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Implementation of Green Logistics in Indonesia's Fleet Services

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INFO ARTIKEL

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Abstract

This article was conducted to describe the green economy, green logistics, and its implementation in Indonesia's fleet corporations. Carbon gas emissions emitted by vehicles keep on increasing and pose a serious threat to the society which creates several ideas to emerge to address this issue, one of them being the green logistics. However, there is still a lack of knowledge on the usage of the green economy and logistics in Indonesia. The lack of resources also become one of the issues for our country to integrate green logistics. The article used literature reviews from published journals. Results show that the usage of green logistics is proven capable of reducing carbon gas emissions, but is still rarely used in Indonesia. It is hoped that this article will be able to offer new perspectives for logistics firms to utilize green logistics within the near future in order to promote sustainability for a better Indonesia.

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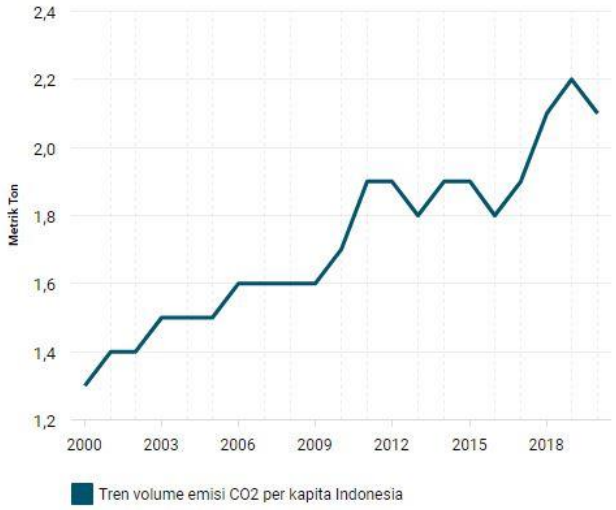
Introduction

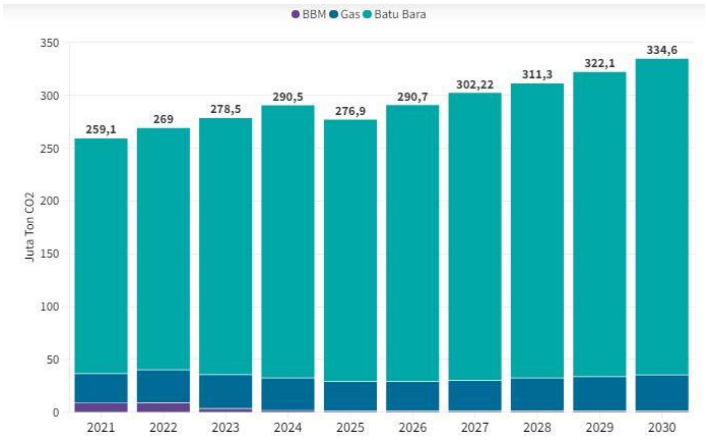
These days, an increasing number of individuals are interested in ecological issues. This is due to the fact that global environmental circumstances are deteriorating daily. Due to the severe harm that global warming does to the environment, a growing number of individuals are searching for more ecologically friendly options. The choices vary, one of them being the choices of modes of transportation. Undoubtedly, the gas released by motorcycles, cars, trains, ships, and airplanes contains chemicals that pose a serious threat to the environment. The World Bank's statistics on Indonesia's per capita carbon dioxide emissions shows significant fluctuations in emissions between 2010 and 2020 (Santika, 2023). Nevertheless, the data keeps indicating a notable rise. This data lines up with the conclusions drawn by Rizaty (2022), which predicts that greenhouse gas emissions would rise until 2030, particularly in the coal industry. Since coal may be used to

make fuel for vehicles, an increase in coal gas emissions is undoubtedly a problem that needs to be addressed by a variety of sources.



Picture 1. Indonesia gas emissions from 2010 to 2020

Source: Databoks (2023)



Picture 2. Gas emissions projection from 2021 to 2030

Source: Dataindonesia.id (2022)

This issue undoubtedly creates some challenging issues and obstacles, particularly for several businesses. One business that is having difficulties is the logistics or fleet services companies. Logistics business will transport things that consumers have purchased until they reach in a good condition so that purchasers may consume or utilize them (Winata and Ellitan, 2023). J&T, JNE, and SiCepat are a few Indonesian fleet companies. In the meanwhile, there are other logistics companies that concentrate more on food delivery, such as GoFood which is owned by GoJek, GrabFood which is owned by the Grab company, FoodPanda, and many more. Given that the firm utilizes a large number of vehicles for product or food

delivery, fleet corporations need to consider the issue of rising carbon dioxide emissions seriously since they keep on increasing annually. Making the transition to green logistics is one of the things that company owners are beginning to think about in order to lower the carbon gas emissions. Through indirect means, this can help Indonesia get closer to achieving the Sustainable Development Goals (SDGs) and improving sustainability through the adoption of a green economy. This article discusses the importance of implementing green economy and green logistics for sustainability, particularly for businesses in the delivery sector.

