

BLUE ECONOMY: POTENTIAL FOR REBUILDING AND REPOSITIONING NIGERIA'S MARITIME INDUSTRY

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1. INTRODUCTION

Sir Walter Raleigh, an English adventurer pronounced thus as far back as the 19th Century:

"For whosoever commands the sea commands the trade; whosoever commands the trade of the world commands the riches of the world, and consequently the world itself."¹

Thus lies the importance of the seas and the concept of the blue economy in relation to economic development and prosperity.

The concept of '*Blue Economy*' was initially coined by **Professor Gunter Pauli**, an innovator who was committed to turning "dreams into reality".² In 1994, he was given the mandate by the United Nations (UN) prior to the Conference of Parties 3 (COP3) to consider future business models. The conference was held in Kyoto, Japan and culminated in the passing of the Kyoto Protocol, a response to concerns surrounding climate change.³ No doubt Professor Pauli must have considered the negative effect of climate change in the light of blue economy activities and the viability of policies that would engender economic growth and development through harnessing resources in the marine and blue economy whilst protecting the resources of the sea. In Professor Pauli's words:

"The world is in need of a new economic model. Who would doubt this? We need to find a way to meet the basic needs of the planet and all its inhabitants with what the earth produces. Many grand steps have been taking in the sustainability and green movement. The question we need to raise: Have we done enough? The answer: We have barely started and the debate should not focus on what is good and what is bad. The dialogue we have to engage in concentrates on "what is better"

...We, too, must evolve in our quest to become sustainable. Ecosystem provide the design principles for a more entrepreneurial and innovative "(Blue) Economy".⁴

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¹ 1892. See Genevieve Wanucha. "For whosoever commands the sea commands the trade." Published on MITMeche on 13th January 2014.

² See <https://www.clubofrome.org/member/paul-gunter/>

³ Gunter A. Pauli. The Blue Economy: 10 Years, 100 Innovations, 100 Million Jobs. Paradigm Publications, 2010. The concept subsequently gained widespread recognition during the 2012 Urban Center Summit, known as "Rio+20".

⁴ Gunter Pauli. The Blue Economy. Cover Story. NGOs-Key Players in Fighting Environmental Challenges. 4 Japan Spotlight. Page 14-15

According to the *Organization for Economic Cooperation and Development (OECD)*, it is estimated that the blue economy contributes \$1.5 trillion to the global economy annually which is projected to double by 2030.⁵ The blue economy provides over 31 million jobs with 40% of the world's population living near coastal areas.⁶ According to the estimates from the *African Union (AU)*, the blue economy currently contributes about \$300 billion to the continent's economy.⁷ Considering the abundant marine resources in Nigeria, the *Africa Blue Economy Alliance (ABEA)*, using the data from the *Nigerian Maritime Administration and Safety Agency (NIMASA)*, valued the Nigeria's untapped blue economy potential at a whopping sum of **\$296 billion**.⁸

Indeed, Nigeria with a coastline of 853Km, its oceans, maritime infrastructures and facilities including ports and inland waterways needs to unlock the key to harnessing these potentials as blue print to maximizing the economic benefits embedded in the blue economy. Commendably, in a bid to maximize the economic benefits inherent in the blue economy, President of the Federal Republic of Nigeria, Bola Ahmed Tinubu GCFR on the **21st day of August 2023** established a new **Ministry of Marine & Blue Economy** under the leadership of the Chief Adegboyega Oyetola CON.⁹

This paper seeks to highlight the potential of the blue economy in rebuilding and repositioning Nigeria's maritime industry drawing upon the experience of other maritime nations.

2. THE BLUE ECONOMY IN ECONOMIC DEVELOPMENT

The blue economy concept considers economic development and sustainable exploration of the marine ecosystem as compatible propositions.¹⁰ The concept reflects the wavering edge that exists between socioeconomic development and unconscionable environmental damage. The blue economy concept has been used in a variety of contexts, nevertheless, the concept principally includes a number of economic sectors and policies that work together to determine the proper use of marine resources. The concept aims to propagate the fusion of economic growth through ocean-related sectors/activities and the sustainable use of the marine ecosystem. It entails detaching socioeconomic activity and development from environmental degradation, as well as maximizing the benefits embedded in marine resources.¹¹

⁵ See The Organization for Economic Cooperation and Development. The Ocean Economy in 2030. Published on 27th April, 2018.

⁶ See The United Nations Environmental Programme Finance Initiative. In the Same Boat Finance, Inclusivity and Social Equity. Published on 7th April 2022.

⁷ Tom Okunomo. Nigeria's Blue Economy Prospects, Opportunities and Challenges. Published by the Punch Newspaper on 20th August 2023.

⁸ John Osadolor. Explainer: Blue economy and what it means for Nigerians. The Business Day Newspaper. 18th August 2023. <https://businessday.ng/features/article/explainer-blue-economy-and-what-it-means-for-nigerians/>

⁹ The Vanguard. Tamuno Lauds Tinubu over creation of Blue Economy Ministry. 20th August 2023. <https://www.vanguardngr.com/2023/08/tamuno-lauds-tinubu-over-creation-of-blue-economy-ministry/>

¹⁰ International Bank for Reconstruction and Development/The World Bank The Potential of the Blue Economy Increasing Long-term Benefits of the Sustainable Use of Marine Resources for Small Island Developing States and Coastal Least Developed Countries. 2017.

¹¹ Wairimu, E., and Khainga D., (2017). Kenya's Agenda in Developing the Blue Economy, Available at <http://kippra.or.ke/kenyas-agenda-in-developing-the-blue-economy/>

According to the **World Bank**, “blue economy” is the sustainable use of ocean resources for economic growth, improved livelihoods and jobs while preserving the health of ocean ecosystem.¹² To the **Centre for Blue Economy**,¹³ the concept has three related but distinct meanings which include, the overall contribution of the oceans to economies, the need to address the environmental and ecological sustainability of the oceans and the ocean economy as a growth opportunity for both developed and developing countries.¹⁴

The **European Commission** like the United Nations takes a wholly economical view of the blue economy concept. The commission defines the concept as “all economic activities related to oceans, seas and coasts. It covers a wide range of interlinked established and emerging sectors.”¹⁵ The activities commonly understood to represent the blue economy include maritime shipping, fishing and aquaculture, coastal tourism, renewable energy, water desalination, undersea cabling, seabed extractive industries and deep sea mining, marine genetic resources and biotechnology.¹⁶ These range of economic activities when properly harness has the potential of lifting Nigeria from its current 3.3% GDP annual growth to the projected 4.1% GDP annual growth in 2025.¹⁷

This potential has been acknowledged by various governments and as stated by **Professor Yemi Osinbajo**¹⁸ during the inauguration of the expanded Committee on Sustainable Blue Economy in Nigeria on the 21st day of January 2021 “there is no doubt that the blue economy is a new frontier for economic development and a means of diversifying the economy through the use of resources from oceans, seas, rivers and lakes for the well-being of the people.”¹⁹

¹²World Bank and United nations Department of Economic and Social Affairs 2017. The Potential of the Blue Economy: Increasing Long-term benefits of the sustainable use of Marine Resources for Small Island Developing States and Coastal least Developed Countries. World Bank Washington DC.

¹³ The Centre for Blue Economy (CBE) was founded in 2011 as a research center managed by the Middlebury Institute of International Studies (MIIS) in Monterey, California. The CBE research focuses on the Blue Economy. The CBE research primarily focuses on determining the factors that ensure sustainability and economics of oceans and coastal regions. The research at the center provides open-access data to different stakeholders, including businesses, governments, nonprofits that could help them to make decisions for managing ocean and coastal resources.

