority (NPA)
  - Nigerian Maritime Administration & Safety Agency (NIMASA)
  - Nigerian Railway Corporation (NRC)
  - Nigerian Shippers Council (NSC)
  - Nigerian Inland Waterways Authority (NIWA)
  - Maritime Academy of Nigeria (MAN)
- The Federal Ministry of Transport through the activities of the Nigerian Ports Authority represents the second largest source of Federal Government revenue.
- The Ministry recently was charged with the responsibility of implementing the Cabotage Act and the International Standard Port Security Code (ISPS Code).

The activities of Nigerian Ports Authority (NPA) are subject to the supervision of the Federal Ministry of Transport and comprise providing specific ports and harbour services for Nigeria's maritime industry.

The Ministry of Transport has responsibility for providing their consent to declaring the project site as a Port Area, and in conjunction with the President of Nigeria, designating the Port Area as a Customs Port.

#### Role of the Nigerian Ports Authority (NPA)

Under the NPA Act, Cap. N126, Laws of the Federation of Nigeria, 2004, the responsibilities of the Nigerian Ports Authority (NPA) broadly relate to this specific challenge:

1. Ownership and administration of land and water within port limits.
2. Planning and development of port operational infrastructure.
3. Leasing and concession of port infrastructure and setting benchmark for tariff structure.
4. Responsible for nautical/Harbour operations and hydrographical survey.
5. Marine incidents and pollution.
6. Maintenance of safety and security at the common user areas.
7. Enacting port regulations and bye-laws as well as monitor and enforce them.
8. Setting apart a customs area.
9. Day to day monitoring of operations and enforcement of relevant sections of respective agreements.

These functions and activities have two broad dimensions – *regulatory and promotional*.

The Nigerian Ports Authority, as official Grantor of the Concession, will be responsible for issuing the Master Concession Agreement to the BPD. The Master Concession Agreement will grant BPD the sole and exclusive right to issue sub-concessions for terminal operations within the Badagry Port limits.

The Nigerian Ports Authority will also be responsible for approving the engineering, design and other technical documents of the BPD L as well as the issuance of a building permit to begin construction on the port area. On the Environmental front, the NPA will be responsible for issuing the BPD L a Dredging and Dumping/Reclamation permit and for notifying the UK Hydrographic Office of the Port coordinates and layout of sub-sea communication cables for inclusion in future Admiralty charts.

Under this proposal and in line with the Nigerian Ports Authority Act, the BPD L would transfer land within the port that extends from the 100m water mark to the NPA upon the expiry of the Concession Agreement term, including any extension.

#### **Role of Nigerian Maritime Administration and Safety Agency (NIMASA)**

- Implementation of maritime policies, collection of levies, implementation of the Cabotage Act and ensuring ISPS compliance are some of the roles NIMASA play.

NIMASA will be responsible for issuing a Dumping Permit under the London Dumping Convention as well as issuing a permit to the BPD L to *do any act that may affect maritime safety*.

#### **Role of Federal Ministry of Industry, Trade and Investment**

- Creating an enabling environment for new investors
- Driving force behind the economy
- Attract investment, capacity building, promotion of bilateral and multilateral trade relations, stimulation of exports
- Parastatals include the Oil & Gas Free Zone Authority and Nigerian Export Processing Zone Authority (NEPZA)

In conjunction with the President of Nigeria, the Nigerian Export Processing Zones Authority (NEPZA) under the Ministry of Industry, Trade & Investment will be responsible for the designation of a Free Trade Zone at Badagry.

#### **Role of NEPZA**

- Promoting and facilitating local and international investments into licensed free zones in Nigeria
- Strategically improve the investment climate by stimulating export oriented business activities through strengthening strategic national economic policies, streamlining administrative approval processes and
- Under the Nigeria Export Processing Zones Act, NEPZA will be responsible for designating the area a Free Zone, granting authority to BPD L or other entity the license to manage and administer the Free Zone company with powers amongst other things, to grant licenses to companies wishing to operate in the Free Zone and makes rules and regulations that will apply within the Free Trade Zone.

NEPZA and the free zone authority will also be responsible for providing persons wishing to enter, remain or reside and operate in a Free Trade Zone with a permit for doing so as well as tax exemptions and all incentives available to the entities operating in the free zone or the goods and services produced and sold in the free zone, the customs territory or abroad.

### Role of the Ministry of Petroleum

- Charged with the responsibility of formulating appropriate policies to regulate and efficiently supervise the Nigerian petroleum industry
- Following passage of the new Petroleum Industry Bill (PIB), it will supervise and coordinate the various Parastatals in the oil & gas sector for efficiency and smooth implementation of Government policies

The Ministry of Petroleum Resources will be responsible for issuing the BPDL with a license to store petroleum products that have been imported or are for sale or distribution in Nigeria.

### Role of the Ministry of Finance

- The management and control of all finances of the Federal Government as prescribed by the Constitution of the country. The Ministry also controls and monitors revenues and expenditures of the country.
- Parastatals include the Nigerian Customs Service (NCS) and the Federal Inland Revenue Services (FIRS)

### Role of Nigerian Customs Service (NCS)

- Collection of customs excise levies, duties and other charges related to import and exports
- Provides advice and makes suggestions towards development of national trade and fiscal policies
- Monitors and regulates imports and exports inclusive of the Free Zones

The Nigerian Customs Service will be responsible for approving the port area as a wharf at a Customs Port.

### Role of the Federal Inland Revenue Services (FIRS)

- Formerly called the Federal Board of Internal Revenue, the Federal Inland Revenue Service Federal was formally established with the Inland Revenue Service (Establishment) Act No. 13 of 2007 to control and administer the collection of different taxes and levies specified in the First Schedule to the legislation or other laws made from time to time by the National Assembly or other regulations made thereunder by the Government of the Federation and to account for all taxes collected.

### Role of the Infrastructure Concession Regulatory Commission (ICRC)

- To build a pipeline of public infrastructure investment projects using the Ministries, Departments and Agencies that are high priorities for FGN and which can attract private sector investment.
- To ensure that a robust, transparent, efficient and equitable process is developed for managing the selection, development, procurement, implementation and monitoring of PPP projects and that this process is applied consistently to all relevant projects.
- To ensure that the advantages and requirements of PPPs are well appreciated at the National level amongst potential investors and by other relevant stakeholders.

The ICRC will be responsible for issuing the Project Proponents a Certificate of No-Objection for the proposal.

### Role of the Bureau of Public Procurement (BPP)

- The Public Procurement Act of 2007 established the Bureau of Public Procurement as the regulatory authority responsible for the monitoring and oversight of public procurement, harmonizing the existing government policies and practices by regulating, setting standards and developing the legal framework and professional capacity for public procurement in Nigeria.
- The BPP is primarily tasked with ensuring the application of fair, competitive, transparent, value-for-money standards and practices for the procurement and disposal of public assets.

The BPP will be responsible for issuing the Project Proponents a Certificate of No-Objection for the proposal.

### Role of the Ministry of Internal Affairs

- The Ministry's mandate is fostering and ensuring the maintenance of internal security and citizenship integrity for the promotion of good governance of the nation
- Parastatals include the Nigeria Immigration Services (NIS). Free Zones, such as the one contemplated for Badagry, usually have their customized services for Free Zone visas and residence permits without any expatriate quota

The Ministry of Internal Affairs will be responsible for recognizing the Port as a port of entry.

### Role of the National Assembly

- The Nigerian Parliament, called the National Assembly, is an American-type bicameral legislature. It is one of the three arms of Government; the other two being the Executive and the Judiciary branches. It is made up of a 109-member Senate and a 360-member House of Representatives; both of which must concur before a bill is passed into law.
- The National Assembly primarily makes and/or amend laws, vets and approves budgets as well as exercise oversight functions on the activities of government agencies and departments

### Role of the Ministry of Environment

- The Ministry is the primary authority for regulation and enforcement of environmental laws. The Ministry of Environment enforces a number of policies, acts and guidelines including the *National Policy on the Environment (1989, revised 1999)*, the *Environmental Impact Assessment Act No. 86 (1992)* and *National Guidelines and Standards for Environmental Pollution Control in Nigeria (1991)*.

The Ministry of the Environment will be responsible for the approval of the Environmental Impact Assessment Reports for the construction of a port, power plant and coastal land reclamation.

### Role of the Nigerian Environmental Standards and Regulations Enforcement Agency (NESREA)

- NESREA has responsibility for the protection and development of the environment, biodiversity conservation and sustainable development of Nigeria's natural resources in general and environmental technology including coordination, and liaison with, relevant stakeholders within and outside Nigeria on matters of enforcement of environmental standards, regulations, rules, laws, policies and guidelines.
- The NESREA Act empowers the Agency to be responsible for enforcing all environmental laws, guidelines, policies, standards and regulations in Nigeria, as well as enforcing compliance with provisions of international agreements, protocols, conventions and treaties on the environment to which Nigeria is a signatory.

NESREA will be responsible for issuing consent to the BPD L to obtain a Dumping permit, a permit to discharge hazardous wastes and a permit to discharge solid wastes, effluents into public drain or natural environment.

#### **Role of the Lagos State Government**

- The entire free zone including the concession area is currently vested in the Governor of Lagos State.
- Governance of the people of the state of Lagos, Nigeria.
- The execution of Government's plans and programs for rapid socio-economic development of the Lagos State.

***The Lagos State Government has already issued a Certificate of Occupancy (C of O) in favor of the BPD L with respect to the Port and Free Zone land.***

A copy of the Certificate of Occupancy has been included in the Appendix 10.4.

It will also be the responsibility of Lagos State, in conjunction with the NPA to issue BPD L with an operations permit for dredging and developmental activity (reclaiming land) within the project area as well as issuing the proponents a waiver of royalty for dredged sand.

#### **Role of the Lagos State Lands Bureau**

- The Ministerial Responsibilities of the Bureau, which sits under the Governor's office, are as follows: Land Use and Allocation Matter, Land Policy and Land Matters, Acquisition of Land for State Purposes, Issuance and Revocation of Certificate of Occupancy, Survey Services, Lands Registry (Administration and Control), Subsequent Transactions including Assignment Mortgages, Leases and Power of Attorney, Mapping Matters, Resolving land disputes between individuals, Neighborhood Improvement Charge, Servicing and Monitoring of Land Use and Allocation Committee and Land Reclamation and dredging.

#### **Role of the Lagos State Ministry of the Environment**

- The Lagos State Ministry of the Environment was carved out of the former Ministry of the Environment and Physical Planning in January, 2003. The Ministry is charged with the responsibility of providing decent, orderly and reasonable conducive environment for habitable society, as contained in the assignments of Ministerial responsibilities.
- Responsibilities include: Conservation of soil and natural resources, Environmental sanitation and protection services, Control of Environment Pollution, e.g. noise, water, land and illegal trading, Supervision of Lagos State Water Corporation, Supervision of Lagos State Waste Management Authority, Supervision of ESEU (Environmental Sanitation and Enforcement Unit), Supervision of Lagos State Environmental Protection Agency, Evaluation of Environmental Impact Assessment (EIA) and Environment Audit Report (EAR), and Ecological matters.

#### **Role of the Lagos State Environmental Protection Agency (LASEPA)**

- The Lagos State Environmental Protection Agency (LASEPA) was established in 1994 by an Edict of the State Government and charged as the parastatal with the full legal responsibility to protect, control and oversee the environmental resources of Lagos State. The Agency is supervised by the Lagos State Ministry of Environment and Physical Planning.
- LASEPA is charged with EIA monitoring, control of environmental pollution, laboratory services, Monitoring of public water safety; and coordinating environmental exercises in the State.

LASEPA will be responsible for granting approval for the manufacture or storage of petroleum products in Lagos, Nigeria.

#### Role of the Lagos State Ministry of Housing

- The Ministry has several responsibilities including construction of economic housing units, supervision of Lagos State Development Property Corporation, supervision of Lagos Building Investment Corporation; matters relating to forfeiture of properties, resettlement of displaced people, resettlement of displaced people, compensation for acquired properties, valuation of all types of interest in properties and identification of abandoned properties.
- The Ministry includes several key offices including Land Valuation Office and Land Regularization Directorate.

#### Role of Nigerian Civil Aviation Authority (NCAA)

- The Nigerian Civil Aviation Authority is the regulatory body for aviation in Nigeria. It became autonomous with the passing into law of the Civil Aviation Act 2006 by the National Assembly and assent of the President of the Federal Republic of Nigeria.
- The Act not only empowers the Authority to regulate Aviation Safety without political interference, but also to carry out oversight functions of Airports, Airspace, Meteorological Services, etc. as well as economic regulations of the industry.

The NCAA will be responsible for the clearance for Ship to Shore Cranes and other structures that are likely to cause danger to aircraft.

## 2.2 Policy Context and Strategic Objectives

This development constitutes the overriding consideration of NPA Management to seek private sector partnership to assist in the delivery of some of their statutory functions with regard to the development of marine infrastructure in Nigeria. This resolve is in line with the subsisting policy of the Federal Government to encourage Ministries, Departments and Agencies to explore the possibility of partnering with the private sector in meeting their infrastructure and facilities needs where it is most appropriate.

It is therefore within the confines of the Nigerian Ports Authority, under the *NPA Act, Cap. N126, Laws of the Federation of Nigeria, 2004* that the NPA and BPDL hope to address the infrastructural challenges. It is envisioned that in the medium to long term, the strategy would deliver on the following objectives:

#### Financial Objectives

- 1) Improve Government revenue.
- 2) Solidify Nigeria's position in West Africa as the Maritime Centre of Excellence.
- 3) Support the Nigerian Government's initiatives in expanding the oil and gas industry.
- 4) Accelerate investments in port infrastructure that are of international acceptable standards.
- 5) Improve the availability, quality and efficiency of port operations.
- 6) Properly allocate project risk across the public and private sector.
- 7) Enhance governance to improve transparency, competition and accountability, and thereby improve Value for Money.



### Efficiency Objectives

- 1) Establish modern, deepwater port capacity by 2018 in advance of demand pressure in the market.
- 2) Expedite cargo clearance & delivery.
- 3) Reduce traffic congestion around the Apapa & Tin Can Island ports.
- 4) Enhance the competitiveness of Nigeria's economy by reducing transaction costs which have heightened freight rates and plagued the local maritime sector for the past several decades.
- 5) Further reduce shipping waiting time at anchorage.
- 6) Enable NPA to realise its role in the provision of specific and sufficient ports and harbour services for Nigeria's maritime industry.
- 7) Focus on cost-effectiveness.
- 8) Provide incentives to improve efficiency and performance and encourage innovation.

### Social Objectives

- 1) Increase the capacity and diversity of private investment by providing opportunities for Nigerian and international investors and contractors in the provision of public infrastructures thus encouraging efficiency, innovation and flexibility.
- 2) Accelerate economic growth, productivity, competitiveness and access to markets.
- 3) Provide thousands of training & development and job opportunities to an underdeveloped rural axis of Nigeria.
- 4) Promote local entrepreneurship through the setting up of various small and medium industry-related companies in the provision of support services for port operations.

## 2.3 Needs Analysis

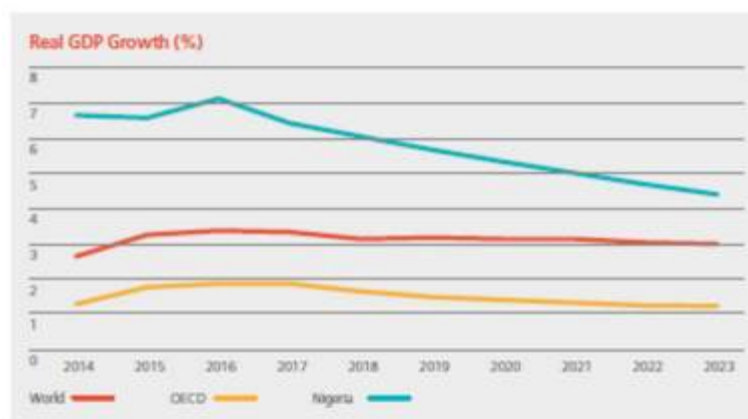


Table 1 - Forecasted GDP Growth

average GDP growth in the world between 2010 - 2050.

On the back of significant oil reserves and a tremendous amount of human capital, Nigeria currently ranks as the largest economy in Africa in terms of GDP with 2013 GDP estimated at \$478.5 billion (purchasing power parity)<sup>5</sup>. Political stability, sizeable economic reform and the increasing privatization of public assets characterize the Government's commitment to sustainable economic growth. Owing to all this, according to Citigroup - Nigeria will see the highest

<sup>5</sup> <https://www.cia.gov/library/publications/the-world-factbook/geos/ni.html>, 2014

This growth will not come without challenges though. During the same period, it is expected that Nigeria's population will balloon from 178 to 289 million people, eventually accounting for more than 50% of West Africa's total population<sup>6</sup>. This large and rapidly developing domestic consumer market will draw the population further towards the larger city centers, placing tremendous pressure on the country's urban infrastructure, where the country's largest ports reside today.

Table 2 highlights each of the six current main port complexes in Nigeria and the number of states served by each port. A review of the distribution of container TEU from each terminal reveals that the distribution of container traffic is frequently scattered among a handful of States. Another apparent trend is the dominance of the Lagos Ports, with respect to serving as the region through which most of Nigeria's cargo is imported and thus the most well connected region to serve the remainder of the country from. Most of the other ports serve as regional ports for their immediate catchment area.

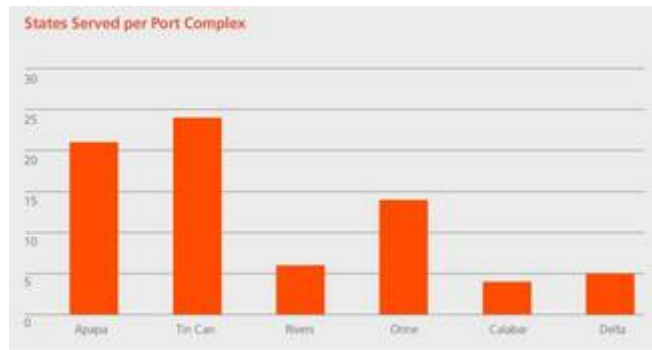


Table 2 - Analysis of States Served by each Port Complex



Table 4 - World Container Fleet Development

As a byproduct of all of this growth, over the next 30 years, we expect that the number of containers coming in and out of Nigeria will likely rise from 1.6 to 10 million<sup>7</sup>. Similar trends exist for non-containerized cargoes such as liquid bulk, bulk and general cargoes. The vast majority of these will be handled in Lagos, where today 90% of total non-oil Nigerian throughput passes and the population is estimated to be between 10 - 15 million people<sup>8</sup>. As Lagos becomes increasingly more crowded as more and more people move toward the urban areas in search of higher wages, it will become critical to relocate port infrastructure to decongest the city and facilitate this continued economic expansion.

Despite all of the ongoing improvements and upgrades to the country's ports, by all accounts, demand for port handling capacity will likely outstrip supply in Nigeria by 2017. Thus, the imperative to provide sufficient port handling capacity in advance of increased demand pressure cannot be overstated. As a country whose Gross Domestic Product, and accordingly trade in and out of the country, has grown at an average rate north of 6% for the past twenty years, the maritime domain is one of the most critical economic infrastructures which must be developed with great tact<sup>9</sup>.

Today, shipping lines, faced with a troubled global economy, are increasingly looking for scale in order to marginalize the threat of competition from their counterparts. The 4,500 TEU (Twenty-foot Equivalent Unit) "WAF-MAX" container vessels which are the largest to call the West African coast today, will, in the coming years become obsolete. The world's leading shipping lines are in the midst of developing deployment strategies which will see between 8,000 – 10,000 TEU vessels call Western Africa in the next five years. Greater economies of scale will also be sought by oil exporters and the importers of refined products. Paramount to national economic interest is the need for the country's port infrastructure to prepare for this dynamic as failure to do so is likely to relegate Nigeria's port system to the second tier.

<sup>6</sup> World Population Prospects, United Nations 2009

<sup>7</sup> Nigeria Marine Freight Market Study, CPCS Transcom July 2012

<sup>8</sup> <https://www.cia.gov/library/publications/the-world-factbook/geos/ni.html>

<sup>9</sup> IHS Global Insight, June 2014

The combination of modern port infrastructure and larger vessels will reduce transaction costs for local businesses, in turn making their goods and services more competitive in the global marketplace. High quality, efficient and effective port terminals are fundamental to a country's integration in global trade flows.

However, the cost of developing the common infrastructure alone for such a port is expected to be significant in the range of \$2-3 billion, an amount anticipated to be beyond the immediate capacity of the NPA to finance from its statutory revenues. Accordingly, the NPA has considered options available to it to concession the provision and operation of the next port to the private sector.

Partnering with the private sector to meet these needs will help the Federal Government of Nigeria, Lagos State and NPA achieve the following:

- Accelerate timelines to project completion
- Focus federal and state resources toward other equally important priorities
- Generation of increased revenue
- Introduce global best practices
- Provide Value for Money
- Improve safety and security
- Share financial risk better
- Reduce project costs and benefit from the consortium's rich procurement network
- Ensure Faster Implementation
- Introduce modern port technology
- Establish a better incentive to perform
- Improve quality of service
- Enhance public management

In summary, it is imperative that Nigeria begin preparing today to build the necessary maritime infrastructure required for the future. Our analysis of the market has factored other planned port developments, such as Lekki Port, CRMP in Apapa, Agge in Bayelsa, Ibaka in Akwa Ibom etc., in developing this OBC and the conclusion is shows that the Badagry Port is still a viable proposition as highlighted in subsequent section of this report. Our proposal aims to address the expected infrastructure challenge and provide shipping lines and business managers with the best productivity, location, flexibility and cost effectiveness to power the global supply chains of Nigeria's leading brands going forward. It will also bring much-needed investment to the underdeveloped Badagry-axis of western Lagos State.

### 2.3.1 *Container Demand Growth*

Increasing container traffic in Nigeria has created a considerable strain on the available port infrastructure. Since the port reform and concession exercise, private operators have improved productivity and enhanced capacity to alleviate the pressures, however many of the port terminals still have high berth occupancy rates leaving very little additional capacity available for further increases in traffic. This was confirmed through a granular analysis of on dock and yard capacity at each of the existing container terminals in Lagos, in order to arrive at an Effective Capacity, which considers which factor is the primary constraint. In Table 4 below, the Tin Can Island and Apapa container terminal capacities are lumped together under the 'Western Nigeria' category.

Considering an average growth in Nigerian GDP during the next five years of 6.7%, we have anticipated growth in demand for container handling capacity to increase by a factor of 1.2 x GDP during the same period; there typically being a direct relationship between the development of a country's economy and the increasing requirement for imported goods.

This combination of factors becomes even more problematic as the three largest shipping lines by market share in Nigeria are all planning to cascade even larger vessels to the West African trades, each seeking to maximize their Network Cost Savings through economies of scale but are limited in their ability to do so by certain vessel restrictions within the Lagos Harbor, such as Vessel Length Overall (LOA) and water depth.

The next generation of container vessels which the shipping lines are intending to call Lagos with around 2018 will be between 8,000 - 14,000 TEU and will have varying lengths (300-400m), design drafts (13.5 – 16.0 meters) and productivity requirements, which today's ports simply will not be able to accommodate.

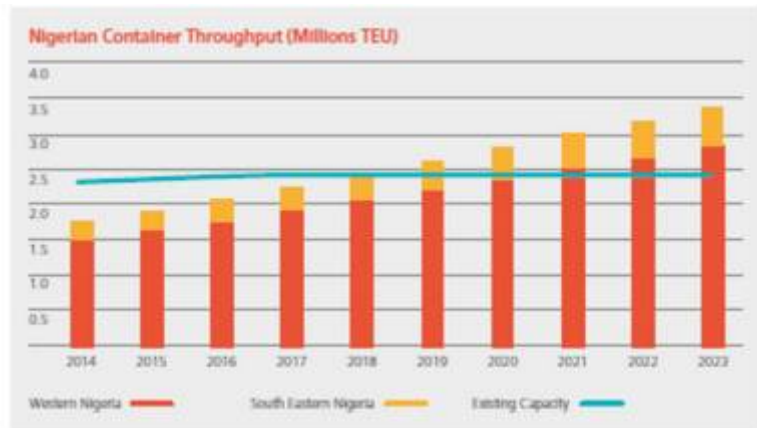


Table 5 - Supply / Demand Forecast for Containerized Cargoes



Figure 2- Map of Existing Lagos Harbor & Associated Vessel Restrictions

While it is fully expected that the major shipping lines will want to call the deeper water Badagry Port as soon as it is operational, we do anticipate some inertia on the part of the customers' whose factories and warehouses are located adjacent or near to the existing Lagos Ports system. Therefore we define the immediately contestable Lagos market as being located between Apapa / Tin Can Island and Badagry, extending north to the airport. However, it should be noted that today, trucking costs are on average 100% higher from Badagry to the major importing destinations within these areas compared to the existing Lagos container terminals. One key assumption for the project is that this will change when

the Lagos-Badagry Expressway is fully completed though and cargo can move freely along the Expressway with equivalent efficiency and expense. Certain assurances from the Government will be desired to this effect.

Despite this inertia, the underlying cost benefits made available to the Shipping Lines through the provision of deeper water, should be able to in part or in full offset the initial higher trucking cost.

Examining Badagry's Value Proposition to the Beneficial Cargo Owners (Importers and Exporters), then additionally it should be noted that land along the Badagry axis is plentiful and relatively inexpensive compared to similar swathes of land elsewhere in Lagos State, including the eastward axis.

### 2.3.2 General Cargo Demand Growth<sup>10</sup>

A similar granular analysis of general cargo and bulk terminal handling capacity within the Lagos Ports system was performed, though unfortunately the Nigerian Ports Authority does not publish statistics on the types of commodities and how they pass through each terminal, but instead publishes commodity throughput through the defined port complex (Apapa ports, Tin Can Island ports, etc.). The distribution of commodities passing

<sup>10</sup> Nigeria Marine Freight Market Study, CPCS Transcom July 2012

through different port complexes is presented in *Table 5: Description of Commodity Throughput by Port Complex* below.

Nevertheless, demand for general cargo can easily be determined by examining a number of macroeconomic data such as population growth, demographic change and the rise or fall in disposable income, particularly of the middle class. Put simply, as countries develop, there becomes greater need for foodstuffs, construction materials and vehicles.

Based on this simple assessment and a review of available supply / demand for general purpose cargoes inside the Lagos Harbor, we have identified that the markets for vehicles, grains and cement are the most attractive to bring to the proposed Badagry General Purpose Terminal. Based on the high demand for additional general cargo / RoRo berthing space, BPDLP intends to tender the GPT opportunity.

Type		Apapa	Tin Can	Rivers	Onne	Calabar	Delta
General Cargo	Agriculture Products	0.6%	0.0%	0.1%	0.2%	0.7%	0.0%
	Construction Materials	3.7%	0.0%	0.0%	0.0%	0.0%	0.0%
	Vehicles	0.1%	7.7%	0.0%	0.0%	0.0%	0.0%
	Containers	19.5%	36.6%	0.0%	4.4%	0.1%	0.2%
	Others	8.2%	4.6%	13.4%	3.0%	5.2%	77.1%
Dry Bulk	Grains	10.1%	5.6%	2.2%	0.0%	16.1%	2.6%
	Cement	13.0%	0.4%	22.5%	0.0%	0.0%	0.0%
	Fertilizer	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%
	Sugar	3.6%	1.5%	0.0%	0.0%	0.0%	0.0%
	Bitumen	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%
	Rice	3.1%	0.0%	0.0%	0.0%	0.0%	0.0%
	Others	1.0%	1.6%	3.7%	0.0%	3.4%	0.2%
Liquid Bulk	Refined Petroleum	34.6%	41.6%	54.1%	1.5%	61.2%	17.3%
	LNG	0.0%	0.0%	0.0%	85.2%	0.0%	0.0%
	Bitumen	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%
	Condensate	0.0%	0.0%	0.0%	2.8%	0.0%	0.0%
	Others	0.4%	0.2%	4.1%	0.0%	0.0%	2.2%
Total		100%	100%	100%	100%	100%	100%

Table 6 - Description of Commodity Throughput by Port Complex

### 2.3.3 Oil & Gas Related Cargo Demand Growth

The increase in global demand in energy is fuelled by the expanding prosperity across a continuously rising global population. Furthermore, population growth is increasingly concentrated in Africa, India and most developing countries. Urbanisation is also expected to play a role in the growing energy needs through 2040. Demographics changes in a robust and growing working age population support a strong

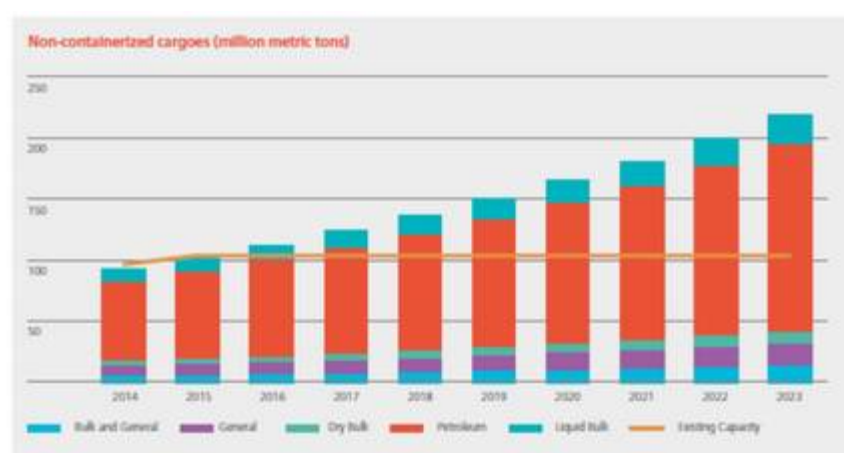


Table 7 - Supply / Demand Forecast for Non-Containerized Cargoes

economy and drives consumption of energy. Owing to all this, the energy demand is further supported by a global economy and is expected to grow at an annual average of 3.4% from 2014 to 2040<sup>11</sup>. To that end, the International Energy Agency (IEA) estimates that over the projection period 2010–2035, energy demand is expected to also increase by 52%, while fossil fuels will account for roughly 80% of this supply<sup>12</sup>.

