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# TRANSFORMATION OF INDONESIAN SEA TRANSPORTATION AND MARITIME LOGISTICS TO REALIZE THE VISION OF GOLDEN INDONESIA 2045

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**ABSTRACT**

As a large archipelago country, Indonesia envisions to become a "Sovereign, Advanced, and Sustainable Archipelago Country" by 2045. All sectors are making efforts to make this vision reality, including its maritime transport sector. Significant transformations in maritime transportation and logistics are essential. Despite maritime logistics not being explicitly mentioned in the 2025-2045 Long Term Development Plan, the paper highlights its critical roles, such as linking islands, improving port infrastructure, supporting trade, and enhancing logistics connectivity. One of the key transformations discussed in the paper is the merger of PT Pelabuhan Indonesia (Persero), which aims to streamline port operations and integrate port facilities to boost efficiency and competitiveness. Additionally, the paper underscores the importance of the blue economy, which involves sustainable marine management and conservation to drive economic growth.

The blue economy's principles, such as resource efficiency, minimizing waste, and fostering social inclusion, are crucial for achieving sustainable development. Indonesia's active participation in the Archipelagic and Island States (AIS) Forum is also highlighted as a vital platform for collaboration among island nations to tackle global maritime issues. The forum's focus on climate change, disaster management, blue economy, and maritime governance aligns with Indonesia's goals to leverage its maritime potential for national prosperity. Lastly, the paper also stresses the importance of adhering to Environment, Sustainability, and Governance (ESG) aspects in maritime logistics. Continuous improvement in these areas, alongside active communication with stakeholders and international bodies like the World Bank and UNCTAD, is necessary to support policy formulation and enhance Indonesia's logistics performance. In conclusion, the transformation of Indonesia's maritime sector involves robust port infrastructure, blue economy initiatives, and active global collaboration through

the AIS Forum. These efforts are geared towards achieving the Vision of Golden Indonesia 2045, ensuring sustainable growth and prosperity for the nation. Furthermore, the paper contributes to research and policy recommendations for archipelago countries around the globe.

Keywords : Sea Transportation, Logistic Matirime, Golden Indonesia 2045

## 1. INTRODUCTION

The Golden Indonesia Vision 2045 targets to become a "*Sovereign, Advanced and Sustainable Archipelago Country*". The year 2024 will soon end, which means in 20 years it will reach 2045 and this is a short time. Apart from that, 6 years have passed since Indonesia actively initiated the Archipelagic and Island States Forum (AIS Forum), which is a forum for cooperation between island and archipelagic countries around the world which was established based on the Manado Indonesia Joint Declaration on November 1 2018 which was agreed upon by 47 countries. AIS membership is currently growing to 51 countries.

In terms of maritime transportation and logistics, it is not explicitly mentioned in the 8 Agenda for the State Long Term Development Plan (RPJPN) 2025 – 2045. In this article the author intends to convey the challenges faced by Indonesia in terms of maritime transportation and maritime logistics, the transformation that is currently being carried out and what will be implemented until 2045 as well as learning for other island countries that are members of AIS. The transformation described includes strengthening maritime transportation and logistics through the merger of PT Pelabuhan Indonesia (Persero), strengthening the blue economy and strengthening the fulfillment of *Environment, Sustainability & Governance* (ESG) aspects. It is also necessary to continue to play an active role in the AIS Forum to gain benefits together with fellow archipelagic countries in welcoming a Golden Indonesia 2045.

In the National Long Term Development Plan (RPJPN) 2025-2045 which supports the implementation of the Golden Indonesia Vision 2045, the role of ports and maritime transportation is very important. The following are 8 critical roles of maritime transportation and logistics in the 2025-2045 RPJPN. The first is the basic role as a liaison between islands. As an archipelagic country, Indonesia needs a reliable maritime transportation system to connect various islands. Ports and maritime transport play a key role in integrating remote regions with economic centers. Second is to

improve port infrastructure. The development and modernization of port infrastructure is expected to increase the capacity and efficiency of port operations. This includes the construction of new ports and improving facilities at existing ports so that overall they provide optimal performance.