¹⁴ See the United Nations. Blue Economy Definitions. https://www.un.org/regularprocess/sites/www.un.org/regularprocess/files/rok_part_2.pdf

¹⁵Ibid

¹⁶ The World Bank. The Potential of the Blue Economy: Increasing Long-term Benefits of the Sustainable Use of Marine Resources for Small Island Developing States and Coastal Least Developed Countries. 2017; Grantham Research Institute on Climate Change and the Environment, the London School of Economics and Political Science. What is the blue economy? 16th May 2023. <https://www.lse.ac.uk/granthaminstitute/explainers/what-is-the-role-of-the-blue-economy-in-a-sustainable-future/>

¹⁷ Sienaert, Alexis; Joseph-Raji, Gloria Aitalohi; Saldarriaga Noel, Miguel Angel. *Nigeria Development Update: Seizing the Opportunity* (English). Washington, D.C.: World Bank Group. <http://documents.worldbank.org/curated/en/099062623065078024/P17990608d087c05f0868f041fca331108b>

¹⁸ The Former Vice-President of the Federal Republic of Nigeria 2015-2023.

¹⁹ John Osadolor. Explainer: Blue economy and what it means for Nigerians. The Business Day Newspaper. 18th August 2023. <https://businessday.ng/features/article/explainer-blue-economy-and-what-it-means-for-nigerians/>

3. BLUE ECONOMY: POTENTIAL FOR REBUILDING AND REPOSITIONING NIGERIA'S MARITIME INDUSTRY

Nigeria has a 200 nautical mile with 80% of her coastline made up of oil and biodiversity-rich Niger Delta. Nigeria reportedly has one of the largest wetlands in the world with her coastal and marine ecosystems covering a total of 70,000 square kilometers. These ecosystems are abundantly blessed with fish, forests, aquatic plants, coral reefs and aquatic birds, among other flora and fauna. *Dr. Bashir Jamoh*, the Director-General of the Nigerian Maritime Administration and Safety Agency (NIMASA), during the NIMASA Special Day at the 18th Abuja International Trade Fair stated that the blue economy will offer 350 million jobs to Nigerian citizens if adequately harnessed.²⁰ This goes to show the enormous blue economy potential and marine resources that can be explored in Nigeria through the maritime industry.

To maximize the abundant marine resources in Nigeria, achieve the above projected economic developments and reposition the Nigerian maritime industry among the best in the world through the blue economy concept, new lines of thinking need to be considered within a viable action plan including: **refocusing the attention of the Nigerian maritime industry beyond traditional maritime sector activities, sustainable use of marine resources, marine spatial planning, emergence as a center of maritime dispute resolution and tourism.**

A. REFOCUSING THE ATTENTION OF THE NIGERIAN MARITIME INDUSTRY BEYOND TRADITIONAL MARITIME SECTOR ACTIVITIES

The Nigerian Maritime Industry appears to be principally focused on oil and gas exploration and maritime transportation which accounts for about 95% of the vehicular means of Nigeria's international trade.²¹ The term "maritime" has been described as an all-encompassing term which covers all activities involving the sea and goes beyond shipping transportation.²² The Maritime Industry includes all maritime-related business activities ranging from off-shore activities such as fishing, salvage, towage and underwater resources to on-shore activities such as port activities, shipping, ship construction, repairs and maintenance activities.²³ Consequently, being an economic diversification concept,²⁴ the blue economy concept aims at redirecting the attention of stakeholders to emerging and redundant-traditional maritime activities that can be maximized for economic growth.

²⁰ The Business Day Newspaper. Nigeria's blue economy offers 350 million jobs-NIMASA boss. October 7, 2023 <https://businessday.ng/news/article/769304-blue-economy/#:~:text=%E2%80%9CThe%20Blue%20Economy%20is%20every,greater%20national%20awareness%20and%20participation>.

²¹ Faith A. E. The maritime Industry of Nigeria: Challenges and Sustainable Prospects. Danubius Working Paper 1(1). Retrieved from <https://journals.univ-danubius.ro/index.php/DanubiusWP/article/view/5825>; Nigeria Maritime Administration and Safety Agency (NIMASA). Nigeria's Maritime Industry Forecast 2018 – 2019. Theme: Emerging Opportunities and Challenges. Retrieved from https://nimasa.cybzity.com/wp-content/uploads/2019/08/nigerian_maritime_industry_forecast.pdf

²² L. Chidi Ilogu. Essays on Maritime Law and Practice. Published by ELCAM Integrated Services Ltd. Page 125.

²³ Atoyebi O. M. SAN. The Nigerian Maritime/Shipping Industry-Its Challenges and Prospects & Implications for Foreign Investment. Published 10th May 2022. Retrieved from <https://omaplex.com.ng/the-nigerian-maritime-shipping-industry-its-challenges-and-prospects-and-implications-for-foreign-investment/>

²⁴ UNDP. Blue Economy for Green Islands: Economic Diversification, Job Creation and Resilience. Barbados and the Eastern Caribbean. Retrieved from <https://www.undp.org/sites/g/files/zskgke326/files/2022-07/Blue%20Economy%20for%20Green%20Islands.pdf>

No doubt Nigeria's untapped blue economy potential as estimated at \$296billion can be explored beyond the confines of the traditional oil and gas activities to other largely unexplored and unutilized maritime sectors including: industrial fishing and aquaculture, shipbuilding, repair and ownership, port development and management and seabed mining/offshore wind energy.

I. INDUSTRIAL FISHING AND AQUACULTURE

The Nigeria industrial fishing sector has consistently recorded low production which necessitates large importation of fish to meet the growing demand. The paradox is that, despite having a coastline of 853km bordering the Atlantic Ocean, as well as fresh and mangrove swamps, creeks, costal rivers, estuaries, bays and near and offshore waters, Nigeria still depends on fish importation to meet most of her fish demands.²⁵

According to the 2016 Nigeria Fisheries Statistics report, the annual fish demand in Nigeria is estimated at 3.32 million metric tonnes while domestic production produces only about 1.12 million metric tonnes and the deficit of 2.2 million metric tonnes is largely supplied through importation.²⁶ Consequently, Nigeria is currently among the world's largest importers of fish. According to the 2017 report on Nigeria's fish production by the National Bureau of Statistics, out of 5.79 million tonnes of fish produced between 2010 and 2015 in Nigeria, industrial fishing contributes only 4% of fish production when compared to the fish production from other sectors like artisanal fishing and aquaculture.²⁷

Dr. Olajide Ayinla, the Former President of the *Fisheries Society of Nigeria (FISON)* in an investigative report carried out by the Earth Journalism Network stated that the low output from industrial fishing is due to the fact that most fishing vessels in Nigeria are old and are only capable of fishing at 0 to 50 meters below the sea level thereby limiting the capacity of exploring the high seas. He further mentioned that due to the extensive importation of fish and poor government regulations, investment in industrial fishing in Nigeria has long dwindled. Therefore, the high seas are mostly explored by foreign vessels who own larger and more suitable fishing vessels but mostly operate illegally. It is reported that Nigeria has been battling illegal, unreported, and unregulated fishing activities mostly perpetrated by foreign fishermen. As a result, it is estimated that Nigeria loses over **\$70 million** revenue with its attendant jobs to illegal and unregulated fishing. Dr. Olisa Agbakoba SAN also affirmed that illegal exploration of Nigerian waters is huge and can be estimated at about \$600 million - \$800 million yearly.²⁸

