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## The solutions for the development of Vietnamese logistics

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### Abstract

Vietnam transport and logistics activities are on the rise along with the increase in import and export activities. According to a recent announcement by the World Bank (WB), Vietnam is ranked at position 39 with a significant improvement in its LPI (Logistics performance index) 3.27, ranking 3 in ASEAN (after Singapore position 7 and Thailand position 32) ranking of 2018 logistics activities, is considered to have better logistics service performance than comparable income markets. Vietnam currently has many advantages to develop transport and logistics industry: (1) Increased global trade exchange with international economic integration and successful signing of free trade agreements ; (2) Appropriate geographical location to build transit centers in Southeast Asia; (3) Infrastructure: warehouses, highways, seaports and airports are not improved. In 2018, the logistics industry increased by about 12-14%. The current number of transport and logistics enterprises is 3,000, including roads, railways, seaways, inland waterways and airways. The development of the transport and logistics industry will also create conditions for Vietnam to quickly become a new production center in the region with competitiveness. Industry players also showed growth confidence when more than 73% of enterprises surveyed by Vietnam Report said that the entire transport and logistics industry in Vietnam will achieve growth on two numbers, nearly 27 % predicted to be below 10% in 2019.

**Keywords:** logistic, fleet, marine environment

### 1. Introduction

Vietnamese logistics services started developing in the 1990s on the basis of freight forwarding and warehousing services. Currently, there are about 1,200 logistics service providers in the country (compared with the number of 700 before 2005), such as freight forwarding, warehousing, loading and unloading, transport agents, forwarding agents, and translation services. Logistics service ... mainly concentrated in the city area. Ho Chi Minh and Hanoi. It is possible to classify the current Vietnam logistics service industry as follows:

1. Transport operators: transport services (road, sea, air ...)
2. Enterprises exploiting infrastructure at the nodes (ports, airports, stations ...)
3. Enterprises exploiting warehousing, loading and unloading and logistics services
4. Freight forwarding companies, 3PL enterprises and other businesses such as software solutions, consulting, inspection, inspection, finance

Except for equitized state-owned enterprises, most of these enterprises are small and medium-sized, the current average charter capital is about VND 4-6 billion (compared to 1-1.5 billion before 2005 ) and human resources for logistics training are very low (5-7%). Vietnam's logistics service providers mainly act as agents, or undertake each stage as subcontractors in logistics transport lines for international logistics service providers. There are over 25 multi - logistics enterprises. The country is operating in Vietnam but accounts for over 70-80% of our country's logistics service market share. In recent years, thanks to the help of ministries and agencies, including the Ministry of Industry and Trade, Ministry of Transport... our freight forwarding and logistics activities have developed both in terms of quality and quantity, initially achieved some encouraging results, assessed by the World Bank (WB) through the performance index (LPI) ranked 53/155 countries to study and

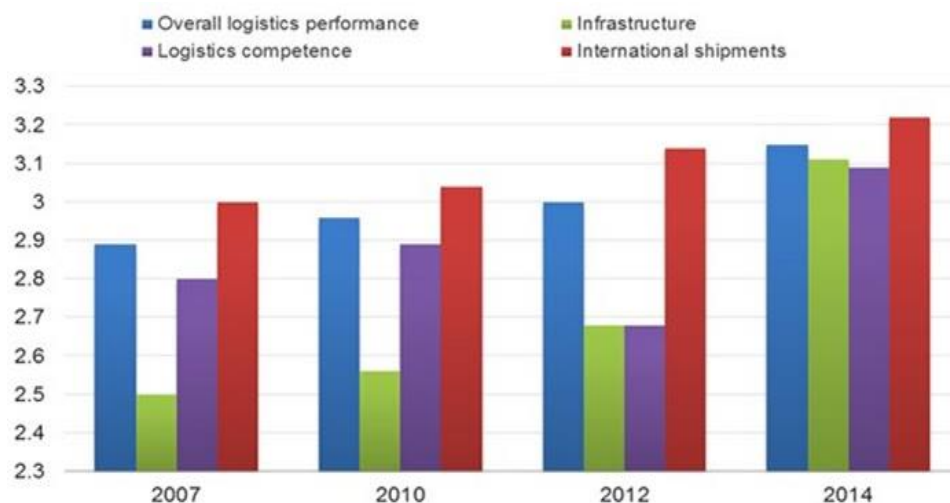
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ranked 5th in ASEAN region ( 2012). The growth rate of logistics services reaches 16-20% / year. However, the competitiveness of logistics services is low, logistics costs are very high - the rate of 20-25% of Vietnam's GDP, while that of China is 17.8% and Singapore is 9 % (2011). The connection between import and export enterprises and logistics service enterprises is still limited, not strict and reliable. This is one of the reasons why our logistics services are less developed than required. The rate of logistics outsourcing is very low, from 25-30%, while that of China is 63.3% (2010), Japan and European countries, the US over 40%.