The third, fourth and fifth points are related to the country's economy. The third role is to support exports and imports. Ports play an important role in supporting Indonesia's international trade activities, especially in achieving the vision of a Golden Indonesia in Development Agenda 2, namely Realizing Economic Transformation. Development of main ports (hubs), collecting ports, feeders and even the smallest feeders in an integrated and efficient manner will increase Indonesia's competitiveness in exporting and importing goods. The fourth role is maritime economic development. Maritime transportation and logistics are expected to encourage broader maritime economic development, including the fishing industry, maritime tourism and maritime-related services. Fifth is improving logistics connectivity: One of the main goals is improving national logistics connectivity. Ports will become key nodes in an efficient logistics network, reducing transportation costs and speeding up the delivery of goods.

The last three roles relate to the sustainability of environmental and human resources (HR). The sixth role is related to *sustainability* and *Green Ports*. In supporting the sustainability vision, ports in Indonesia are expected to adopt environmentally friendly practices and green technology, including the use of renewable energy and good waste management. Seventh is the role in human resource and technology development. Improving the quality of human resources and adopting digital technology in the port and maritime transportation sectors are also a focus. This includes workforce training, digitization of processes, and implementation of advanced port management systems. The final role is in Maritime Security and Safety. Ports and maritime transportation also play a role in ensuring maritime security and safety, including monitoring sea traffic and disaster management in coastal areas. Through these roles, ports and maritime transportation are expected to support the realization of the Golden Indonesia Vision 2045, namely an advanced, prosperous and competitive Indonesia on the global stage.

In this section, we will explain the assessment of logistics performance, logistics costs, and the connectivity index which are the challenges facing Indonesia. In 2023, the World Bank will again release the Logistics Performance Index (LPI) report which reflects the logistics performance of

countries in the world, where Indonesia is ranked 61st with a score of 3.0 (World Bank, 2023). This is a decrease from the 2018 LPI score where Indonesia was ranked 46th with a score of 3.15 (World Bank, 2018). Various parties regret and question the objectivity of this LPI measurement (Sumarsono, 2023).

The World Bank usually issues an LPI report every two years. However, in 2020 it was not published because it was hampered by the Covid-19 pandemic. Between the 2018 and 2023 LPI publication years, the Indonesian government through the Ministry of State-Owned Enterprises (BUMN) implemented a merger of 4 Port BUMNs, namely PT Pelabuhan Indonesia I, II, III and IV (Persero) to become PT Pelabuhan Indonesia (Persero) or Pelindo. Time passes without realizing it, it has been close to 3 years since this merger was achieved, to be precise on October 1 2021. Ports are an important part of transportation and logistics infrastructure. So this moment is right to reassess whether the Pelindo merger has contributed to Indonesia.

The assessment of LPI's logistics performance by the World Bank does have an element of subjectivity. This performance data consists of 6 components, namely efficiency of customs clearance and border management permits (customs), quality of infrastructure related to trade and transportation (infrastructure), ease of arranging international shipments at competitive prices (international shipments), competence and quality of logistics services (services quality), ability to track delivery (tracking and tracing), timeliness of delivery (timeliness). Data was taken through an online survey from a total of 652 respondents from various countries in the world who are logistics professionals, multinational transportation management service providers (freight forwarders) and global transportation operators such as DHL, FedEx and UPS (World Bank 2023, p.67).

There is an assessment of logistics performance other than LPI, namely by looking at the percentage of logistics costs from a country's Gross Domestic Product (GDP). The World Bank in 2011 stated that Indonesia's logistics costs were 24.64% of GDP. Meanwhile, the latest assessment released by BAPPENAS and the World Bank on September 14 2023, Indonesia's logistics costs are 14.29% of GDP (BAPPENAS, 2023). It is targeted that by 2045 this figure will decrease to 9% (BAPPENAS, 2023). The components of logistics costs are transportation costs, warehousing costs, inventory storage costs, administrative costs. The Head of BAPPENAS also stated that logistics cost calculations will be issued every year, which is a collaboration between BAPPENAS, the Coordinating

Ministry for the Economy, the Central Statistics Agency and logistics service providers (BAPPENAS, 2023).