Nigeria, being an oil and gas rich country is well situated to benefit from this increase in global energy demand as it undertakes various government initiatives, including legislative and regulatory reform and restructuring, infrastructure and facility building, as well as human resource and talent development. The government's focus on restructuring the industry through the Petroleum Industry Bill is definitely timely.

As the largest oil producer in Africa and one of the largest in the world, with a confirmed 2013 production figure of over 2.5 million bbl /d<sup>13</sup>, the Nigerian economy is heavily dependent on the oil sector, which accounts for over 95% of export earnings and about 40% of government revenues, according to the CIA World Factbook (2014)<sup>14</sup>.

Accordingly, the Oil and Gas Journal (OGJ) reported that Nigeria has an estimated 37.2 billion barrels of proven oil reserves as of the end of 2011. Though the majority of reserves are found along the country's Niger River Delta and offshore in the Bight of Benin, the Gulf of Guinea and the Bight of Bonny, current exploration activities are mostly focused in the deep and ultra-deep offshore with some activities in the Chad basin, located in the northeast of the country. As exploration continues, the government hopes to increase proven reserves to 40 billion barrels in the next few years. Investment uncertainties surrounding the long delayed Petroleum Industry Bill (PIB), have curtailed oil exploration projects and impeded the country from reaching its on-going target to increase production to 4 million bbl /d. Instead, crude oil production averaged 2.13 million bbl /d in 2011, roughly the same as it was a decade ago.

To that end, there are several planned oil projects scheduled to come online within the next 10 years, which will boost production, including attempts to cut gas flaring which will also boost the outlook for gas production<sup>15</sup>. It is expected that the PIB will eventually come into force re-opening the doors to further Investments. The new Refined Products Terminal and Offshore Supply Base at Badagry are expected to add significantly to the overall cargo capacity in Nigeria to support this renewed demand.

Taking into account the effects of the delayed PIB, for Badagry, an analysis of the cargo volumes and type was carried out based on historical and projected trends across Nigeria. The high volume in project cargo was previously attributed to the high number of oil projects taking place at that time. As more projects are being implemented and settled down, oil production started to register a steady and significant growth throughout the period. The significant trend observed is, while the project cargo is trending downwards, the petroleum cargo is heading upwards.

<sup>11</sup> IHS Global Insight, June 2014

<sup>12</sup> [http://www.opec.org/opec\\_web/static\\_files\\_project/media/downloads/publications/Executive\\_Summary\\_WOO2013.pdf](http://www.opec.org/opec_web/static_files_project/media/downloads/publications/Executive_Summary_WOO2013.pdf)

<sup>13</sup> <http://www.eia.gov/countries/country-data.cfm?fips=NI>

<sup>14</sup> [https://www.cia.gov/library/publications/the-world-factbook/geos/print/country/countrypdf\\_ni.pdf](https://www.cia.gov/library/publications/the-world-factbook/geos/print/country/countrypdf_ni.pdf)

<sup>15</sup> Business Monitor International (BMI) - Nigeria Oil and Gas Report, 26 March 2013



*Upcoming oil projects in Nigeria<sup>16</sup>*

Project	Capacity ('000 bbl./d)	Est. Start up	Sector	Operator
Agbami <sup>1</sup>	100	2011-2014	Deepwater	Chevron
Ebok (phase 2)	35	2012	Offshore	Afren
Gbaran Ubie <sup>2</sup>	70	2012+	Onshore	Shell
Ehra North (phase 2)	50	2013+	Deepwater	ExxonMobil
Oberan	tbd	2013+	Deepwater	Eni (Agip)
Ofon (phase 2) <sup>3</sup>	90	2014	Offshore	Total
Aje	tbd	2014	Deepwater	Yinka Folaayo Petroleum
Bonga North, Northwest	50-150	2014+	Deepwater	Shell
Bonga Southwest and Aparo	140	2014+	Deepwater	Shell
Egina	150-200	2014+	Deepwater	Total
Bosi	135	2015	Deepwater	ExxonMobil
Nsiko	100	2015+	Deepwater	Chevron
Uge	110	2016	Deepwater	ExxonMobil
Nkarika	tbd	2019	Offshore	Total
Etan/Zabazaba	110	tbd	Deepwater	Eni (Agip)
Okan	35	tbd	Offshore	Chevron

**Table 8 - Upcoming Oil Projects in Nigeria**

<sup>1</sup>Expansion of existing Agbami field- drilling activities expected to continue through 2014 (Chevron).

<sup>2</sup>Production began in 2010 and is expected to ramp up to 70,000 bbl /d once all wells are drilled.

<sup>3</sup>Ofon (phase 1) is currently producing around 30,000 bbl /d and phase 2 is expected to increase capacity to 90,000 bbl /d.

Furthermore, BMI highlights the following trends and developments for the local Oil & Gas sector going forward:

- BMI expects oil production to increase from an estimated 2.2mn b/d in 2012 to 2.70mn b/d by 2020, as ambitious projects such as Total's Usan (180,000b/d) peak in the coming years and Egina (150,000b/d-200,000b/d) come on-stream.
- Consumption of crude is forecast to rise at an annual average of 6.29% y-o-y between 2011 and 2021, boosted by anticipated strong GDP growth. Consumption forecasted to rise from an estimated 252,000b/d in 2012 to 429,000b/d by 2020.
- BMI forecasts gas production increasing from an estimated 36.4bn cubic metres (bcm) in 2012 to more than 75bcm by 2020, as the authorities and companies reduce the practice of flaring and start monetizing associated gas resources.
- Booming demand from the government's ambitious power sector plans and large export engagements will thus bolster production growth. We see Nigerian gas consumption rising from an estimated 5.8bcm in 2012 to 12.4bcm by 2020.
- Nigeria National Petroleum Cooperation (NNPC) is aiming to more than double its annual production of LNG, from 22mn tons per annum (mtpa) (30.36bn cubic meters) to over 52mtpa (71.76bcm). This was announced on September 19 2012, at a forum of LNG producers and consumers held in Japan.
- In October 2012, Nigeria's Petroleum Minister, Diezani Alison-Madueke, announced that the government is planning to direct more than US\$1.6bn towards the repair of three of its refineries. The maintenance work, aimed at bringing the refineries to full capacity, is likely to start in January 2013, with completion

<sup>16</sup> Oil and Gas Journal, IEA Medium Term Oil Market Report, IHS Cera, Wood Mackenzie, Rigzone, & Business Week

due in October 2014. The three refineries are located in Port Harcourt, Warri and Kaduna respectively. The Port Harcourt refinery is non-operational, while the other two refineries have been operating at about 25% capacity as of July 2012.

- In February 2014, Mr. Aliko Dangote announced his intention to develop a new refinery in Lekki.
- Recent congestion around tank farms in the Apapa & Tin Can Island areas which further supports the need to close down such facilities and relocate new capacity outside of the city.
- In September 2014, the Department of Petroleum Resources announced the intention to open up various oil blocks along the Badagry axis for future exploration.

In addition, according to DPR, out of a total of 388 oil blocks in the country, only 173 of them have been awarded to individuals and corporations, while 215 blocks were yet to be awarded. This again signals the potential for increased oil and gas exploration and production over next several decades.

## 2.4 Service Objectives and Performance Measures

Taking into account the expected overall demand growth, it is our shared desire that the Badagry Port become a *Centre of Maritime Excellence for Nigeria and West Africa* alike; having at least the following key objectives:

### 1) Reduced Vessel Waiting Time

Performance Measure:

- Reduced number of vessels waiting at anchorage
- Less time in anchorage
- More efficient Marine Services

### 2) Improved Truck Turn Time

Performance Measure:

- Faster Truck Arrival to Truck Departure time
- Less traffic congestion on public roads
- Sufficient Truck Parking and Cargo Collection & Delivery Procedures

### 3) Streamlined Customs Clearance & Procedures

Performance Measure:

- Less Cumbersome Procedures
- Faster Cargo Clearance time
- Optimized Scanning Process

### 4) Enhanced Operational Efficiency

Performance Measure:

- Higher GMPH (Gross Berth Moves Per Hour)
- Higher BMPH (Berth Moves Per Hour)

### 5) Improved Revenue Earnings

Performance Measure:

- Increase in Annual Revenue
- Reduced variance between received revenue and maximum receivable revenue

### 6) Higher Berth & Yard / Tank Capacity

Performance Measure:



- Amount of dedicated available yard acreage & m3 tank storage
- Reduced Import Dwell Times

#### 7) Improved Health Safety Security Environment (HSSE)

- Reduction in Lost Time Incident Frequency (LTIF)
- Reduction in Near Miss Accidents
- Enhanced security at ports
- Reduced CO<sub>2</sub> Emissions

#### 8) Increased Foreign Direct Investment into Nigeria (FDI)

- Enhanced enabling environment for new Nigerian investors
- Greater inflows of Foreign Direct Investment into strategic sectors
- Increase in Foreign Exchange Earnings

#### 9) Enabling Environment for Continued Value Adding Growth

- Diversification of the Country's Economic Base
- Transfer of Technology
- Stimulate Export oriented behavior

### 2.5 Output Specifications

#### 1) Creation of Additional Multi-Purpose Port Capacity

- Increase storage capacity for incoming and outgoing cargoes
- Flexibility in meeting Peak Season Demand
- Reduced congestion in metro-Lagos area caused by port activities

#### 2) Ability to Accommodate Larger & Deeper Vessels of the Future

- Introduction of modern Ship-to-Shore (STS) cranes
- Deeper water in channel and alongside berths

#### 3) Higher Levels of Employment in the Maritime Sector

- Increase in the number of skilled jobs directly in the port
- Skill Enhancement of NPA and NEPZA staff
- Increase in the number of jobs created indirectly by the port
- Increased participation of Nigerians in the maritime labor workforce

#### 4) Facilitation of Trade & National Development

- Enhanced use of alternative transportation nodes; i.e. river & rail
- Improved connectivity for importers and manufacturers
- Reduced burden on existing city ports
- Improved revenue collection from cargoes entering Nigeria illegally at Seme border

#### 5) Improved Diversity of Cargo

- Possibility to attract West African trans-shipment cargoes
- Increased Exports

#### 6) Enhanced Stakeholder & Customer Relations

- Dedicated Commercial Team to serve all shipping lines and free zone businesses

- Improved processes and dialog between Shipping Lines, Terminal Operators, Government agencies & beneficial cargo owners
- Established Commercial Strategy and Development, policies and guidelines
- Key Client Management (KCM): Ensure profitable volume growth through direct high-level customer contacts and introduction of sales and customer management oriented tools and programs
- Improved Market Intelligence and Analysis
- One Stop Shop for new Nigerian and International businesses

### **SECTION 3**

#### *SCOPE OF THE PROJECT*

### 3. Section 3: Scope of Project

The BPDL herewith presents the Project Scope for the new Greenfield mega-port project at Badagry. The proposed site is located in Nigeria's Lagos State, 55 km (34 miles) west of Apapa and the Ports of Lagos along the Lagos-Badagry Expressway.

Once fully developed, the deep-water full-service port will be the largest in West Africa and one of the largest on the whole African continent with over 4 km of quay and approximately 620 hectares of dedicated port facilities, and will include state-of the art facilities for handling containers, dry bulk, liquid bulk, Ro/Ro and general cargo as well as oil and gas operations support. An additional 480 hectares will be developed into Industrial and Logistic Park Zones.



Figure 3 - Location Map of Project Site

***It is our goal that the Badagry Mega-Port will be a vital node in the important east-west and north-south worldwide cargo trades linking the Asian, African and American continents and to serve as a primary catalyst for the sustainable economic growth of the Federal Republic of Nigeria.***

One of the hallmarks of the Badagry port is that it will offer the deepest available water depth in West Africa and will be the first port in Africa that is truly “***built for the future***” with the marine infrastructure to receive the world's largest container vessels.

#### 3.1 The Badagry Port

The Badagry Port project is a Greenfield development. With the exception of an existing road connection to Lagos, all other infrastructure, utilities and hinterland connections will need to be developed further as part of the Project. Ports within Nigeria are currently used to undertake a variety of cargo handling activities. The Badagry Port will be able to cater for containers, dry bulk and liquids, Ro-Ro, oil & gas supply services, free trade and local logistic zones. The new port will be broken into several terminals for containerized and non-containerized cargo and include a dredged access channel, turning circle, port basin, anchorage area, shoreline protections, an offshore supply base, refined product import jetties, industrial and logistics zone and supporting transport infrastructure. It is envisioned that each of the respective terminals will be operated by a unique and specialized terminal operator.



Figure 4 - Greenfield Project Site

#### ***Breakwaters<sup>17</sup>***

The breakwater structures comprise a Main Breakwater of approximately 3,100 m length and a Lee Breakwater structure of approximately 1,400m length. The length and the configuration of the breakwater structures is mainly driven by the space required for the initial and long term port terminal facilities, as well as the need to create maximum overlap protecting the inner part of the port complex from wave energy that

would hamper safe and efficient operations. Extensive technical studies have gone into the final design for the breakwater in order to ensure the safe navigation of vessels at all time.

### Water Depth<sup>18</sup>

In addition to the draft of the vessel and the allowance for under keel clearance, the design depth alongside each berth also needs to take account of additional factors such as dredging tolerance. All berths will be designed with scour protection provided at the maximum design depth.

The design depths are presented in the table below:

Phase	Nominal Depth	Additional Allowances	Design Depth
<b>Container Terminal</b>			
Initial	-16.0 m BCD*	1.0	-17.0 m BCD
Long Term	-17.0 m BCD	1.0	-18.0 m BCD
<b>Offshore Supply Base</b>			
Initial	-12.0 m BCD	1.0	-13.0 m BCD
Long Term	-12.0 m BCD	1.0	-13.0 m BCD
<b>Refined Products Terminal</b>			
Initial	-14.3 m BCD	1.0	-15.3 m BCD
Long Term	-16.5 m BCD	1.0	-18.5 m BCD
<b>General Purpose Terminal</b>			
Initial	-13.5 m BCD	1.0	-14.5 m BCD
Long Term	-13.5 m BCD	1.0	-14.5 m BCD

\*BCD = Badagry Chart Datum

Table 9 - Design Depths of Badagry Port

### Maximum Design Vessels<sup>19</sup>

The Badagry Port has been designed with the following Maximum sized vessels in mind:

Vessel Type	Capacity	Displacement (t)	Length (m)	Breadth (m)	Draft (m)
<b>Initial Port Development</b>					
Container Vessel (S-Class)	8,000 TEU	105,000	347	42.8	15.0
RoRo / General Cargo	Various	70,000	265	37.5	12.5
Refined Products Tanker	60,000 DWT	73,000	235	33.0	13.0
Offshore Support Vessel	21,000 DWT	35,000	180	32.0	10.5
General Cargo MPV (OSB)	Various	7,000	Various	Various	Various
<b>Long Term Port Development</b>					
Container Vessel (EEE Class)	18,000 TEU	240,000	400	59.0	15.5
Refined Products Tanker	80,000 DWT	95,000	250	40.0	15.0

Table 10 - Max Vessel Characteristics

<sup>19</sup> 9X2550\_R302\_RevP6\_Badagry Master Plan.pdf

### *Navigational Aids*

For safe navigation, the Badagry Port will be equipped with aids to navigation. The access channel will be indicated with lateral buoys in line with the IALA (region A) recommendations. Red and green lateral buoys will be placed at the following locations:

- At the start of the access channel;
- At the start of the bend;
- In the middle of the bend;
- At the end of the bend;
- Close to the head of the main breakwater;
- At the narrowing of the channel;
- At the end of the channel and the beginning of the turning circle.

The turning circle will be marked with two yellow safe water buoys on either sides of the turning circle. The two breakwaters will be marked by two lateral beacons on the far end of the breakwaters.

Furthermore, the approach channel will be equipped with two leading lights. The first leading light is located east of the Badagry Port and will guide vessels that enter the approach channel. The second leading light will be positioned in the GPT Expansion Area and will guide vessels from the approach channel into the port basin.

### *Vessel Traffic Management System*

An advanced Vessel Traffic Management System (VTS) providing BPD and the NPA with vessel traffic information, assistance with traffic organization and navigational assistance will be installed. This technology will reduce traffic congestion in port and prevent accidents, facilitate the planning of loading/ unloading for maximum efficiency and help inshore based pilotage in extreme weather conditions.

The Vessel Traffic Management System is also an extremely effective tool in coastal surveillance and will assist NIMASA and the Nigerian Navy to protect the country's Sovereignty.

Navigational Aids, including VTS will be paid for, installed, operated and maintained by the BPD.

### *Port Administration & Office Buildings*

The port will be administered by a Port Management Company, intended to be either the Badagry Port Development Limited, or one of its nominees. This entity will be responsible for the collection of any fees or royalties accruing to the BPD and on behalf of the Nigerian Ports Authority. An administration office is planned to accommodate management, administration, operations and engineering staff required to keep the port functioning.

The Administration Office will include office space for Governmental Agencies required by law to have office space in the Project Area including those who have duties such as Customs, Immigration, Port Health, the Port Police and the Nigerian Ports Authority.

### *Lighting*

The lighting requirements of the Port are determined by the fulfilment of the following three basic human needs:

- Visual comfort, where the workers have a feeling of well-being and also contributing to a high level of productivity
- Visual performance, where the workers have the ability to perform their visual tasks even under difficult circumstances and during long periods
- Safety

In addition, international standards are also considered in the design of the lighting system. For the proposed new development, the minimum lighting requirement will be via high masts and flood lights, with lighting levels satisfying the relevant industry standards and best practice. This will provide light in the evening similar to daylight conditions in order to ensure its safe and comfortable operation.

Road lighting will provide visual guidance and reveal obstacles so that vehicles can be operated safely after dusk.

### Port Services

BPDL will be responsible for its own Site Security of the Port and have the exclusive ability to provide towage and mooring services as well as perform any capital or planned maintenance dredging within the Port & adjacent areas. This is necessary to protect the BPDL's significant investment and ensure at all times that the port is safe for operation. The cost for these expenses will be offset from payments accruing to the NPA.

Additionally, as part of BPDL's overall port management responsibility, they will sub-contract for various other services including for example firefighting and the provision of various health services.

### ISPS Compliance

The International Ship and Port Facility Security (ISPS) Code is a comprehensive set of measures to enhance the security of ships and port facilities. It prescribes the responsibilities to governments, shipping companies, shipboard personnel and port/facility personnel to detect security threats and take preventive measures against security incidents affecting ships or port facilities used in international trade. The main objectives of the ISPS Code are:

- To detect security threats and implement security measures.
- To establish roles and responsibilities concerning maritime security for governments, local administrators, ship and port industries at the national and international level.
- To collate and promulgate security related information.
- To provide a methodology for security assessments so as to have in place plans and procedures to react to changing security levels



Figure 5 - Badagry Port & Free Zone Hub Concept

ISPS compliance at the proposed Badagry Port is essential not only for international compliance, but also from the perspective of maximizing the safety of our clients, Government agencies, ground personnel and cargo. The ISPS Code also prescribes the minimum operating requirements at the Port to be inclusive of various port security plans, port security officers and having the necessary security equipment. These are required to:

- Monitor and control port access

- Ensure security communication modes are readily available
- Monitor the activities of people and cargo

In line with this requirement, the construction of fence work, barbed wire, security cameras, access monitoring and control are deemed necessary and will be among the first investments made. A Closed Circuit Television (CCTV) system shall also be provided for continuous monitoring of quay side operations as well as each of the port entrances.

### 3.1.1 Container Terminal<sup>20</sup>

Eventually covering a total area of approximately 146 ha, the initial quay length will be 440m and extended in four steps over time resulting in 2,490 m of operational quay. The terminal will have a total yard depth of 500 m extending from the quay line. The terminal will be initially designed to accommodate 1 x 4,500 TEU large West Africa Maximum (WAFMAX) vessel and 1 x 8,000 TEU large S-Class vessel and will be expanded over time to eventually accommodate EEE class vessels of 18,000 TEU in the long term.

#### Container Terminal

Initial Port Development Requirements	
Quay Length (m)	440
Terminal Area (ha)	46
Design Vessel	WAFMAX (4,500 TEU) & S-Class (8,000 TEU)
Long term Port Development Requirements	
Quay Length (m)	2,490
Terminal Area (ha)	146
Design Vessel	EEE-Class (18,000) TEU

**Table 10 - Design Characteristics of Container Terminal**

Referring to vessel types reflected in the previous paragraphs, it has been assumed that the draft of vessels in phase 1 will not exceed 15 -15.5 m alongside. Calculating 0.5 meter under keel clearance, this would result in a minimum of  $\approx$  16 m water depth for the first phase. From Phase 2 onwards, we anticipate allowing for the biggest vessels currently in existence, which require 16.5 m draft (17 m water depth). It should be noted that if larger vessels become a reality already in phase 1, the Badagry Container Terminal will be capable of handling them.

Loading and un-loading of containers on the quay will be handled by Ship-To-Shore (STS) cranes and the following numbers are expected to be deployed.

Yard Phases	Approximate Timing	# of Berths	# of STS
Phase 1	2020-2033	1	5-8
Phase 2	2034-2044	4	9-14
Phase 3	2045-2052	5	15-19
Phase 4	2053-	7	20-24

**Table 11 – Phasing of Ship-to-Shore Crane Installation**

In designing the container terminal layout, the overall goal is to create as much stacking area as possible without compromising safety and productivity of the terminal operations. Several types of stacking crane were considered for the terminal's yard operations, including the popular Rubber Tyred Gantry (RTG) concept currently being deployed in Apapa and some Tin Can Island container terminals. However, against a set of key parameters, namely safety, general operability and throughput capacity, it was ultimately determined that the Automated-Rail Mounted Gantry (A-RMG) was the most efficient mode. This technology deploys rail mounted

<sup>20</sup> 9X2550\_R302\_RevP6\_Badagry Master Plan.pdf



stacking cranes in the yard perpendicular to the quay operations and allows for a greater stack density than the standard RTG.

Administration, marine and amenity buildings are situated in a way that minimizes the interference with ongoing operations and potential stacking area (i.e. – in close proximity of the quay wall).

The Gate will be an important aspect of our focus on premier customer service and its processes will enable trucks to arrive and depart the container terminal as fast as possible, minimizing the amount of time spent on administrative documentation and physical inspection during each visit. This process and the streamlined visit transaction will be dependent on advanced receipt of all relevant shipment and equipment details, routing instructions and customs/carrier release information prior to truck driver's arrival at the facility. By verifying the accuracy of the shipment data prior to the actual gate arrival, the terminal will be able to remove trucks that have not satisfied the data requirements from the queue before they progress to a point where they would interfere with approved gate traffic. Additionally, there will be adequate truck parking outside the port confines. The combination of these two factors will help to reduce the amount of truck traffic on common roads and help to avoid some of the congestion which is inherent in the existing Lagos port system.



All Gate and Yard operations will be managed through a state-of-the-art Terminal Operating System (TOS), which will allow maximum visibility into how the operation is being run.

The number of personnel working on the Container terminal is estimated as 250 for the initial phase and leading up to about 1000 in the final phase of the development.

### 3.1.2 General Purpose Terminal<sup>21</sup>

The general purpose terminal (GPT) is expected to handle various types of cargo ranging from break-bulk to Ro-Ro (roll-on/roll-off) and is planned as part of Phase 2. Annual throughput at this terminal will vary depending on construction phases of the port as well as market demands for various cargo types. However, it is not expected at this stage that the general purpose terminal will increase in size, beyond the initially envisioned 325 m of quay wall and 20 ha of yard. Nevertheless, an additional storage area of 9 ha can be added at any stage immediately south of the area and a further off-dock area can be provided in the planned logistics area if required.

#### General Purpose Terminal

Initial Port Development Requirements	
Quay Length (m)	325
Terminal Area (ha)	20
Design Vessel	Various – up to 265 m in length
Long term Port Development Requirements	
As per initial port development requirements	

Table 12 - Design Characteristics of General Purpose Terminal

The number of personnel on the General Purpose Terminal is estimated as 100 for the initial phase and leading up to about 250 in the final phase of the development.

<sup>21</sup> 9X2550\_R302\_RevP6\_Badagry Master Plan.pdf

## 3.2 Other Facilities

### 3.2.1 Offshore Supply Base<sup>22</sup>



**Figure 7 - Stevedoring Operation for Out-Of-Gauge Cargo at the OSB**

Due to the high cost associated with off-shore work, only those activities that absolutely need to be performed off-shore are actually performed off-shore. All supporting activities, including the majority of storage, take place on-shore, preferably at a nearby port. Off-shore structures first need to be mobilised or constructed and then moved out to the off-shore site. Because of limited off-shore storage capacity, fuel, supplies, materials and equipment need to be shipped frequently, in relatively small quantities, to the off-shore sites. On return journeys, waste materials, equipment no longer needed and equipment in need of repair and maintenance are shipped back to shore.

Offering a “One Stop Shop” solution to its clients, the Offshore Supply Base solutions will be tailor-made packages of services, facilities, equipment and personnel specific for each client. Companies operating the Oil & Gas sector, receiving a cargo from overseas at the Badagry Offshore Supply base, can stock the material in a client-dedicated area, thus ensuring delivery to final destination in a timely manner. This approach allows our clients to significantly reduce transport and handling costs and minimize the risk of cargo damage.

With an initial footprint of 40 ha with 875 m of quay length located inside the lee breakwater, the offshore supply base (OSB) will play a key role in providing these services and supplies and to ensuring the long-term viability of Nigeria’s burgeoning oil and gas economy. Long-term, it is expected that the OSB will grow to over 1,675 m of quay length with nearly 77 ha of dedicated yard.

#### Offshore Supply Base

Initial Port Development Requirements	
Quay Length (m)	275
Terminal Area (ha)	40
Long term Port Development Requirements	
Quay Length (m)	1,425
Terminal Area (ha)	77

**Table 13 - Design Characteristics of Offshore Supply Base**

The primary activity of the OSB will be to provide stevedoring services. This will be supplemented with a large range of associated activities, including acting as a Charters’ Agent and serving to ensure the efficiency in the booking and clearing procedures of vessels, thereby reducing delay and setback and providing an efficient and cost-effective operation beneficial to the industry. Additionally, the following basic facilities and activities are proposed for the Badagry OSB:

- Offices, including the main office for OSB operator plus parking
- Rental offices plus parking for subcontractors, agents and independent parties
- General warehouses
- General outdoor storage yards

<sup>22</sup> 9X2550\_R302\_RevP6\_Badagry Master Plan.pdf

- Stevedoring services for (supply) vessels, including quayside and equipment (cranes, forklifts, pipe handlers, trucks and other vehicles)
- Stacking area
- Landside cargo handling, including cranes, forklift trucks, tractors and trailers
- Cargo administration
- Shipping agency services
- Freight forwarding, import and export
- Workshop for OSB operator's equipment
- Solid and liquid waste storage facility (incl. hazardous waste)
- Fuel storage
- Security fence, gate, lighting and CCTV
- Power plant
- Potable water supply
- Sewage collection and treatment
- ICT system
- Oil spill response facility
- Fire Fighting facilities
- First aid clinic

The estimated number of personnel for the initial phase is 800, with growth up to 1600 personnel over the long term.

### 3.2.2 *Refined Products*

The Refined Products Terminal will be one of the largest in existence in Nigeria. Initially expected to operate with one jetty and 60-80 ha of tank farm space, storage capacity for phase 1 will be approximately 210 kMT but eventually expand to 630 kMT once the planned refinery operation begins. The Refined Products terminal will have a dedicated jetty with loading platform situated in the port on the inner side of the main breakwater. The refined products will then be pumped using the vessel's on-board pumps to a tank farm approximately 2km from the jetty. This type of operation is much safer than having the tank farm at the quay wall as is the current practice in Lagos.

### Refined Products Terminal

Initial Port Development Requirements	
Annual Throughput (bbd)	100,000
Jetties (no.)	1
Tank Farm area (ha)	60 – 80
Storage Capacity (kT)	At least 210
Design Vessel	Panamax Tanker (60,000 dwt)
Products	Gasoline (PMS), Diesel (AGO), Jet Products (DPK)
Long term Port Development Requirements	
Jetties (no.)	2 or more
Refinery (ha)	360*
Design Vessel	VLCC (300,000 dwt)**

\* The Refinery is a long-term project and is highly susceptible to market dynamics

\*\*The VLCC, used for importing crude oil, will be handled at an offshore single point mooring

**Table 14 - Design Characteristics of Refined Products Terminal**

Initially, the Refined Products terminal will be operated primarily as an import facility for petrol, diesel, jet fuel etc. and the terminal will be equipped with truck loading bays for dispatch of the products throughout Nigeria and which can amount to about 500-1000 tanker truck movements per day. Sufficient parking spaces for these tanker trucks are included in the Master Plan design, which will ensure that these trucks do not cause further unnecessary congestion on any of the roads. This solution crowns a set of options to solve the chronic gasoline shortfall that Nigeria as a nation has suffered for the last two decades and is best viewed from three integrated perspectives:

1. Though initially, the Refined Products terminal will serve primarily as an import facility, it should be noted that the terminal also represents Phase I of a Refinery Project. The Terminal will eventually serve as the Finished Product Storage for the refinery that will come on line in the following years. The specifications of the terminal will be fully integrated with the refinery's requirements. Long-term the site could be linked to the rest of the country through various pipelines.
2. Secondly, it represents a step upgrade in terminal capabilities for both the region and Nigeria. This upgrade is in terms of parcel size, unit cost to serve, Environmental, Health, Safety & Quality Management (EHSQ) compliance and ship discharge & truck dispatch control sophistication.
3. Thirdly, it solves the shortage of freely accessed shoreline storage that has bedeviled the nation, thus ensuring consistent supply over the long term. The facility will bypass the infrastructure bottlenecks in Apapa (Lagos), which in some cases of late have resulted in demurrage to importers in excess of US\$1 million per shipment (\$33/ton).