Aquaculture as an emerging maritime sector which is easily overlooked has recorded the fastest growth rate among the subsectors contributing the total domestic fish production in Nigeria

²⁵Kikiope Oluwarore. Nigeria: Importing fish amidst abundant ocean resources, the paradox of a nation. Earth Investigative Journalism. 29th April 2018. Retrieved from <https://earthjournalism.net/stories/nigeria-importing-fish-amidst-abundant-ocean-resources-the-paradox-of-a-nation>

²⁶Fisheries Committee for the Western Gulf of Guinea. Nigeria fishery statistics – 2016 Summary report. 17th June 2016. <https://fcwc-fish.org/uncategorized/nigeria-fishery-statistics-2016-summary-report>

²⁷National Bureau of Statistics. Nigeria's Fish Production (2010-2015). 2017. <https://nigerianstat.gov.ng/elibrary/read/509>

²⁸Dr. Olisa Agbakoba. Driving Economic Growth through Legal Innovations. <https://oal.law/driving-economic-growth-through-legal-innovations/>

between early 2000s to 2015. The subsector had a percentage rise in growth from 6% in 2003 to 20% in 2015 and contributes 25% of total fish production in 2019-2021.²⁹

Resuscitation of industrial fishing and development of aquaculture could be one of the low-hanging fruits of the blue economy that can be expeditiously explored. It has been recommended that the new Ministry of Marine and Blue Economy should take up and update the drafted *Nigeria's Fisheries Act 2014* (which establishes the Nigeria's Fisheries Commission) to reflect the current blue economy policy objectives.³⁰

At a recent meeting between a team of Agriculture experts and stakeholders of the Nigerian Fishery and Aquaculture sector in Abuja with respect to finalizing, validating and launching the first Fishery and Aquaculture Policy for Nigeria to operate from 2024 to 2028, the stakeholders advocate for the Fishery and Aquaculture divisions of the Federal Ministry of Agriculture and Food Security to be moved to the new Federal Ministry of Marine and Blue Economy where these divisions can optimize their potentials in propelling economic growth and development of the blue economy.³¹

II. SHIPBUILDING, REPAIR AND OWNERSHIP

According to the Market Reports World Global Shipbuilding Industry Research Report 2023, the global shipbuilding industry is worth \$167 billion in 2022 and it is projected to have a compounded annual growth rate (CAGR) of 5.45 percent between from 2022 and be worth \$229 billion by 2028.³² Ship building, ferry and speedboat construction are blue economy sectors which create jobs and generate revenues in countries like China, Japan, Denmark, South Korea, India, Russia, Germany, Norway etc. As at 2023, HD Hyundai Heavy Industries, the largest shipbuilding industry in the world employed 12,800 workers.³³

Regrettably, despite the economic potential of ship building, Nigeria is yet to tap into this potential. Approximately \$5.6 billion worth of vessels are reportedly imported into the country yearly to operate in oil and gas industries and the fishing industry.³⁴ According to the findings of Olusegun Adeniyi of This Day newspaper, as at 2022 there are only three functioning

²⁹ Dr. Abba Y. Abdullah. The role of fisheries in Nigeria's Blue-Economy policy agenda. Published by Blueprint Newspaper on 7th September, 2023. Retrieved from <https://blueprint.ng/the-role-of-fisheries-in-nigerias-blue-economy-policy-agenda/>; Food and Agriculture Statistics (FOASTAT)

³⁰ Dr. Abba Y. Abdullah. The role of fisheries in Nigeria's Blue-Economy policy agenda. Published by Blueprint Newspaper on 7th September, 2023. Retrieved from <https://blueprint.ng/the-role-of-fisheries-in-nigerias-blue-economy-policy-agenda/>

³¹ This Day Newspaper. Stakeholders Seek Integration of Fishery, Aquaculture into Blue Economy. Retrieved from <https://www.thisdaylive.com/index.php/2023/09/04/stakeholders-seek-integration-of-fishery-aquaculture-into-blue-economy>

³² Market Reports World. Global Shipbuilding Industry Research Report 2023, Competitive Landscape, Market Size, Regional Status and Prospect. Published on 18th January 2023. <https://www.marketreportsworld.com/global-shipbuilding-industry-research-report-2023-competitive-landscape-market-22357502>

³³ The Punch Newspaper. Positioning marine and blue economy for productivity 15th September 2023. <https://punchng.com/positioning-marine-and-blue-economy-for-productivity/>

³⁴ Ayoyinka Jegede. 'Government is frustrating local shipbuilding, capabilities.' An interview with Mr. IniEkong Charles Udonwa is the Executive Chairman of Norfin Offshore Shipyard Limited and Executive Chairman of Norfin Offshore Group, promoters of a new shipyard located at Oruk Anam, Akwa Ibom State. Guardian Newspaper. 7th May 2021. <https://guardian.ng/features/travel/government-is-frustrating-local-shipbuilding-capabilities/>

shipyards in Nigeria where minimal repairs of cabotage vessels of 500 tonnes are carried out³⁵ whereas there about 124 shipyards in the US across 26 states according to a 2021 Maritime Executive Report³⁶ and over 1000 shipyards in Japan according to data from the Japanese government.³⁷

Furthermore, ship repairs are done in neighbouring countries and faraway Turkey due to the inadequate facilities in Nigeria. According to the Businessday newspaper, developing a ship repair sub-industry capable of supporting the country's shipping business will save Nigeria about ₦300 billion yearly capital flight.³⁸ However, there are no serious dry-docking facilities in Nigeria, leading to capital flight consequent upon ship owners going to countries like Singapore, South Africa, Senegal, and Namibia, among others, to repair their vessels in line with the International Maritime Organization (IMO) guideline.³⁹ The Federal Government recently approved the concessioning of the ₦50 billion floating dockyard owned by the Nigerian Maritime Administration and Safety Agency (NIMASA) after 4 years of its acquisition in 2018.⁴⁰

The winding-up of the Nigerian National Shipping Line (NNSL) in the 90s took away ship-owning status from Nigeria, leaving the country's shipping business in the hands of foreigners.⁴¹ The Nigerian ship charter market is estimated to be worth at least \$10 billion annually, the majority of which is handled by foreign-owned ships. The enactment of the Coastal and Inland Shipping (Cabotage) Act in 2003 (20 years ago) led to the creation of the Cabotage Vessel Financing Fund targeted at providing financial assistance and ship loans to Nigerian ship-owners operating in domestic coastal shipping for the purchase of new vessels capable of taking control of the nation's cabotage trade, reducing job losses and capital flight. The intervention fund is derived from a 2% contribution made by indigenous ship-owners on the value of any Cabotage trade embarked on. Regrettably, the fund is yet to be disbursed to deserving ship-owners, which was why in December 2022, Former President Muhammadu Buhari approved the disbursement of the Cabotage fund currently at over \$350 million and

³⁵Olusegun Adeniyi. Squandermania Nigeria Unlimited! This Day Newspaper. <https://www.thisdaylive.com/index.php/2022/09/15/squandermania-nigeria-unlimited>

³⁶The Maritime Executive. U.S. Shipbuilding Industry Tops 110,000 Jobs. <https://maritime-executive.com/article/us-shipbuilding-industry-tops-110000-jobs>

³⁷Organisation for Economic Co-operation and Development (OECD). Peer Review of the Japanese Shipbuilding Industry. 2016. <https://www.oecd.org/japan/PeerReview-Shipbuilding-Japan.pdf>

³⁸Business Day Newspaper. How Shipside Dry-dock plans to end losses to capital flight in vessel repair. 27th may 2022; Olusegun Adeniyi. Squandermania Nigeria Unlimited! This Day Newspaper. <https://www.thisdaylive.com/index.php/2022/09/15/squandermania-nigeria-unlimited>; Business day Newspaper. FG finally approves concession of N50bn NIMASA floating dockyard. 4th January 2023. <https://businessday.ng/maritime/article/fg-finally-approves-concession-of-n50bn-nimasa-floating-dockyard/>

³⁹Business day Newspaper. FG finally approves concession of N50bn NIMASA floating dockyard. 4th January 2023. <https://businessday.ng/maritime/article/fg-finally-approves-concession-of-n50bn-nimasa-floating-dockyard/>; The International Maritime Organization demands that every vessel to dry-dock once in three years in order to retain their safety classification, insurance cover control emissions, and maintain ballast water system functionality.