## 2. THEORETICAL REVIEW

Another more objective way to see logistics performance is to see how connected a country is to global trade, namely by assessing connectivity to the global shipping network, namely the Liner Shipping Connectivity Index (LSCI) value by UNCTAD. The higher the LSCI value, the easier it is for the country to access global maritime transportation with large capacity, high frequency and participate in global trade (Notteboom, et al. 2022). The LSCI index is calculated from six main components, namely the number of scheduled ship visits, ship capacity, number of shipping companies, average ship size and number of direct port connections (Notteboom, et al. 2022). The following are the Indonesian LPI and LSCI scores from 2007 to 2023 in Table-1. From this table, it can be seen that there is no fixed pattern, Indonesia's scores and rankings are volatile and do not appear to be heading towards structured improvement.

**Table-1 Indonesian LPI and LSCI scores**

| Year | Indonesian LPI ranking | Indonesian LPI score | LSCI Indonesia ranking | Indonesian LSCI score |
|---|---|---|---|---|
| 2007 | 43 | 3.01 | 22 | 34.8 |
| 2010 | 75 | 2.76 | 30 | 36.5 |
| 2012 | 59 | 2.94 | 40 | 33.8 |
| 2014 | 53 | 3.08 | 40 | 35.1 |
| 2016 | 63 | 2.98 | 46 | 33.3 |
| 2018 | 46 | 3.15 | 37 | 43.2 |
| 2023 | 61 | 3.0 | 54* | 36.7* |

*) Value in quarter-3

Source: Author, data taken from World Bank (2023), UNCTAD (2023)

Maritime logistics is the process of planning, implementing and managing the movement of cargo and information related to sea transportation (Lee, et al. 2012). Meanwhile, maritime transportation is the process of carrying and handling cargo across the ocean (Lee, et al. 2012). The difference between these two concepts is that maritime logistics includes larger and more complex activities. Apart from its main function of receiving ships, loading and unloading cargo, stevedoring and

connecting with land transportation, other logistics activities also need to be carried out such as warehousing, distribution centers, etc.

The value of maritime logistics must reflect how well the system meets customer needs, namely the extent to which the maritime logistics system responds to customer requests through successful management of the flow of goods, services and information in maritime logistics (Lee, et al. 2012). Not only shipping companies, maritime logistics customers are all entities involved in the existing logistics flow. PT Pelabuhan Indonesia I (Persero), PT Pelabuhan Indonesia II (Persero), PT Pelabuhan Indonesia III (Persero), and PT Pelabuhan Indonesia IV (Persero) are state-owned companies whose main business is providing port services. The ownership of these four BUMNs is Non-Listed whose shares are 100% owned by the Ministry of BUMN as the Shareholder representing the Republic of Indonesia. On October 1 2021, PT Pelabuhan Indonesia I (Persero), PT Pelabuhan Indonesia III (Persero) and PT Pelabuhan Indonesia IV (Persero) were legally merged into PT Pelabuhan Indonesia II (Persero) based on Government Regulation no. 101 of 2021. PT Pelabuhan Indonesia II (Persero) acts as the surviving entity (surviving company). Then based on the Letter of the Minister of State-Owned Enterprises of the Republic of Indonesia No. S-756/MBU/10/2021 dated 1 October 2021 concerning Approval of Change of Name, Change of Articles of Association and Company Logo, PT Pelabuhan Indonesia II (Persero) changed its name to "PT Pelabuhan Indonesia (Persero)" or abbreviated as "Pelindo".

Strategically, Pelindo has implemented three main points which directly and indirectly contribute to improving logistics performance, namely by transforming port services, shipping network efficiency, and port integration with the region (Pelindo, 2023). First, in the transformation of port services, post-merger Pelindo carried out operational and commercial standardization, infrastructure, superstructure as well as integration and digitization of its services. This has an impact on reducing port stay and cargo stay. For example, Belawan Port, which previously had a port stay of 55 hours, was reduced to an average of 32 hours, Makassar Port from 38 hours to 22 hours, Ambon Port from 37 hours to 24 hours, and Sorong Port from 72 hours to 24 hours (Pelindo, 2023).

Second, on the efficiency of the shipping network. Post-merger Pelindo can create route efficiency by optimizing the hub and spoke network through cargo consolidation at main ports (hubs) so as to support the creation of economic activity evenly in Indonesia. Port infrastructure and

superstructure improvements have been mapped and carried out according to their function, whether as a hub or spoke (feeder) port. The international and domestic hub ports are focused on Tanjung Priok in the western part of Indonesia, then in the eastern region there is Makassar as a hub, and Ambon and Sorong as sub-hubs. This will create more efficient routes, encourage cargo growth in the eastern region of Indonesia and reduce imbalanced cargo to reduce logistics costs.