LITERATURE REVIEW

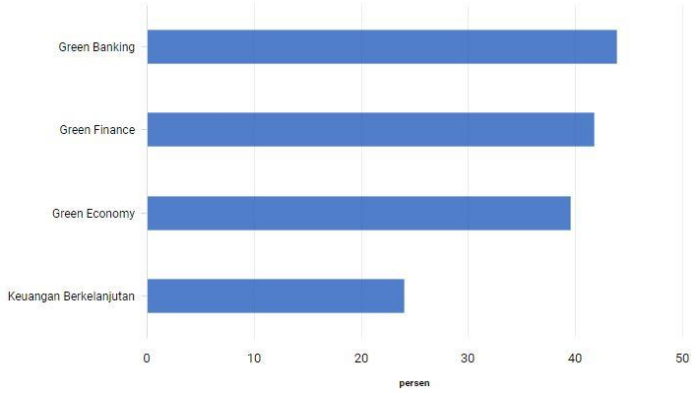
Green Economy

Nowadays, Indonesia is looking forward to achieve a sustainable development as well as reaching the target of Sustainable Development Goals or SDGs. There are three pillars of sustainable development, that are economic, environmental, and social. Thus, maintaining environmental sustainability, including biodiversity and a stable climate, is essential to accomplish sustainable development in Indonesia (Anwar, 2022). Consequently, it is not unexpected that the term “green economy” has gained more popularity recently.

A green economy is a practical application of economics that addresses the interdependence between human needs and the planet's resources. A development strategy that considers and protects natural resources rather than only focusing no short-term financial gain might be loosely modelled after the green economy (Oktiani, 2012). Since the green economy is based on an inventive system of economic activities that promote social well-being, support thriving natural habitats, and provide competitive but responsible company growth, it can be considered as a new engine of growth (Rede and Ingle, 2022). According to the Ministry of National Development Planning Indonesia, also known as the National Development Planning Agency, or Bappenas, the country's vision for 2045 is to become a sovereign, developed, just, and prosperous nation, and green economy can be implemented so that Indonesia can achieve the goal (Bappenas, 2022). Therefore, it can be said that green economy is one form of economy in which a business, even a nation, preserves environmental conditions through its economic operations. According to study by Oktiani (2012), a firm or nation's level of success in implementing the green economy may be gauged by three indicators:

1. **Low carbon**: This assesses whether carbon is disposed of in accordance with set requirements as industrial waste in industrial activity. The green economy will be employed more successfully the less carbon that a corporation produces during operations.
2. **Resource efficiency**: A metric used to assess how resources are used in industrial operations. Utilizing renewable resources or searching for ecologically acceptable substitutes would be preferable for a nation or business than utilizing materials that are harmful to the environment.
3. **Socially inclusive**: This demonstrates the utility of the industrial operations carried out and the extent to which society as a whole may benefit from them. The success of the green economy can be determined by how much better society feels following the implementation of the green economy, and vice versa.

The term “green economy” has been widely used since 1989 and is quite well known as a means of illustrating how the economy can play a pivotal role in addressing issues like resource depletion, tropical deforestation, and environmental policies, particularly in developing nations (Masdar et al., 2022). Many nations, like China, Kenya, and Brazil, have effectively incorporated a green economy into many facets of their national growth, including the use of more ecologically friendly fuel and superior waste management. Regretfully, a large number of Indonesian citizens do not even recognize this important term. Rahman (2022) carried out a study in which the researcher gave out a survey and had about 3.015 individuals in Indonesia who were at least 17 years old complete it out. Results showed that the phrase "green economy" was unfamiliar to nearly 40% of respondents. A further 36-48% of respondents had heard the term "green economy" but were unsure of its meaning, while just 20–27% of respondents were aware of it, and this shows that Indonesians level of awareness regarding the importance of green economy is still low.



Picture 3. The percentage of Indonesians who do not know green economy

Source: Databoks (2022)

Green Logistics

The goal of logistics may be understood as being to maximize revenues while decreasing expenses. Green logistics have arisen because of the existing state of the environment, which is highly destructive owing to significant carbon gas emissions created by automobile gasses. Aside from helping customers to receive the goods they ordered, green logistics is one form of implementation of the green economy.