⁴⁰The Cable. NIMASA: We're committed to ensuring Nigeria owns a shipping line. 5th November 2020. <https://www.thecable.ng/nimasa-were-committed-to-ensuring-nigeria-owns-a-shipping-line>

⁴¹Olusegun Adeniyi. Squandermania Nigeria Unlimited! This Day Newspaper. <https://www.thisdaylive.com/index.php/2022/09/15/squandermania-nigeria-unlimited>

N16 billion.⁴² Though NIMASA started the preliminary arrangements for the disbursement before the termination of the last administration, the fund is still far from being disbursed.⁴³

In 2020, it was reported that the Federal Government as part of efforts to encourage local participation in shipbuilding will commence the process of placing a ban on importation of certain categories of vessels into Nigeria by 2022.⁴⁴ Viable action needs to be taken in this respect as well as ensuring the adequacy of vessels through indigenous ownership in Nigeria. It is time that the government takes more purposeful steps to ensure the expeditious disbursement of the cabotage funds as approved to deserving Nigerian ship-owners, create a conducive policy environment for ship building and ownership through encouraging inflow of foreign investment instead of the persistent situation of capital flight.

III. PORT DEVELOPMENT AND MANAGEMENT

In December 2022, the Maritime Workers' Union of Nigeria (MWUN) declared a state of emergency on the shipping sector due to the intense pressure on the Lagos port facility and inadequate personnel. According to the Union, the Lagos port accounts for over 90% of import and export cargoes in Nigeria, the Federal Government was urged to initiate and compel the immediate expansion of other ports in the country, provide and procure port operational machineries that would enable the ports to function at maximum capacity and develop rail services infrastructures as an alternative means to movement of goods.⁴⁵

There are currently 7 Seaports in Nigeria: Apapa and Tin Can in Lagos, the Onne and Port-Harcourt ports in Rivers State, the Warri Port, the Calabar Port and the \$1.5 billion Lekki Deep Sea Port which was completed in November 2022.⁴⁶ Developing new ports will create a network of modern ports that can improve the turnaround time of vessels coming to Nigeria and further help to decongest the existing ones and create more jobs. For instance, the Lekki deep-water seaport is projected to create 300,000 jobs, generate direct and induced business revenue estimated at US\$158 billion, and reduce shipping bottlenecks.⁴⁷

As reported, there are currently five deep seaports that are at the planning stages, including the Badagry Deep Seaport in Lagos, Ondo Deep Seaport in Ondo State, Ibom Deep Seaport in Akwa Ibom, Bonny Deep Seaport in Rivers State and Benin River Port in Edo State.⁴⁸ The Badagry Port is considered a \$2.59 billion investment approved by the Federal Executive

⁴² NIMASA. Vessel Acquisition: President Buhari Approves Disbursement Of Cabotage Vessel Financing Fund. 11th December 2022. <https://nimasa.gov.ng/vessel-acquisition-president-buhari-approves-disbursement-of-cabotage-vessel-financing-fund/>

⁴³ Daily Trust Newspaper. FG Yet To Disburse N420bn Cabotage Fund 10 Months After Directive.

⁴⁴ The Guardian Newspaper. Nigeria to bar imported ships from 2022. <https://guardian.ng/business-services/maritime/nigeria-to-bar-imported-ships-from-2022/>

⁴⁵ The Guardian Newspaper. Maritime workers advocate ports expansion amid pressure on Lagos facility. 20th December 2022. <https://guardian.ng/business-services/maritime-workers-advocate-ports-expansion-amid-pressure-on-lagos-facility/>

⁴⁶ Noelle Okwedy. What's the problem with Nigerian ports? 11th November 2022. <https://www.stears.co/article/the-problem-with-nigerias-ports/>

⁴⁷ The Conversation. Nigeria's new Lekki port has doubled cargo capacity, but must not repeat previous failures. January 19, 2023. <https://theconversation.com/nigerias-new-lekki-port-has-doubled-cargo-capacity-but-must-not-repeat-previous-failures-197426>

⁴⁸ Business Day Newspaper. Five opportunities to tap from Nigeria's \$296bn blue economy. 26th August 2023. <https://businessday.ng/business-economy/article/five-opportunities-to-tap-from-nigerias-296bn-blue-economy/>

Council and has the potential to create about 250,000 jobs and attract foreign direct investment. It is expected to generate a total of \$53.6 billion in revenue over the 45-year concession period.⁴⁹

According to the United Nations Conference on Trade and Development (*UNCTAD*), how ports are managed has implications for economic growth, crisis response efforts, environmental protection and gender equality, thereby placing the development ports at the heart of sustainable development.⁵⁰ The role of functioning ports in the blue economy cannot be overemphasized as it connects other maritime sectors to international trade. Thriving maritime nations have several ports that encourage international trade and economic growth. For instance, according to the U.S Coast Guard, there are approximately 360 commercial ports that serve the United States.⁵¹ China which also has a thriving blue economy sector boast several ports of which 7 ports are recognized as one of the world's largest ports.⁵² Sadly none of the Nigerian ports has received any similar recognition.

IV. SEABED MINING AND OFFSHORE WIND ENERGY

The seabed mining and offshore wind energy are emerging sectors of the blue economy. The Secretary General of the International Seabed Authority (ISA), Mr. Michael Lodge at the 4th edition of the Africa's Deep Seabed Resources, ADSR, Sub-regional workshop (held in Abuja) was optimistic that Nigeria and Africa will benefit from deep exploration of Africa's seabed.⁵³ According to Professor T.R. Ajayi, Department of Geology, Obafemi Awolowo University, the seabed hosts a lot of mineral resources such as sand and gravel, phosphorous, sulphur, coal, oil and gas, manganese, nodules, and sulphide nodules which are highly sought after.⁵⁴

Acknowledging the mineral resources in the Nigerian seabed, the Former President, General Muhammadu Buhari in October 2022 stated that Nigeria will exploit the strategic mineral resources in its seabed through the adequate deployment of technology.⁵⁵

Aside from the offshore seabed mining, Nigeria also has offshore wind renewable energy in offshore areas like Lagos, Ondo, delta, Rivers Bayelsa and Akwa Ibom where there is strong wind energy throughout the year.⁵⁶ According to Wood Mackenzie, a global energy research firm, the Global investment in wind turbines hit \$74.2 billion in 2022, with 134.6 gigawatts

⁴⁹ Ibid.