Third, on port integration with the region. Pelindo carries out the development of integrated economic areas with access and connectivity. This can be a trigger to stimulate industrial growth. For example, including the development of the Port and Area in Kijing, the development of the Cibitung-Cilincing Toll Road which is connected to Tanjung Priok Port and Kalibaru Terminal, namely the New Priok Eastern Access (NPEA), as well as the development of the JIIPE Special Economic Zone Industrial Area as part of creating a maritime ecosystem. integrated in the Gresik area. As explained in the three points above, they can directly or indirectly influence the indicators in the World Bank LPI, logistics costs and UNCTAD's LSCI. Increasing infrastructure, improving and creating ease of managing international shipping, competence and quality of logistics services, digitalization to make tracking and tracing easier and speeding up delivery timeliness, of course from the port side.

Moreover, of all the strategic initiatives carried out, after the Pelindo merger, 4 Subholdings were also formed which manage all Pelindo Group business lines according to their focus, namely Container Subholding, Non-Container (Multi Terminal), Maritime Services and Equipment as well as Logistics and Hinterland Subholding. These four subholdings strengthen Pelindo to be able to provide end-to-end integrated services or provide last mile logistics. This integrated Pelindo Group business segment is illustrated in Figure-1

**Figure-1 Integrated Pelindo Group Business Segments**


Source: Pelindo (2023b)

A part from that, the strategic initiatives carried out by Pelindo are also in line with the economic transformation strategy prepared by the Ministry of National Development Planning (BAPPENAS) to achieve a Golden Indonesia 2045, especially the 'Domestic and Global Economic Integration' strategy (BAPPENAS, 2023). Pelindo's strategic initiatives, when implemented completely and in the long term, as well as receiving policy support from the government and good cooperation with other business players, will create an increase in trade volume, both domestic and international trade. Moreover, it can continue to penetrate the global supply chain.

An example of Pelindo's strategic initiative that supports the integration of the domestic and global economy is the development of the Bali Maritime Tourism Hub (BMTH), which continues to progress, in the long term it will provide economic growth for the people of Bali and its surroundings, opening up business opportunities and various domestic and global economic activities, which In general, it also increases economic growth from tourism in Indonesia.

Pelindo as a port service provider and an important element in maritime logistics in Indonesia really needs to improve itself and evaluate itself based on performance assessment measures provided by international institutions. However, whatever assessment results are given, it should not make Pelindo pessimistic and not become a barrier for Pelindo to continue making improvements. Pelindo needs to continue listening to the voices of its customers. Remembering that the most important thing in the maritime logistics concept is providing services and meeting customer needs and responding to customer requests.

The next challenge for Pelindo is to continue to open up opportunities and greater penetration into hinterland logistics and global supply chains because these two things can provide a unique value proposition for ports (Bergqvist, 2012). In this way, Pelindo Group can provide broader services, have more end-to-end control and create a global footprint through its four subholdings and subsidiaries. Specifically in the logistics business segment, Pelindo can be more aggressive in developing the halal logistics business, energy logistics, temperature controlled logistics and project logistics, because this particular segment is a segment that has high opportunities in developing economic countries or emerging market countries. (Manners-Bell et al 2014, p75-80).

Pelindo also needs to actively continue to communicate the progress of implementing its strategic initiatives, with various relevant Ministries, as well as with the World Bank, UNCTAD, other international institutions. This is intended so that policy makers can support Pelindo, formulate appropriate policies, launch efforts to reduce logistics costs and improving Indonesia's logistics performance. Existing and new policies must be consistent and not overlap, not hinder and change of leadership in each institution not be an obstacle to continuing efficient logistics development in Indonesia.