Green logistics refers to supply chain management techniques and approaches, with an emphasis on material handling, waste management, packaging, and transportation, that lessen the energy and environmental impact of freight distribution (Seroka-Stolka, 2014). It is also a logistical concept that emphasizes minimizing environmental impact and using as many environmentally friendly raw materials as possible from the time items are processed until customers may utilize them (Map, 2021). Because of increased awareness of sustainable development, green logistics has allegedly been practiced since the 1900s (Zowada, 2020). Given that supply chain management and logistics are two ongoing, interdependent processes, it is crucial to include green logistics into supply chain operations, particularly for businesses providing fleet services (Mohsin et al., 2022).

Green logistics has been around for a while, but only recently has it been explored in relation to environmental concerns. It follows that the fact that several nations are beginning to encourage the application of green logistics in fleet enterprises is not shocking. According to Patra's (2018) study, some drivers on why businesses should apply green logistics are as follows:

1. **Costs**: Transportation, gasoline, power, and raw material prices rise when environmental concerns are ignored. Profits are significantly impacted by rising costs. As a result, by creating new technologies and using less energy sources, ecologically friendly alternatives are being created that can lead to considerable cost savings. However, the costs of alternative, eco-friendly fuels used by delivery businesses will definitely be more expensive than the fuels that are generally used, thus business owners should think twice about this before truly committing to implementing green logistics.
2. **Greenhouse gases emission**: A rise in greenhouse gas emissions or the carbon gas emissions brought on by the gas emitted by vehicles these firms utilize is a very severe issue that fleet businesses must deal with. The public's knowledge of this issue has grown rapidly in recent years due to the globalization that provides lots of new information each and every day, leading several organizations to develop regulations aimed at reducing the impacts of gas emissions and gradually identifying issues so that their environmental impact may be reduced in earnest.
3. **Climate change**: Climate change arises with an increase in carbon gas emissions. The most noticeable effects are melting arctic ice, deforestation, and weather patterns that are getting warmer.

Even though at first it will be quite difficult for fleet services to apply green logistics, according to (Racking, 2023), there are many advantages that can be obtained, including:

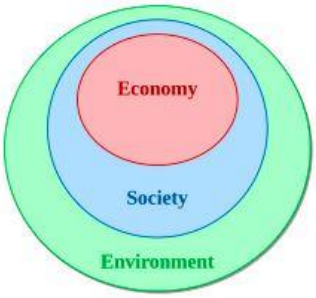
1. **Reducing gas emission**: Vehicles can emit less carbon dioxide and other greenhouse gases because they run on fuel that is less harmful to the environment.
2. **Lower packaging costs**: Using recyclable or biodegradable materials for packaging is part of green logistics. Recycling materials and components can save firms money over time, even if they will initially cost more to buy. Because packaging makes up about half of the plastic pollution in the world and is virtually never recycled, it is critical to use this resource responsibly.
3. **Better image for the company**: Green logistics enables businesses to take an environmentally conscious stance, which is especially advantageous for their reputation. Suppliers, consumers, and stakeholders in general might all view the company's reputation for environmental responsibility as a benefit. It might be a means of satisfying B2B clients' needs, who then use green logistics and search for suppliers that share their values, or it can be a means of satisfying the environmental criteria of B2C clients, who can view it as a quality assurance.

It is very important for delivery companies to implement this. Unfortunately, until now, there are still not many, and it could even be said, no companies in Indonesia that have truly implemented green logistics in their companies due to the various challenges they face.

Sustainability

Sustainability is one of the goals that is currently being fought for by all countries, including Indonesia. This is certainly not surprising considering that the world conditions are now getting worse so that people in various corners of the world are flocking to look for various kinds of alternative materials and products so that environmental sustainability can be maintained. As a result, almost 190 nations adopted the Sustainable Development Goals, or SDGs, when they were first proposed in 2015. SDGs aim to attain sustainability across several domains, including social, economic, and environmental aspects (Team, 2023). Sustainability is attainable by a nation that can effectively manage its resources.

Moore (2017) defines sustainability as the capacity to be maintained at a specific level or levels. Sustainability can also be referred to as the natural systems' continued ability to uphold and improve the standard of social systems (Sakalasooriya, 2021). Analysis and comprehension of feedback and the dynamics of the interaction between ecological and social systems are necessary to attain and preserve sustainability. The process of sustainability itself is perpetual, and the circle never ends. Sustainability is based on three pillars: the economic, social, and environmental (Sakalasooriya, 2021). The environment is the most crucial component of sustainability. Social and economic activity cannot function successfully for a firm or nation without a favorable environment.