The facility will charge a tariff and deliver savings to importers in the middle to long term relative to the current regulated cost template and anticipated cost to receive in an unregulated environment.

Although product tankers of maximum 60,000 dwt are anticipated in the first stage of the development, the marine structures will be designed for 80,000 dwt vessels to easily facilitate anticipated increases in vessel size. Within the tank farm, the product tanks are to be sized based on 10 days storage. All products will be stored in vertical steel atmospheric tanks with fixed roofs. Gasoline tanks will have an additional internal floating roof to minimize vapour emissions.

As described above, the long term plans for the refined products terminal includes the construction of a 360,000 bpd refinery. Crude oil will then be imported using Very Large Crude Carriers (VLCCs). The VLCCs will be too large to call at the port and a single point mooring in a water depth of approximately 30 m will need to be installed. The crude oil will then be pumped ashore through a pipeline placed either along the seabed or



**Figure 8 – Very Large Crude Carrier (VLCC)**

buried beneath the seabed, depending on soil, wave and current conditions. Once the refinery is operational, refined products will be exported using product tankers calling at the port.

The target customers will be:

- Companies that do not own storage but are well placed to deliver products into Nigeria at competitive cost;
- Local marketers that do operate storage but face logistics issues and/or;
- Companies that simply desire to improve asset turn of their distribution assets in response to evidenced demand (especially outside of the city centres).

The terminal will attract not only delivery cost savings but also a far more reliable and predictable logistics solution for international operators. In addition, due to its location outside of metro Lagos (Apapa), and link to the Benin- Lagos Expressway, the truck dispatching operation will be far smoother and indeed cheaper as the disparate costs incurred in the approach to the Apapa ports are considered to be non-trivial.

The number of personnel required for the Refined Product terminal is estimated as 30 people for the initial phase and leading up to about 100 in the final phase of the development. The refinery is expected to add a further 500 jobs.

### 3.2.3 *Barge Terminal*

The National Inland Waterways Authority (NIWA) manages Nigeria's inland waterways network. The agency defines the inland waterways as comprised of the Niger and Benue rivers, creeks, lagoons, lakes and intra-coastal waters that traverse country. This includes about 3,000km of navigable waterways from the Nigeria/Niger and Nigeria/Cameroon borders to the Atlantic Ocean and a coastline of about 852km. Together, the system provides a highly suitable configuration for west-east and north-south movement with the potential to provide a low cost, energy-efficient and environmentally friendly alternative for shipping goods, particularly bulk freight, between the coast and the interior and easing pressure on the roads.

Despite their potential, the inland waterways have suffered from under-investment and poor maintenance, for example dredging. They are characterized by high rates of sediment build up, physical obstruction such as wrecks and rock outcrops, inadequate river port infrastructure, poor landward connection, and inadequate communication and navigational aids. A major effort is required to revitalize Nigeria's waterways.

The BPDL is contemplating whether it is economically feasible to operate a Barge Terminal located along the Porto Novo Creek adjacent to the back of the planned Logistics Park. The advantage of such a terminal would be the possibility to barge cargoes between the Apapa & Tin Can Island port complexes and that of Badagry, enabling a potential Unit Cost Savings per TEU or MT trans-shipped compared to transiting by truck, especially in the early phases of the project. Additionally, during the initial construction period, the Barge Terminal could serve as an Enabling Works Pier, allowing the mass transportation of construction aggregates such as rocks for the breakwater and or large quantities of steel from metro-Lagos or the physical quarry locations. Barging these materials will limit the amount of truck traffic on the Lagos-Badagry Expressway whilst the road expansion is ongoing and from a safety perspective would be far safer and more efficient than traversing this Expressway during busy or peak traffic times.

### 3.2.4 *Small Craft Facility*

A Small Craft facility will be required to accommodate tugboats, pilot boats, security vessels etc. and is located between the General Purpose Terminal area and the Phase-1 liquids berth. This location is easily accessible from both land and water and at a short distance from all available quays and jetties.

The small craft facility is currently envisioned to consist of a number of floating pontoons, held into place by steel piles, placed in a line up to a total length of 100m. The pontoons will have a width of 5m. Access to shore will be provided by an adjustable gangway.

### 3.2.5 Roads and Truck Parking<sup>23</sup>

To avoid the traffic congestion experienced in Lagos, a very important aspect of the common infrastructure is an adequate internal road system and connections to the Lagos-Badagry expressway. The foreseen traffic intensity to and from the port complex is significant with about 700,000 vehicle (gate) movements per annum starting already in the Phase-1 development for all the port activities combined and growing steadily to about 1,300,000 vehicle (gate) movements per annum in about 5 years after opening.

To avoid a traffic situation like in Apapa and Tin Can, our design includes truck parking space for up to 1,000 trucks at any time. This solution will keep trucks from causing traffic congestion outside the port and near the border with the Republic of Benin.

In order to ensure that this traffic will flow in and out from the regular traffic on the F100 Lagos - Badagry expressway two fly-over junctions will be constructed.

### 3.2.6 Tank Farms<sup>24</sup>



Figure 9 - Tank Farm

The tank farm will receive product from the Refined Products jetty pipeline with a pig catcher for each line. From here each product will have an individual pipeline. Each product pipeline will enter the Customs Metering building where an official measurement of received product is made. From here the product pipelines enter the marine pump house where the product is boosted. By selection in the marine manifold it is possible to select which tank to fill. Spool pieces will create semi-permanent dedication of tanks for each product. Each product type will be housed in a separate bund. By switching spool pieces it is possible to dedicate specific tanks

within each bund; however, when switching product in a tank it will be required to fully clean the tank and associated piping.

Gasoline (PMS) tanks will be 30 meters in diameter and 30 meters high. The gasoline bunds will hold six gasoline tanks (each individual tank will have its own bund), each either for low octane or high octane gasoline. To allow sufficient fluid capture the bund walls will be a minimum of 1.5 meters high. Diesel (AGO) tanks will be 25 meters in diameter and 25 meters high. The diesel bunds will hold four tanks (each individual tank will have its own bund), each either for regular or low-sulphur diesel. To allow sufficient fluid capture the bund walls will be a minimum of 1.5 meters high.

Kerosene (DPK) tanks will be 20 meters in diameter and 20 meters high. The jet bund will hold four tanks (each individual tank will have its own bund), all for DPK. To allow sufficient fluid capture the bund walls will be a minimum of 1 meter high. All bunds will be fluid tight and all tanks placed a minimum of 15 meters from any other tank and from the bund wall.

<sup>22-24</sup> 9X2550\_R302\_RevP6\_Badagry Master Plan.pdf

<sup>24</sup> 9X2550\_R302\_RevP6\_Badagry Master Plan.pdf



Tanks will be equipped with instrumentation such as temperature, pressure and level metering. All tanks will have walkways along their roof to connect to nearby tanks and sufficient stairs and ladders to allow access to these walkways. The interior of the tanks will be protected by foam boxes and the exterior with cooling rings. When empty, the tank interior will be accessible by manholes for cleaning and inspection.

### 3.2.7 Logistics Park

A Logistics Park is proposed on the north side of the container terminal along the Porto Novo Creek. Positioning a Logistics Park close to the container terminal is beneficial in that it provides convenience for unpacking, storage and distribution of goods, as well as collecting, packing and processing goods for export and other “value adding” light industries such as product assembly services or container repair services, etc. The Logistics Park will work closely with the port to provide the most expedient access to the nation’s highway and rail systems as well as barge along the Porto Novo Creek. In order to optimize the distribution networks of the port’s clients, companies will make use of the Logistics Park to consolidate or deconsolidate their consignments before sending goods in their intended direction. The Logistics Park is a common user facility having a full-fledged Customs house functioning within its Customs notified area. Thus, Customs clearance can also take place within the Logistics Park allowing importers to take bonded delivery of their cargo outside the port area. All facilities pertaining to Customs clearance including appraisement, duty payment, export permission, etc. will be available at the logistics park.

Further, given the high demand for quick movement of goods, proper warehousing and distribution infrastructure around the port area, the park will also act as a buffer for the port’s users to manage inventory and utilization levels. The Logistics Park provides the full gamut of activities required by the importers and exporters inside the port, leaving the port to concentrate on its core activity of acting as a facilitator of quick loading and unloading of ships. These activities include:

- Freight Forwarding
- Inland Container Depots and off-dock storage
- Trucking
- Maintenance and Repair
- Stuffing and De-stuffing of cargo
- Product Assembly

Numerous related companies will establish themselves within the Logistics Park in order to provide these services and benefit from the proximity to the port. This will reduce the cost of export and import as a whole and reduce the informal cargo handling and transshipment activities, which today happen outside the Apapa & Tin Can Island Port gates and often cause unnecessary congestion to Lagos’ roads.

## SECTION 4

### *PROJECT APPRAISAL (Cost / Benefit Analysis)*



#### 4. Section 4: Project Appraisal (Cost / Benefit Analysis)

Several suitable locations and design alternatives for the Port were evaluated during the pre-feasibility stage, including Badagry, Lekki and Snake Island. Ultimately Badagry was selected as the preferred location for the new Greenfield development as existing congestion around the Snake Island, Apapa & Tin Can Island areas was thought to be prohibitive in the long term. The coastline between Lagos and Cotonou is relatively straight and there has been very little coastal development in the vicinity of Badagry. The main coastal activities at Badagry today include small fishing communities, some palm plantations and small scale tourism. The BPDL undertakes to continuously engage the local communities to ensure our activities can cohabitate with theirs.



Table 15- Satellite Image of Two Initially Contemplated Project sites in Badagry

Within the Badagry geography, ultimately Site Option 1 was selected over Option 2 due to its more favorable soil conditions, deeper water and ability to develop and expand with minimal interference with existing infrastructure. Several design alternatives were reviewed and a Multi-Criteria Analysis (MCA) was made to arrive at the final design. The MCA evaluated various criteria including Safety, ability to expand and overall project cost, and the design we are proposing has performed best across all criteria (more detail can be found in the Master Plan document). The site is located just outside metropolitan Lagos along the F-100 / Lagos - Badagry expressway which is currently being upgraded from a 4-lane highway to a 10-lane expressway. When completed, the new road will offer superior connectivity to all of Nigeria's Western and Northern states, which ensures that the port will become the lasting replacement for the ports in the congested metropolitan-Lagos area. Long term plans also include linking the Port to the hinterland by barge and rail.

##### 4.1 Feasibility Review

To arrive at our current Bill of Engineering Measurements & Evaluation, during the period from April 2012 - July 2014 various detailed studies and investigations were undertaken, including the following Reports. Approximately \$13 million has been spent so far on technical aspects of the project.

Feasibility Study	Prepared By
Overall Master Plan Study	Royal Haskoning
(I) Final Master Plan Study	(II)
Basis of Design Report	Royal Haskoning
Preliminary Design & Drawings	Royal Haskoning
Offshore Geotechnical Investigation	Fugro
Market Study / Needs Analysis	CPCS Transcom
Onshore Geotechnical Investigation .v1	Josh Tob Associates
Hydrographic Survey Investigation	DEEP, BV
Environmental Social Impact Assessment	Environmental Resources Management
Onshore Geotechnical Investigation .v2	Trevi Foundations
Power Generation Feasibility Study	Royal Haskoning
Detailed Civil Procurement Strategy	Worley Parsons / DeltaAfrik
Wave & Sediment Transport Study	Royal Haskoning
Quarry Location Survey	Royal Haskoning
Detailed Wave Modelling Study	Royal Haskoning
Supply Chain & Dynamic Transport Simulation	Royal Haskoning
Metocean Modeling	DEEP, BV
Morphological & Coast Line Impacts	Royal Haskoning & DEEP, BV
Resettlement Action Plan	RePlan
Turtle Nesting & Habitats Survey	Five Oceans
Breakwater Design Review	Worley Parsons & Royal Haskoning
Navigation Simulation	Royal Haskoning

**Table 16 - Schedule of Completed Feasibility Studies**

Each of the aforementioned studies & draft technical reports, many of which have previously been submitted to the Nigerian Ports Authority for review, inform the basis for the following cost estimate.

**Three (3) additional hard copies of each of the final required technical feasibility studies are attached to this package again, as well as eight (8) memory sticks containing the same information in soft copy plus a Video highlighting salient features of the Port project.**

## 4.2 Technical Cost Estimation

### 4.2.1 *Envisioned Contract Packages*

The Badagry Port project is designed to be built up in several phases, with phase I expected to commence around late 2018 and the ensuing phases expected to be built over the duration of the Concession's lifetime, depending on market demand. It is envisioned that each of these phases will expand in a coordinated way to ascertain steady growth of the port complex. Initially, the project will be constructed as a series of civil works packages; the preliminary details of which are outlined below.

The main infrastructure elements that are addressed in this section are:

- Breakwater and Coastal Protection Structures
- Dredging and reclamation works
- Buildings
- Common road infrastructure
- Container Terminal
- General Purpose Terminal
- Offshore Supply Base
- Refined Products Terminal & Tank Storage areas
- Logistic Park and Industrial Estate
- Barge Terminal

An independent Power Plant and Utilities Cluster is being planned for future phases of the project, but is not included as part of this initial proposal. Cadastral drawings of the current envisioned phased development can be found in the Appendix (10.2) of this Outline Business Case as well as the Preliminary Design Report and Master Plan, which were provided as part of this overall submission.

In order to realize the port and logistics infrastructure the following Contract Packages have been identified:

***Early Works Package (EWP):*** consisting of boundary wall and site clearance works for the designated Port Area to be carried out early in the project prior to the start of the main construction works. This will potentially include a Barge Terminal to receive construction materials from outside Badagry in the safest and most cost efficient manner.

***Common Port Infrastructure Works (CPIW):*** Significant construction package which includes the quay wall and jetty construction, breakwaters, dredging and reclamation works.

***Roads and Common Drainage Package (RCDP):*** This would entail the internal road system (including the logistics park), including lighting, roadside utility corridors, main drainage channels etc.

***Container Yard Infrastructure works (CYIW):*** includes the terminal pavement, buildings, utilities and underground services, power supply and light masts etc. for the container and general purpose terminals.

***Offshore Supply Base Infrastructure Works (OSBIW):*** includes the terminal pavement, buildings, utilities and underground services, power supply and light masts etc. for the OSB terminal.

***Refined Products Infrastructure Works (RPIW):*** includes the terminal pavement, buildings, utilities and underground services, power supply and light masts etc. for the Refined Product terminal.

***General Purpose Yard Infrastructure Works (RPIW):*** includes the terminal pavement, buildings, utilities and underground services, power supply and light masts etc. for the General Purpose terminal.

**Power and Utilities Works (PUW):** at a later stage in the Badagry Port development it is foreseen that a dedicated power plant and permanent water supply units as well as a waste treatment plant etc. will be built.

The aforementioned Contract Packages represent the Consortium's current views on how the project will be developed. However, depending on which set of contractors are ultimately selected, there may be variations to the overall design and procurement strategy. The BPD L will endeavor to source as much of the construction locally as possible, ensuring that maximum value is left in the Nigerian economy.

#### 4.2.2 *Technical Cost Estimation*

Based on our current forecast for volume growth, utilization levels, evolution of best practices and market conditions, we estimate that significant capital expenditure will need to take place over the course of the concession period.

These investments will ensure that the Port facilities are maintained to the highest operational and ecological standards. The development of subsequent phases in each of the terminals and logistics zones will provide the capacity necessary to handle the expected growth for decades to come and it will be provided in advance of market needs so as to ensure the absolute best value proposition is provided to the Government of Nigeria and its subsequent market places.

The split of investments proposed follows the typical Private Service Port model, whereby the BPD L will fund all Common Infrastructure investments which can be recouped and then the respective terminal operators will be required to fund their individual terminals, including the cost for any specialized terminal handling equipment. Furthermore, throughout this proposal, it should be noted that limited funds (if any) should be required by the NPA or federal Government and no State funding is required at all. As evidenced in previous projects, the consortium members have proven their capability to fund investments of this size.

***A detailed Bill of Engineering Measurements and Evaluation (shown in 2014 nominal numbers) is included as Appendix 1 of this document.***

#### 4.3 **Build Own Operate and Transfer Port Management Model**

Two broad forces, detailed below, must be taken into consideration as this PPP is contemplated:

- External forces of competition and technology from the shipping industry; and
- The acknowledged financial and operational benefits of private participation in infrastructure development and service delivery.

First is the need to restructure port operations to deal with the external factors that affect port viability, including national competition for global markets, changes in port and transport technology, and increased competition among ports. In planning how responsibility for future port development and operations will be divided between the private and public sectors, and in deciding on desired levels of investment to be funded or guaranteed from public sources, policy makers must increasingly regard the competitiveness of their port(s) in relation to other ports in their region, and compared to the supply chain alternatives available to their users.

The second force generating momentum is the need for increased private participation to improve service delivery in auxiliary port activities. National and regional seaports around the world are realizing that they cannot compete effectively without the efficiencies offered by private operators and, equally importantly, without access to capital provided by private investors. It is recommended that the progress achieved during the 2005-2006 rounds of port privatizations should now be augmented by the introduction of PPP arrangements for activities like marine services and maintenance dredging as well.

Acknowledging these changing dynamics, BPD L recommends that a hybrid between the **Landlord Model & the Private Service Port** models is selected<sup>25</sup>. In this scenario, the BPD L or one of its nominees would be responsible for overall Port Administration, including the development and operation of all infrastructure & superstructure, cargo handling and ancillary activities such as towage, dredging and mooring activities. The Nigerian Ports Authority would still technically be the Landlord and lend its name to the Port, but the day to day running and supervision of all Port activities and value-added services (with the exception of the Harbour Master) would be delegated to the BPD L.

	Public Service Port	Tool Port	Landlord Port	Private Service Port
Port Administration	O	O	O	X
Nautical Management	O	O	O	X
Nautical Infrastructure	O	O	O	X
Port Infrastructure	O	XO	O	X
Superstructure (Equipment)	O	X	O	X
Superstructure (Buildings)	O	X	O	X
Cargo Handling Activities	O	X	XO	X
Provision of Pilot	XO	XO	XO	O
Towage	XO	XO	XO	X
Mooring Activities	XO	XO	XO	X
Dredging	XO	XO	XO	X
Other Functions	XO	XO	XO	X

Table 17 - Port Management Model

X = Private Responsibility

O = Government Responsibility

XO = Shared Responsibility

#### 4.4 Limitation on Current Facilities

In the globalizing world, the essence of port reform goes beyond waterfront operations to port efficiency, which includes the arrival of vessels, the channels of passage, berthing, discharging, clearing and receiving of cargo, skill acquisition, port reputation, equipment availability and funding as a requirement for the Authority to attain international standards. It is further established that competitive advantages are created in the interplay between the rivalry, demanding customers, and the quality of related and supporting sectors, whereas a port's related and supporting sectors have much to do with its hinterland; hence, the port hinterlands are crucial for port performance and port choice.

BPD L believes that once the F-100 Lagos-Badagry Expressway is expanded, transportation of goods to and from Badagry to the major import & export destinations will be on par with / if not better than delivery from the Apapa & Tin Can facilities. This will become the source of a sustainable competitive advantage for the Badagry Port located on the western axis of Lagos State.

To further cement this competitive advantage, as many similar West African Ports have done in the past, we propose to leave marine services and ancillary port services such as dredging to private operators. Thus, the coming together of the NPA and BPD L should drastically bring about positive changes in the Nigerian maritime industry. The consortium would provide the expertise, which would translate positively to patronage of bigger vessels; lower overall transportation costs and faster turnaround time for vessels and effective delivery process for the industry. Though it is widely acknowledged that the Port Reform process which the Nigerian Government undertook between 2005 and 2006 was a tremendous success, today's ports in Lagos all suffer from five main issues, each characteristic of typical 'city ports':

1. Lack of Sufficient Water Depth

<sup>25</sup> Port Reform Toolkit, World Bank Second Edition 2007

2. Inability to berth large vessels
3. Space Constraints
4. Congestion outside the Port Gates
5. Lack of Tug Boats on Vessel Arrival leading to delay

Because of the Badagry Port's advantageous Greenfield location, the Project will be able to adopt the concept of — front port, back factory to provide processing, assembling and cargo sorting and other value-added services, which can not only reduce the transport cost and the packaging damage during the handling and transport, but also ensure that the quality of products is world class. Today this is virtually impossible in the existing Lagos Ports and remains one of the key benefits of bringing port activities out of the city to a Greenfield site such as Badagry.

#### 4.5 Environment and Social Impact Assessment Process

An Environmental, Social Impact Assessment (ESIA) for the Badagry Port project was undertaken in accordance with the Environmental Impact Assessment Act (Act No. 86 of 1992) and in line with international standards. Accordingly, the ESIA process comprised of a number of key steps, namely:

- Screening and Scoping
- Baseline data collection
- Stakeholder consultation
- Impact assessment
- Management plans
- Reporting and disclosure

A brief description of each step is provided below:

##### *Screening and Scoping*

A project proposal containing a summary of the proposed project was submitted to Federal Ministry of Environment (FMEnv) for their Initial Environmental Evaluation (IEE) to determine the project's category under the study activities list.

Following this, a scoping report was submitted for the ESIA. The report contained a description of the project, a description of the existing environmental and socio-economic baseline, a preliminary assessment of the potential environmental and social impacts, identification of key data gaps and stakeholder input from the consultation process. BPDF received a screening letter from the FMEnv on 1 August 2012 stating that the Project had been placed in Category I, requiring a mandatory ESIA Study and a panel review exercise.

##### *Baseline Data Collection*

Available data was subsequently gathered as a basis against which the impacts of the project can be assessed. In addition to a desktop review of existing data and other EIAs for nearby projects, primary data was collected by field studies carried out by biophysical and socio-economic specialists as indicated in *Table 17*.

Data Collection	Date	Team
Wet Season Biophysical Data Collection	September 2012	ERM, Environmental Accord
Dry Season Biophysical Data Collection	December 2012	ERM, Environmental Accord
Socio-Economic Baseline Survey	August – December 2012	ERM, PNI-Nigeria

**Table 18 - Fieldwork of Baseline Data Collection**

### Stakeholder Consultation

The public participation process involved the following activities:

- Identification of a preliminary list of stakeholders;
- Creation of background information document (BID) for use in communicating with stakeholders;
- Meetings with a number of government departments and stakeholder groups; and
- Various focus group meetings with local community members.

Consultation meetings, focus group discussions and household surveys have been conducted with a total of ~15 communities within the Project footprint and in close proximity (<1 Km) during September to December 2012<sup>26</sup>. For the avoidance of doubt, this public consultation continues and is believed to be part of BPD's commitment to the community it intends to operate within.

### Impact Assessment

The impact assessment process involved the following four main components:

1. Prediction of the consequences of project activities on the environmental and social receptors;
2. Evaluation of the importance and significance of the impact;
3. Development of mitigation measures to manage significant impacts where practicable; and
4. Evaluation of the significance of the residual impact.

Where significant residual impacts have remained, further options for mitigation have been considered and impacts re-assessed until they are reduced to as low as reasonably practicable levels. This approach has taken into account the technical and financial feasibility of mitigation measures.

### Management Plans

The ESIA process identified a range of mitigation measures, management actions and monitoring requirements to be implemented during the project to eliminate or reduce adverse environmental and social impacts, enhance positive impacts and monitor the effectiveness of mitigation measures implemented. Delivery of these will be through the project's Influx Management Plan, Environmental and Social Management Plan (ESMP) and sub-plans, which are currently under development. The ESIA report presents a provisional ESMP detailing the specific actions that are required to implement these controls and mitigation measures.

### Reporting and Disclosure

The ESIA process and outcomes were drawn together into a draft ESIA report, which was subsequently disclosed to public stakeholders during a Panel Review meeting that took place in August 2013. Additional considerations were taken into account and ***the final ESIA report was approved by the FMEnv in December 2013<sup>27</sup>*** and subsequently renewed in November 2014.

## 4.6 Environment and Social Impact Costs & Benefits

As highlighted already in this OBC, BPD views the Port concept as a means to alleviate congestion around the Port of Lagos and deliver a number of socio-economic benefits to the Badagry region without cost to the Federal Government. When given the opportunity, the new facility will reduce the cost of doing business for local industry in the region and create direct and indirect job opportunities for several hundred thousand young workers over the project's lifetime – an ambition which the consortium remains committed to.

<sup>26</sup> The number of project affected communities has since been reduced

<sup>27</sup> See EIA Approval Letter separately



More specifically, the expectant social and environmental impact cost benefits of this PPP arrangement include the following:

## *Government*

- At the macroeconomic level, improvement of external trade competitiveness by reducing transport costs, particularly the cost of port services, and improving port efficiency at the sea/land interface are the main benefits.
- At the microeconomic level, providing Value for Money to the Government by easing the financial burden on the national budget through transferring port investments and operating costs to the private sector, while still raising revenues from the operation.

## *Transport & Terminal Operators*

- More cost-effective port operations and services, allowing for more efficient use of transport assets and better competitive positions in transport markets, and more business opportunities in growing sectors (for example, container operations, commodity exports or vehicle imports).
- Reduced Carbon Footprint compared to existing older terminals.
- Improved efficiency and truck turnaround time for trucking companies.

## *Shippers, Exporters & Importers*

- Reduced port costs and, potentially, lower maritime freight rates, allowing lower costs of imported goods and intermediate products and enhanced competitiveness for exports.

## *Consumers*

- Lower prices for consumer goods and better access to a wider range of products through improved access and increased competition between suppliers will be the main socio-economic benefits of the project.
- The BPDL will endeavor to attract additional private sector investors to the Badagry area for the purpose of developing a world-class hotel and conference center to unleash the tourism potential of the region.

## *Local Residents*

- As per the consortium's approach to the surrounding Badagry community, BPDL will focus intensely on their corporate social responsibility program; choosing to further develop the socio-economic and educational institutions which the community relies on today. This will include, but not be limited to preserving the historic slave route, known as the "Point of No Return," and raising the level of education and healthcare in the area.
- Educational programs involving the preservation of Sea Turtle Nests, regularly found on the West African coast.
- The Port will create an estimated 250,000 direct and indirect jobs during the Project's life cycle.
- Job Training and Skills Development.
- Promotion of Health, Education & Quality of Living initiatives.



- Upgrades to the Badagry Slave Museum which will bring it up to international standards, including the introduction of an internationally trained curator at no cost to the Community or Government.

Benefits	Costs
Creation of additional employment opportunities directly attributed to the Port	Non-attainment of the listed benefits
Improved revenue for the Government	
Training and Development of local community for skilled labor	
Implementation of sustainable Corporate Social Responsibility programs	
Upgrading and preservation of the Point of No Return monument and related artifacts	
Reduced Port & Transport Costs	
Improved Competition between Port Systems & Terminal Operators	
Increased Foreign Direct Investment to Nigeria	
Indirect business opportunities in the surrounding environment as a result of the development; i.e. – improved visitor and tourism potential	

Table 19 - Cost / Benefit Analysis

## 4.7 Value for Money

All purchases by individuals, corporations, or public bodies require judgements about value for money (VfM) and affordability. VfM may be an absolute term, and can be taken to mean that the benefits of the purchase to the purchaser exceed the costs, or it can be a relative term meaning that one of the options for meeting the purchaser's needs provides greater benefits relative to cost than another. There is an onus on those responsible for spending or concession decisions within government that they spend national revenues or grant concessions wisely and obtain value for money in both absolute and relative terms.

VfM is defined as the optimum combination of whole-of-life costs and quality (or fitness for purpose) of the good or service to meet the user's requirement. VfM is not the choice of goods and services based on the lowest cost bid. To undertake a well-managed procurement, it is necessary to consider upfront, and at the earliest stage of procurement, what the key drivers of VfM in the procurement process will be. In assessing and delivering VfM it is also important to note that VfM is a relative concept which requires comparison of the potential or actual outcomes of alternative procurement options. This requires a high degree of estimation especially where experience and/or data on similar projects procured under different procurement routes is limited. Due to the dynamic nature of VfM determination in non-matured economy like Nigeria, care has been taken in comparing and benchmarking Badagry Port Development to historical information and data.

### 4.7.1 Types of VfM Assessment

VfM assessment is either quantitative or qualitative; the use of both assessments constitutes long-term forecasting and making assumptions about the future. This applies equally to conventional or PPP procurement. However, these uncertainties should not be used as a reason to not prepare VfM assessments,

and it is deemed important to prepare both quantitative and qualitative VfM analyses, while recognizing their inherent limitations.

Quantitative approach employs the use of spreadsheet with aim of analyzing to contribute to an assessment of whether the PPP procurement option presents VfM compared to the conventional procurement options. The analysis provides basis for the qualitative judgment of officials involved in allocating capital between programmes and of procuring entities at project level in determining VfM, enables projects to make appropriate use of private capital to justify explicit additional costs against the benefits achieved as a result of transferring risk to the private sector, and increases the evidence available to procuring entities to support future procurements and to be able to defend decisions taken in the context of government policy.

Qualitative approach employs use of strategically arrayed assessment parameters that considered the project beyond the quantitative inputs and systematically address key indicators such as the viability, desirability and achievability. In the process of this approach the project is analyzed along the axis of the aim and objective, need, risk management, operation, equity, efficiency, value addition, duration, lifecycle costs, market interest etc.