## 3. RESEARCH METHOD

In this study, a mixed-methods approach was employed to comprehensively analyze the logistics performance of Indonesia over the past 15 years. The methodology incorporated both quantitative and qualitative methods to provide a comprehensive understanding of the factors influencing Indonesia's logistic landscape. The quantitative analysis focused on examining the Logistic Performance Index (LPI) and Liner Shipping Connectivity Index (LSCI) scores of Indonesia over the specified time period. This quantitative approach allowed for a systematic assessment of Indonesia's logistics performance trends and trajectory. In parallel, the qualitative approach investigated in-depth into exploring key events and developments within Indonesia, as reported in news sources and literature. Events such as the Merger of Pelindo, the Indonesian Blue Economy roadmap, and Indonesia's participation in the Archipelago Island States Forum (AIS Forum) were scrutinized to gather insights into the broader contextual factors shaping Indonesia's logistics environment. By integrating quantitative LPI and LSCI scores with qualitative analysis of significant events, this study

provides a holistic perspective on Indonesia's logistics performance and highlights the interplay between quantitative metrics and qualitative dynamics in evaluating the country's logistics landscape.

## 4. RESULT AND DISCUSSIONS

The concept of the blue economy was introduced by Gunter Pauli, founder of the Zero Emissions Research Institute in 2010. According to him, the blue economy refers to at least 5 concepts, namely: a) resource efficiency; b) zero waste; c) social inclusion, social equality and employment opportunities for poor people; d) innovation and adaptation; and e) economic multiplier effect. Basically, the Blue Economy is a sustainable economy that is implemented in the sea or waters. According to Article 14 (1) of Law Number 32 of 2014 concerning Maritime Affairs, it is explained that the Blue Economy is an approach to improving sustainable marine management and conservation of marine and coastal resources and their ecosystems to produce economic growth by involving the community, resource efficiency, minimizing waste, and double income. Then, the Government and Regional Governments in accordance with their authority carry out Marine Management for the greatest prosperity of the people through the utilization and exploitation of marine resources by applying the principles of the blue economy. Meanwhile, the World Bank emphasizes that the blue economy is the sustainable use of marine resources for economic growth, improving livelihoods and employment while maintaining the health of marine ecosystems, covering various marine-related sectors such as fisheries, renewable energy, tourism, maritime transportation, management waste, and climate change mitigation.

Blue economy opportunities for Indonesia include the fishing industry, shipbuilding industry, bioeconomy and biotechnology, marine logistics, renewable energy, research and education, marine waste management, marine tourism, etc. In line with this, the program and policy roadmap for the transformation of Indonesia's economic development, making the sea a new source of national economic growth, must be accelerated to realize the World Maritime Axis and achieve the 2030 Sustainable Development Goals (SDGs), the 14th goal of which is conservation and sustainable use of the sea and marine resources for sustainable development as demonstrated by increasing economic benefits from sustainable use and conservation of marine resources. With the main principles being sustainable economic development, community involvement, ecosystem resilience, adaptive technology, supportive and integrated institutional arrangements and financial policies. We must also

focus on five priority sectors for Low Carbon Development, namely energy, land and peat, industry, waste, agriculture, and coastal and marine through the blue economy. In addition, multi-modal connectivity must be developed to accommodate emerging new trade patterns involving land, sea, river and air transportation in an integrated manner so that it will increase efficiency, affordable costs and strengthen national resilience.

Indonesia's maritime resources are very large and their potential needs to be explored more deeply. The area of Indonesia's sea area refers to the Djuanda Declaration, 13 December 1957, which was later stipulated in Law No. 4/PRP/1960 concerning Indonesian Waters, the United Nations Convention on Law of the Sea (UNCLOS) 1982 and Law No. . 17 of 1985 concerning the ratification of UNCLOS 1982 that Indonesia is an archipelagic country. The sea area reaches around 5.8 million km2 and constitutes 75% of the country's total territory. Apart from that, there are more than 17,504 islands and are surrounded by the second longest coast after Canada, with a distance of 104,000 thousand km. The Djuanda Declaration essentially contains Indonesia's statement to the world regarding the Indonesian seas including the seas around, between and within the Indonesian archipelago as one unified territory of the Unitary State of the Republic of Indonesia (NKRI). According to Rochmin Dahuri, Indonesia's marine potential is estimated to reach US$ 1.4 trillion/year each year (or 7 times the 2021 APBN (Rp. 2,750 trillion = US$ 196 billion) or 1.2 of the 2020 National GDP. There are 11 marine economic sectors that that can be developed, namely: a) capture fisheries, b) aquaculture, c) fishery product processing industry, d) marine biotechnology industry, e) mineral resource energy, f) marine tourism, g) sea transportation, h) maritime industry and services , i) coastal forestry, j) regional resources of small islands, and l.) non-conventional marine natural resources. However, until 2020 only around 20% of its total potential can be utilized, even though Indonesia's geoeconomic and geopolitical position is very strategic: located between the Pacific & Indian Oceans and the Asian & Australian continents, between the South China Sea & Indo-Pacific, and 45% of all trade goods global economic value of around US$ 15 trillion/year is transported via ALKI.