⁵⁰ Why ports are at the heart of sustainable development 13 May 2022 <https://unctad.org/news/why-ports-are-heart-sustainable-development>

⁵¹ American Petroleum Institute. The Value of Maritime Transportation. <https://www.api.org/oil-and-natural-gas/wells-to-consumer/transporting-oil-natural-gas/oil-tankers/the-value-of-maritime-transportation>

⁵² Marine Insight. Top 10 Biggest Ports in the World in 2023. <https://www.marineinsight.com/ports/top-10-biggest-ports-in-the-world-in-2011/>

⁵³ This Day Newspaper. Blue Economy: 'Nigeria Stands to Benefit from Deep Seabed Exploration'. <https://www.thisdaylive.com/index.php/2022/10/14/blue-economy-nigeria-stands-to-benefit-from-deep-seabed-exploration>

⁵⁴ Prof. T.R. Ajayi. Mineral Resources of the Ocean. Paper Presented At The National Workshop On Ocean Data And Information Network Africa (ODINAFRCA). <https://aquadocs.org/bitstream/1834/272/1/AJAYI.pdf>

⁵⁵ <https://www.vanguardngr.com/2022/10/well-tap-our-seabed-resources-via-technology-buhari/>

⁵⁶ <https://businessday.ng/energy/article/nigeria-lags-as-global-wind-energy-investment-hits-74-2bn-in-2022/>

(GW) procured and dominated by activities in China.⁵⁷Nigeria can follow the example of Denmark to harness this blue economy sector to address its power crises, reduce its greenhouse gases emission (GHG) and ultimately improve the standard of living of the citizens. Denmark is currently planning the construction of two energy islands to explore its offshore energy potentials and generate renewable energy which can be exported to neighboring countries.⁵⁸

B. SUSTAINABLE USE OF THE MARINE RESOURCES

The blue economy concept consistently emphasizes the sustainable exploration and use of marine resources. The blue economy aims at safeguarding the ocean ecosystem while maximizing the economic benefits the ocean offers. This is in line with the *United Nations Sustainable Development Goal 14* which focuses on the conservation and sustainable use of the oceans, seas and marine development for sustainable development. Some of the targeted milestones of the Goal is that by 2025, marine pollution of all kinds, particularly pollution from land-based activities, including marine debris and nutrient pollution will be prevented and significantly reduced and by 2020, marine and coastal ecosystems will sustainably managed and protected to avoid significant adverse impacts, including strengthening their resilience, and taking action for their restoration in order to achieve healthy and productive oceans.⁵⁹

A sustainable blue economy is a marine-based economy which provides social and economic benefits for current and future generations, restores, protects and maintains the diversity, productivity, resilience, core functions and intrinsic value of marine ecosystem and is based on clean technologies, renewable energy and circular material flows.⁶⁰

Nigeria is currently grappling with various issues around sustainable use of the marine resources including the illegal and unreported fishing by foreigners, unsustainable and destructive fishing practices such as fish trawling with its negative impacts on the ocean ecosystem, destruction of the ocean floor and premature killing young marine life.

The Nigerian oceans endure overwhelming oil spillage and pollution from deep sea mining of minerals which leads to the pollution of the marine ecosystem, ocean warming, ocean acidification and decreasing oxygen level.⁶¹In 2020 and 2021, *Nigeria's National Oil Spill Detection and Response Agency (NOSDRA)* recorded 822 combined oil spills, totaling 28,003 barrels of oil spewed into the environment. Those who depend on farming and fishing in the

⁵⁷Wood Mackenzie. China drives global wind turbine orders to new record in 2022. 8th March 2023. <https://www.woodmac.com/press-releases/china-drives-global-wind-turbine-orders-to-new-record-in-2022/>

⁵⁸ Danish Energy Agency. Denmark's Energy Islands. <https://ens.dk/en/our-responsibilities/offshore-wind-power/denmarks-energy-islands#:~:text=Denmark%20will%20construct%20one%20of,regions%20across%20the%20two%20seas.>

⁵⁹<https://sdgs.un.org/goals/goal14>

⁶⁰ World Bank Group and United Nations, ' *THE POTENTIAL OF THE BLUE ECONOMY: Increasing Long-term Benefits of the Sustainable Use of Marine Resources for Small Island Developing States and Coastal Least Developed Countries* '. <<https://sustainabledevelopment.un.org/content/documents/2446blueeconomy.pdf>

⁶¹A.T. Ekubo & J.F.N. Abowei Aspects of Aquatic Pollution in Nigeria. Research Journal of Environmental and Earth Sciences 3(6): 673-693, 2011. Maxwell Scientific Organization. <https://maxwellsci.com/print/rjees/v3-673-693.pdf>

South-South region have felt a direct impact on their livelihoods and residents have reported various health and economic issues.⁶²

There are also pollutions engendered by land-based activities especially in relation to plastic pollution. According to the *United Nations Industrial Development Organization (UNIDO)* 2021 study on plastics value-chain in Nigeria, Nigeria generates over 32 million tonnes of solid waste annually with plastics accounting for 2.5 million tonnes (70%) but only 20-30% are collected and recycled while the remaining ends up in landfills, sewers, beaches and water bodies. Nigeria is also among the top 20 nations that contribute 83% of the total volume of land-based plastic waste that ends up in the oceans, while a World Bank reports noted that an average person in Nigeria uses up to 500 plastics bags/bottles per year.⁶³ Researchers estimate a loss of 1-5% in marine ecosystem services due to plastic pollution, and the reduction equals a loss of about \$500 billion to \$2.5 trillion per year. In 2019, the Africa Blue Economy Forum (ABEF) revealed that plastic pollution alone costs \$13 billion a year in damages to marine ecosystems, adding that 90% of ocean plastic waste originates from Asia and Africa, mainly due to mismanagement of waste.⁶⁴

Consequently, it is expedient to initiate an ocean regulatory governance for sustainable development in order to maximize the blue economy potential in Nigeria. Regulatory governance would ensure the integrated conduct of the policy, actions and affairs regarding the world's oceans and protect ocean environment, ensure sustainable use of coastal and marine resources as well as to conservation of its biodiversity.⁶⁵ This will involve stringent policies and promulgation of laws on the use of the ocean, institutional framework and proper mechanism for implementation.⁶⁶

C. MARINE SPATIAL PLANNING (MSP)

Another crucial area of focus for the blue economy is Marine Spatial Planning (MSP). MSP is an ocean management concept which involves the meticulous analysis and allocation of the spatial and temporal distribution of human activities in marine areas. The aim of MSP is to harmonize ecological, economic, and social objectives and the main objective of the concept is to increase sustainability through proper utilisation of the oceans resources. MSP has emerged as a critical tool for managing marine resources and fostering responsible economic growth by emphasizing a balance between conservation and sustainable development.⁶⁷

⁶² The Punch Newspaper. Positioning marine and blue economy for productivity. 15th September 2023. <https://punchng.com/positioning-marine-and-blue-economy-for-productivity/>

⁶³ The Guardian Newspaper. How NNPC/Total Energies Plastic recycling plant is tackling environmental pollution, creating job others, in Niger Delta. <https://guardian.ng/news/how-nnpc-totalenergies-plastic-recycling-plant-is-tackling-environmental-pollution-creating-jobs-others-in-niger-delta/#:~:text=Inquiries%20by%20The%20Guardian%20revealed,over%204%2C500%20trees%20per%20ye ar.>

⁶⁴ <https://www.premiumtimesng.com/features-and-interviews/603879-economy-360-world-ocean-day-and-nigerias-blue-economy.html>

⁶⁵ Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security. Understanding the Oceans Governance. https://sdgs.un.org/sites/default/files/statements/22828Pratikto_PPT.pdf ; <https://businessday.ng/columnist/article/ocean-governance-for-sustainable-development-2/>

⁶⁶ Ibid.