Picture 4. Three pillars of sustainability

Source: Open Journal of Sciences Vol. 9 (2021)

Sustainability, along with the green economy and green logistics, are so strongly intertwined. Green logistics requires the help of stable sustainable development so that it can run well, especially for delivery businesses. The gas released by vehicles as well as the materials needed for additional packing of customer packages should use environmentally friendly materials. In fact, currently, there are lots of renewable and recycled materials that can be used so that customers can receive goods in good condition. Starting to replace fuel that is more environmentally friendly is certainly important for the continuity and continuity of logistics businesses. Using green logistics is one strategy that helps businesses become sustainable. Sustainability is regarded as one of the metrics used to assess an organization's global standing. The logistics sustainability idea is mostly about long-term profitability delivery (El-Berishy, 2013).

RESEARCH METHODS

This article uses the library research method in which writers collect data through previous findings, studies, or researches.

DISCUSSION

In actuality, the application of green logistics is still questionable even though it is crucial to Indonesia's green economy advancement in reaching the SDGs and developing into a developed nation. This is because most of the general public does not understand the concept of green logistics as well as how crucial it is to Indonesia's fleet enterprises. In fact, companies operating in the logistics sector in Indonesia have supported environmentally friendly activities, but this is not demonstrated through the implementation of green logistics. One example is the GoJek company which is holding tree plantation activities to reduce carbon gas emissions. It is still very difficult for companies in Indonesia to implement green logistics on their vehicles, so generally they will look for other ways to support environmental sustainability. Map (2021) stated some issues faced by delivery businesses in Indonesia in implementing green logistics, that are:

1. **Availability of environmentally friendly vehicles**: Every vehicle has different Euro emission requirements. As per the Minister of Environment and Forestry Regulation Number 20 of 2017, as of 2018, motorized vehicles in Indonesia are required to meet the exhaust gas emission level known as Euro-4. However, Indonesia lags far behind its neighbor countries, like Vietnam which has been using Euro-5 since 2022, Singapore that has been using Euro-5 since 2014, and Thailand (which will be switching to Euro-6 (Salim, 2023).

2. **Fuel quality**: Sulfur content in Indonesian fuel oil is still rather high. The highest sulfur concentration allowed by the Euro 4 standard is 50 parts per million or ppm, however the sulfur content in diesel is still between 2,000 and 3,000 ppm.

3. **Guaranteed sustainability of environmentally friendly fuel supplies**: If Indonesia has successfully implemented green logistics, there is no guarantee whether it will continue to be used by business activists in the future, so its sustainability cannot yet be measured and estimated.

4. **Understanding and competence of some business owners**: As stated previously, there are many Indonesian citizens who have never even heard of the term green economy, in which they also do not know about the implementation of green logistics as one part of advancing the green economy. The lack of insight and knowledge among Indonesians means that green logistics cannot be fully implemented in Indonesia.

5. **Limited capital for business owners**: Almost all transportation companies require massive capital to implement green logistics, and not all logistics businesses in Indonesia are capable of this. Therefore, green logistics is still very difficult to be adapted in our country.

Walmart is one business that has effectively embraced the green economy. Walmart has incorporated green economy principles into its operations, which is not unexpected given that the retailer is aware that customers prefer to purchase goods from businesses that support environmental causes (Winata and Ellitan, 2023). Walmart is one of the first companies, if not the first, to deploy ecologically friendly self-driving cars (Cortes, 2022). These cars are electric and do not emit carbon dioxide since they run on coal or another fuel. In addition, Walmart intends to use vehicles that run on liquid hydrogen and compressed natural gas or CNG. Walmart faces a difficulty in finding ways to keep delivery prices reasonable for customers despite the fact that both, particularly hydrogen, have the potential to enable cars to travel larger distances. Despite the fact that Walmart is not an Indonesian firm and does not have any branches there, Indonesian business owners, particularly those in the delivery industry, may find motivation to begin implementing similar improvements in their logistics.

CONCLUSION

To achieve sustainability, all countries, including Indonesia, must develop a green economy, particularly in the area of green logistics. Good green economy and good green logistics can help logistics companies to achieve sustainability, which can also enable them to help the environment so that the environmental conditions can gradually improve. Unfortunately, despite having sufficient natural resources and human capital, our nation still struggled to successfully adopt green logistics because of a number of issues. In order to fulfill its commitment to sustainability, the Indonesian government will need to collaborate with corporate activists and local communities to advance these two concepts. Because of this, we have every confidence that Indonesia will be able to begin implementing a green economy and efficient logistics that will be long-lasting.

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