According to Dwi Kuswardani, the sustainable potential for Indonesian marine fish resources is estimated at 12.01 million tons per year spread across Indonesian territorial waters. Fish consumption figures in 2022 will be 56.48 kg/capita/year. Domestic demand for fish for consumption is 13.11 million tons. GDP contribution: Fisheries production 24.87 million tons, including seaweed.

The value of fisheries exports is around USD 6.24 billion, the main commodities are shrimp, tuna-skipjack-tongkol, squid-octopus, seaweed, and crab-crab (2022). Fisheries GDP contribution is 2.54 percent of National GDP (in the 3rd quarter of 2022). Marine GDP contribution is 26.86 percent of National GDP (2020). Environmental buffer: has 21% of the world's mangrove area (3.49 million ha); The largest seagrass meadow in the world (potential 8.3 – 18.34 million ha); Economic potential from carbon uptake in mangrove and seagrass ecosystems; Estimated income from coral reef tourism is USD 3.1 trillion (UNEP, 2018). It is very important to carry out marine resource balance calculations (ocean accounting) to be used as an indicator of the balance between economic growth and sustainability of marine resources. Measuring tools and tracking tools to assess the performance of the blue economy in the form of an inter-time balance: the area, status and value of marine ecosystems and environmental services, the contribution of the sea to the economy, the impact of economic activities on the sea. the quality of comprehensive marine and ocean economy management policies (beyond GDP).

Marine potential, in addition to catching and cultivating fish, also includes: a) mangrove forests which cover an area of 3,617,000 hectares; b) coral reefs: Indonesia is the country with the largest number of coral reefs in the world. The area reaches 284.3 thousand km2 or the equivalent of 18% of the world's coral reefs; c) mining and energy such as oil and natural gas, tin, gold and silver, quartz sand, monazite and zircon, iron sand, construction material aggregates, phosphorite, chromite, etc.; d) Seagrass as a coral reef ecosystem; and e) diversity of flora and fauna that can be developed into tourism commodities, such as business tourism, beach tourism, cultural tourism, cruise tourism, nature tourism and sports tourism, as well as f) treasures in the sea. With this enormous potential, where Indonesia is the largest archipelagic country in the world which is composed of 17,504 islands, strung together by around 104,000 km of coastline (the second longest in the world, after Canada), and 75% of its territory is sea, it should be able to bring prosperity to the people.

However, there are still socio-economic inequalities that occur. Credit Suisse's Global Wealth Report 2019 states that the richest 1% of people in Indonesia control 44.6% of national prosperity, while the richest 10% control 74.1%. The wealth of the 4 richest people (US$ 25 M = Rp. 335 T) is the same as the total wealth of the 100 million poorest people (40% of the population) in Indonesia (Oxfam, 2017). The World Bank (2014) notes that from 2005 – 2014, the richest 10% of Indonesians

increased their consumption levels by 6% per year. Meanwhile, for the poorest 40% of people, consumption levels only grew 1.6% per year. In fact, in 2014, the total consumption of the richest 10% of the population was equivalent to the total consumption of the poorest 54% of the population. Around 0.2% of Indonesia's richest population controls 66% of the total national land area (KPA, 2015). Even now, 175 million ha (93% of Indonesia's land area) is controlled by national and foreign conglomerates (corporations) (Institute for Global Justice, 2016). This condition of economic and social inequality has the potential to give rise to jealousy, social conflict and even disintegration; Moreover, there are many entrepreneurs who are in the power circle and can influence public policy in their interests.