⁶⁷ The 2nd Marine Spatial Planning (MSP) Forum for Africa Charts a Course for Sustainable Oceans By APO Group. Guardian newspaper <https://guardian.ng/apo-press-releases/the-2nd-marine-spatial-planning-msp->

MSP is crucial to the actualisation of the blue economy ideals, hence it should be an area of priority for any nation intending to maximise its blue economy. Marine Spatial Planning has been delineated to consist of four major phases which include: problem analysis; assessment of alternatives; decision and implantation. The concept of MSP enhance communication between the various users of the seas and oceans, thereby leading to better collaboration among the users, as it will encourage evidence-based information gathering to engender sustainable usage of the resources embedded in the oceans.⁶⁸

According to the UNESCO permanent delegation of the Federal Republic of Nigeria, MSP is an excellent strategy for the development of oceanic resources.⁶⁹ Amongst other advantages, MSP ensures better coordination and synergy among all marine sectors/activities in blue economy development.⁷⁰ MSP provides an integrated planning framework that eradicates an isolated management of each marine sector in order to address multiple objectives related to achieving economic and ecological sustainability and the need to reduce conflicts in marine ecosystems and environment.⁷¹ It brings together different stakeholders in the industry to work together across borders and sectors.

Furthermore, MSP has been described as a catalyst for innovative blue technologies. It helps with identifying suitable testbeds and demonstration sites to provide space for testing innovative technological solutions and facilitates the reduction of the accompanying risk.⁷²

In order to fully maximize the blue economy potential of Nigeria, it is expedient to establish and implement a Marine Spatial Planning for the Nigerian Maritime Industry. Nigeria should follow the example of European countries that have adopted and implemented MSPs including Belgium, Denmark, Estonia, France, Germany, Norway etc. some of which have undertaken one or more revision processes to create their second or third generation marine spatial plans.⁷³ Norway particularly stands as an example of a country that has successfully integrated all its major marine economic activities including oil and gas development, fisheries, and marine transport together with nature conservation in its marine spatial planning activities for the Barents Sea.⁷⁴

forum-for-africa-charts-a-course-for-sustainable-oceans/#:~:text=Marine%20Spatial%20Planning%2C%20as%20a,determined%20through%20a%20political%20framework.

⁶⁸<https://www.thisdaylive.com/index.php/2023/09/03/now-that-nigeria-has-ministry-for-maritime-affairs>

⁶⁹<https://nigeria-del-unesco.org/marine-spatial-planning-an-excellent-strategy-for-the-development-of-oceanic-resources-2/>

⁷⁰Patrick Karani AU-IBAR. Africa Blue Economy Strategy Integrating Marine Spatial Planning into the Blue Economy Awareness Enhancing on Africa Blue Economy Strategy and Implementation Mechanism. https://www.comhafat.org/fr/files/actualites/doc_actualite_12526157.pdf; Marine Spatial Planning for a Resilient and Inclusive Blue Economy: Key Considerations to Formulate and Implement Marine Spatial Planning. The World Bank. 2022. <https://documents1.worldbank.org/curated/en/099813206062230702/pdf/IDU0afe34d600494f04ee009e8c0edf0292c1a96.pdf>

⁷¹Ibid

⁷²Ibid.

⁷³ Global Status of MSP development in 2019. https://www.researchgate.net/figure/Global-status-of-MSP-development-in-2019-EEZs-of-countries-where-marine-spatial-plans_fig1_341138653#:~:text=About%20half%20of%20all%20coastal,implemented%20or%20at%20least%20government

⁷⁴Organization of Economic Co-operation and Development (OECD) In Practice: Marine Spatial Planning in Norway. <https://www.oecd.org/stories/ocean/marine-spatial-planning-in-norway-1531006e/>

D. NIGERIA AS A CENTRE FOR MARITIME DISPUTE RESOLUTION

In any business activity, disputes are bound to arise. Arbitration and Alternative Dispute Resolution (ADR) are regarded as the tradition method of resolving maritime disputes dating as far back as the voyages of ships owned by ancient Phoenicians carrying on the cargoes of Greek traders. This trend has continued into the modern age with many maritime nations realizing the potential of earnings from maritime dispute resolution activities developing into world acclaimed places of dispute resolution with the potential of invisible earnings derived from such activities being utilized towards a nation's infrastructural plans and programmes. Other maritime nations such as the United Kingdom,⁷⁵ Hong Kong,⁷⁶ Singapore,⁷⁷ India,⁷⁸ and China⁷⁹ have thus strategized into becoming international maritime arbitration hubs. In these countries, specialized alternative dispute resolution institutions have played a key role in the development of the respective countries as recognised centres actively encouraging the development of expertise and capacity in the field and highlighting to relevant stakeholders including governmental bodies issues which need to be addressed in the interest of the overall goal of developing into a maritime arbitration hub.

In 2005, the Maritime Arbitrators Association of Nigeria (MAAN) was founded by professionals who have developed expertise in commercial and maritime arbitration and were deeply aware of the need to position Nigeria as an appropriate venue for maritime arbitration. Its mission is to enhance Nigeria as a maritime arbitration centre and ensure there is a high standard for practitioners and users in the specialised field of maritime arbitration. MAAN's priority includes building capacity in the specialized field of maritime arbitration dispute resolvers. MAAN has developed arbitration rules for short claims arbitration schemes as well as that relating to large claims.⁸⁰

MAAN was motivated by various factors including the high level of "Nigerian" disputes which were taken out of Nigerian shores for settlement of times by non-Nigerian dispute resolvers and at huge financial costs invariably of disputes that could otherwise have been settled in Nigeria. MAAN's dream is to see in the very near future the establishment of a maritime dispute resolution centre in Nigeria with first class facilities.⁸¹ Accordingly, in a recent Stakeholders meeting with NIMASA, one of the communique contains the establishment of a Maritime Arbitration Centre. Indeed, it is time for this dream as a vital part of harnessing Nigeria blue economy to be actualized.

⁷⁵ London Maritime Arbitration Association (LMAA)

⁷⁶ Hong Kong International Arbitration Centre (HKIAC)

⁷⁷ Singapore Chamber of Maritime Arbitration (SCMA)

⁷⁸ Gujarat International Maritime Arbitration Centre (GIMAC)

⁷⁹ China Maritime Arbitration Commission (CMAC)

⁸⁰ Adedoyin Rhodes-Vivour. 10 Years Of MAAN-The Development of Maritime Arbitration in Nigeria: A Legal Perspective. <https://drvlawplace.com/wp-content/uploads/2020/08/10-YEARS-OF-MAAN-The-development-of-Maritime-Arbitration-in-Nigeria-A-legal-Perspective.pdf>

⁸¹ Ibid.