It is the responsibility of the authorized Accounting Officer of the procuring entity to ensure that procurement decisions achieve VfM. It is important to note that there is no simple rule that can be used to satisfy VfM test because both project and the cost of project to be provided are factors in determining VfM. Demonstrating VfM is often made more difficult by a lack of relevant data on costs and outcomes with which to compare different options, and by the uncertainty around estimating future costs and risks. Even deciding what is affordable is not always obvious, particularly for PPP projects where many of the costs occur many years into the future. Many of these projects will be unique so direct comparisons with recent project outcomes can also be difficult. Often public authorities will have to rely on the advice and opinion of technical experts with regard to costs and risks in appraising project options and evaluating priced bids. However in most PPP procurement, VfM is usually determined using public sector comparator (PSC) analysis.

#### 4.7.2 *Consideration in this Value for Money Analysis*

To undertake VfM for this project the following were considered:

- Analysis of inherent risks of the project and optimal allocation to the parties best suited to manage them over the relevant period, as in Section 5: Risk Analysis of this OBC;
- Analysis focused on the whole life costs of the asset rather than only the upfront costs involved, as in Section 4: Project Appraisal and Appendix 1 of this OBC;
- Analysis of integrated planning and design of the facilities-related services through an early assessment of whether the possible integration of asset and non-asset services will deliver VfM benefits, Section 3: Scope of Project of this OBC;
- Analysis of outputs specification approach to describe the authority/project's requirements which, amongst other things, allows potential bidders to develop innovative approaches to satisfying the service needs of the procuring authorities, as in Section 7: Options Analysis of OBC and the Master Concession Agreement;
- Sufficient flexibility to ensure that any changes to the original specification or requirements of the procuring Authority and the effects of changing technology or delivery methods, can be accommodated during the life of the project at reasonable cost to ensure overall VfM, as included in Master Concession Agreement;
- Allowed sufficient incentives within the procurement structure and the project contracts to ensure that assets and services are developed and delivered in a timely, efficient and effective manner, including both rewards and deductions as may be appropriate, as included in Master Concession Agreement;

- Structured term of the contract with reference to the period over which the procuring authority can reasonably predict the requirement of the services being procured. This will require careful considerations of factors including: potential changes in end-use requirements; policy changes; design life of the asset; the number of major asset upgrades or refurbishments during the period of the contract; potential changes in the way services could be delivered (e.g. technical advancements); and the arrangements for the asset at expiry of the contract, as in Section 6: Financial and Economic Appraisal of OBC;
- Demonstrates sufficient skills and expertise in the private sectors, and these are utilized effectively during the procurement process and subsequent delivery of the project, Section 1.3 of this OBC; and
- Managing the scale and complexity of the procurement to ensure that procurement costs are not disproportionate to the underlying project(s), as in Section 8: Implementation Recommendation of the OBC.

#### 4.7.3 *Quantitative VFM Analysis*

##### **Public Sector Comparator**

A Public Sector Comparator (PSC) is used by procuring entities to make decisions by testing whether a private investment proposal offers VfM in comparison with the most efficient form of public procurement. The PSC estimates the hypothetical risk-adjusted cost if a project were to be financed, owned and implemented by government. PSC provides a benchmark for estimating VfM from (assumed) alternative bids quantitatively.

In Nigeria historical data are abound that can be referenced as benchmark for the development of port facilities, also internationally reference guide are available for comparison subject to necessary indices adjustment and consideration. The importance of PSC derivation and its application are integral component of undertaking PPP projects like the one under review and as such references to quantitative estimates of on-going development on port facilities and similar marine infrastructure projects have been used for construction and analysis of the PSC.

This PSC is opened to refinement and it is intended to perform the followings:

- promote full cost pricing at an early stage in the procurement process;
- act as a key management tool during the procurement process, assists the procurement team and other relevant agencies to manage the process by focusing attention on the output specification, and risk allocation and development of a comprehensive costing of the project;
- provide a reliable means of demonstrating VfM;
- provide a consistent benchmark and evaluation tool; and
- encourage reasonable competitive outlook by creating confidence in the financial rigour and probity of the evaluation process.

Essentially, this PSC has been verified basically from various other recently priced BOQ's in Nigeria – Intels Phase IV Project Onne, Bullnose Jetty Project, Apapa, Lagos; Eko Atlantic City Project, Lagos, and Creek Road Multi-Purpose Terminal, Lagos. We have also compared the rates with various other worldwide projects including Luba – Equitorial Guinea; Liberia; Eretria; Qatar; UK etc., to provide some more insight in average international prices for certain unit rates as contained in Appendix 2: Rates Assessment Report of this OBC.

For the purpose of the Badagry Port development a PSC has been constructed to show the comparative features of the recommended BOOT for the procurement of the facility, the rates used are based on the referenced historical data above adjusted for inflation.

## PSC Analysis for Badagry Port Development Facilities

The Analysis captures the capital cost estimates and all other project related cost over the life time of the proposed Badagry Port development. This has been constructed based on input from the Rates Assessment Report developed for this project attached as Appendix 2.

Profile (Real Cost \$'000)	Public Sector	Private Sector
Capital Costs	3,225,736	2,580,589
Economic & Social Cost of Delay	1,612,868	-
Project Development Costs	322,574	258,058
Operating Costs	6,681,807	5,345,446
VAT	-	-
Cost of Finance	-	1,184,493
Total	11,842,985	9,368,586
Value for Money		2,474,399

Table 20 - PSC at 10%

### Notes to PSC Cost Estimate:

It has been empirically derived from the comparison of past projects involving public sector and private sector project contracting that public sector costs are higher than private sector capital costs, the analysis of this averaged ranges from 1% to 50%.

- i. **Capital Costs** is the estimated full resource cost of the project including opportunity cost of assets used in the project adjusted for risks, cost differential of 25% has been used:

▪ **Public Sector:**

Public sector costs are higher than private sector capital costs as a result of the following:

- challenges of delay in payment to contractors cause contractors to increase their costs, this is due to interest costs to the contractor who may have financed the project with borrowed funds to execute;
- due to lack of yearly or reduced budgetary provision for the project, the project may take longer than required time for completion which may lead to variation;
- unpredictable public sector revenue especially in an economy like Nigeria's that is dependent on unitary source of revenue i.e. oil.

▪ **Private Sector:**

Private sector costs are lower than public sector capital costs as a result of the following:

- no significant delay in payment will be experienced in project execution because the required fund will be readily available based on the strength of debt to equity fund arrangement and thus effecting immediate payment for works executed;
- project completion mostly on schedule because the efficiency of the private sector in project supervision, this ensures that variation does not occur; and
- EPC Contract will be awarded and contractor will bear the construction cost variation risks.

- ii. **Economic and Social Cost of Delay:** This is the estimated financial quantification of any form of delay to the completion/execution of the project and its multiplier effect on the economic and social landscape.

- **Public Sector:**

For the Public sector it is typical to experience varying degrees of delays in project procurement which may result from insufficient funding and or budgetary constraints from other equally important projects. These delays lead to cost overruns which have economic and social implications on projects. It is actually difficult to quantify the economic and social costs of delay, however, 50% of capital cost as been used for the purpose of this PSC.

- **Private Sector:**

Delay is not a common feature with private sector procurement but when it occurs it is usually minimal.

- iii. ***Project Development Costs:*** for procurement of projects of this magnitude it is expedient to capture expenditure that is incurred during the project development phase. These costs parameters may include the project preparation phase, bid development, administration and logistics, pre-licensing cost etc.

- **Public sector:**

The Public Sector is assumed to procure project development using traditional contracting/procurement of consultants and or contractors to perform all the necessary studies that will be required in the preparation of the project for tendering and eventual development. This is cost typically amounts to about to about 25% of Capital Costs for Public Sector.

- **Private sector:**

The private sector normally would rely on the project preparation done by the public sector for its decision on the project, this preparation details can however be further verified at substantially lower cost to the Private Sector entity. In the case under consideration, being an unsolicited bid, the proponent has undertaken project development on its own accord which has been estimated at 10% of capital cost mainly due to the typical private sector efficiency in procuring services.

- iv. ***Administration and inspection costs:*** these costs have been estimated and included in the project capital cost for both the public and private sectors.
- v. ***Insurance cost:*** this has been estimated and included in the operating cost of the project for both the public and private sectors.
- vi. ***Operating costs:*** is the whole life cost of maintaining the asset to the same standard as specified in the CA.
  - **Public sector:** it is estimated that operating cost of the facility will be higher when publicly operated, although it can be argued successfully that public sector may pay lower wages, the flipside of the argument is that overall maintenance of the facility may suffer on the one hand and its operation may be bogged down by bureaucracy and overall inefficiency common with the public sector, which normally leads to higher costs. An operating cost estimate for the public sector has been assumed to be 25% higher than that of the private sector cost.
  - **Private sector:** the private sector experience and managerial efficiency eliminates bureaucracy, although the private sector will pay staff more than the public sector, efficient operations and maintenance will ensure lower operating costs. Also, the tendency of the private sector to engage fewer personnel and sustain routine and periodic maintenance intervention will eliminate the higher maintenance component cost compare to the overall lifecycle status of the infrastructure. This has been derived from the financial model attached to this report as Appendix C.
- vii. ***VAT:*** this is statutory and applies to both the public and private sector has been included in the operating cost of the project.

viii. **Cost of finance:** this has been estimated at based on the prevailing average MPR and spread.

- **Public Sector:** it is believed that the government will not require debt financing for executing the project and where it does will not be charged at the same rate as the private sector, however, for the purpose of this PSC it is assumed that Public Sector funding will be provided from government revenue rather than loan.
- **Private sector:** the cost of finance for the private sector is estimated to be 10% which is typical for USD denominated loans.

### PSC Conclusion

The computed PSC shows a cost differential of **US\$2.547 billion** in favour of Private Sector/PPP procurement over the project life cycle, this guarantees VfM in the proposed Badagry Port development. The comparison of options with different future investment profiles of costs and benefits normally requires the use of discounting to reflect time preference however, due to the nature of this project PSC has been constructed using real cost over the concession period and as such other considerations such as the need to take into account the general desire to receive benefits sooner rather than later and, conversely, to incur costs later rather than sooner have been deemed fixed.

#### 4.7.4 Qualitative VfM Analysis

Qualitative analysis undertaken is based on the examination of the wider economic, social and environmental benefits of the proposed development, the need—in assessing value for money—to consider the whole life costs of, future demand for the services, and not just the initial capital investment required. Based on this it is believed that the relationship between the Nigerian Ports Authority and BPD L will provide Value for Money for NPA through added efficiency in the following areas:

- Funding and operational risks are allocated to BPD L, who are best placed and will be properly incentivized to manage and minimize these risks over the relevant period.
- NPA will benefit from BPD L's extensive global procurement framework, ensuring that all capital expenditures and transaction costs are minimized.
- BPD L is sufficiently flexible and equipped to ensure that any changes to the original specification or requirements of NPA and the effects of changing technology or delivery methods, can be accommodated during the life of the relationship at reasonable cost to ensure overall value for money;
- BPD L and its consortium members will bring their unparalleled commercial experience and relationships with over 60 global shipping lines and hundreds of major international oil companies to bear in securing critical anchor customers for the Port.
- The BPD L will create several hundred thousand new job opportunities for skilled and unskilled workers as a result of the project.
- BPD L has the fiscal capacity to ensure that assets and services are developed and delivered in a timely, efficient and effective manner.
- BPD L will introduce new, automated technology and efficiency to terminal operations in order to achieve lower operating costs.

Generally on the wider scale the following impact, outcome and output have been deduced that the project will:

1. Creation of Additional Multi-Purpose Port Capacity
  - Provide Value for Money for Government by easing the financial burden on the national budget through transferring port investments and operating costs to the private sector while still raising revenues from operations
  - Increase storage capacity for incoming and outgoing cargoes
  - Flexibility in meeting Peak Season Demand
  - Reduced congestion in metro-Lagos area caused by port activities
  - Improved safety in handling highly combustible bulk cargo
  - No cost to State or Federal Government
2. Ability to Accommodate Larger & Deeper Vessels of the Future
  - Introduction of modern Ship-to-Shore (STS) cranes
  - Deeper water in channel and alongside berths
3. Higher Levels of Employment in the Maritime Sector
  - Increase of approximately 250,000 in the number of direct and indirect jobs for skilled and unskilled labour
  - Enforcement of Local Content Act
  - Training and Development of Badagry locals
  - Increase participation of Nigerians in the maritime labour workforce
4. Facilitation of Trade & National Development
  - Enhanced use of alternative transportation nodes; i.e. – river & rail
  - Improved connectivity for importers and manufacturers
  - Reduced burden on existing city ports
  - Improved revenue collection from cargoes entering Nigeria illegally at Seme border
  - Enhanced revenue from fees and services rendered by the Port and on behalf of the Government
5. Improved Diversity of Cargo
  - Possibility to attract West African trans-shipment cargoes
6. Enhanced Stakeholder & Customer Relations
  - Dedicated Commercial Team to serve all shipping lines and free zone businesses
  - Improved processes and dialog between Shipping Lines, Terminal Operators, Government agencies & beneficial cargo owners

- Established Commercial Strategy and Development, policies and guidelines
- Key Client Management (KCM): Ensure profitable volume growth through direct high-level customer contacts and introduction of sales and customer management oriented tools and programs
- Improved Market Intelligence and Analysis

### 7. International Reputation

- The Badagry Port will position Nigeria as a Global Centre of Excellence for the Maritime and Port Industries

### 8. Enhanced Social Development

- The knock on effect of introducing a world-class Port and Free Zone in Badagry means that the overall GDP and economic activity of the area will significantly increase overtime
- The standard of living, level of service delivery and general welfare in Badagry will increase as a result of this investment



## SECTION 5

### *RISK ANALYSIS*

## 5. Section 5: Risk Analysis

### 5.1 Risks identified in this PPP arrangement

The following risks have been identified as being relevant to this PPP arrangement:

- Pre-Completion Risks
- Technical Risks
- Financial Risks
- Legal Risks
- Market Risks
- Political Risks
- HSSE Risks
- Post-Completion Risks

#### 5.1.1 *Pre-Completion Risks*

Pre-Completion risks are those related to the period directly prior to the start of operations and could range from anything; including delays in construction start due to weather downtime or any number of various unforeseen circumstances which could arise during the project planning, including possible delays related to resettlement of project affected persons or permitting.

Permitting Risks are typically offset through full comprehension of the legal and regulatory framework within which the project sponsors intend to operate as well as Government support by often offering to serve as a one-stop-shop to speed up the approvals process.

One rather obvious and related risk is the tendency of certain project sponsors and Governments to change their design along the way. While this is a rather easy and worthwhile effort early in the development lead time, any (seemingly simple) change in the design once contractors are involved is likely to cause future problems down the line.

Though impossible to mitigate entirely for Greenfield projects, project sponsors typically minimize their exposure to this risk by Front-End Loading (FEL) their project whereby increasing their understanding of the project up front to avoid costly time delays and cost overruns later on in the project life cycle. Toward this end, the BPD L has already spent approximately \$13 million on the NPA required technical feasibility studies so far as well as undertaken a number of other studies aimed at preparing for eventual project implementation. Work is continuously ongoing on this front and BPD L will also begin to engage certain experienced contractors through an 'Early Contractor Involvement' model within the next few months as we enter into FEED-stage (Front End Engineering Design) of the project. This process helps to establish a collaborative effort between sponsor and contractor, often indirectly working to allocate risk across both parties in the most effective manner. Another way to minimize the potential for cost overruns is through fixed price contracts.

Last but not least, not enough can be said about spending enough time in the 'Development' phase (typically 2-3 years for large scale industrial projects) of the project before entering into the 'Construction' phase. Project managers wishing to save time & money in the 'Development' phase are often confronted later on with the much less favorable outcome of having to spend 50-100% more than the money they attempted to save, by not planning effectively or studying the site enough early on. We place a very high value on leadership, so our leadership team is comprised of experts in diverse areas from across the world, including construction, financing, container terminal operations, bulk, manufacturing, shipping, oil and gas logistics and extraction.

Supporting our efforts are several of the world's foremost specialists in the field of marine engineering and project management.

### 5.1.2 *Construction Risks*

The construction phase of the port development is prone to risks. This risk will result if the design and construction of the project is not done according to specifications approved for the facility and requirements set out in the concession agreement. In addition, the non-completion of the project on schedule and budgeted costs are other construction risks. The time for completion is of great importance for both Promoters and Grantor. BPDL would want to commence operation of the project as soon as possible in order to earn revenues and improve returns on its investment on the project. Grantor would want to equally earn revenues from the project and increase the existing port capacity in line with its mandate. Essentially, construction risks include but not limited to:

- The adequacy of the design of the civil works;
- The nature of the technology to be used and the risk of defects in equipment or materials;
- Unforeseen events or condition, such as extreme weather or unforeseen subsurface conditions during construction;
- Environmental risks arising during construction;
- The availability of labour and materials, that is, whether skilled labour can be procured locally, and to what extent both labour and materials will need to be imported, visas and licences for such importation and restrictions imposed by local labour laws including working hours and holiday entitlement;
- The availability of experienced management which is committed to the project;
- Cost overruns, completion costs, changes in the market for labour and materials, services necessary for construction, financing costs, administrative costs and other costs subject to change over the period of the construction contract;

Construction risks will naturally be borne by the Promoters, who will be responsible for designing and developing the Seaport. In order to ensure proper risk apportionment of the construction obligations, the requirements for the project will be defined specifically and completely in the construction contract based on the requirements and the specifications contained in the concession agreement. Any gap or inconsistency may defeat allocation of risk and leave additional residual risk with Promoter. As part of the risk mitigation strategies, the Promoters may obtain further guarantees (performance bonds) from construction contractors and suppliers.

### 5.1.3 *Technical Risks*

Technical risks are risks associated with the actual operations and performance of the project. Technical risks may arise from the possible shortfalls in performance parameters arising mainly from the inability or incapacity of the concessionaire to effectively and adequately carry out its specified duties accordingly. Issues such as managerial incompetence, inadequate and poor equipment and facilities maintenance, absence of qualified technical personnel, operating costs overrun etc. Specifically, the ability to undertake key marine services i.e. towage, maintenance dredging and channel maintenance especially on the part of the Promoters are factors that can lead to technical risks in a concession project of this nature. This will result in the negation of the realization of the goals of the Federal Government of Nigeria and the Grantor with respect to this project.

The probability of the occurrence of this project however is highly unlikely. This is because the BPDL contracting party in the port concession venture is a company with the requisite corporate capabilities and experience profile in the development of port facilities and management of port operations all around the world. The BPDL, complimented by technically qualified indigenous and expatriate personnel, has a proven

track record of port construction, service delivery as a provider of port services and manager/ operator of various port facilities.

#### 5.1.4 *Financial Risks*

Financial risks are risks arising from uncertainty of the macro-economic and financial environment and conditions which may prevail in the lifetime of this project. This is considered a major risk which confronts this project. With respect to this project, financial risks can be crystallised in five major ways:

- Taxation
- Debt Service Cover
- Revenue
- Foreign Exchange
- Interest Rates

Because of the tremendous capital outlay involved with developing this project, the Badagry Port will need to benefit from tax incentives of a Free Zone status or it is likely not financially viable.

Furthermore, part of the financial risks that the project may be exposed to is Revenue or Payment risk; that is the risk of the BPD L not being paid for services delivered. Payment risks are usually associated with the financial behaviour of State Parastatals and Agencies for non-payment and/or delay in payments to contracting parties. There is also the risk that each of the sub-concessions will not be able to pay the required sub-concession fees. In such a case, the BPD L would be exposed to Debt Service Cover risk; i.e. – the risk that the BPD L is not able to pay their creditors due to lack of incoming revenue.

Related interest rate risks arise from the necessity for the BPD L to borrow money to fund part of the infrastructure development and the equipment.

Some costs of course will necessarily be denominated in local currency whereas others will be in US Dollar. The instability of the exchange rate thus constitutes a Foreign Exchange risk that potentially has a negative impact on the financial success of the project. This can also be partially offset by allowing BPD L and its sub-concessionaires to set their tariffs in a single international currency, such as the US Dollar or to allow that payments to the NPA be denominated in the same currency in which BPD L is collecting their income.

In mitigating these financial risks, both the NPA and BPD L should consider a combination of options. Firstly, in negotiating external borrowing, it is recommended that loans are secured at fixed rate of interests rather than floating rates. Moreover sensitivity analysis shows that a slight increase in finance costs will not impact the financial viability of the project over the concession period.

The exchange rate risk can be mitigated by costing and pricing all services in a single international currency. Further to this, payment risks can be mitigated by the provision of government guarantees and bonds to the service provider as fall back in times of non-payment or delayed payments.

#### 5.1.5 *Legal Risks*

Legal Risks, such as Force Majeure Risks or Events of Default can be mitigated through steadfast compliance with all regulatory legal frameworks within Lagos and Nigeria and adherence to agreed contracts between the two contracting parties.

Furthermore, such legal agreements should carefully allocate risk with the party best situated to manage it and should be capable of holding up to international ‘bankability’ standards, including provisions for attending international Arbitration should the need arise, giving the contracting parties sufficient piece of mind when entering into such a contemplated transaction.

It is envisioned for this transaction that a Land Transfer Agreement as well as a Master Concession Agreement will be required to effectuate a Win-Win deal between the Parties. We have included some initial suggestions on what other parameters should be included in these Agreements in section 7 as well as humbly submit for your consideration a Concession Agreement which we believe would be a good basis for agreement. The Land Transfer Agreement would transfer ownership of the port area to the NPA upon the expiry of the initial term of the concession.

#### 5.1.6 *Market Risks*

Market risks are risks associated with market and revenue uncertainties. This is the possibility that the market conditions which were assumed in determining the viability of the project may change adversely to affect the project delivery. This results in additional revenue risks which is the non-realization of revenue that a project is forecasted to generate.

In the NPA / BPD L's project for the development of the Badagry Port, possible market risks can arise from a decline in the projected shipping traffic in and out Nigerian waters as well as a reduction in cargo volume as a result of a decline in upstream oil & gas activities and the under-utilization of berthing space resulting from the reduced # of vessels calls. All these factors will have a direct impact on our projected revenue in the financial forecast. BPD L will nevertheless attempt to minimize such market risks through sound sub-contracting strategies and adequate marketing of the Port. These can be mitigated by structuring payments to the NPA as a percentage of certain revenues instead of fixed amounts.

We hope, however, that Market Risks are unlikely to present themselves. This is because Nigeria is a country rich in oil and gas resources and future development as a result of sound economic management, visionary leadership and Government policies as well as a vast and rapidly expanding population is largely expected to continue unhindered.

Development of the oil and gas sector is the most important task in our nation building efforts. Nigeria is one of the preferred access points to Western Africa and the Sub-Saharan region, and we have no doubt that soon enough Badagry will become the preferred access points to Nigeria. Further, given the number of upcoming oil exploration projects and the hike in global energy demand, it is anticipated that cargo volume and the number of vessel calls will continue to increase substantially in the next 50 years.

#### 5.1.7 *Political Risks*

Political risks can occur as a result of likely disruption or termination of the project as a result of political decisions. Political risks result from government policies, legislations, political force majeure etc. Political risks are high with Public Private Partnership projects given the usually inherent several interests which make them vulnerable to political actions. We do not expect that the Badagry Port project is one that is likely to be confronted with a lot of political risk though, as we humbly seek to improve the nation's infrastructure, which will lead to one very certain positive effect of making Nigeria one of the World's *Maritime Centres of Excellence* going forward.

In any event, mitigating political risks can only be partial. We believe that any residual political risks can also be mitigated by the execution of a concession agreement between NPA and the BPD L which would include the continuation and preservation and recovery of investment made on behalf of NPA through Federal Ministry of Transport.

#### 5.1.8 *HSSE Risks*

Health Safety Security & Environment (HSSE) relates to the following, and are perhaps the most important risks the NPA & BPD L need to mitigate as we consider fulfilling our promise on these as the foremost social responsibility we have as a company:

- **Health** - Provide a working environment that ensures workplaces and businesses are safe, healthy, and comfortable for employees.
- **Safety** - Ensure the personal and physical safety of sites and other locations, and maintain product quality.
- **Security** - Prevent threats due to crimes, disaster, and other emergencies, and respond appropriately in emergency
- **Environment** –Preserve regional and global environments.

Due to the Greenfield nature of the Badagry site, before construction can actually begin, a physical resettlement of the project affected persons will need to be carried out. Locals residing within the project area will be resettled to another suitable area where they can continue their lifestyles in a safer environment. The importance of managing this correctly cannot be overstated, as without the community's buy-in, we do not have a bankable project. We are, at present, actively working with the Lagos State Government to manage this process.

As can be seen, BPD L works closely with governments, law enforcement agencies, our industry partners and our customers to institute and maintain the highest standards of terminal security in the industry.

We will work to raise the safety awareness of our staff and the communities around us throughout the construction period and into operations, which we believe will give us a competitive advantage vs competition as we will have defined ways of responding quickly in the event of an accident, prescribing ways to determine the causes of accidents and preventing recurrence. Regular audits will be carried out with contractors, business partners and suppliers to monitor their compliance with our standards as well and to ensure safety and quality assurance measures, with the aim of achieving zero accidents. Of course, the best way to mitigate HSSE risks will be to instill an HSSE minded culture within our organization from day 1.

Risks related to the Environment will be managed through regularly scheduled monitoring and through compliance with our EIA approval from the Federal Ministry of Environment. We will work closely with this Ministry as well as the relevant Lagos State Ministries to ensure we do what is best for the environment at all times. BPD L's company policy, principles and standards require proactive efforts to design, develop, operate and maintain the most environmentally sensitive and advanced facilities. It is a responsibility we embrace as corporate citizens, and as members of every community in which our world-wide network of terminals and offices conduct business.

Our global portfolio seeks to employ the most modern and technologically advanced port handling equipment available to minimize power usage and the emission of pollutants and greenhouse gases. We have made efforts to reduce the environmental impact often associated with terminal development and construction, and have made environmental awareness a major company goal.

We carefully monitor our Carbon Footprint through a detailed annual survey covering the environmental impact and performance of the port terminal network. The information gathered allows us to determine the best measures to reduce CO<sub>2</sub> emissions as part of our overall strategic corporate goal of becoming eco-efficient.

Last but not least, we are working to reduce any negative influences on the local community and we are in close dialogue with global and local stakeholders as part of our ongoing effort.

#### 5.1.9 *Post Completion Risks*

Post Completion Risks will be mitigated by regularly scheduled maintenance and replacement of assets upon the expiry of their useful lifetimes.

## 5.2 Proposed Risk Allocation

Risk will be allocated to parties best equipped to manage them.

The most important way in which the contract will allocate risks is through the Output Specification & Performance Objectives which define the service levels that the Project Proponent must achieve if he/she is to be awarded a Concession. Failure to meet the service requirement will be at the risk of the consortium, except where the failure is a direct result of the Government's default on its obligations under the concession.

### *Risk Identification and Mitigation Matrix*

Risk	Type	Allocation	Mitigation
Pre-completion	Cost overruns	Proponent	<ul style="list-style-type: none"> <li>Fixed price Turnkey contracts</li> </ul>
	Delays related to resettlement	Proponent	<ul style="list-style-type: none"> <li>Resettlement Action Planning with Lagos State</li> </ul>
	Regulatory	Government	<ul style="list-style-type: none"> <li>Regulatory compliance</li> <li>Fixed Project Specifications</li> </ul>
	Procurement	Proponent	<ul style="list-style-type: none"> <li>Leverage Global Frame Agreements</li> </ul>
			<ul style="list-style-type: none"> <li>Engage Competent Technical Partners</li> </ul>
Technical	Non Completion	Proponent	<ul style="list-style-type: none"> <li>Adherence to scope and schedule</li> </ul>
	Operations & Maintenance	Proponent	<ul style="list-style-type: none"> <li>Warranties</li> </ul>
	HSSE	Proponent	<ul style="list-style-type: none"> <li>Best practices and proven technologies</li> </ul>
	Technological	Proponent	<ul style="list-style-type: none"> <li>Best Industry Practice</li> </ul>
Financial	Taxation	Shared	<ul style="list-style-type: none"> <li>FTZ Incentives</li> </ul>
	Debt Service Cover	Proponent	<ul style="list-style-type: none"> <li>Variable Royalty Structure</li> <li>Insurance</li> </ul>
	Revenue	Proponent	<ul style="list-style-type: none"> <li>Flexibility to set own tariff + annual escalation</li> </ul>
	Foreign Exchange	Proponent	<ul style="list-style-type: none"> <li>Escrow and Reserve Accounts</li> </ul>
	Interest Rates	Proponent	<ul style="list-style-type: none"> <li>Leverage Global Bank Relationships</li> </ul>
Legal	Regulatory Framework	Government	<ul style="list-style-type: none"> <li>Pre-contractual compliance with all regulations</li> </ul>
	Force Majeure	Shared	<ul style="list-style-type: none"> <li>Strong Contracts</li> </ul>

Market	Demand	Proponent	<ul style="list-style-type: none"> <li>Flexibility to set own tariff + annual escalation</li> <li>Shipping Line commitments</li> <li>Level Playing Field</li> <li>Fixed and Variable payments to NPA</li> </ul>
	Stability of Government	Government	<ul style="list-style-type: none"> <li>Dispute Resolution</li> <li>Compensation in Events of Default</li> </ul>
Political	State Intervention	Government	<ul style="list-style-type: none"> <li>Bilateral Investment Treaty</li> </ul>
HSSE	Resettlement of Project Affected Persons	Proponent	<ul style="list-style-type: none"> <li>RAP agreed with Lagos State &amp; suitable resettlement site identified at early stage</li> </ul>
	Site Safety & Security		<ul style="list-style-type: none"> <li>Community Engagement</li> </ul>
	Coastal Protection	Proponent	<ul style="list-style-type: none"> <li>Maintenance Dredging &amp; Coastal Monitoring</li> </ul>
Post-completion	Failure by Management	Proponent	<ul style="list-style-type: none"> <li>Strong operators</li> </ul>
	Residual Value	Proponent	<ul style="list-style-type: none"> <li>Frequent Maintenance</li> </ul>

Table 21 - Risk Identification & Mitigation Matrix

### Key Success Factors

- Minimal Interface management during construction
- Adequacy of Human Resources to manage the project
- Meeting Project Schedule
- Effective Community Relations
- Minimizing Budget Overruns
- Meeting Local Content Requirements
- Obtain Project Cycle Permits on-time \*\*
- Achieve Environmental Management Plans
- Develop Skills of Local Workforce
- Well Developed Marketing Plan for Port
- Synchronize Access Infrastructure with Port Master Plan
- Reliability of Port Operations
- Surpassing Project Quality Requirements
- Zero Fatalities during Construction & Operation

**\*\* It is envisioned that the State and Federal Governments will use their best endeavors to assist BPD in securing all necessary permits and licenses for this project in an expedient manner, including approval from NIWA to barge cargo and construction materials along Nigeria's inland waterways.**

### 5.3 Risk Register with Risk Analysis and Quantification

Within the defined categories of risk, approximately 109 specific potential project risks have been identified during the Development Phase by the Project Proponents. Assuming sufficient Mitigation Measures will be put in place between the Private Sector Project Proponents and the Government, the Risk profile of the Project



looks as follows, with 17 High Risks and only 1 Extreme Risk. This signifies that the Project is viable, given an adequate spread of risk across the Parties.