Data from the Ministry of Energy and Mineral Resources records that the potential for new renewable energy (EBT) reaches 417.8 gigawatts (GW), coming from ocean currents of 17.9 GW, geothermal 23.9 GW, bioenergy 32.6 GW, wind 60.6 GW, water 75 GW, and solar or solar 207.8 GW and it is believed that it will not run out for the next 100 years. To utilize marine and water resources, you must pay attention to availability, namely the natural resources available with supply source indicators; ability to buy (affordability), namely purchasing power which is linked to national income per capita; and access (accessibility) for producers and users in driving the economy; and quality (quality). Maritime sector policies must truly be in the national interest, including management of marine resources, human resource development, defense and security, law enforcement and safety at sea, governance and institutions at sea, economy, infrastructure, improving welfare, management of marine space & protection. marine environment, maritime culture and maritime diplomacy. By upholding the principles of Indonesian insight, sustainable development, blue economy, integrated and transparent management, community participation, equity and equality. Management and utilization of natural resources must be in accordance with Article 33 of the 1945 Constitution of the Republic of Indonesia (original version).

Sea transportation and maritime logistics have a vital role in the Indonesian economy. With rapid economic growth, it is important to transform sea transportation and maritime logistics to support the vision of a Golden Indonesia 2045. In this context, fulfilling Environmental, Social and Governance (ESG) aspects is also a main focus. Therefore, how can Indonesia's exploration of sea transportation and maritime logistics be transformed towards the vision of a Golden Indonesia 2045 by paying

attention to ESG aspects. In addition, Indonesia is one of the 7 largest emitters, accounting for approximately half of global greenhouse gas emissions in 2020 (United Nations, 2023). Of course, in welcoming the Golden Indonesia 2045, Indonesia needs to increase and maintain economic growth simultaneously with reducing carbon and greenhouse gas emissions to participate in achieving the GHG reduction targets set by the UN and the International Maritime Organization (IMO). Ports as part of maritime logistics are also moving towards transforming world-class ports by including strategic initiatives for the development of sustainable ports in them (Pelindo, 2023). The ESG context here has 3 (three) big benefits, namely risk reduction, competitive advantage, efficiency and optimization.

First, in strengthen ing environmental aspects, what needs to be done is reducing emissions, protecting ecosystems and conserving resources. To reduce emissions, efforts that must be made are the use of environmentally friendly fuel such as LNG (Liquid Natural Gas) or the use of more efficient technology to reduce greenhouse gas emissions and air pollution. To protect ecosystems, it is necessary to implement policies and practices that protect marine and coastal eco-systems, including waste management and reducing the risk of marine pollution. Meanwhile, for resource conservation, sustainable management of marine resources, including fish and other marine flora, is needed to ensure long-term sustainability. Apart from waste management, water management and air pollution control.

Second, to strengthen the sustainability aspect, the efforts needed include the use of Green Technology, development of environmentally friendly infrastructure and development of sustainable transportation. Green Technology is needed by investing in green technology and innovation to increase operational efficiency and reduce environmental impacts, such as the use of electric or hybrid ships and the implementation of artificial intelligence (AI)-based logistics systems to optimize routes and energy use. Environmentally friendly infrastructure development can be carried out by building environmentally friendly port and terminal infrastructure, including the use of renewable energy and efficient waste processing systems. Meanwhile, for the development of sustainable transportation, encouragement is needed for the use of more sustainable sea transportation such as shared shipping and intermodal shipping to reduce road congestion and CO2 emissions from land transportation.

Third, in strengthening aspects of governance, maritime transportation actors in Indonesia need to ensure compliance with regulations, increase transparency and accountability, and increase the involvement of all stakeholders. Regarding regulatory compliance, business ethics and compliance from sea transportation and maritime logistics business players also contribute to strengthening the existing governance pillars, apart from ensuring compliance with relevant environmental, safety and labor regulations as well as international standards to increase integrity and trust in the industry. . For transparency and accountability, it is necessary to enforce transparency in company management through corporate governance and environmental performance reporting as well as accountability for the environmental impact of operational activities. As well as for stakeholder involvement, in order to involve various stakeholders, including government, industry, civil society and academics in the decision-making process to ensure the adoption of sustainable and inclusive solutions.

Finally, by strengthening ESG aspects in the maritime transportation and maritime logistics industry, Indonesia can achieve its goal of becoming a developed and sustainable maritime country by 2045. This will not only increase the country's economic competitiveness on a global scale, but will also improve the quality of the environment, creating sustainable jobs, and supporting overall sustainable development.