4. LESSONS FROM OTHER COUNTRIES OF THE WORLD

UNITED KINGDOM

In a 2019 European Commission Blue Economy Report, the blue economy within the United Kingdom (UK) represented 22% of the European Union's (EU) blue economy Gross Value Added (GVA) at approximately €39 billion.⁸² The UK blue economy primarily comprises coastal tourism, marine non-living resources (mainly oil and gas), port activities, shipbuilding and repair and maritime transport.⁸³ In the UK, the oceans provide jobs for over 500,000 people, contribute more than £47 billion to the economy, and are the means through which 95% of all trade reaches the UK.⁸⁴

Amongst other initiatives, favourable policies and strategic plans, the UK has maximized its blue economy potential through the emergence of London as a leading maritime arbitration hub. London has consistently been recognized as the most preferred seat of arbitration (see the 2021 International Arbitration Survey conducted by Queen Mary University of London and White & Case LLP).⁸⁵ According to Professor Yarik Kryvoi,⁸⁶ maritime arbitration cases in London are much higher than commercial arbitrations. For instance, in 2021 the London Centre for International Arbitration (LCIA) had 377 maritime disputes, while 3,798 maritime disputes were decided under the auspices of the London Maritime Arbitrators Association (LMAA).⁸⁷ The Maritime Arbitration Universe in Numbers recent report affirmed that London was *“by far the most popular seat of maritime arbitration in 2022, handling over 85% of the world’s maritime arbitration.”*⁸⁸

NORWAY

Norway is currently one of the world's leading ocean nations with a thriving blue economy. Norway has been persistent on its goal to maximize its ocean resources and potentials (Norway has the second longest coastline of 100.915km in the world).⁸⁹ Norway has been exploring the

⁸² European Commission, Directorate-General for Maritime Affairs and Fisheries, Joint Research Centre, *The EU blue economy report 2019*, Publications Office of the European Union, 2019, <https://data.europa.eu/doi/10.2771/21854>

⁸³ https://www.researchgate.net/figure/Evolution-of-the-established-UK-Blue-Economy-sectors-Source-Adapted-from-EC-2019_tbl1_360213520

⁸⁴ Catherine Armour. How the UKHO is supporting the Blue Economy. The UK Hydrographic Office Blog. 5th April 2019. <https://ukhodigital.blog.gov.uk/2019/04/05/how-the-ukho-is-supporting-the-blue-economy/>

⁸⁵ Queen Mary University of London and White & Case LLP. 2021 International Arbitration Survey: Adapting arbitration to a changing world.

⁸⁶ Professor Yarik Kryvoi is the Senior Fellow in International Economic Law and Director of the Investment Treaty Forum. He is also an Of Counsel at Keidan Harrison in London. Prof Kryvoi's expertise is primarily in the areas of international dispute resolution, including investor-state arbitration and international commercial arbitration, international administrative law and international public law. He has advised governments, international organisations and major international corporations on issues of international commercial law and dispute resolution and worked on cases decided under ICSID, UNCITRAL, ICC, LCIA and SCC rules. See <https://www.bii-cl.org/people/yarik-kryvoi>

⁸⁷ Professor Yarik Kryvoi. London as the world's leading dispute resolution hub: numbers and challenges. 17 MAY 2023. British Institute of International and Comparative Law. <https://www.bii-cl.org/blog/58/london-as-the-worlds-leading-dispute-resolution-hub-numbers-and-challenges?cookieset=1&ts=1700049023>

⁸⁸ HFW. The Maritime Arbitration Universe in Numbers: Is London's Crown Under Threat? September 2023. Shipping Insight: Who Rules the Waves?

⁸⁹ Ministry of Foreign Affairs. Blue Bio Economy in Norway Commissioned by the Netherlands Enterprise Agency. <https://www.rvo.nl/sites/default/files/2021/07/Blue-Bio-Economy-in-Norway.pdf>

blue economy via two major sectors i.e., the oil and gas sector and the seafood sector with 70% of Norway's export value coming from the blue economy. Norway continues to be one of the world's largest and most advanced shipping countries and the Norwegian waters are home to the world's largest stock of cod and herring, along with 25 other types of fish. 95% of Norwegian seafood is exported to over 100 countries. The export from aquaculture has been stable at around 1-1.2 Million tons per year for the last decade, while the export from off shore fishing is stable at around 1.5 million tons. At the same time, the export value has doubled from approximately €5.3 billion to more than €10 billion.⁹⁰

Apart from the seafood sector and the oil and gas sector, Norway explores other emerging blue economy sectors including seaweed cultivation. Due to the suitability of its coastline for the production of seaweed, the Norwegian government has harnessed this potential to generate further economic growth. Between 2014 and 2020, the Norwegian Directorate for Fisheries issued over 700 licenses for the production of seaweed. Norway has therefore become the largest producer of seaweed and algae in Europe. According to reports, there are about 40 companies or projects growing and processing seaweed for around € 0.14 billion combined.⁹¹

There are also attempts to commercialize the sustainable production of urchins and sea cucumbers and explore the extraction from seabed minerals considering that the underwater ridge between Greenland and Norway contains several minerals such as gold, silver, zinc, lead, cobalt and copper which are in high demand.

The success of Norway's blue economy can be credited to the favourable policies, blue economy strategic plans and commitment to marine education and research. The Norwegian government policies have been focused on the exploration of the blue economy through high-tech oil and gas industry, greener and smarter shipping, sustainable coastal seafood industry, open ocean aquaculture, offshore wind, carbon capture and storage (CCS), hydrogen development for reduced emissions and increased value creation mineral activities on the seabed that open new business opportunities, digitalization, technology, and the transfer of skills to create synergies across ocean industries.

Some of the recent notable blue economy plans/strategies in Norway include the 2017 Ocean Strategy (titled *New growth, proud history*) and two white papers (titled *The place of the oceans in Norway's foreign and development policy* and *Update of the integrated management plan for the Norwegian Sea*). The Ocean Strategy was later updated in 2019 with *The Norwegian Government's Updated Ocean Strategy: Blue Opportunities*. The primary aim of the government for the strategy is to contribute to the greatest possible overall value creation and employment in the ocean industries.⁹²

The 2020 *Norway's integrated ocean management plans — Barents Sea-Lofoten area; the Norwegian Sea; and the North Sea and Skagerrak* aims to balance the increased activity and continued value creation with environmental needs and sustainable use of the ocean. There is also the 2021 Holistic National *Plan for Protection of important areas for Marine Nature*

⁹⁰ Ibid Page 9-10.

⁹¹ Norwegian Ministries. Blue Opportunities: The Norwegian Government's updated ocean strategy. https://www.regjeringen.no/globalassets/departementene/nfd/dokumenter/strategier/w-0026-e-blue-opportunities_uu.pdf

⁹² The Government's Commitment to the Ocean and Ocean Industries.

which aims to protect vulnerable areas, rebuild ecosystems and mapping and protection of carbon rich areas to halt climate changes.

In 2019 the Norwegian government published the Government's Action Plan for green shipping, which forecasts that by 2022 one third of the country's car carrier ferries will use electric propulsion systems. Accordingly, the world's first fully electric and autonomous container ship, Yara Birkeland was launched in 2020. This is in line with the International Maritime Organization (IMO) ambition to cut emissions from international shipping in half by 2050.⁹³

The Government's Arctic policy was updated in 2021 and will continue to focus on creating good framework conditions for companies in North Norway across industries, especially in ocean industries, the maritime industries, petroleum, green power-intensive manufacturing, mineral extraction, agriculture, tourism, space infrastructure, and the services sector.⁹⁴

"Sea and Oceans" was one of seven priority areas in the Norwegian Government's long-term plan for research and higher education in 2019–2028. Key areas were marine bio-resources and marine management in fisheries, aquaculture, new industries, and the knowledge basis for managing ecosystems and resources; marine technology and maritime innovation related to vessels, the shipbuilding industry, and the service and supply industry; and the petroleum and minerals industries with innovation, demonstration and piloting of relevance to the Norwegian continental shelf. Norway's Maritim21 Strategy is also targeted at maritime research, development and innovation for the maritime industry. *The Strategy is based on the ambition that Norway shall be a world-leading maritime nation by 2030 through taking on a leading position in the green transition.*⁹⁵

DENMARK

As the gatekeeper of the Baltic Sea and with a total coastline of over 7,000km, Denmark is known for its maritime/ocean transportation. According to the Danish Maritime Authority, "**Blue Denmark**" is defined to include ship owners and shipping companies and a wide range of related businesses, such as shipbrokers, ports and logistics companies, shipyards and industrial and service companies that supply equipment, components, and service to ships. Shipping is the largest export industry in Denmark and accounts for half of the total Danish exports.⁹⁶ According to the American-Danish Business Council, Denmark is the fifth largest maritime shipping nation in the world with almost 10% of the global trade is transported by ships under Danish control. Approximately, 115,000 people work in the Danish maritime industry which accounts for about 24% of the total Danish export. Denmark is the home to the

⁹³Norwegian Ministries. Blue Opportunities: The Norwegian Government's updated ocean strategy. https://www.regjeringen.no/globalassets/departementene/nfd/dokumenter/strategier/w-0026-e-blue-opportunities_uu.pdf

⁹⁴https://www.regjeringen.no/en/dokumenter/arctic_policy/id2830120/

⁹⁵The Research Council of Norway. Maritim21 Strategy Executive Summary.