# Complete Risk Register

Rank	#	Risk	Consequence	Risk Severity
7	1	Accurate bathymetry of the creek system and data on wreck location and size (+ownership) not available to assess barging	Extreme	Moderate
12	2	delays and logistics problems (due to its location) during construction, leading to increasing costs	Extreme	High
13	3	Poor interface management of project contractor/client can result in schedule delays and contractual claims.	Extreme	High
14	5	Geographical remoteness leads to delays in emergency response and logistics problems, increasing potential severity of consequences of HSES incidents.	Extreme	Moderate
8	6	Production rate and transport logistics of construction materials cannot follow planned construction pace	Extreme	Moderate
15	8	Lack of geotechnical can cause a poor decision with regards to best layout, location and construction method	Extreme	Low
1	15	Failure to manage Project Interface i.e technical & management personnel results in cost overrun, delay.	Extreme	Moderate
16	23	Diminished security protection during in country movements (e.g., airport, accommodations, office, site) could result in kidnapping leading to personal injury/extortion.	Extreme	Moderate
17	27	Chosen construction technique has underestimated impact of environmental (wave, wind, water level, rainy season,...) conditions	Extreme	Moderate
6	29	Quality of delivery not as required - diverting attention from managerial staff away from other critical aspects	Extreme	Moderate
9	31	Monopoly on rock supply causes CAPEX escalation due to sudden variations in supply prices	Extreme	Moderate
18	33	Elections – change in NPA / signatories of concession agreement	Extreme	High
19	35	Lack of detailed integrated master project schedule	Extreme	Moderate
20	38	Foreign Contractors with no proven Nigeria experience	Extreme	Moderate
21	39	Consortium has not enough control of the procurement supply chain	Extreme	Low
22	41	Initial project schedule not realistic	Extreme	High
23	42	Unexpected problems with land acquisition issues taking much longer (years) than planned causing massive delays in the implementation / construction of the port	Extreme	High

Rank	#	Risk	Consequence	Risk Severity
10	44	Lack of bottom up estimate – leaving pricing in hand of bidders with no proper negotiation position	Extreme	Moderate
11	47	Impact of the Lagos Mass Transit Project – Blue Line on the master plan	Extreme	High
24	57	not being able to agree on concession fee structure with sub-concessionaires	Extreme	High
25	58	Inadequate civil estimate class (amount of contingencies applied) causes cost overruns	Extreme	High
26	59	Inadequate phasing and internal and external synchronization with consortium partners	Extreme	Moderate
27	60	not being able to lower the customs inspection requirement of minimum 65% of containers	Extreme	High
28	61	Unexpected problems with resettlement issues taking much longer (years) than planned causing massive delays in the implementation / construction of the port	Extreme	High
2	77	Significant volume (all products) does not materialize - market softens	Extreme	Extreme
4	82	Inability to change and maintain HSES culture for the port as a whole	Extreme	Moderate
29	94	not covering TIPI in contract (tax, insurance, permits, inflation)	Extreme	Moderate
3	95	Inadequacy of current Badagry Creek highway bridge (by others) can be significantly delayed or even cancelled jeopardizing the logistics of the port during both construction and operations	Extreme	Moderate
5	96	Early engagement of alternate partners can cause conflict in existing consortium	Extreme	High
30	98	lack of understanding obligation to provide navigational data (nautical charts)	Extreme	Moderate
31	102	Inability to secure sufficient quantity of rock for breakwater	Extreme	High
32	7	Underestimation of importance of a detailed early works program (access to site from land, temporary work harbor of sufficient size, camps, offices)	High	Moderate
50	11	Sedimentation regime is not properly known and can cause increased opex and cause late change in layout of port	High	Moderate
33	12	Corruption	High	Moderate
34	13	Lawlessness	High	Moderate
51	14	Slow response from the consortium leads to moderate delays to project / loss of productivity.	High	Low

Rank	#	Risk	Consequence	Risk Severity
52	16	Slow response from govt-related regulatory bodies with required project approvals leads to delays to project / loss of productivity.	High	Moderate
46	17	Medical attack / disorder / disease / pathogens / pandemic in sub-Saharan Africa.	High	High
53	18	Unforeseen escalation of increased costs on labor, accommodation & office space	High	Moderate
35	21	Availability proper wave data for model calibration could lead to potentially important changes in layout of port, access	High	Low
69	22	Poor or interrupted communication (telephone lines, IT, etc.) performance leads to delays/information exchange difficulties in response to security issues.	High	Low
54	25	Early works plan not in line with chosen construction technique	High	Low
55	32	Lack of coordination of the consortium partners during the developmental stage may result in schedule delay, loss of productivity, financial loss etc.	High	Moderate
56	34	Import regulations are unknown or can suddenly change	High	Moderate
57	36	NPV analysis lacks detail and endangers financial viability of the project	High	Low
58	37	Local contractors (selected for reasons other than technical / commercial) are not delivering	High	Moderate
59	43	Delay in obtaining project funding	High	Moderate
36	45	Failure to adopt an integrated Program Management system and early project execution plan for the project causes delays and cost overruns	High	Moderate
37	49	Design wave conditions are possibly low	High	Low
47	51	Differential settlements breakwater might be an issue	High	Low
38	55	Lack of Budget Pricing of critical materials causes cost overruns	High	Moderate
48	64	Upgrading works of the F100 highway (by others) can be significantly delayed or even cancelled jeopardizing the logistics of the port during both construction and operations	High	High
60	65	Lekki Port Construction takes off now in earnest with the result that they open their port faster than anticipated	High	Moderate
39	67	Key Consortium partner pulls out on the last moment	High	Moderate
40	70	Cost of Land and/or Resettlement is too high	High	Moderate
49	71	Delay caused by failure to reach agreement with partners or government	High	High
61	72	Contractors requiring additional (geotech) information	High	Moderate
41	73	Failure to agree on capex split with partners or sub-concessionaires	High	Moderate
45	81	Risk profile Nigeria deteriorating rapidly (piracy/civil war/militancy/...)	High	Moderate
42	85	automation too challenging of a concept to work in Nigeria	High	Moderate

Rank	#	Risk	Consequence	Risk Severity
62	87	Inadequate power supply	High	Low
63	88	Lead time for certain materials; i.e. - availability of stone for instance, permission for quarrying	High	Low
43	89	Partners fail to deliver what they promised	High	Moderate
64	90	Lack of experience with the Port Management role	High	Moderate
65	97	lack of understanding of local telecommunication regulatory requirements	High	Low
66	99	Lack of understanding of navigational regulatory aspects (nav aids + VTS)	High	High
67	100	Non compliance with IFC conditions	High	Low
68	101	Non compliance with ESMP conditions	High	Low
44	103	Dispute in consortium leads to serious delays to project / loss of productivity.	High	High
70	4	Difficulties in recruiting and retaining senior Nigerians to the project in compliance with Nigerian content requirements.	Moderate	Moderate
71	19	Poor productivity from construction manager and/or PMC,...	Moderate	Low
72	24	Changes in consortium and executorial leadership of the project scope could affect ability to work efficiently.	Moderate	Low
86	26	Difficulty recruiting and retaining expats to the project, particularly in specialized areas leads to project disruption/delays.	Moderate	Low
73	28	Not enough knowledge of the groundwater conditions (in relation to excavation and connection to creek) causes unforeseen flaw	Moderate	Low
74	46	Cost of Engineering re-work to Project leading to reduction of profit margin and schedule delay.	Moderate	Low
87	48	Misalignment of project objectives and priorities by stakeholders resulting in rework of project deliverables	Moderate	Low
75	50	Long infragravity waves might be an issue	Moderate	Low
76	56	Inadequate port management model due to lack of knowledge and experience	Moderate	Low
88	62	Community problems/ strikes during construction of the port causing additional delays and costs	Moderate	Low
77	63	Political changes (e.g. new president) or political instability leading to reduced political backing of the project	Moderate	Low
78	66	Port License / Port concession issues with Nigerian Government / State Government leading to operational delays	Moderate	Low
85	68	Nigerian authorities overlap in responsibility for permits and approvals for support port/construction	Moderate	Low
79	69	Failure to secure FTZ status	Moderate	Low
80	78	FMoENV or DPR drags out ESIA approval	Moderate	Low
81	79	Nigerian Senate drags their feet and won't ratify concession	Moderate	Moderate
82	80	Large surges due to heavy rain in combination with offshore storm leading to flooding of site (Creek + Ocean)	Moderate	Low
89	83	Failure to comply with the expectation to contract a certain volume of employees nominated by local authorities/tribes.	Moderate	Moderate

Rank	#	Risk	Consequence	Risk Severity
83	86	FOREX risk on civil contracts	Moderate	Low
84	92	Risk of corrupting the Badagry creek and PONR due to beach erosion caused by the port + lack of beach profiling as baseline data	Moderate	Low
90	9	Office space availability for early project development	Low	Low
91	10	Low availability/affordability of living accommodations close to site (construction)	Low	Low
92	20	Cultural diversity which could result in poor communication and team dynamics, low productivity, high staff turn over.	Low	Low
93	30	Poor camp conditions causing morale issue and retention (continuation) issues with key personnel	Low	Low
94	40	Design standards not in line with local contractor expectations	Low	Low
95	74	Location near Benin border makes Customs overly sensitive / problematic	Low	Low
96	75	NGOs lobby against port development given proximity to PONR	Low	Low
97	76	Community partners fail to perform what they have promised to execute	Low	Low
98	91	Inability to staff the terminal with the right people	Low	Low
99	93	Not enough Consortium resources applied to the project	Low	Low

Risk Map Before Treatment		Consequence				
		Insignificant	Minor	Moderate	Major	Catastrophic
		1	2	3	4	5
Likelihood	A Almost Certain				29	
	B Likely		22	17 51 64 71	1 6 31 44 47	
	C Moderate		26 48 62 83	11 14 16 18 25 32 34 36 37 43 65 72 87 88 90 97 99 100 101	2 3 5 8 23 27 33 35 38 39 41 42 57 58 59 60 61 94 98 102	15 77 95
	D Unlikely		9 10 20 30 40 74 75 76 91 93	4 19 24 28 46 50 56 63 66 69 78 79 80 86 92	7 12 13 21 45 49 55 67 70 73 85 89 103	82 96
	E Rare			68	81	
		Low 10	Moderate 20	High 38	Extreme 31	

Figure 10 - Project Risk Matrix Before Mitigation

Risk Map After Treatment			Consequence				
			Insignificant 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
Likelihood	A	Almost Certain					
	B	Likely	83	17 64 71 99	41 60		
	C	Moderate		18 34 37 65 72 90	2 33 47 58 102	77	
	D	Unlikely	20 40 62 76 91	8 14 19 22 24 25 26 36 39 48 50 51 56 63 66 78 86 87 88 97 100 101	5 6 11 13 15 16 23 27 31 32 35 38 43 44 55 59 67 70 79 89 94 95 98	3 42 57 61	
	E	Rare	9 30 75 80 93	10 21 28 46 49 68 69 74 92	1 4 7 12 29 45 73 81 82 85	103	96
			Low 41	Moderate 40	High 17	Extreme 1	

Figure 11 - Project Risk Matrix after Mitigation

## SECTION 6

### *FINANCIAL AND ECONOMIC APPRAISAL*



## 6. Section 6: Financial and Economic Appraisal

### 6.1 Financial Model

This section details all of the key revenue and operating costs, as well as the financing assumptions. A detailed financial forecast in terms of Profit & Loss statement, Balance Sheet and Cash Flows for 45 years is a part of the analysis.

*The Project appraisal demonstrates that the project generates a positive NPV of \$719 million over 45 years of the concession and an IRR of 11.8% and is hence financially viable for the Project Sponsors, Payback period of 20 years.*

*The project further shows an estimated total Royalty to NPA/Federal Government from this project of about \$7.4billion over 45 years from start of concession.*

However apart from the direct financial returns to the NPA, it should be stressed that the project will promote numerous intangible benefits in terms of huge employment opportunities generated for the local population and the infrastructure built in order to enable the development of the maritime, trade and oil & gas sectors in Nigeria over the next several decades. The revenues generated from the growth of the oil and gas sector, higher trade on a global dimension which will be enabled by the additional capacity generated by this project will pay the Federal Government many times over when compared to the project costs.

#### 6.1.1 Benchmark Revenue

The proposed arrangement in respect of the provision of the Badagry Port project is contemplated to be structured in such a way that the BPDF will finance, construct and then operate and maintain the Port project for a period of 45 years and then have a possible extension of a further 45 years. In exchange for taking on the majority of development risk, BPDF will be afforded the right to recoup the investment using the cost recovery approach from revenue to be collected from operating the ports. BPDF will then pay royalty to the NPA on an agreed sharing formula over the concession period. The revenue to be shared shall be from the Vessel Service Dues (which has been defined below).

The main investments known as 'Common Infrastructure' that will be developed upon which BPDF is 'meant' to generate revenue for their usage and pay royalties to NPA are:

- Investments in Quay Walls & Jetties;
- Fenders and Bollards;
- Breakwaters;
- Roads and Common Access Points;
- Security and Port Fencing;
- Common Drainage;
- Provision of Central Utility Clusters;
- Capital Dredging and Disposal;
- Lighting Masts;
- Enabling Works Barge Terminal;
- Common Office Building;
- Port Reclamation; and
- Navigational Aids.

For the avoidance of doubt, those capital expenditures that have been excluded are envisioned to be the following:

- Investments in Terminal yards;
- Warehouses; and

- Terminal Handling Equipment.

Based on the attached Bill of Engineering Measurements and Evaluation (BEME), the BPDF expects to have three means of potential income from which to recoup its expense and generate a modest financial return.

The NPA Act position is very clear on the issue of dues and rates in section 56 and 62. Dues paid in respect of Harbour dues and Pilotage dues (Statutory Dues) shall be regulated and determined by NPA. Non statutory dues shall be determined by BPDF and all revenue from this shall be kept by BPDF to contribute to cost recovery.

In order to classify the dues along the lines of the services to be rendered we hereby provide the following definitions:

- **"Vessel Service Dues"** means those amounts charged and received by the Concessionaire from users of the Port in respect of harbour dues, environmental protection dues, ships' dues, berth rent and Stevedoring, as established and regulated by the Grantor.
- **"Vessel Service Dues Revenue"** means, for any period or part thereof, the aggregate gross operating revenues of the Concessionaire in respect of such period or part thereof, in accordance with International Financing Reporting Standards in connection with, or resulting from, the receipt of the Vessel Service Dues and as determined in the same currencies as the currencies of such revenue collected by the Concessionaire.
- **"Port Dues"** means those amounts charged and received by the Concessionaire from users of the Port in respect of storage, stevedoring, terminal handling and other terminal related charges as established by the Concessionaire with prior notice of the charges to the Grantor.

The following classification shall be applicable in respect of the dues to be collected for services rendered -

#### Vessel Services Dues

In consideration for provision of the Vessel services, BPDF will be entitled to collect the following Dues from all vessels calling at the Badagry port including offshore supply vessels; Ship Dues, Harbour Dues, Environmental Dues, Stevedoring Dues and Berth Rent. These Dues will be regulated by the NPA and will form the basis on which the Royalty is calculated.

#### Port Services Dues

Dues to be levied under Port Services are Cargo Dues (other than stevedoring), Storage Dues, Terminal Handling Dues and Other terminal charges dues such as customs examination, Stuffing and Unstuffing, repositioning, Delivery, etc. These Dues will be determined by the concessionaire but must provide a list of such dues to the NPA.

#### 6.1.2 Other Assumptions

To assess the viability of the proposed PDMC arrangement for the private sector operator, the following is the base case scenario for other assumptions used.

Variable	Value and Comment
Number of Terminals	4 – 6 terminals are currently contemplated over the full Concession period, whereas initially (2018) it is expected to only be 1x Container Terminal, 1x Oil Supply Base, 1x Refined Products Terminal, 1x General Purpose Terminal + Other
Cost of Project – phase I	\$1.54 billion Common Infrastructure (2014 nominal terms)
Cost of Project – full build	\$2.58 billion Common Infrastructure (2014 nominal terms)
Ownership of Land	Ownership of Land will be transferred to the NPA upon the

	expiry of the 45yrs Concession Term for the nominal sum of 1 NGN.
Hinterland Connectivity	The FGN will use reasonable endeavour to ensure complete upgrades to the F-100 highway before the completion /commencement of Operation of Phase1.
Reduced Storage Capacity	Unsafe Tank Storage Capacity is reduced in existing Lagos Port system and the proposed Lekki Port project is not realized
Inflation	7% y-o-y
Revenue Generation	Each of the envisioned terminals will be free to set their own tariffs.
Tax Rate	Full tax exemption under Nigerian Export Processing Zone Authority regulations
Debt as percentage of total financing costs	70%  A Debt: Equity Ratio of 70:30 is a customary structure used by banks for financing the purchase of assets – 30% of the purchase price of the asset is required to be provided as equity by the investor.
Interest Rate	10%
Tenor of Concession Agreement	45 years with option to renew for additional 45 year period.
Fees	It is customary for the Federal Government to finance a port's common infrastructure, however as this project is envisioned to be 100% funded by BPD L – it is proposed that royalty from received revenues will paid to NPA as follows: Loan period (10 years) 5%; Investment Recovery Period (20 years, inclusive of Loan period) 10%; and period thereafter 15%.
Transfer of Assets	Upon the expiry of the initial 45 years ownership of the Port will transfer to the Federal Government.

Table 22 - Other Assumptions for Viability Analysis

### 6.1.3 Royalty Payments to NPA

In order to adequately balance the Financial Risks of the project and to improve the overall bankability of this private sector funded project, it is envisaged that in consideration for the ability to operate a Landlord / Private Service Port at Badagry, BPD L will pay Royalty on the Vessel Service Revenue as follows:

- Loan period (10 years) 5%,
- Investment Recovery Period (20 years, inclusive of Loan period) 10%,
- and period thereafter 15%.

Based on the above, the NPA will accrue over the initial concession period US\$7,429,760,000. [See Appendix 9.](#)

The following assumptions should be noted:

- All Royalty payments to the NPA would be made on a monthly basis, provided the BPD L and its sub-concessionaires have the right to raise and collect tariffs in the same international currency.

### 6.1.4 Operating Costs

Operating Costs are the expenses which are related to the operation of a business, piece of equipment or facility. They relate to the cost of the resources used by a business to maintain its existence. They are typically composed of fixed and variable costs, but for the purposes of this financial analysis, operating costs are split into the following:

- OPEX

- Manning costs
- Fixed Costs

Over the lifetime of the project, the Royalty paid to the NPA is estimated to accumulate to a total of \$7.43 billion dollars. However, Fixed Costs are expected to make up the largest contribution of operating costs due to the expensive nature of running a full port. Manning is the second largest contributor to the overall Operating Costs at the port, given the consortium's vow to significantly decrease unemployment in the region.

With the exception of Manning Costs, all other operating Costs grow increase annually in a fairly linear fashion in line with Nigerian CPI and include a 15% contingency in the overall expected annual amounts. Manning costs increase at a slightly higher pace.

### 6.1.5 OPEX

An operating expense or OPEX is an ongoing cost for running a product, system or in this case a port business. Its counterpart, a Capital Expenditure (CAPEX), is the cost of developing or providing non-consumable parts for the system or business.

Various Operating Expenditures will be incurred by the BPD L through its management role within the Badagry Port. These include such costs as:

- Maintenance on Common Infrastructure
- Security
- Office Equipment and Utilities
- Training
- Audit Costs
- Business Promotion Expense
- Entertainment
- Various IT and Telephony
- Staff Welfare
- Travel Expenses
- Corporate Social Responsibility
- Insurance Costs
- Other

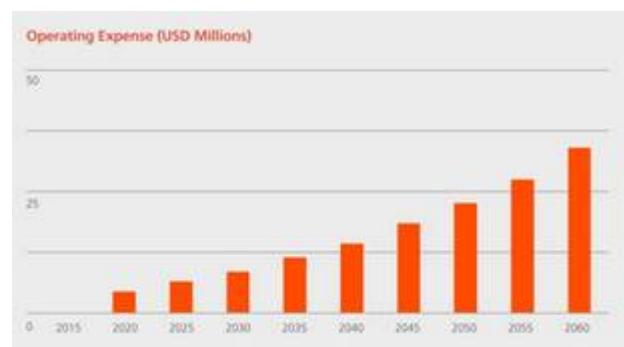


Figure 12 - OPEX Costs on a 5 year annual basis

Of the total annual OPEX, IT and Telephony as well as Security and Office Equipment / Utilities are expected to be the largest operating costs. All of the above mentioned OPEX are expected to increase annually in line with Nigerian CPI and a 15% contingency is included in the total annual amounts.

### 6.1.6 Fixed Costs

In business planning and management accounting, Fixed Costs, Indirect Costs or Overhead are business expenses which are not dependent on the level of goods or services produced by the business. Fixed Costs are

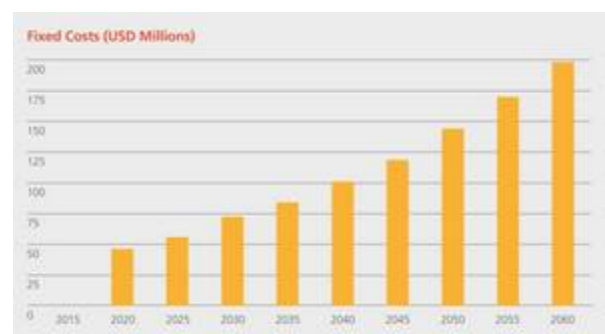


Figure 13 - Fixed Costs on a 5 year annual basis

a part of any typical business and in this particular instance primarily relate to the cost for providing Marine Services, including fuel, operating multiple tug boats in order to service the number of calling vessels at any given time as well as the management and operation of a centralized First Aid clinic as is global best practice. Also included in the Fixed Costs category are expenses related to overhead for SOS International to offer medical evacuation for seriously injured staff.

As previously described, the number of tug boats available will be commensurate with the expected number of vessels. However, irrespective of the number of annual vessel calls, it is envisioned that marine services will be contracted on a fixed day rate by the BPD. Thanks to our consortium's experience, equipment and training we will be able to handle every possible vessel size, from the smallest of bulk vessels to the largest ULCCs (ultra large crude carriers). We will forge close working relationships with local pilots and the Nigerian Ports Authority to continuously develop operational practices that improve the safety and reliability of the port. Our careful preparation and strong safety focus means that customers will be able to rely on timely marine services and quick vessel turnaround times, without worrying about demurrage or potential delays in the supply chain.

The tug boats will operate virtually round the clock at the Badagry Port, providing marine services with the seamanship and professionalism expected from some of the world's undisputed leaders in port operations.

It is a requirement of the Occupational Safety & Health Association (OSHA) that employees be given a safe and healthy workplace that is reasonably free of occupational hazards. However, it is unrealistic to expect accidents not to happen. Therefore, employers are required to provide medical and first aid personnel and supplies commensurate with the hazards of the workplace. The details of a workplace medical and first aid program are dependent on the circumstances of each workplace and employer, but in particular given Badagry's relative remoteness (especially during the initial years), it is important to have a top notch First Aid Clinic on site to be the first responder to any accident which may occur during port operations. Furthermore, each terminal will be required to comply with the Badagry Port's overall Health Safety Security Environment Management Plan (HSSE MP), which will include but not be limited to providing their own basic medical facilities for employees.

Ambulance services will be provided by the Port Management so that responses to injury can be expedited and in the event, anything cannot be dealt with locally, SOS International will always be on standby evacuate injured personnel by helicopter if necessary.

#### 6.1.7 Manning Costs

It is envisioned that the BPD, or Port Management subsidiary, will have projected staff strength of approximately 193 permanent personnel from the beginning of the project. These staff will be responsible for overall oversight of the Badagry Port and work in close coordination with personnel across each of the terminal operating businesses.

From 2015 – 2019, Manning costs are related to the Project's Implementation team, which will consist of experts in various functions who will be responsible for developing the common infrastructure. After a gradual build up, Manning costs hit their lowest point in 2021 as the Implementation team leave their posts and local staff have been trained, which will give way to permanent management to operate the new facility. Similar Implementation professionals will join the management team during expansion periods.

Manning costs will increase annually at 2% higher than anticipated annual inflation as the business will seek to keep its employees engaged by offering above inflation wages to attract and retain the best people possible. A 15% contingency on all Manning related costs is also included to guard against any potential under-coverage.

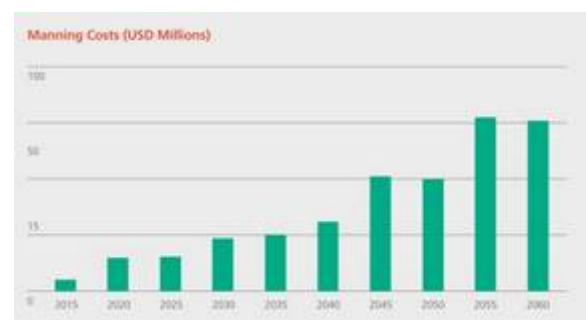


Figure 14 - Manning Costs on a 5 year annual basis

Port Manning	WC/BC	Job Grade	Total #	Avg Salary
Port CEO (expat)	WC	61	1	\$693,000
CEO Secretary/Office manager	WC	49	1	\$27,000
<b>Port Development</b>				
Director Port development (expat)	WC	59	1	\$601,000

Manager One-Stop-Shop	WC	57	1	\$94,000
Marketing & Sales Manager	WC	57	1	\$94,000
Marketing & Sales Officer	WC	49	2	\$18,000
Commercial & Communications manager	WC	57	1	\$94,000
Procurement Manager	WC	57	1	\$94,000
Procurement Officer	WC	55	1	\$75,000
<b>Port Administration</b>				
Port CFO (expat)	WC	58	1	\$508,000
IT Manager	WC	56	1	\$88,000
IT Expert	WC	55	1	\$75,000
IT Administrator	WC	47	1	\$35,000
Finance & Accounting Manager	WC	55	1	\$75,000
Accountants (Billing/payable/rec/gen.ledger)	WC	46	4	\$29,000
HR Manager	WC	56	1	\$88,000
HR Administrator/assistant	WC	49	1	\$27,000
Personal Drivers	BC	41	7	\$16,000
<b>Port M&amp;R</b>				
Technical Manager (expat)	WC	58	1	\$508,000
Asset Manager	WC	56	1	\$88,000
Maintenance Coordinator/Planner	WC	49	1	\$18,000
Maintenance Engineers	BC	55	3	\$75,000
Technicians/ Mechanics	BC	45	12	\$27,000
Craftsman	BC	43	12	\$20,000
Project Manager	WC	55	1	\$75,000
Project Engineers	WC	54	2	\$61,000
AutoCad Designer	WC	57	1	\$94,000
Project Planner/Administrator	WC	49	1	\$18,000
<b>Port Control</b>				
Port Control Manager (expat)	WC	58	1	\$508,000
Shift Managers	WC	57	4	\$94,000
Port Services Assistant	WC	44	1	\$20,000
Harbour Master	WC	57	1	\$94,000
Marine Traffic Manager	WC	55	1	\$75,000
Process Controller Marine	WC	46	16	\$29,000
Pilots	WC	50	5	\$188,000
Mooring Foreman	BC	50	4	\$31,000
Mooring Man	BC	42	16	\$19,000
Land Traffic Manager	WC	57	1	\$94,000
Process Controller (Land Traffic)	WC	49	16	\$18,000
<b>Port Services</b>				
Port Services Manager (expat)	WC	58	1	\$508,000
Port Clinic & Fire Brigade Manager	WC	57	1	\$94,000
Port Incidents Manager	WC	55	1	\$75,000

Fire Brigade Assistant	WC	44	1	\$20,000
Fireman	BC	44	12	\$20,000
Fire Truck Drivers	BC	44	8	\$20,000
Supply Manager	WC	50	1	\$31,000
HSSE Manager (expat)	WC	58	1	\$508,000
Safety & Security Officer	WC	49	4	\$18,000
Environmental Officer	WC	49	1	\$18,000
Security Guards	BC	43	32	\$15,000
Supply Manager Assistant	WC	44	1	\$20,000
<b>TOTAL</b>			<b>193</b>	

**Table 23 - Manning Estimate for Port Operating Company**

In addition to personnel employed directly by the BPD, it is expected that the majority of Port labour (blue and white collar) will be employed within each of the terminals' individual organizations. In total, terminal operations are expected to create a further 4320 jobs.