Indonesia, as a very large archipelagic country, is not alone. The *Archipelagic and Island States* (AIS) Forum is a forum for cooperation between island and archipelagic countries around the world which aims to strengthen collaboration to overcome global problems in four main areas, namely climate change mitigation and adaptation, blue economy, handling plastic waste in the sea, and governance. good maritime management. The AIS Forum Summit was held to strengthen the AIS Forum's role as a center for smart and innovative solutions, as well as a platform for mutual cooperation in pushing forward the future agenda for global ocean governance.

Through the Archipelagic and Island States (AIS) Forum High Level Conference (Summit) or the 2023 Archipelagic and Small Island States Forum in Bali, Indonesia which was held on 10-11 October 2023, it became a forum for island and archipelagic countries worldwide to strengthen collaboration to address global problems, especially maritime development. The theme of the 2023 AIS Forum in Bali Indonesia is "Fostering Collaboration, Enabling Innovation for Our Ocean and Our Future". means "Fostering Collaboration, Enabling Innovation for the Ocean and Our Future". The important issues

brought up by the leaders and delegates of AISF member countries focused on climate change adaptation and mitigation, disaster management, blue economy, handling plastic waste at sea, and good maritime governance.

This forum can also be used as momentum for Indonesia to accelerate the world's maritime axis. Where 45% of all global trade goods are transported through the Indonesian Archipelagic Sea Lane (ALKI) reaching USD 15 trillion. However, Indonesia has not utilized it significantly for the greatest prosperity of the people. Sofian Effendi – Chair of the Habibie Center stated that the World Maritime Axis launched by the Indonesian government in 2014 only contributed around 7 (seven) percent of National GDP. In the future, it needs to be increased to at least 30 percent or IDR 4,300 trillion/year.

The history of the AIS Forum begins with its founding based on the Manado Indonesia Joint Declaration on November 1 2018 which was agreed upon by 47 countries. Now its membership has grown to 51 countries. All members of the AIS Forum are depicted in Figure-2 below.

**Figure-2 Archipelagic and Island States (AIS) Forum Member States**


Source: Goodstats (2023)

Indonesia as one of the initiators of the founding of the AIS Forum has shown an important role in contributing to the global maritime sector through various regional and global diplomacy and cooperation. This performance should also be used as momentum to accelerate Indonesia to become the World Maritime Axis (PMD) so that it can prosper the people, nation and state; not to rent seekers, their cronies or foreigners. Extraordinary maritime potential so that it can be managed more optimally.

In the future, Indonesia's active role in the AIS Forum is targeted to help shape a new era of sustainable global blue economic growth, strengthening collaboration for more reliable and easily accessible blue financing to accelerate its implementation. In addition, we can continue to facilitate in-depth discussions to identify the main opportunities and obstacles in developing reliable blue financing in island and island countries. Lastly, it is to facilitate the exchange of knowledge and expertise between participants to increase the capacity of archipelagic and archipelagic countries in developing, implementing and monitoring blue economy initiatives.

## 5. CONCLUSION AND RECOMMENDATION

Various forms of transformation in Indonesian maritime transportation and logistics through the Pelindo merger, strengthening the blue economy and fulfilling *Environment, Sustainability & Governance* (ESG) aspects have been implemented and need to continue to be implemented consistently. Regardless of the assessment of logistics performance from international institutions, the most important thing is that Pelindo and all Indonesian maritime transportation and logistics stakeholders continue to meet customer needs and respond to customer requests. Indonesia and AIS member countries also need to continue to communicate, discuss and open up new opportunities to improve the blue economy. It will take a long time to continue to improve the logistics performance of this very complex archipelagic country, namely the beloved Republic of Indonesia.

It should be remembered that China could become the largest economic country today because the United States did not realize that China had planned 100 years ago to catch up with the United States in a long marathon (Pillsbury, 2015). A famous writer from England in the 1700s, Samuel Johnson, once said: "*Great works are performed, not by strength, but by perseverance*." His message is very important to remember, for Pelindo, as well as all relevant stakeholders in the logistics and transportation sector in Indonesia, that great work is not carried out with strength, but with persistence.

Based on the analysis above, it is recommendate to the Indonesian Government to strengthen the implementation as the World Maritime Axis.

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