⁹⁶Susanna Sepponen et al. Sustainable Ocean Economy Mapping of Nordic Strongholds. Nordic Innovation. <https://norden.diva-portal.org/smash/get/diva2:1611425/FULLTEXT01.pdf>

world's largest container shipping company, Mærsk Line which has more than 600 ships, 35,00 port calls per year and 100,000 customers around the world.⁹⁷

Denmark was the pioneer of the offshore wind energy with the establishment of the first offshore wind farm in 1991 and the country is currently a global leader in the sector. Aside from offshore wind energy, Denmark is also known for developing and testing wave power solutions and Power-to-X technologies⁹⁸ for storage and conversion of renewable energy. These emerging areas, with great potential for the future, are currently the subject of several significant development projects in Denmark.⁹⁹

As one of the Danish government Climate Action plan 2020, Denmark is currently harnessing its maritime resources and blue economy potentials to construct the world's first energy islands called Vindo in the North Sea and Bornholm Energy Island in the Baltic Sea. The aim of the artificial energy islands is to generate renewable energy to Denmark mainland and export energy to neighbouring countries or convert the energy to green fuels which can be used to power heavy transportation such as planes, ships and trucks. *These projects have shifted the focus of the Danish maritime offshore industry from oil and gas to offshore wind energy.*¹⁰⁰

The Danish blue economy also encompasses coastal area tourism and hospitality. Denmark has a dedicated industry and business foundation called the *Danish Coastal and Nature Tourism*, which works to maintain and increase the competitiveness and sustainable growth of Danish tourism in the increasingly competitive market through a common agenda and action plans. Aquaculture in Denmark employs more than 500 people and produces around 10% of the consumed fish in Denmark. The commercial cultivation of mussels, oysters, and seaweed is growing. In the coming years, the role of cultivated mussels in preserving marine ecosystems is high on the Danish agenda, as well as increasing the sustainability and circularity of fish farms.¹⁰¹

To enhance its blue economy, Denmark explores various technological advancement in robotics and artificial intelligence (AI) related to the ocean industries e.g., the ArcticWeb which support shipping safety and prevent accident in the Arctic area.

Denmark has been able to harness its blue economy through several strategic plans and policies. According to the *Plan for Growth in Blue Denmark*,¹⁰² 37 initiatives were outlined to ensure Denmark becomes a maritime hub for testing new maritime technologies and developing better use of data digital systems. In addition, the plan aimed at establishing good framework conditions for maritime production and operations, including offshore energy.

Various Danish maritime sectors have developed their own strategies and targets for the coming years. For instance, the Danish Shipping Industry's Climate Partnership for Blue

⁹⁷ More information can be found in the membership directory at <https://www.danishshipping.dk/en/om-os/danske-rederier/medlemmer/>

⁹⁸ Power-to-X is a collective term for conversion technologies that turn electricity into renewable energy or carbon-neutral synthetic fuels, such as hydrogen, synthetic natural gas, liquid fuels, or chemicals.

⁹⁹Energistyrelsen 2021.

¹⁰⁰Susanna Sepponen et al. Sustainable Ocean Economy Mapping of Nordic Strongholds. Nordic Innovation. Page 20. <https://norden.diva-portal.org/smash/get/diva2:1611425/FULLTEXT01.pdf>

<https://www.aljazeera.com/news/2021/2/4/denmark-to-create-worlds-first-energy-island-in-the-north-sea>

¹⁰¹ Ibid Page 21.

¹⁰²The Danish Government 2018.

Denmark¹⁰³ includes six initiatives that the industry is committed to investing in, as well as 15 recommendations to the Government. The Industry Initiatives include sharing of shipping data, a partnership for test ships, establishing a Maritime Center of Excellence, initiating a global innovation fund for the shipping industry, and coordinated efforts to attract more European Union research and innovation funds to the Danish shipping industry.

The Danish energy industries have also developed recommendations for a strategy and national ecosystem on Power-to-X. The aim is to capitalize on Denmark's strengths and release the potential in Power-to-X to support the green transition both in Denmark and globally, through export of Danish expertise, technology, and energy.

The Danish Energy Cluster¹⁰⁴ has formed a partnership for wave power and has developed targets and recommendations to the government concerning the need for a coordinated national effort on wave energy. Suggested efforts include setting political targets for the share of wave energy in Denmark's energy mix, integrating test and demonstration activities in major offshore projects (such as the energy islands), and earmarking funds for wave power research, export, and industry support through the green investment funds of Denmark.

The Danish aquaculture industry's strategy for 2021-2027 focuses on increasing sustainability and circularity in aquaculture, protecting biodiversity, and developing the use of data and digital tools for climate and environmental monitoring. Similarly, the action plan for Danish coastal and nature tourism includes actions for increased innovation and technology transfer in the tourism industries. Ocean-based and coastal tourism is emphasized in the local tourism strategies of key destinations.¹⁰⁵

Denmark has a maritime spatial plan (MSP)¹⁰⁶ which outlines the future use of marine resources and the development of new maritime business opportunities. It introduces holistic spatial planning for the entire Danish marine area, including the territorial sea and the Exclusive Economic Zone (EEZ). The MSP is coordinated by the Danish Maritime Authority under the Ministry of Industry, Business and Financial Affairs, involving a broad range of ministries and agencies. A significant part of the sea area is allocated for future offshore wind farms and energy islands whilst some coastal areas are preserved for ocean-based and coastal tourism, which contributes billions of revenue to the Danish economy.

5. CONCLUSION

Indeed, Nigeria has a huge potential for repositioning itself in the maritime field by tapping into the resources of the ocean. Nigeria with a 200 nautical mile with 80% of her coastline made up of oil and biodiversity-rich Niger Delta commands the sea, and with dedication, commitment and strategic planning can command trade, command riches and the world itself. Our people can be moved from poverty to abundance. Our nation from developing to developed with first-class amenities and facilities. Jobs can be created stemming the "*japa syndrome*" and ill treatment and suffering of our people all over the world. Indeed, the world we are craving for is right here at our door step if only we can harness our resources. Nigeria can

¹⁰³ Climate Partnership for Blue Denmark 2020.

¹⁰⁴ <https://www.energycluster.dk/>

¹⁰⁵ Dansk Akvakultur 2021. <https://danskakvakultur.dk/strategi-2021-2027/>

¹⁰⁶ See www.havplan.dk/en

command the highest level of technological development and first-class facilities simply by unlocking the potential its natural resources offers. It is time for our country with our vast resources to harness her naturally endowed maritime resources and maximize the economic benefits of the blue economy.

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