However, while the amount of direct jobs created is the most obvious data point to examine; it tells only a small part of the story. Jobs created in the supply and distribution chain of the Badagry Port, jobs created due to an increase in demand associated with higher labour income, and jobs created elsewhere in the economy as a result of firm expansion have to also be considered. Over the lifetime of the project, it is expected that the Port project will create close to an additional 225,000 indirect jobs.

### Training & Development

BPD will implement Performance Planning in order to improve the productivity and efficiency of the Port, and drive performance of all employees. The basis for this will be a performance appraisal system based on objectives of the organization and objective measurement and appraisal of performance. The performance appraisal will be used for decisions relating to monetary and nonmonetary rewards plus career development and advancement opportunities.

Furthermore, BPD will distinguish seniority amongst its personnel by placing them into various Job Grade bands, based on their relevant experience and overall responsibility within the Port.

Job Grade	Job Title
61 – 62	Senior Director
59 – 60	Director
56 – 58	General Manager
53 – 55	Manager
51 – 52	Assistant Manager
42 – 50	Associates / Officers

**Table 24 - Relative Job Grade Bands**

Next to that, processes and systems will be implemented to develop employees in their career via (on the job) training and education intended to give our employees the tools they need to perform the important and challenging tasks ahead.

The training will be a combination of directly transferable skills from the present facility along with the practices that have proven to be successful in a number of the consortium's facilities. To meet the challenges presented by operating a modern Port, BPD will leverage internal and industry best practices that have been developed over many years in highly successful terminals. This includes, but is not limited to, knowledge transfer and a comprehensive staff development program.

Development of the workforce will be a carefully planned and implemented solution. When development is done correctly, it will represent a real tangible increase in the human capital of Nigeria because knowledge and skills are added to the resources available to the country. Not only will the Badagry Port benefit, but the entire community will as well. Consequently, BPDL will be dedicated to providing meaningful development opportunities all employees and the same training opportunities will be afforded to the Nigerian Ports Authority as well.



## 6.2 Profit & Loss Statement

	2015	2016	2017	2018	2019	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070
Revenue from vessel charges	0	0	0	0	0	106,100	224,830	314,199	478,623	708,303	1,001,252	1,379,837	2,045,313	2,569,357	2,831,316	3,126,001
Revenue from sub-concession fees	0	0	0	0	0	43,519	107,149	147,123	228,301	345,268	494,236	692,299	1,061,043	1,333,877	1,472,708	0
<b>Gross Revenue</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>149,619</b>	<b>331,978</b>	<b>461,321</b>	<b>706,923</b>	<b>1,053,571</b>	<b>1,495,489</b>	<b>2,072,135</b>	<b>3,106,356</b>	<b>3,903,234</b>	<b>4,304,024</b>	<b>3,126,001</b>
(less) Direct Costs of which Royalties to NPA	27,911	15,467	11,978	14,191	14,800	47,728	72,550	114,424	161,181	259,870	354,377	479,874	702,368	871,823	961,744	592,942
	0	0	0	0	0	5,305	11,241	31,402	47,882	105,245	151,188	208,075	306,797	385,484	424,887	0
<b>Gross margin</b>	<b>-27,911</b>	<b>-15,467</b>	<b>-11,978</b>	<b>-14,191</b>	<b>-14,800</b>	<b>101,891</b>	<b>259,428</b>	<b>346,897</b>	<b>545,742</b>	<b>793,701</b>	<b>1,141,111</b>	<b>1,592,261</b>	<b>2,403,988</b>	<b>3,031,411</b>	<b>3,342,281</b>	<b>2,533,059</b>
(less) Overheads	0	0	0	0	0	61,251	67,626	74,665	82,436	91,016	100,489	110,948	122,495	135,245	149,321	164,863
<b>Operating Margin</b>	<b>-27,911</b>	<b>-15,467</b>	<b>-11,978</b>	<b>-14,191</b>	<b>-14,800</b>	<b>40,640</b>	<b>191,802</b>	<b>272,232</b>	<b>463,306</b>	<b>702,685</b>	<b>1,040,622</b>	<b>1,481,313</b>	<b>2,281,493</b>	<b>2,896,166</b>	<b>3,192,959</b>	<b>2,368,196</b>
(less) Depreciation	0	0	0	0	0	155,786	93,825	106,778	106,598	105,025	126,122	0	7,082	0	0	0
<b>Earnings before interest and tax</b>	<b>-27,911</b>	<b>-15,467</b>	<b>-11,978</b>	<b>-14,191</b>	<b>-14,800</b>	<b>-115,146</b>	<b>97,977</b>	<b>165,454</b>	<b>356,709</b>	<b>597,660</b>	<b>914,501</b>	<b>1,481,313</b>	<b>2,274,411</b>	<b>2,896,166</b>	<b>3,192,959</b>	<b>2,368,196</b>
(less) Financial Charges	4,500	35,750	79,500	115,300	144,100	159,100	188,700	215,050	130,900	0	0	0	0	0	0	0
<b>Profit before tax</b>	<b>-32,411</b>	<b>-51,217</b>	<b>-91,478</b>	<b>-129,491</b>	<b>-158,900</b>	<b>-274,246</b>	<b>-90,723</b>	<b>-49,596</b>	<b>225,809</b>	<b>597,660</b>	<b>914,501</b>	<b>1,481,313</b>	<b>2,274,411</b>	<b>2,896,166</b>	<b>3,192,959</b>	<b>2,368,196</b>
(less) Tax Due	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Profit after tax</b>	<b>-32,411</b>	<b>-51,217</b>	<b>-91,478</b>	<b>-129,491</b>	<b>-158,900</b>	<b>-274,246</b>	<b>-90,723</b>	<b>-49,596</b>	<b>225,809</b>	<b>597,660</b>	<b>914,501</b>	<b>1,481,313</b>	<b>2,274,411</b>	<b>2,896,166</b>	<b>3,192,959</b>	<b>2,368,196</b>
(less) Dividends Due	0	0	0	0	0	0	0	0	0	597,660	914,501	1,481,313	2,274,411	2,896,166	3,192,959	2,368,196
<b>Retained Earnings</b>	<b>-32,411</b>	<b>-51,217</b>	<b>-91,478</b>	<b>-129,491</b>	<b>-158,900</b>	<b>-274,246</b>	<b>-90,723</b>	<b>-49,596</b>	<b>225,809</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Table 25 - BPD Profit & Loss Statement

### Comments on Profit & Loss

The ensuing 4-5 years will be spent on the completion of infrastructure. However, the project is expected to generate revenue from 2020, which is the year when all the first berths are made available for operations. In spite of this, the high finance cost on account of capital intensive nature of the project will not allow the project to have a net profitable year until 2022, approximately 8 years after the Concession is signed.

Since we intend for the project to operate within the newly established Badagry Free Zone, no provision for the taxes is made.

Costs for provision of Marine Services are included as a portion of the Fixed Cost line item.

Relatively high Start-up costs are registered in the run up to Operational start, as a result of various professional, marketing and overhead costs during the Implementation period.

## 6.2 Cash Flow Statement

	2015	2016	2017	2018	2019	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070
<b>Inflows</b>																
Revenues vessel charges	-	-	-	-	-	106,100	224,830	314,199	478,623	708,303	1,001,252	1,379,837	2,045,313	2,569,357	2,831,316	3,126,001
- Harbour dues						35,841	85,415	115,886	176,727	264,148	375,352	523,005	797,165	1,000,406	1,104,529	1,219,490
- Ship dues						26,294	37,361	51,758	80,549	121,092	173,759	235,407	315,696	403,032	436,771	482,230
- Berth rent						342	439	567	791	1,098	1,476	1,970	2,615	3,327	3,634	4,012
- Environmental Protection dues						2,829	6,936	9,507	14,719	22,227	31,787	44,496	68,149	85,655	94,570	104,412
- Cargo handling						38,081	90,322	121,775	184,818	275,332	390,428	543,191	826,615	1,036,842	1,144,758	1,263,905
Revenues sub-concession fees	-	-	-	-	-	43,519	107,149	147,123	228,301	345,268	494,236	692,299	1,061,043	1,333,877	1,472,708	-
Gross revenue	-	-	-	-	-	149,619	331,978	461,321	706,923	1,053,571	1,495,489	2,072,135	3,106,356	3,903,234	4,304,024	3,126,001
Variable Costs	27,911	15,467	11,978	14,191	14,800	47,728	72,550	114,424	161,181	259,870	354,377	479,874	702,368	871,823	961,744	592,942
- Of which NPA Royalties						5,305	11,241	31,420	47,862	106,245	150,188	206,975	306,797	385,404	424,697	-
Fixed Costs	-	-	-	-	-	61,251	67,626	74,665	82,436	91,016	100,489	110,948	122,495	135,245	149,321	164,863
Operating Margin	-27,911	-15,467	-11,978	-14,191	-14,800	40,640	191,802	272,232	463,306	702,685	1,040,622	1,481,313	2,281,493	2,896,166	3,192,959	2,368,196
Drawdown of Long term loans	90,000	535,000	340,000	376,000	200,000	100,000	220,000	0	0	0	0	0	0	0	0	0
<b>Total Inflows</b>	<b>62,089</b>	<b>519,533</b>	<b>328,022</b>	<b>361,809</b>	<b>185,200</b>	<b>140,640</b>	<b>411,802</b>	<b>272,232</b>	<b>463,306</b>	<b>702,685</b>	<b>1,040,622</b>	<b>1,481,313</b>	<b>2,281,493</b>	<b>2,896,166</b>	<b>3,192,959</b>	<b>2,368,196</b>
<b>Outflows</b>																
Investments	31,453	585,714	463,978	466,910	155,812	0	288,503	0	0	0	0	0	0	0	0	0
Repayments - LT Loans	0	0	0	0	0	0	0	51,000	326,000	0	0	0	0	0	0	0
Interest - LT Loans	4,500	35,750	79,500	115,300	144,100	159,100	188,700	215,050	130,900	0	0	0	0	0	0	0
Increase in work. cap.	4,588	-2,046	-573	364	100	17,710	2,336	5,609	6,531	14,451	11,559	15,071	29,120	8,949	10,098	-199,642
Tax paid	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total Outflows</b>	<b>40,541</b>	<b>619,419</b>	<b>542,905</b>	<b>582,573</b>	<b>300,012</b>	<b>176,810</b>	<b>479,539</b>	<b>271,659</b>	<b>463,431</b>	<b>14,451</b>	<b>11,559</b>	<b>15,071</b>	<b>29,120</b>	<b>8,949</b>	<b>10,098</b>	<b>-199,642</b>
<b>Net Cash flow after finance and tax</b>	<b>21,548</b>	<b>-99,886</b>	<b>-214,883</b>	<b>-220,764</b>	<b>-114,812</b>	<b>-36,170</b>	<b>-67,737</b>	<b>574</b>	<b>-125</b>	<b>688,234</b>	<b>1,029,063</b>	<b>1,466,242</b>	<b>2,252,373</b>	<b>2,887,217</b>	<b>3,182,862</b>	<b>2,567,838</b>

Table 26 - Cash Flow Statement

### Comments on Cash Flow Statement

The first cash flows are expected to be received in early 2020 as the various berths become operational and can begin receiving ships.

The 45 year Cash Flow Statement is included in Appendix 10.10.

### 6.3 Balance Sheet

	2015	2016	2017	2018	2019	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070
<b>ASSETS</b>																
Cash	71,548	71,662	63,779	47,015	37,203	37,533	37,726	37,899	37,735	1,767,692	2,049,005	2,603,935	3,275,454	3,803,857	4,052,927	3,385,612
Debtors	0	0	0	0	0	12,297	27,286	37,917	58,103	86,595	122,917	170,313	255,317	320,814	353,755	256,932
Stocks	5,735	3,178	2,461	2,916	3,041	12,324	17,687	26,580	36,507	57,138	76,947	103,164	149,356	184,700	203,755	128,613
Other current assets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Current Assets</b>	<b>77,283</b>	<b>74,840</b>	<b>66,240</b>	<b>49,931</b>	<b>40,244</b>	<b>62,155</b>	<b>82,699</b>	<b>102,396</b>	<b>132,346</b>	<b>1,911,425</b>	<b>2,248,868</b>	<b>2,877,411</b>	<b>3,680,127</b>	<b>4,309,370</b>	<b>4,610,437</b>	<b>3,771,156</b>
Fixed assets	31,453	617,168	1,081,146	1,548,055	1,703,867	1,703,867	1,992,370	2,343,910	2,343,910	2,343,910	2,766,039	2,766,039	3,385,775	3,385,775	3,385,775	3,385,775
(less) Depreciation	0	0	0	0	0	155,786	654,613	1,207,035	1,740,023	2,271,438	2,709,896	2,766,039	3,385,775	3,385,775	3,385,775	3,385,775
<b>Net Value Fixed Assets</b>	<b>31,453</b>	<b>617,168</b>	<b>1,081,146</b>	<b>1,548,055</b>	<b>1,703,867</b>	<b>1,548,081</b>	<b>1,337,757</b>	<b>1,136,875</b>	<b>603,888</b>	<b>72,473</b>	<b>56,143</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Other assets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL ASSETS</b>	<b>108,736</b>	<b>692,008</b>	<b>1,147,386</b>	<b>1,597,986</b>	<b>1,744,111</b>	<b>1,610,236</b>	<b>1,420,456</b>	<b>1,239,271</b>	<b>736,233</b>	<b>1,983,898</b>	<b>2,305,011</b>	<b>2,877,411</b>	<b>3,680,127</b>	<b>4,309,370</b>	<b>4,610,437</b>	<b>3,771,156</b>
<b>LIABILITIES</b>																
ST Finance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Creditors	1,147	636	492	583	608	4,479	5,761	7,771	10,012	14,420	18,693	24,280	33,898	41,386	45,660	31,143
Tax Due	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dividends Due	0	0	0	0	0	0	0	0	0	597,660	914,501	1,481,313	2,274,411	2,896,166	3,192,959	2,368,196
Other current liabilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Current Liabilities</b>	<b>1,147</b>	<b>636</b>	<b>492</b>	<b>583</b>	<b>608</b>	<b>4,479</b>	<b>5,761</b>	<b>7,771</b>	<b>10,012</b>	<b>612,080</b>	<b>933,194</b>	<b>1,505,594</b>	<b>2,308,310</b>	<b>2,937,553</b>	<b>3,238,620</b>	<b>2,399,339</b>
Long Term Loans (incl current part)	90,000	625,000	965,000	1,341,000	1,541,000	1,641,000	1,997,000	2,125,000	1,146,000	0	0	0	0	0	0	0
Special funds and provisions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Debt provisions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shareholders Funds																
Paid in Capital	50,000	150,000	357,000	561,000	666,000	702,500	843,000	953,000	953,000	953,000	953,000	953,000	953,000	953,000	953,000	953,000
Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Retained Earnings	0	-32,411	-83,628	-175,106	-304,597	-463,497	-737,743	-1,425,305	-1,846,500	-1,372,778	418,818	418,818	418,818	418,818	418,818	418,818
<b>Shareholders Funds</b>	<b>17,589</b>	<b>66,372</b>	<b>181,894</b>	<b>256,403</b>	<b>202,503</b>	<b>-35,243</b>	<b>-582,305</b>	<b>-893,500</b>	<b>-419,778</b>	<b>1,371,818</b>	<b>1,371,818</b>	<b>1,371,818</b>	<b>1,371,818</b>	<b>1,371,818</b>	<b>1,371,818</b>	<b>1,371,818</b>
<b>TOTAL LIABILITIES</b>	<b>108,736</b>	<b>692,008</b>	<b>1,147,386</b>	<b>1,597,986</b>	<b>1,744,111</b>	<b>1,610,236</b>	<b>1,420,456</b>	<b>1,239,271</b>	<b>736,233</b>	<b>1,983,898</b>	<b>2,305,011</b>	<b>2,877,411</b>	<b>3,680,127</b>	<b>4,309,370</b>	<b>4,610,437</b>	<b>3,771,156</b>

Table 27 - Balance Sheet

### Comments on Balance Sheet Statement

The projected Balance Sheet is shown above.

## 6.4 Bankability

BPDL is already in discussions with several notable international as well as local banks who have indicated their interest in providing non-recourse project financing to the Badagry Port project. The majority of PPPs are funded on a project finance basis where a special purpose vehicle is established to ring fence the project revenues and debt liabilities and insulate the parent companies of the various sponsors.

However, since lending under a non-recourse project financing structure looks to the cash flow of the project as the principal source of security, the financial risks must be assessed thoroughly. So that the Private Sector Proponents may have the opportunity to generate its required return on investment, the Badagry Port Complex will require flexibility to adjust to changing market dynamics and accordingly establish price levels for the aforementioned Port Dues as they see fit, without having to bear the financial risk of additional regulatory oversight. It is recommended that this flexibility also extends down through to the individual terminal operators regarding their ability to set tariffs for their services at market prices with full freedom to increase or decrease as the situation requires.

Due to the inherent uncertainty with any Greenfield project, and in light of increased competition amongst the Ports when the Lekki Greenfield gets underway, important for the overall bankability of the project will be that Royalties paid to the Nigerian Ports Authority or other Government Agency are not unreasonable, thus creating an untenable financial burden on the Private Sector Project Proponent and dooming the project to fail. While the overall Project returns are considered moderately attractive, the BPDL believe they have a commitment to Nigeria to provide a solution for the Government to develop the modern port and logistic infrastructure required to prepare the country for the next century of trade and GDP expansion.

The proposed development is envisaged as detailed enough to scale through any bankability issues considering the pedigree of the promoters and the quality of the team assisting in them. However, typically, for most PPP's the Grantors may consider providing certain guarantees that could be beneficial for the overall interest of the project, such guarantees would be assessed relatively to the risk allocation and its future implications for public finances before being granted.

## 6.5 Financing Strategy and Project Appraisal

### 6.2.1 Capital Structure and WACC

Financing is anticipated to be a mixture of long and short term debt, with approximately 30% of the Project's Capital Expenditure on common infrastructure coming from the Project Sponsor. Individual sub-concessionaires intending to operate terminals within the Badagry Port will be allowed to pursue their own capital structure provided they not create any lien on the Project Land or infrastructure provided by the BPDL.

The cost of Long-Term debt is taken at 10%.

The BPDL is using a Discount Rate of 10%, which is calculated as follows:

Input	Percentage
Cost of Capital	6%
Country Risk	2.5%
Greenfield Risk	1.5%
WACC	10%

Table 28 - Discount Rate calculation

## 6.6 Project Appraisal

From the analysis of the estimated Dues the investor expects to be able to collect during the project's lifetime, the investment in the project can only be fully recovered after 20 years of operations. Taking into account other revenue streams such as sub-concession fees, an analysis of the various financial appraisal indicators indicated hereunder, demonstrates that an initial concession period of 45 years will be about adequate for the proposed investment in the project by the investor. However, it is recommended that an additional 45 years concession period after the initial period should be considered given the significant initial outlay, the long period of recovery and the associated risks.

Financial Metric	
Horizon	45 years
WACC	10%
Discount Rate	10%
NPV	\$719 mil
Discounted Payback Period	20 years
Project IRR	11.8%
Equity IRR	12.4%
Royalty to NPA	\$7.4b

Table 29 - Key Financial Metrics

## 6.7 Sensitivity Analysis

A Sensitivity Analysis was carried out for the Project Revenues, evaluating various scenarios by adjusting some key variables which may impact the overall success of the project. This exercise demonstrates the tolerable limits within which the project remains viable for the Public & Private Sector.

For the purpose of this Sensitivity Analysis, we adjusted Revenue + / - 20%:

Sensitivity	Revenue Assumptions
Optimistic Case	+20%
Base Case	0%
Pessimistic Case	-20%

Table 30 - Sensitivity Analysis

### Base Case

- Project IRR: 11.8% Equity IRR: 12.4%
- NPV: \$719,284,000
- Payback Period: 20 years
- Royalty: Loan period (10 years) 5%, Investment Recovery Period (20 years, inclusive of Loan period) 10% and period thereafter 15%.
- Payment to NPA over the concession period: \$7,429,760,000

### High Case - (20% increase in Revenue)

- Project IRR: 12.9% Equity IRR: 14.3%

- NPV: \$1,259,668,000
- Payback Period: 18 year

*Low Case - (20% drop in Revenue, 20% increase in Capex)*

- Project IRR: 9.6% Equity IRR: 9.3%
- NPV: -\$234,422,000
- Payback Period: 25 years

Based on the above, a 45 year concession period is appropriate to ensure that BPDL is able to recover its investment and earn a decent return on its investment even in the event of the Low case, this situation can happen as a result of increased capacity in the event that Lekki and other planned ports are also built which will lead to lower throughput and rates and if the depreciation of the Naira against the USD continues which will lead to increased local costs and drive its construction costs higher.

Royalty in the Extension Period: Considering the Royalty paid by existing concessionaires in the Ports concessioned by NPA and the need to ensure adequate returns from the Badagry Port when the initial term ends, we have recommended a Royalty payment of 40% of the applicable Vessel Service Dues Revenue to NPA from year 46 to year 90.

## SECTION 7

### *OPTIONS ANALYSIS*

## 7. Section 7: Options Analysis

A Concession is a process whereby the concession grantor gives the right to operate a facility and/or deliver a service of public interest to a concessionaire, against the commitment assumed by the Concessionaire to build and manage the subject of the concession or to manage the delivery of service at the Concessionaire's own risk. Concessions may be considered analogous to public private partnership (PPP) and private finance initiatives (PFI) and seen as an arm of privatization. NPA has defined Concession as an arrangement between the NPA and a third party pursuant to which such third party shall be authorised to provide port service or operate a port facility in accordance with the Ports and Harbour Authorities Bill. Privatization of terminals through concession contracts is a valuable option to drive forward the development in port facilities and also meet the immediate cargo handling demand.

The objectives of such a port concession is to increase efficiency in port operation, decrease the cost of port services to stakeholders, decrease cost to the government for the support of port sector and attract private sector participation so as to free public resources for public services. The Landlord port / Private Sector Port model is the structure adopted. It entails the public sector being responsible for pilotage and some regulatory functions, whereas the Private sector would be responsible for marine and terminal operations, construction, cargo handling operations, dock labour management, purchase and ownership of superstructure and equipment as well as dredging and marine services such as towage. In such an arrangement, the private sector would pay agreed royalties to the Port Authority for concessioning the Port and lending its name to the Port for statutory purpose.

Concessions are widely used and a proven model accepted in the port sector today. Locally, Onne, Apapa and Tin Can are all prime examples of very successful implementations of development projects. The benefits of concessions in the port sector include:

- Better and more efficient port management (especially port operations) performed by private operators.
- Avoidance of the drawbacks associated with monopolies through the inclusion of detailed concession conditions.
- The application of private capital to socially and economically desirable projects, freeing up government funds for other priority projects, therein creating a win-win solution.
- Under certain circumstances, the creation of new revenue streams for governments.
- The transfer of risks for construction, finance, and operation of the facility to the private sector.
- The attraction and use of foreign investment and technology.

### 7.1 Assessment of alternative forms of both conventional procurement and PPP

The total Phase 1 cost for the Badagry Port common infrastructure alone is estimated to be approximately \$1.57 billion during the next 4-5 years. To develop the ensuing phases so that the facility's ultimate capacity can be reached will require an additional \$1.038 billion over the project's lifetime. In light of the country's other development priorities, such expense could be seen as cost prohibitive if left for the State or Federal Government to expend.

The above notwithstanding though, when considering how to create additional port capacity in anticipation of the 2017 supply / demand imbalance, several options exist for Government and the respective Project Proponents:



## 1. *The Badagry Project is not built*

We considered the option of not building a new deep water Greenfield Port and instead attempting to import and export more cargo through the existing facilities. However, after due consideration of key factors, we deselected this option for the following reasons:

- Failure to increase capacity in advance of demand will have an adversely negative effect on Nigeria's overall economic development;
- Traffic congestion in and around metro-Lagos will grow to a stage where the free movement of goods by road becomes infeasible; and
- Cargo imports would likely continue to shift from Nigeria to neighboring countries, resulting in loss of revenue and increased frequency of illegal imports entering the country.

Therefore, we believe this option is not realistic at this time.

## 2. *Government builds the Badagry Project*

In the event that the Government elects not to issue the BPDL a Concession to develop and operate the Badagry Port project, the Government naturally has the right to develop the project themselves. However, we recommend against this option for the following reasons:

- The 2-3 year long lead time and development cost associated with the feasibility stage would mean the Project's start of operation could be no sooner than 2021;
- Nigeria's Port system has flourished considerably as a result of the 2006 Port Reform scheme. Government should not be in a position where they have to compete with Private Port operators; and
- This approach would again suffer from the budgetary constraints highlighted above.

## 3. *PPP Model*

**Joint Venture** - A third option exists for the procurement of the Badagry Port, which is for the Federal Government and BPDL to partner, leaving between 20-25% of the equity capital expenditure for the Federal Government to contribute and 20-25% of the State Government to contribute. This again will suffer from the budgetary constraints highlighted above under option 2, although on a more limited basis. In addition, such an arrangement would involve the Federal and State Governments in the day-to-day management and operation of the Port whereas their best interests are likely to be served in a purely regulatory role. Furthermore, considering the total budget cost estimate for the project, this scenario is likely to place impossible financial burden on the BPDL.

**Build Own Operate and Transfer (BOOT)** – In this preferred PPP delivery methodology, the Federal Government would delegate full responsibility for the development of the Badagry Port project to Promoter(s) (SPV – special purpose vehicle) under the hybrid Private Sector Port/ Landlord model. BPDL would finance, develop and operate the facility over an initial concession period of 45 years and transfer the port to the government at the expiration of the concession period, during which they would be entitled to recoup the investment through the collection of Dues. Advantages of this approach are:

- Badagry Port can be constructed without the Federal or State Government having to spend any money of their own, thus providing Value for Money;
- The Government will receive an annual statutory revenue throughout the Concession period; and
- The Government will be able to deliver on critical national economic development projects vital for attracting investment and driving growth.

## 7.2 Recommendations on Preferred Option

Following from the above, we recommend contracting the responsibility for the development and operation of the Badagry Port to the BPD L on a long term concession basis as canvassed in other section of this report. Under this agreement, the project proponents will construct, operate and then transfer the Port Area, including the land and any improvements made thereto, at the end of the specified Concession term. During such time, the BPD L would be entitled to recoup their investment through a collection of relevant Dues and pay pre agreed royalties to Nigerian Ports Authority. On expiration of the initial concession term, the BPD L will be able to have the concession term renewed for another 45 years. Official title to the port area would be vested in the NPA up front in pre-agreed contracts and upon expiry of the initial Concession term, ownership of these assets would be officially transferred to the NPA for a nominal fees of N1 (One Naira Only).

## 7.3 Concession Tenure

Based on the huge capital investment required to develop 620 hectares of undeveloped land this magnitude, including all dredging and reclamation, shore protection, breakwater construction, construction of numerous quay walls, infrastructure in the form of a road network, terminal yards and other related activities, BPD L will require a concession period long enough to be able to break even and recoup the investments and make a marginal profit on the venture. Our current estimates suggest that in our Base Case scenario, we will require a period of 20 years to recoup our investment in the Port's common infrastructure and therefore the financial model illustrated in this business plan is covering 45 years. Based on the financial model it is demonstrated that an initial concession period is required to be at least 45 years for BPD L to recoup its investment and make a marginal profit on the investment. It is also to be noted that there is considerable risk associated with such ventures requiring a large investment upfront and recovering it over a long period. To further motivate BPD L to take up the project and compensate for the significant risk taken, an additional 45 years of concession is further recommended.

## 7.4 Key Contractual Terms

The execution of a legally binding contract between NPA and the BPD L remains critical to the success of this project for the provision of port management on a Concession basis. The Concession Agreement details all relevant issues which are significant to the successful implementation of the project. The terms of the PPP Concession contract will be many and varied, but must be comprehensive at least in their coverage of the following:

- Name of Parties
- Definitions & Interpretation
- Effective Date & Terms
- Background Nature of Contract
- Purpose of the Development and Benefit to Parties
- Basic Concession Rights & Obligations
- Use of Concession Area
- Financing
- Operations
- Conditions Precedents
- Concessionaire's Covenants
- Grantor's Covenants
- Force Majeure
- Documentation and Audits
- Representations and Warranties
- Change in Law

- Default
- Termination
- Compensation
- Indemnities & Liabilities
- Governing Law & Dispute Resolution
- Sub-Concessions
- Miscellaneous
- Signatories

A Draft Concession Agreement as well as a Draft Land Agreement, covering the above and which appropriately allocates risk between the parties, is included as part of this Submission to the FMOT. Furthermore, a few key contractual terms as it would relate to this BOOT Model of PPP are highlighted already below:

### *Communication*

Effective communication will be crucial for efficient dispute management. Constant interaction between the participants of the process improves the efficiency of resolving unexpected procedural issues. Therefore, it is important to agree what means of communication will be used in the process. Electronic means of communication, 24-hour access to e-mails and good telecommunication services greatly facilitate communication, even if the parties and arbitrators are in distant corners of the world.

### *Operations*

The Master Concession Agreement has clearly provided the Project Proponent maximum flexibility to develop, manage and operate the Port as possible. This will enable the BPDL to manage their operations and best arrange themselves structurally, including through the issuance of sub-Concessions and third party contracts, to operate the Port in the most efficient manner possible. Further, given the significant investment being made in additional port capacity, the Agreement has included in it a proviso for Exclusivity of Operation as follows:

- a) The Concessionaire shall have the exclusive right during the Initial Term to perform the Port Services and the Vessel Services within the Concession Area and to grant rights to such Terminal Operators as the Concessionaire may in its absolute discretion decide to develop any of the Terminals with any such Terminal Operator, or Terminal Operators (as the case may be), to only perform their respective Port Services at the Port.
- b) The Grantor shall not, and shall procure that FGN and all its agencies shall not commission any Competing Port Facility within a eighty (80) nautical mile radius of the Port from the date of this Agreement until the earlier of the fifteenth (15th) anniversary of the Date of Commercial Operations or the date on which the Port and the facilities and expansions set out in the Concession Agreement in Appendix L: Exclusivity – Excluded Facilities and Expansions.

### *Independent Engineer*

An Independent Engineering (I.E) firm shall be appointed to ensure compliance with construction, scope, approvals and schedule.

### Dispute Resolution

Disputes may arise during the course of the project. The key is to develop a collaborative relationship and establish a dispute resolution process sufficiently robust to resolve those disputes as they occur and to prevent them escalating into major disputes. Most PPP Agreements should contain a graduated, three or four stage process, including some or all of the following options:

- Discussions between the parties;
- Fast-track resolution process;
- Committee or dispute resolution board;
- Expert Determination
- Mediation or conciliation; or
- Arbitration or courts.

### Arbitration

In case of disputes between the parties, the parties will settle any disputes as soon as possible by way of negotiations. When negotiations fail, any party may refer the dispute to a “Performance Monitoring Committee” (PMC) comprised of three members: one chosen by the concessionaire, another by NPA and a third selected by common agreement. In case the parties disagree with the recommendations of the Performance Monitoring Committee, they may escalate the matter to a “Partnership Committee” comprised of high administrative positions (directors) of both parties, to reach final resolution. Failing to reach an agreement, any party may submit the matter to arbitration under the London Court of International Arbitration Rules following the below processes:

**Governing Law** - The governing law for this transaction in entirety shall be the laws of the Federal Republic of Nigeria. All Agreements and any dispute or claim arising out of or in connection with it or its subject matter or formation (including non-contractual disputes or claims) shall be governed by, construed and enforced in accordance with the laws of the Federal Republic of Nigeria.

**Arbitration** - In the event that Parties are unable to reach an amicable settlement in respect of a dispute or difference or claims of any kind within sixty (60) days, such dispute or difference or claim of any kind shall be finally settled under the rules of arbitration of the London Court of International Arbitration as in force at the time of the submission of the claim, which rules are deemed incorporated by reference into this Clause. Judgment upon the award rendered may be entered in any court having jurisdiction or application may be made to such court for a judicial acceptance of the award and an order of enforcement, as the case may be.

**Arbitrators** - The arbitration tribunal shall consist of three (3) arbitrators. Each Party shall nominate one arbitrator in accordance with the LCIA rules and the LCIA shall appoint the chairman of the arbitration tribunal. If a Party has not nominated an arbitrator within thirty (30) days of service of a Request for Arbitration in accordance with Clause 1 of the LCIA rules such arbitrator shall be appointed by the LCIA.

**Place of Arbitration** - The place of arbitration shall be London or any other place mutually agreed by the Parties.

**Language** - The arbitration proceeding, both written and oral shall be held in English.

**Performance** - During arbitration pending the submission of and/or decision on a dispute, difference or claim or until the arbitral award is published, the Parties shall continue to perform all of their obligations under this Agreement without prejudice to a final adjustment in accordance with such award.

A standard Arbitration clause would therefore need to be provided in the PPP contract.

### *Sub-Concessions*

The Concessionaire must be able to grant rights to any Terminal Operator to develop, construct, operate, manage, maintain and repair any Terminal or any part of the Concession Area on terms and conditions as the Concessionaire shall in its absolute discretion agree. Accordingly, the Concessionaire is entitled to receive compensation for the granting of any such rights from any such Terminal Operator as the Concessionaire shall in its absolute discretion agree with such Terminal Operator provided that, of course, the terms of any sub-concession do not conflict with the Master Concession Agreement.

### *Force Majeure*

In many PPP contracts, the parties will be granted relief from their obligations if circumstances outside their control prevent or restrict performance. It is common for these circumstances to be grouped together under a wide definition of force majeure.

Although the Project Proponent takes the service delivery risk in this BOOT Model, there will still be circumstances in which it is appropriate to grant some relief from its obligations. However, the category of force majeure, which offers comprehensive relief from obligations, is generally defined very narrowly in PPP contracts. As a result, there have developed a number of categories of extenuating events, offering varying degrees of relief. These can be grouped under the general heading of Force Majeure, but can be further classified more specifically as:

- **Natural Force Majeure**

These are events that are outside the control of either party to the Project Agreements, and which the Private Party will have to manage as best as it can. The Private Party will bear the financial risk of lost revenue or increased costs to work around the event, but it will be granted relief from termination for failure to perform. Examples of Natural Force Majeure could be a natural disaster, severe adverse weather, fire, explosion, lightning, earthquakes, or an Act of God.

- **Political Force Majeure**

Events that interfere with the Project Proponent's performance of its services that are either within NPA's control (such as Government actions that occur during its provision of core services), or particular categories of change in law which have the effect of discriminating against the project or the private party, and which, whilst not necessarily within NPA's control, are generally perceived to be a Government risk. The Project Proponent may be entitled to compensation for losses incurred, whether through payment of increased costs or through continued service payments even where the Private Party is unable to perform the services as a result of the event. The private party will also be granted relief from those obligations, such as meeting milestone dates, which it cannot perform as a result of the event. Examples of Political Force Majeure could be wars, civil disturbances, riots, strikes, or a confiscation and/or requisition of the Concession Area.

### *Default*

Upon private party default, NPA may, after providing notice to the private party, pursue any of the following remedies:

- Issue a Notice of Termination, subject to the private party having a sufficient number of days to cure, for any other default.
- Terminate the agreement with a pre-agreed period of prior notice for failure to comply with the operating standards if the failure creates a safety hazard or impairment of the project's operation.

### *Termination*

A notice of termination issued by NPA will generally be issued subject to the terms of the project's Concession Agreement. A period of time should be allowed for the provider to step in and 'rescue' the project, to allow continuity of service to the public, if the proponent is unsuccessful, they should be required to cooperate during the transition to NPA control. NPA may also choose to exercise its rights to take over any properly performing sub-contracts, where appropriate.

The Concession Agreement must address the financial consequences of termination. Where termination follows the Private Party's default, NPA should be entitled to recover the costs it incurs as a result of the default and termination. Whether any compensation will be payable to the Private Party will generally depend on the status of the project assets. If the assets are to be returned to NPA, some form of compensation, based on fair market value, would be appropriate.

### *Life Cycle Costs*

These include not only the capital costs of developing the port, but also the ongoing operations and maintenance costs, the costs of major upgrades, expansions and rehabilitation over time, and the costs associated with decommissioning the asset at the end of its useful life. These costs must be clearly established so that they form the basis of an Amortization schedule which would set the rate at which the BPD are able to reach a financial payback rate which is acceptable to their shareholders and so that Post Completion Risk is also minimized.

### *Indemnities*

The Concession agreement should include a number of indemnities which are provided by the proponent for the benefit of NPA. These should include claims made by third parties against NPA because of a failure in the service.

### *Warranties*

Another contractual device for allocating risks to the contractor is through the use of warranties. These will confirm that the proponent has carried out its own due diligence during the feasibility phase and has taken this into account in preparing his technical proposal.

## SECTION 8

### *IMPLEMENTATION RECOMMENDATIONS*

## 8. Section 8: Implementation Recommendations

### 8.1 Proposed Project Timetable

In order to develop the project in the fastest time allowable, we recommend proceeding along the following timeline:

Milestone	Suggested Date
Submission of OBC to Government	September 2014
Review of OBC and Submission to Statutory Agencies i.e. ICRC, BPP	Oct 2014 – March 2015
Review by Statutory Agencies and Approval by Federal Executive Council (FEC)	April – May 2015
Conduct Resettlement Action Plan	June – December 2014
Execute Master Concession Agreement	May 2015
Secure Project Financing	June – Dec 2015
Tender for Enabling Works Civil Packages	June – Dec 2015
Begin Partial Resettlement of Project Affected Persons	January 2016
Tender Design Work for Common Infrastructure	June – Dec 2015
Begin Construction Works	January 2016
Agree Sub-Concessions	June – Dec 2015
Soft Start of Operations	End of 2020

Table 31 - Envisioned Implementation Timeline

It must be noted that the aforementioned timelines are our best estimates, but will depend heavily on BPD's ability to secure the necessary permits & approvals from the Government. From this point out, the longest lead time relates to the actual construction of the Port, whereas construction of the breakwater is on the critical path.

### 8.2 Proposed Implementation Plan

The following table outlines how the Project Proponents will prepare for and execute the Implementation of the Project.



Figure 15 - Project Implementation Matrix

The BPD is in country already and well-prepared to rapidly mobilize the required resources and equipment to implement the Badagry Port project in the fastest time allowable.



We have the project implementation experience, staff, technical and operational know-how and procurement arrangements with all major equipment vendors required to undertake a project of this size with great comfort. Coupled with the NPA's vast knowledge and expertise as well, we expect to collaborate effectively and efficiently from the very beginning of the partnership.

On the ground from day one will be a "Business Implementation" team consisting of dedicated staff located at the project site who in turn will be assisted by support departments from each of the consortia members' head offices. The Implementation team will be comprised of experienced professionals responsible for the following:

- Finance
- Commercial & Marketing
- Permitting & Compliance
- Information Technology
- Operations Automation
- Human Resources
- Legal
- Civil Engineering
- Procurement
- Technical
- Design & Operations
- Health, Safety, Security & Environment
- Social Performance

The Business Implementation team will use a standardized implementation process developed from best practices honed from previous implementation experiences over the last several decades. This deliberate focus will ensure sufficient control of the budget, time and quality of the project.

### 8.3 Procurement Strategy

The Badagry Port is a large and complex project, which will be delivered by several suppliers. The procurement processes implemented in the BPD L will govern the supplier selections and ensure compliance with safety, CSR, and environmental standards while also providing a predictable and transparent process for everyone involved.

During the procurement processes many activities are performed. Among other things, suppliers are prequalified ensuring that they have sufficient capabilities for carrying out the work, workshops are conducted to explore innovative solutions, and project risks are carefully allocated to the parties controlling them best. All this together ensures that suppliers offering the maximum value, not only in terms of cost, but also in technical solutions, social responsibility, etc., are selected.

The Badagry project will also benefit from the consortium's well established existing procurement frameworks and relationships we have with the leading suppliers around the globe. This will help the project to:

- Sustain cost reductions achieved during construction and operations.
- Reduce price and availability risks in the supply chain.
- Provide Value for Money in terms of what is procured and the price at which it is procured.
- Leverage supplier relationship management to get more value from the supply base.
- Better manage knowledge and information in order to support responsible procurement.

## SECTION 9

### *CONCLUSION*

## Section 9: Conclusion

### 8.4 Conclusion

The BPD L believes that the Badagry Port project will not only bring tremendous benefits to the Badagry axis of Lagos State, but will also rapidly ensure that Nigeria takes its place on the world stage as one of the most advanced nations in the global maritime sector. Considering the benefits of the project which include the following;

1. Creation of additional multipurpose port capacity in Nigeria and its attendant impact on import and export trade and creation of jobs
2. Ability to accommodate larger and bigger vessels of the future
3. Facilitation of trade and national development
4. Improved diversity of cargo
5. Increased competition as a result of increased capacity and its ability to drive down rates at the ports thereby reducing cost of goods in Nigeria
6. No investment required by Government or any of its agencies

We believe that approving this project will be a major catalyst for economic growth in Nigeria.

## APPENDIX

## **Appendix 1: Bill of Engineering Measurements & Evaluation**

## Appendix 2: Rates Assessment Report

### **Appendix 3: Cadastral Drawings of Badagry Port**

## Appendix 4: Certificate of Occupancy and Survey Plan



**LAGOS STATE GOVERNMENT**

Governor's Office  
Lands Bureau  
Directorate of Land Services  
The Secretariat,  
Ikeja, Lagos, Nigeria  
P.M.B. No. 1613, Ikeja

Enquiry Line: 01-7911586  
Telephone: 4979030-9  
Telegram: GOVLAG

---

Ref. No.: ..... KL 9802 ..... Date: ..... 6<sup>th</sup> June, 2014.

**The Managing Director,**  
Badagry Port Development Limited,  
Plot 45, Block 72 Babatope Bejide/  
Ladi Alakija Avenue,  
Off Admiralty Way,  
Lekki Phase I,  
Lagos.

Dear Sir,

**APPLICATION FOR STATE LAND IN BADAGRY FOR PROPOSED BADAGRY DEEP SEAPORT.**

Further to your application letter dated 12<sup>th</sup> November, 2012 I write to inform you that His Excellency the Governor of Lagos State Mr. Babatunde Raji Fashola (SAN) has graciously considered and approved the allocation of 400.904 Hectares within the Ganyinbo Scheme and 692.619 Hectares within the Gberefun Scheme both in Badagry Local Government Area subject to the following terms and conditions

- i) payment of all relevant Government Land Charges,
- ii) Compliance with the Ministry of Physical Planning Land Use regulations and the State Master Plan.
- i) Compliance with all State Environmental Laws and regulations.

2. Furthermore I write to state that the Survey Plan ref. No. LS/D/BG/054 containing the said two parcels of land is hereby attached for ease of reference.

3. Accept our Congratulations.

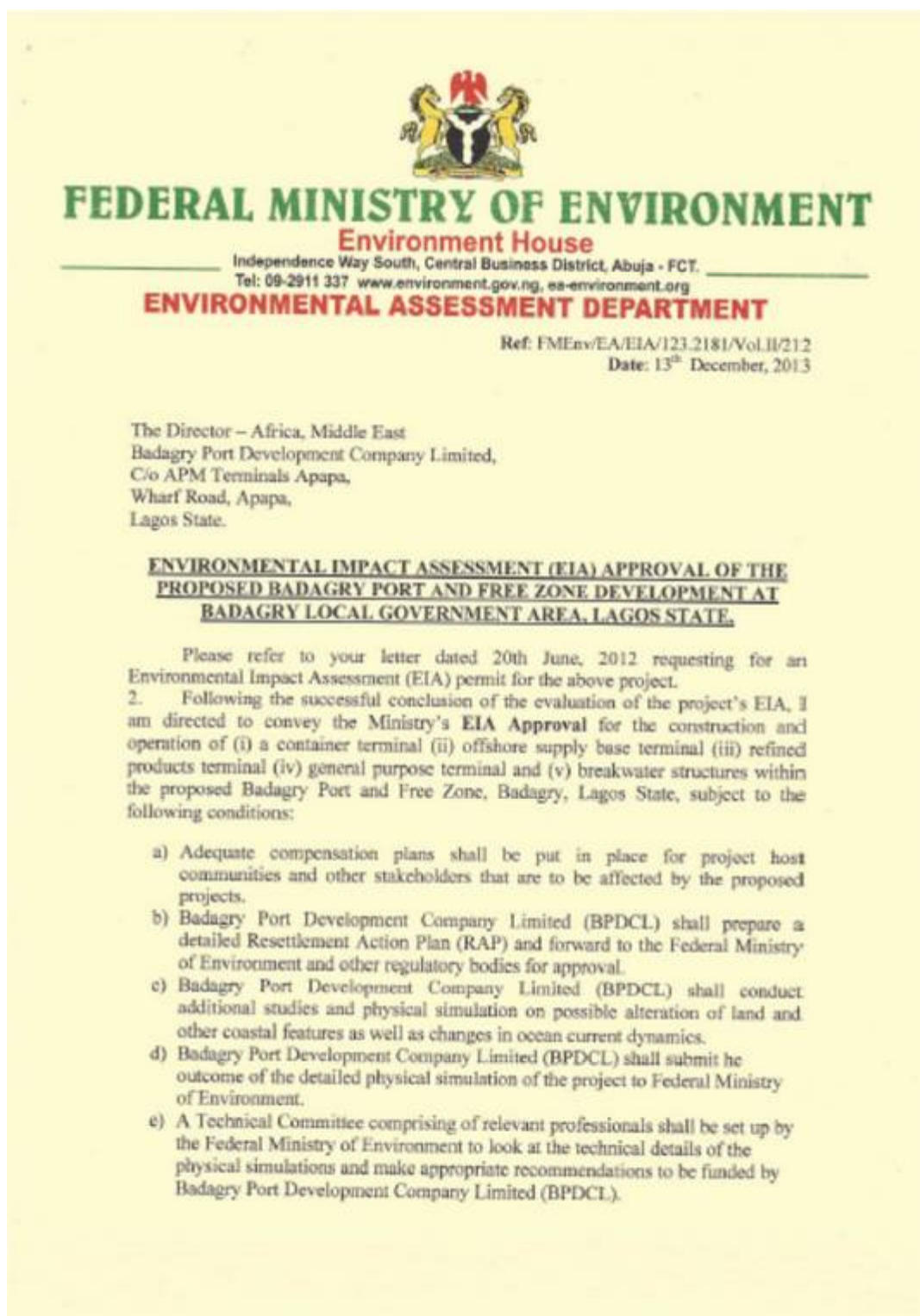


**HAKEEM MURI-OKUNOLA,**  
Permanent Secretary, Lands Bureau.





## Appendix 5: Environmental Impact Assessment Approval



Continuation Sheet

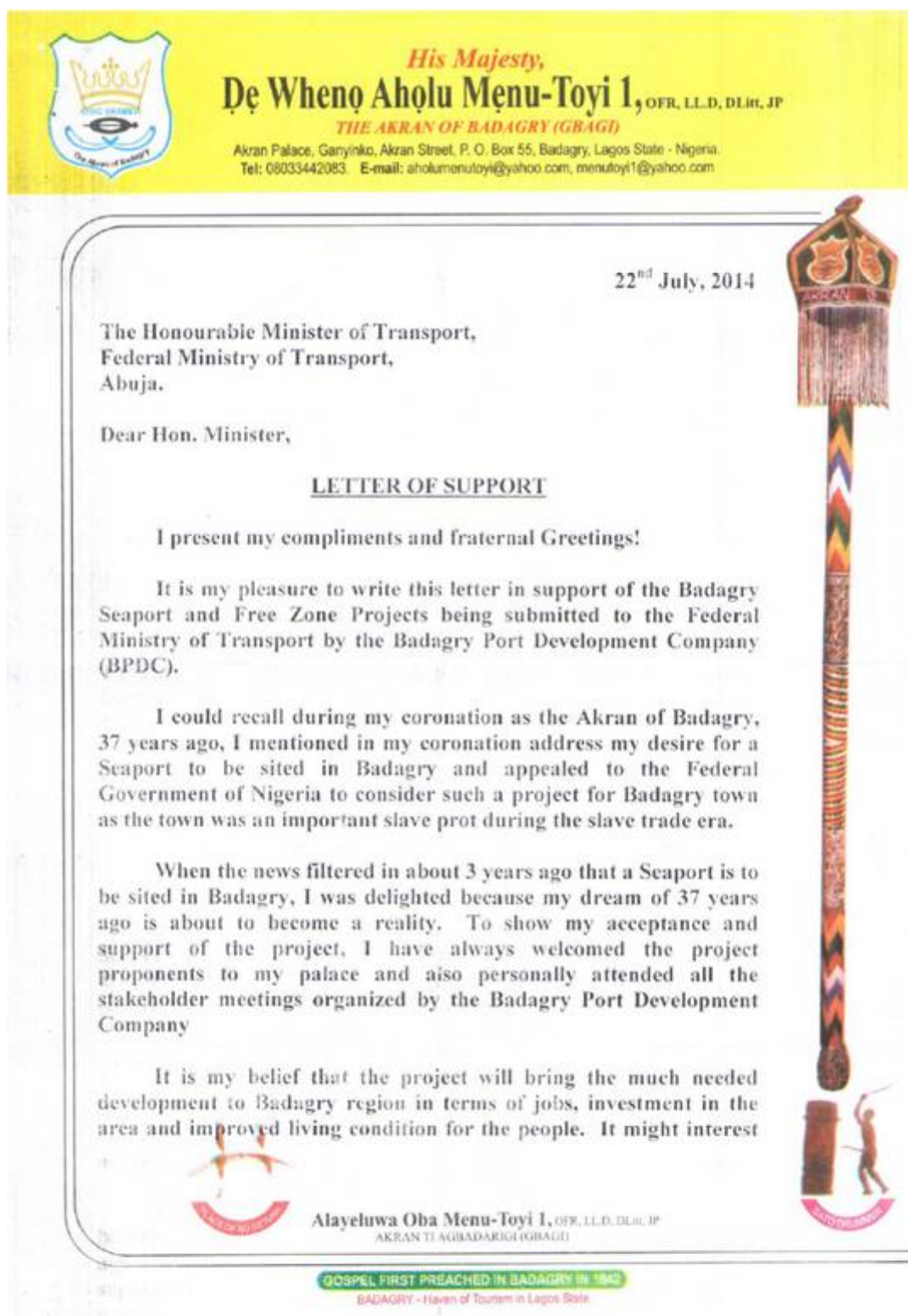
- f) There shall be regulatory presence during the physical simulations i.e. the Federal and State Ministry of Environment officials.
  - g) Badagry Port Development Company Limited (BPDCL) shall clearly define dredge areas, depth of dredging and management of dredge spoils
  - h) Badagry Port Development Company Limited (BPDCL) shall put in place long-term plans to curb coastal erosion and management, as well as maintenance of changes in shoreline of the entire coastal area of the project.
  - i) Badagry Port Development Company Limited (BPDCL) shall ensure the integration of the project into the Lagos State Development Plan as well as submit to the Lagos State Ministry of the Environment, a Traffic Management Plan for the Port and Free Zone Development. A copy of the plan shall be forwarded to the Federal Ministry of Environment.
  - j) Badagry Port Development Company Limited (BPDCL) shall prepare an adequate Contingency Plan which shall be submitted to the Federal Ministry of Environment.
  - k) Badagry Port Development Company Limited (BPDCL) shall embark on continuous consultations with the project's host communities, relevant authorities and other stakeholders throughout the lifespan of the projects.
  - l) Badagry Port Development Company Limited (BPDCL) shall present detailed Corporate Social Responsibility (CSR) plans to the Federal Ministry of Environment.
  - m) Badagry Port Development Company Limited (BPDCL) shall enter into Memoranda of Understanding (MOU) with relevant stakeholders.
  - n) The Federal Ministry of Environment (FMEnv) shall participate in the Design Reviews, Hazard and Operability Studies (HAZOP), Hazard Identification Study (HAZID) and Proponents' operational Port facilities inspection.
  - o) The Federal Ministry of Environment (FMEnv) in collaboration with other relevant regulatory authorities shall carry out EIA Impact Mitigation Monitoring (IMM) on the projects. This shall be facilitated by Badagry Port Development Company Limited (BPDCL).
  - p) Badagry Port Development Company Limited (BPDCL) shall fully apply a robust Environmental Management Plan (EMP) for the project.
  - q) There shall be full implementation of an Environmental Management Systems (EMS) for the project throughout the projects' lifespan.
  - r) There shall be Environmental Audits, Post Impact Assessments and Compliance Monitoring on the project to be approved by the Federal Ministry of Environment, (FMEnv), which shall be facilitated by Badagry Port Development Company Limited (BPDCL).
  - s) The validity of this approval is for one year, from the date of receipt, in order to enable the Ministry assess the satisfactory implementation of the conditions of the EIA Approval.
3. The Environmental Impact Statement (EIS) and Environmental Impact Assessment Certificate shall be issued to you in due course.
  4. Congratulations.

  
K.B. Odusanya

Ag. Director, Environmental Assessment Dept.  
for: Honourable Minister



## Appendix 6: Market Consultation Letters



you to know also that the project affected communities are in support of this project and this was further reinforced during another stakeholders' meeting held on 21<sup>st</sup> of July, 2014 at the Administrative Staff College of Nigeria (ASCON), Topo-Badagry.

In conclusion, I fully support the efforts of BPDC to deliver a world class deep seaport and free zone in Badagry to the benefit of the Local Communities, Lagos State and Nigeria at large.

Believe me to be,  
Very Respectfully Yours,



Gbonngan Schubu O. Ajese-Harrison  
The Setenme of Badagry Kingdom

For: His Majesty De Wheno Alamu Menu-Toyi I, OFR, LL.D, D.Litt, JP  
The Akran of Badagry Kingdom



*His Royal Majesty*

**OBA OYEKAN ADEKANMI AJOSE ILUFEMILOYE (J.P.) POSSI III**

Member Lagos State Council of Obas and Chiefs

Chairman Chieftaincy Committee, Badagry West L.C.D.A.

**THE ALAPA OF EGUN-AWORI APA KINGDOM**

Ojogun Royal Quarters Apa, Badagry West Local Council Development Area

Apa, Lagos State. Tel: 08056149053, 08060851517, 07040714243

23 July, 2014

The Honourable Minister of Transport  
Federal Ministry of Transport  
Abuja

Dear Sir,

#### Letter of Support for the Badagry Seaport Project

It is the wish of any traditional ruler for his domain to witness development as it has a long way to help foster peace and engender rapid socio-economic development. So when the news of a new deep seaport and free zone came to me, I welcome the project wholeheartedly. It is based on this that I write this letter of support for the seaport project to the Honourable Minister of Transport.

During the slave trade era, Badagry served as the seaport where slaves were shipped from Nigeria to Europe and the Americas; it is a thing of joy for me, therefore, that this dark era in our history is to be reversed with the establishment of a deep seaport. It is my prayer therefore that the Federal Government of Nigeria, through the Ministry of Transport to grant the Badagry Port Development Company (BPDC) the necessary permits needed to bring this project to reality.

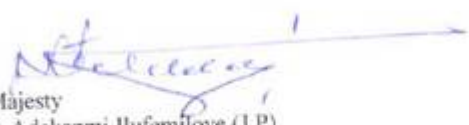
On Monday 21 July, 2014, I was present at the stakeholders meeting held at the Administrative Staff College of Nigeria (ASCON), Topo-Badagry and we are left with no doubt that the project benefits far outweigh the negative impacts to both the local communities and Nigeria as a whole.

As a Paramount Ruler, it saddens me that many productive youths in my domain are unemployed; I am aware of the potentials a seaport portends in terms of socio-economic development, job creation, infrastructural development and improved living conditions; so when this project kicks off, I can assure you that there is going to be a drastic reduction in



the number of unemployed youths, as well as an increased socio-economic activities in Badagry as a whole.

I hereby, once again, appeal to the Honourable Minister of Transport to accede to the demands of BPDC so that construction of the deep seaport can commence as soon as possible.

Sincerely,   
His Royal Majesty  
Oba Oyekan Adekanmi Ilufemiloye (J.P)  
Possi III, Alapa of Egun-Awori  
Apa Kingdom



Maersk Nigeria Ltd. (INC. 104041)  
Kazuma Place  
8th Floor  
2-4 Ede Street, Apapa Lagos  
PO Box 72354, Victoria Island,  
Lagos.  
Phone: +234 (0)1 9068100  
Fax: +234 (0)1 9068330  
www.maerskline.com

July 30, 2014

To Whom It May Concern

Dear Sir/Madam,

Re.: Deep Sea Port Project (Containers) - Badagry

The laden import container volumes have increased by an average compounded growth rate of 11% during the period 2006 – 2012 to reach 720,000 x 20' in 2013. As the Import/Export ratio is 12:1 this entails that around 650,000 empty 20' were repatriated through the container ports in Lagos (Apapa and Tincan) in 2013 and the balance were loaded out with export cargo. A grand total of 1,440,000 containers moved in – and out of Lagos in 2013.

Privatization and investments in the containers terminals of Apapa and Tincan have greatly increased handling capacity and efficiencies. Along with the deployment of larger vessel by the shipping lines it has helped to eliminate congestion and increase the vessel turnaround time in Lagos. This in turn has helped to facilitate trade and spur economic growth. Independent economist have quantified the resulting value to the Nigerian economy in the hundreds of millions USD.

In order for Lagos Port to continue to be an engine of economic growth we submit the following for consideration:

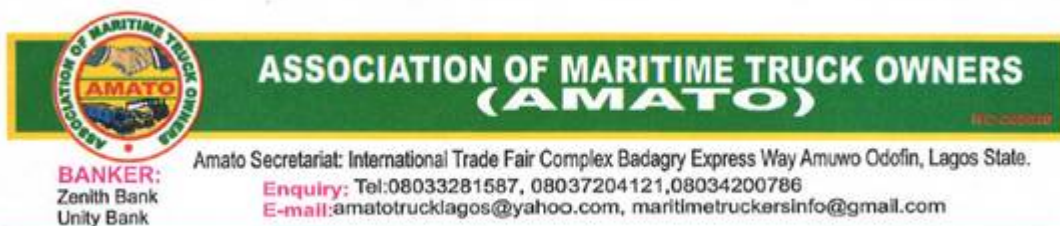
- If we estimate that historic growth rate of 11% will continue over the next 4 – 5 years, then the 1,440,000 twenty foot units will become 2,500,000 by 2018. This begs the question whether the existing Lagos terminals let alone the infra-structure behind the terminals will be able to sustain this kind of volume in an efficient manner
- The berths around Lagos port can only be dredged down to 13.5 meters – that is how they were structurally built many years ago. This makes 4,500 20' vessels the largest vessels that can be handled in Lagos absent huge structural investments to the quaysides. Neighbouring countries/ports (Lome, Cotonou and Kribé) have projects underway to establish deep sea ports with depth up to 16.0 meters and capable of handling vessels in excess of 10,000 x 20'. This will render the Port of Lagos uncompetitive with its regional competitors and will make the transport of goods to – and from Nigeria less economically viable

It has been brought to our attention that APM Terminals along with their partners are working on a mega port project in Badagry. In light of the afore-mentioned observations we would suggest that a deep sea container port outside the city centre ought to be a high priority for the government. We moreover consider Badagry a good location for a deep sea container port considering the planned road network, proximity to the main industrial areas in Lagos and availability of affordable land and real estate.

Yours faithfully,

Jan Thorhauge  
Managing Director  
Maersk Nigeria Limited





Date: 30<sup>th</sup> July, 2014.

**The Honourable Minister,  
Federal Ministry of Transport,  
Dipcharima House, Abuja. FCT.**

Dear Sir,

**RE INVESTMENT OF APM TERMINAL IN THE BADAGRY PORT DEVELOPMENT COMPANY (BADAGRY PORT AND FREE ZONE); SUPPORT BY AMATO.**

We the Executive Council and members of the rebranded Association of Maritime Truck Owners (AMATO), registered with the Corporate Affairs Commission and the platform with which logistics transport related business in the Ports is to be carried out for cargo owners, have being informed of the proposal by APM Terminal to invest in the above Port project, we wish to make the following submissions:

We are very much aware of the state of affairs of the infrastructure in the Lagos Port Complex and the Tin Can Island Ports and the inadequacy of the capacity of the Ports.

We know that in a matter of some years, the benefits of the concession, if proactive actions are not taken to develop a new Port in Lagos State, would result to chaos in the access roads to the Ports and the import and export business will be drastically affected.

We believe the new Port will be 'value for money' and would allow the trucking community and other big stakeholders to take delivery of cargo faster than is possible today.

The new Port in Badagry will bring the needed foreign direct investment (FDI) that will dissuade migration to urban centres and would be a credit to the Federal Government's Transformation Agenda.

This will be an incentive for the truckers to invest on more trucks, for more business and better return on investment.

Undoubtedly, the new Port will help to put Nigeria in the same league as other international Ports like Rotterdam and Shanghai etc.

Honourable Minister, based on the above, we are highly encouraged to support the business decision of APM Terminal to invest in the Badagry Port and Free Zone development.

Please be rest assured of our esteemed regard.

**Chief Remi Ogungbemi**  
National President

**Chiaka Nwaogu**  
General Secretary

*Motto: Togetherness makes a perfect team*



**DAG MOTORCYCLE  
INDUSTRIES NIGERIA LIMITED**  
*Motorcycles-Three Wheelers-Spare Parts*



30<sup>th</sup> of July 2014

To,  
The Ministry of Transport  
Federal Government of Nigeria,  
Abuja

Dear Sir / Madam

**Sub: Badagry Mega Port Development Programme**

Nigeria urgently needs a new port. The congestion around the two Apapa and TinCan Island port complexes has become so bad that it is now a serious impediment to not only our company's ability to conduct its day to day business, but also to the ultimate growth of Nigeria.

It has been brought our attention that the Badagry Ports Development Company has developed a solution to this problem and now aims to deliver a new, modern facility in 2018. We only hope that it could come sooner and based on our previous experience working with some of the consortium members behind this development, we are highly confident that they will deliver the project in a manner that the Government will find beyond acceptable.

By bringing port capacity outside of the city toward the more rural areas, we expect to be able to take delivery of our cargo at a faster pace than we are able to do today. This will be a tremendous benefit to our business and other importing businesses similar to ours.

To that end, we thank you in anticipation of your full support on the development of the Badagry Mega Port Project at the earliest.

Yours Faithfully,

**For DAG Motorcycle Industries Nig. Ltd.**

  
Avinash Daryanani  
General Manager

Plot No. 122-132, Afprint Industrial Estate, Apapa-Oshodi Expressway, Isolo, Lagos.

**MANUFACTURERS  
ASSOCIATION  
OF NIGERIA**



MAN HOUSE: 77, Obafemi Awolowo Way, Ikeja, P. O. Box 3835, Marina, Lagos State. Tel: 01-4542700/1  
E-mail: [man@manufacturersnigeria.org](mailto:man@manufacturersnigeria.org) Website: [www.manufacturersnigeria.org](http://www.manufacturersnigeria.org)

August 21, 2014

Honorable Minister of Transport  
Federal Ministry of Transport  
Dipcharima House, Central Business District,  
P.M.B. 0336,  
Garki - Abuja.  
Nigeria

*Itan Minister*

**BADAGRY PORT & FREE ZONE PROJECT**

We write in respect of the Badagry Port & Free Zone Project ("the Project") being developed by the Badagry Port Development Company ("the Company").

**BACKGROUND**

Port facilities in Nigeria, particularly in and around Lagos State have received considerable attention in recent times, due to the increasing congestion in the surrounding areas which is crippling businesses, increasing security concerns and hampering free flow of trade.

The project which is meant to alleviate congestion around the Ports of Lagos (Apapa and Tin-can Island) is to create platform for sustainable national and regional developments. The Project was also conceived to cater for the impending requirements and mitigate the identified challenges.

We recall that early in 2012, your Ministry also sited the then proposed Badagry Port project as an example of a public-private partnership development which would help to address congestion and establish Nigeria as a maritime trading hub for West and Central Africa. We have since followed events around the area, particularly with respect to your commitment as expressed in the keynote address at the 12th Maritime Seminar for Judges in Abuja in June, 2012.

Chief Kola Jamodu, OFR, President Chief L. A. O. Osayemi, MON, Hon. Treasurer Remi Ogunmefun, Director General



#### THE PROJECT: CONSIDERATIONS AND BENEFITS

We were informed that the Project seeks to develop a new greenfield mega-port project and Free Trade Zone at Badagry. We were also informed that at full build-out, the deep-water full-service port will be one of the largest in Africa with 7 km of quay and 1,000 hectares (2,470 acres) of dedicated yards which is expected to include state-of the art facilities for container, bulk, liquid bulk, Ro/Ro and general cargo as well as oil and gas operations support. The Project is also expected to include a power plant, oil refinery, industrial park, barge terminal and Inland Container Depot.

The Manufacturers Association of Nigeria (MAN) and our esteemed members will be willing to patronize the proposed Badagry Port as it will provide an additional facility to the already congested ports at Apapa and Tin-Can.

MAN is of the opinion that the economic importance and value of the Project to manufacturing will be highly beneficial, particularly in reducing cost of doing business and ease of operations. Furthermore, the Project is poised to, not only bring much required investment and economic intervention to the Badagry area and Nigeria in general, but it will also create employment opportunities at all levels.

We, as a stakeholder, are in favour of the project because of the benefits stated above.

Please accept the assurances of our esteemed regards and highest consideration.

Yours faithfully,

  
Chief Kola Jamodu, OFR  
President,  
Manufacturers Association of Nigeria

## Appendix 7: Independent Bankability Report – Zenith Bank

### WORKING PAPER: BANK FUNDING/ INVESTMENT IN \$2.76BN BADAGRY PORT DEVELOPMENT COMPANY LTD MEGA DEEP SEA PORT AND FREE ZONE GREENFIELD PROJECT

#### BACKGROUND

Badagry Deep Sea Port and Free Zone is a green field project being promoted by the Badagry Port Development Company Ltd (BPDC) under a Public Private Partnership (PPP) model with the Nigerian Ports Authority (NPA) and the Federal Government of Nigeria (FGN). The objective is to develop and complete a Deep Sea Port with manufacturing and Industrial parks along the Badagry axis by 2018. On completion, the port will be the largest in West Africa and one of the largest in Africa covering 620 hectares of dedicated Port facilities and 4 km of Quay.

The Lagos State Government has issued the Certificate of Occupancy for the planned area of concession. Processing of other approvals by the State and Federal Government authorities are at different advanced stages e.g. Free Trade Zone Status and 50 year lease/concession/management agreement with the NPA/FGN (with automatic option for upward review to 99 years).

The 10 lane Badagry F100 freeway road project will complement the BPDC Mega Port Project.

#### Total Project costs:

Phase 1	\$1.73 billion (for common Infrastructure)
Other phases and upgrade over the concession period -	\$1.03 billion (for common infrastructure)
Full build	\$2.76 billion

#### SPONSORS OF THE PROJECT

PRIMARY SPONSORS	
COMPANY	REMARKS
APM Terminals	Company is one of the world leading port operators and developers with a global network over 70 ports and 168 inland services across 68 countries
Orlean Invest	This is the parent company of Intels. They manage and operate the world's largest oil & gas free trade zone in Onne Rivers along with other ports in the country with turnover over \$1bn p.a.
OandO	OandO is now one of the leading indigenous oil companies in Nigeria with operations in the downstream, midstream and upstream oil sectors
OTHER PROJECT SPONSORS	
Terminal Invest Ltd.	TIL is one of the largest and most geographical diversified terminal operators in the world operating 28 terminals and 2 green field terminals across 19 countries, some are the largest in the world. MSC Mediterranean Shipping Company is their main customer
Macquarie Group	A multinational company and a global provider of banking, financial, advisory, investment and funds management services.

Zenith is a major banker to the first three primary sponsors who own about 80% of the project. The sponsors will become equity stakeholders in the project.

Other technical advisors involved in the project are Dredging International, Royal Hasloning, Trevi, Fugro, DEEP, B.V., Prodeco, Pro-Natura International, Five Oceans, ENVACCORD, Argenti Capital Partners, CPCS Transcom etc.

## **PROJECT RATIONALE**

### **1. Demand Pressure for expanded port infrastructure:**

- a) The present congestion in Lagos Ports point to a future national emergency. Access to and from the existing Ports will continue to be difficult and might grind business activities in Lagos to a halt by 2016, if new ports are not established quickly.
- b) According to market Research, demand for use of Lagos Ports will far outstrip supply by 2017. Lagos Ports handle 75% of the country's imports and 90% of non-oil exports by weight respectively.
- c) Container cargo traffic through Lagos ports are projected to double from 1.6 million p.a. over the next 5 years and top 10 million over the next 30 years.
- d) Upcoming oil and non-oil related projects in Lagos area and wider Nigeria will create even more demand for cargo.

### **2. Economies of scale:**

- a) Need for a deep water port to accommodate bigger vessels with significantly higher cargo hauling capacity – Vessels calling at Nigeria's ports require 12.5 meters draft. Beyond 5 years, the draft required will be in excess of 16.5 meters.
- b) Deeper draft will increase patronage and competition among the shipping lines calling at Lagos ports that have been starved of scale to optimize returns. The new port will also serve the needs of land-locked countries like Niger, Mali, Chad, etc.

### **3. Efficiency in port operations**

The Badagry port will provide modernized cargo handling facilities and terminals. These along with deepwater alternative, are already the norm in other countries. This guarantees efficiency, quality and effectiveness in the delivery of port services, especially improved turn around.

### **4. Healthy returns dynamics for the project sponsors.**

The Port is estimated to generate over \$10b in revenue as from 2019.

### **5. Catalyst for Nigeria's sustainable growth and Regional port hub status**

- a) Nigeria's is forecasted to achieve one of the highest average GDP and population growth in the world over the next 35 years with increased demand for port handling capacity. An ultra-modern port and free zone will create the platform for continued national and regional development.
- b) Will support the global supply chain of Nigeria's current and future leading corporate brands.

## PROJECT SCOPE/ FINANCIAL FORECASTS

- Common infrastructure will include roads, breakwaters, Jetty construction, fenders and bollards, main port gates, dredging and disposal works, navigational aids, vessel traffic management system, a port administration & office building, enabling works barge terminal, central lighting other necessary amenities.
- Planned terminals include a container terminal, offshore supply base, refined products terminal, general purpose terminal, barge terminal, small craft facility, and Tank farms.
- The Project is planned to reside within a free trade zone consisting of a logistics park, industrial park and housing complex etc.
- Projected operational cash flows over a 50 year concession period are \$90bn.\*\*
- NPV IS \$579mn over 50 years and Internal Rate of Return of 13.4%\*\*

*Diverse factors/challenges can adversely affect the forecasts on sustainable traffic at the ports.*

## CURRENT PROJECT UPDATE

The sponsors have spent \$13 million thus far on feasibility studies, research work, technical designs and other preliminary expenses on community liaison and seeking government approvals. This investment is an indication of strong faith by the sponsors in the Nigerian economy.

## FUNDING MIX

Equity	– 40%	\$69.3mn
Debt financing (Local commercial banks + offshore banks/multilateral institution funding)	- 60%	<u>\$1.04bn</u>
<b>Phase 1 investment</b>		<b><u>\$1.73bn</u></b>

## POTENTIAL CHALLENGES

### 1. *Viability of the project:*

- Competition challenges e.g. from the proposed Lekki Port development.
- Traffic congestion on access roads from Badagry into Lagos and other parts of Nigeria may undermine patronage.
- Lagos State Govt. may suspend or walk away from the F100 Badagry Expressway project.

### 2. *Funding and Non-recourse to sponsors.*

- Sole reliance on the Port' cash flows may create heavy challenges to securing debt funding.
- Equity commitment of the sponsors has not been disclosed. A sponsor may vary their commitment, which will gravely undermine the project.



3. *Securing full regulatory approvals.* e.g. Lack of Free Zone Status will create tax liabilities that will derail the project's cash flows.

### **BANKABILITY OF THE PROJECT**

The project is bankable.

This will be eased by a relaxation of the non-recourse (to sponsors) clause while seeking debt financing from commercial banks. This will also strengthen belief in the sponsors' commitment to the project.

With the commitment of the sponsors (and the Lagos State Government), their reputation and access to alternative offshore and local debt capital, the BPDC will have diverse source of funding alternatives to ensure the success of the project. Zenith is willing to assume a lead role to co-ordinate and arrange the debt financing required.

We therefore propose as follows:

1. Zenith will inform the BDPC and the other primary sponsors of the bank's interest as a financial partner in the project in order to be updated on key milestones in the pre-development phase.
2. Funding options
  - a) Zenith assumes lead bank position in a loan syndication arrangement. This will include intermediation in securing offshore financing.
  - b) Sponsors relax no-recourse expectation - Project is broken down into small contract packages, which will enable the bank avail loans to BPDC Sponsors in line with their agreed equity contributing ratio.
  - c) Create a Debt Portfolio into which the major sponsors will make their contribution and also seek for financial support from banks to meet a target amount that would be sufficient to fund the project; or make such contributions that would be enough to complete any given phase, assuming the project is to be broken down into milestones/multiple phases.

Thank you.



## Appendix 8: LOI to finance the Project – IFC



September 2, 2014

Patrick Bird  
Badagry Port Development Company  
Flat 27, Block 77  
Admiralty Way  
Lekki Peninsula Scheme 1  
Lagos, Nigeria

### Nigeria: Badagry Port and Free Zone

Dear Mr. Bird:

We understand that Badagry Port Development Company (the "Company") is in the process of negotiating a concession (the "Concession") with the Nigerian Ports Authority for the development of the Badagry Port and Free Zone near Lagos, Nigeria (the "Project"). We also understand that you may have an interest in working with the International Finance Corporation ("IFC") in developing financing options for the Project.

Based on the preliminary information provided, IFC is interested, in principle, in the Project, subject to the confirmation of its economic and financial viability, the meeting of appropriate legal criteria and environmental standards, and sufficient support from all parties involved.

Should the Company succeed in finalizing the Concession, IFC would be pleased to consider providing financing to, and helping raise all of the other debt financing required for, the Project on mutually acceptable terms. As you know, any investment by IFC would require a detailed appraisal, the approval of IFC's Management and Board that its participation is consistent with its objectives and policies, and that there be no objection from the Government of Nigeria.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'Ian Twinn', is positioned above the printed name.

Ian Twinn  
Manager

Global Infrastructure and Natural Resources



## Appendix 9: Full Lifecycle Financial Model

## **Appendix 10: MOU between Primary Project Sponsors of BPD**

DATED 14 September 2014

APM TERMINALS B.V.

- and -

BADAGRY PORT DEVELOPMENT LIMITED

- and -

OANDO PLC

- and -

ORLEAN INVEST WEST AFRICA LIMITED

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MEMORANDUM OF UNDERSTANDING

relating to

**BADAGRY PORT  
PROJECT**

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HF/WT/IN/02945363-2

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THIS MEMORANDUM OF UNDERSTANDING is made on 14<sup>th</sup> day of September 2014

BETWEEN:

- (1) **APM TERMINALS B.V.** a company incorporated in the Netherlands with company number 24334277 and having its registered office at Turfmarkt 107, 2511 DP The Hague, The Netherlands ("APMT");

AND

- (2) **BADAGRY PORT DEVELOPMENT LIMITED** a company incorporated in the Federal Republic of Nigeria with company number RC 1068718 and having its registered office at Plot 27, Block 77, Admiralty Way, Lekki Phase I, Lagos, Nigeria ("BPDL");

AND

- (3) **OANDO PLC** a company organized and existing in Lagos, Nigeria, whose registered address is situated at 2, Ajose Adeogun Street, Victoria Island ("Oando");

AND

- (4) **ORLEAN INVEST WEST AFRICA LTD** a company registered under the laws of the Federal Republic of Nigeria, whose registered address is situated at Onne Oil & Gas Free Zone, Onne, Rivers State, Nigeria ("Orlean").

together hereinafter referred to as the "Parties" and each individually, a "Party".

WHEREAS:

- (A) The Parties have proposed the project (the "Project") of investing in, planning, designing, equipping and operating (i) a new port facility to be developed at a Greenfield site at Badagry, Nigeria into a new-build deep water full service port designed for container, bulk, liquid bulk, Ro/Ro and general cargo as well as oil and gas operations support and a barge terminal (the "Port")
- (B) The Parties have reached a preliminary consensus and confirmed their interests in relation to the Project.
- (C) The Parties have agreed to enter into this Memorandum of Understanding ("MOU") to formalise their preliminary understanding with respect to the Project, outline the terms and conditions under which the Parties wish to progress the Project and to regulate the relationship between the Parties during the development of the Project, subject to any subsequent Project Documents.

NOW IT IS HEREBY AGREED as follows:

**1. DEFINITIONS & INTERPRETATION**

**1.1** In this MOU the following expressions have the following meaning unless inconsistent with the context:

**"Affiliate"** means:

- (a) in relation to a body corporate, any subsidiary or holding company of any tier thereof and any subsidiary of any tier of any such holding company or any entity, which Controls, is Controlled by, or is under the common Control of any or all of the above entities; and
- (b) in relation to an individual, any other individual, partnership, trust, company or other entity in relation to which that individual has Control, is Controlled by, or is under the common Control of any or all of the above entities and any spouse or child of such individual;

**"Controlled"** and **"Control"** means the holding of power to direct or cause the direction of management, policies and decisions of a company, corporation or other entity including, without limitation, through control by direct or indirect means fifty per cent. (50%) or more of the voting rights in such company, corporation or other entity; and

**"Group"** means in respect of each of the Parties, a Party and its Affiliates.

**1.2** In this MOU unless the context otherwise requires:

- (a) words in the singular include the plural, and vice versa;
- (b) words importing any gender include all genders;
- (c) a reference to a person includes any individual, firm, company, corporation, government, state or agency of a state or an association or partnership (whether or not having separate legal personality) or two or more of the foregoing and any other legal entity;
- (d) references to Recitals, Clauses, Sub-Clauses and Schedules in this MOU are to recitals, clauses, sub-clauses and schedules of this MOU, unless expressly stated otherwise. The Schedules of this MOU shall form an integral part of this MOU;
- (e) headings to Clauses, Sub-Clauses and Schedules in this MOU are for convenience of reference only and are not to be taken into account in the construction or interpretation of this MOU; and
- (f) references to any agreement or deed or other instrument shall be construed as a reference to such agreement, deed or other instrument as the same may from time to time be amended, varied, supplemented or novated.

2. **SALE OF LAND**

2.1 BPD.L shall take all reasonable steps necessary to procure the grant of a Certificate of Occupancy in its favour in respect of the land suitable for the realisation of the Project outlined in red on the plan included in Schedule 1 (the “**Land Plan**”) from the Lagos State Government. BPD.L shall also take all steps necessary to procure that under the terms of such Certificate of Occupancy:

- (a) BPD.L shall obtain clean and unencumbered title to the Land without any restrictive covenants or easements which may restrict or hinder either the intended use of the Land or the Project; and
- (b) BPD.L shall also obtain express assignment and subletting rights.
- (c) BPD.L shall use its best endeavours to obtain a waiver from the Lagos State Government of all fees and other existing regulations governing the grant of Governor’s consent in relation to the transfer of the Land (including consent fees, stamp duties, registration fees and all other charges) from BPD.L to BPFC.

2.2 BPD.L shall:

- (a) hold the main concession for the Port as concessionaire directly from the Nigerian Ports Authority, (“**NPA**”) entitling it to all rights in and to the development, operation and management of the Port (the “**Concession**”); and
- (b) obtain non-recourse project financing for the development of the Common Infrastructure (“**Financing**”).

2.3 BPD.L shall take all reasonable steps necessary to procure any resettlement of local inhabitants residing on the Land to a standard which would facilitate the financing of the Project.

3. **CONCESSION**

3.1 The Parties agree that the Concession (and, to the extent not contained in the Concession, the Agreement for the Grant of Rights of Use of the Foreshore) shall:

- (a) be granted by NPA as grantor in favour of BPD.L as concessionaire;
- (b) provide that BPD.L, in its sole discretion, , may grant any number of sub-concessions within the Port

4. **PROJECT STRUCTURE**

4.1 BPD.L

- (a) The parties agree that BPD.L shall:
  - (i) hold the Land in accordance with Clause 2;

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- (ii) be the concessionaire pursuant to the Concession including the right to collect and receive the majority of revenues in relation to the operation of the Port from customers of the Port and any terminals constructed pursuant to any sub-concessions;
- (iii) obtain the Financing for the Common Infrastructure and delegate the lead role in selecting, arranging and negotiating the Financing for the Project to APMT;
- (b) Oando, Orlean and APMT agree to subscribe in cash for shares in BPD L based on a valuation which Oando, Orlean and APMT shall agree in good faith and on the understanding that APMT shall be entitled to subscribe in cash for fifty-one per cent (51%) of the shares and Oando and Orlean shall subscribe in cash for such proportions as Oando, Orlean and APMT shall agree in good faith. APMT, Oando and Orlean shall contribute towards any costs which BPD L incurs in the performance of its duties in respect of the Project in proportion to their respective shareholdings in BPD L.
- (c) The arrangements under this Clause 4.1 constitute a joint venture between Oando, Orlean and APMT; and
- (d) such Parties agree that nothing herein contained shall constitute a partnership or unincorporated association between them and the relationship between them shall be that of shareholders in BPD L.

#### 5. SUB-CONCESSIONS

5.1 It is the intention of the parties that sub-concessions shall be granted in respect of:

- (a) a container terminal, an offshore supply base, a general purpose terminal, a barge terminal and a refined products terminal (the "Terminals") respectively operated by the Parties as set forth below;
  - (i) the container terminal shall be operated by APMT; and
  - (ii) the offshore supply base to be operated by Orlean; and
  - (iii) the general purpose terminals shall be operated by one of the Parties or shall be tendered out to a third party; and
  - (iv) the refined products terminal shall be operated by Oando.
- (b) Each of the sub-concessionaires of the Terminals shall be responsible for equipping and the construction of the requisite superstructure necessary for the operation of the Terminals;

#### 6. FINANCING

6.1 The Parties agree that APMT shall take the lead role on behalf of BPD L in selecting, arranging and negotiating the Financing for the Project with financiers on behalf of the Parties and subject to the consent of the Parties including any financing documents to be negotiated between BPD L and the financiers ("Financing Documents").

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- 6.2 The Parties agree that the Financing for the Project shall be obtained through and by BPDJ and agreed with financiers on a non-recourse basis on the understanding that the financiers shall only be entitled to repayments from the Project's cash flow on terms mutually agreed between the Parties and the financiers of the Project. For the avoidance of doubt no Party shall be obliged to provide any guarantee in respect of the Financing.
- 6.3 The Parties acknowledge and agree that the Project Documents and the structure of the Project as included in this MOU are intended to maximise the bankability of the Project with financiers.
- 6.4 The Financing shall be repaid by BPDJ based upon proportionate contributions by each of APMT, Oando and Orlean through the fees payable by each of the Terminals pursuant to their respective obligations under the relevant sub-concessions contemplated in Clause 5 and based upon a formula to be agreed between APMT, Oando and Orlean in good faith. .

7. **PROJECT COSTS**

- 7.1 Each Party will be responsible for their own costs associated with their respective contributions to the Project.
- 7.2 The Parties shall bear their own fees and disbursements of their professional advisers incurred in connection with the negotiation and preparation of this MOU.

8. **EPC CONTROL & STRATEGY**

- 8.1 BPDJ shall organise, arrange and coordinate the procurement strategy, including suitable completion guarantees and ensuring bankability of the Project.
- 8.2 BPDJ shall coordinate and select suitable contractors.

9. **CONDITIONS PRECEDENT**

The obligation of the Parties to consummate the transactions contemplated in this MOU and the Project Documents shall be subject to the fulfilment of the following conditions:

- (a) the identification and acquisition of the Land in accordance with Clause 2.1;
- (b) each Party having obtained the necessary approvals, power and authority to execute, deliver and perform its obligations under this MOU, the Project Documents, the transactions contemplated therein and in relation to the Project more generally, as follows:
  - (i) resolutions evidencing the authorisations; and
  - (ii) the issuing of any necessary announcements or circulars required by law or by any stock exchange or governmental, regulatory or supervisory body or authority of competent jurisdiction;
- (c) obtaining the following approvals in a form agreed by the Parties:



- (i) approval of the Environmental and Social Impact Analysis by the Nigerian Federal Ministry of Environment and the Nigerian Ministry of Petroleum Resources including approval of any arrangements for resettlement made in accordance with Clause 2.33;
- (ii) approval by the Nigerian Federal Ministry of Transport to the grant the Concession , and duly endorsed by the President of the Federal Republic of Nigeria;
- (iii) approval by the Nigerian Federal Ministry of Transport authorising the Nigerian Ports Authority to grant the Concession to BPD;L;
- (iv) approval by the Lagos State Government relating to the long lease of the Land required for the Concession;
- (v) approval of the lease for registration by the Registrar of Titles and waiver of all payment of fees or any procedural requirements relating thereto;
- (d) the agreement by the Parties to a binding term sheet on Financing;
- (e) the agreement by the Parties to the construction strategy as recommended by BPD;L;
- (f) the performance by each of the Parties of their obligations in accordance with the terms and conditions contained in this MOU; and
- (g) Such other approvals as are required for this Project.

#### 10. ANNOUNCEMENTS

No Party shall make (nor permit any member of its Group to make) any public announcement or issue any circular in connection with this MOU, the transactions considered herein, the Project Documents or the Project without the prior written approval of all the other Parties (such approval not to be unreasonably withheld or delayed). This restriction shall not apply if and to the extent that the announcement or circular is required by law or by any stock exchange or governmental, regulatory or supervisory body or authority of competent jurisdiction. If this exception applies, the Party making the announcement or issuing the circular shall use its reasonable efforts to consult with the other Parties in advance as to its form, content and timing.

#### 11. EXCLUSIVITY & CONFIDENTIALITY

- 11.1 The Parties agree that this MOU is entered into on an exclusive basis and each Party hereby covenants, during a period of two (2) years commencing on the date of signature of this MOU, not to directly or indirectly or permit its Affiliates to, as an individual, consultant, partner, shareholder or in any other capacity, engage in negotiations with any third party for the purpose of participating in the Project or any other Greenfield port project in Lagos State competing for the same cargo, unless the relevant Parties are first offered an opportunity to jointly participate in a given Greenfield port project.

- 11.2 Each of the Parties shall at all times use its best endeavours to keep confidential (and to ensure that its employees, agents, subsidiaries, and the employees and agents of such subsidiaries, shall keep confidential) any confidential information which it may acquire in relation to any other Party to this MOU, the existence and contents of this MOU and the fact of a possible transaction between the Parties and shall not use or disclose any such information. The obligations of the Parties under this Clause 11.2 shall remain in effect for two (2) years after the expiration or termination of this MOU.

**12. TERM AND TERMINATION**

- 12.1 This MOU shall come into force on its date of execution and shall continue in force for a period of two (2) years or until determined by written agreement of the Parties whichever occurs first (the "Term").
- 12.2 Termination of this MOU shall be without prejudice to the accrued rights and liabilities of the Parties at the date of termination, unless waived in writing by agreement of all Parties.

**13. ASSIGNMENT**

- 13.1 The rights and obligations of any Party under this MOU may not be assigned without the prior written approval of the other Parties, except that each Party shall not unreasonably withhold its consent in the event that the other Party assigns, transfers or novates all or any part of its rights, benefits and obligations under this MOU to any of its Affiliates.
- 13.2 If an Affiliate ceases to be an Affiliate of the assigning Party, the assigning Party warrants that the assignment shall be fully reversed immediately.

**14. BINDING CLAUSES**

- 14.1 The obligations contained in Clause 11, this Clause 14 and Clause 16 of this MOU shall be binding on the Parties until the execution of each of the Project Documents or termination in accordance with Clause 12.

**15. GENERAL**

- 15.1 Save as otherwise expressly provided no modification, amendment or waiver of any of the provisions of this MOU shall be effective unless made in writing specifically referring to this MOU and duly signed by or on behalf of the Parties hereto.
- 15.2 This MOU may be executed in any number of counterparts, and by the Parties on separate counterparts, but shall not be effective until each Party executes at least one counterpart. Each counterpart shall constitute an original of this MOU, but all the counterparts shall together constitute but one and the same instrument.

**16. GOVERNING LAW AND DISPUTE RESOLUTION**

- 16.1 This MOU and any non-contractual obligations arising out of or in connection with it shall be governed by and construed in accordance with English law.

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