According to the World Bank Report in April 2013, the main reason why logistics activities in Vietnam are relatively ineffective compared to other countries is the lack of reliability throughout the supply chain. Vietnam with the rest of the world. The reason is due to inefficiencies in technology and implementation of logistics activities. Including: law related logistics adjustment is often not understandable obstructing; "lubrication" costs in transportation; the planning of transport infrastructure is not synchronous without a multi-modal corridor; Road transport has not met the requirements of cargo owners and seaports that have not been fully exploited, while about 90% of Vietnam's import and export goods are transported

by sea. The biggest limitation to the development of Vietnam's logistics services in addition to transport infrastructure and related issues such as traffic safety, the regulation of road and bridge load is also the most administrative procedure. is customs clearance. The means that are currently taking up most of the logistic operations in Vietnam are too old and outdated, considering the environmental criteria, there must be some inaccuracy. Shipping by road, rail or road is severely affecting the environment, so environmental projects need to be studied at the macro level. Environmental status reports have shown that the quality of the marine environment and coastal areas continues to decline. For the railways sector, according to survey data, more than 10 tons of manure and rubbish are discharged directly to the railways every day, causing railroads such as sleepers, railroads, Bridging, polluting the surrounding environment and the life of the community. It is noteworthy that shipping, current and future, when the regulations on safety and prevention of environmental pollution of international organizations regularly change, the old fleet of Vietnamese ships running international routes will make the fleet of Vietnam hard to keep up. Vietnam shipping activities are very difficult to sustain in the shipping industry in the world if has not urgent and efficient solution.



**Fig.1:** Logistic infrastructure in Vietnam

In recent years, projects of enterprises and environmental action programs have been launched, even though they have just started, but they are good signs for the Vietnamese logistics industry. On June 30, 2010, the Vietnamese Ministry of Transport issued Circular No. 16/2010 / TT-BGTVT regulating details of management and operation of airports and airfields. The Circular clearly stipulates that projects on planning and investment in the construction of airports and airfields must be made in the form of environmental impact assessment reports and be subject to inspection and supervision of the implementation of environmental protection measures. , Must comply with the law on environmental protection, civil aviation law, Vietnam's environmental standards and treaties to which Vietnam is a member. Especially, on 06.6.2011, the Prime Minister issued Decision No. 855/QĐ-TTg approving the project on environmental pollution control in transportation activities with a total approved budget of 700 billion dong. The overall goal is to control, prevent and limit the increase

of environmental pollution, aiming to build a sustainable and environmentally friendly transport system. Accordingly, by 2017, at least 25% of new rail car coaches will be built, 30% of international seaports will be equipped with means of collection and treatment of waste and waste oil from ships.

By 2020, 80% of railway carriages will be built, completing the noise map for all airports; Maintaining the implementation of motor vehicle emission standards; 70% of international seaports; 50% of domestic inland wharf ports are equipped with means, equipment for collecting garbage and waste oil from ships. And to orient to 2030, focus on developing environmentally friendly transportation system, basically controlling the polluting components in all areas of road, railway, waterway Domestic, maritime and aviation. Green Logistics describes activities to calculate and minimize the ecological impact of logistics operations. This includes all front and back transactions of products, information and services between

productions start points and points of sale. It is the purpose to create a sustainable corporate value based on the balance between economic efficiency and environmental protection. The concept of green logistics has its roots in the mid-1980s and is a concept that describes logistics systems and methods using advanced technology and equipment to minimize environmental damage during operation.

Global production is increasingly concentrated in China, India, Russia and Brazil. The center of the world economy is also shifting to Asia. The development of production and consumption increases the volume of goods and transportation distances, raising the demand for global supply chain management and control. Many countries have developed programs and strategies to develop a green logistics system that meets the requirements of economic development, enhances the competitive position and protects national interests. Vietnam's logistics industry is in its early stages of development. The competitiveness of industries and enterprises is still low compared to other countries. If Vietnam's logistics industry is expected to integrate and develop in the near future, in addition to the active efforts of the business itself, the government, industry and localities cannot stand by. They need more attention and support to implement urgent mid- and long-term solutions to develop the green logistics system in Vietnam, firstly planning to establish logistics centers. At international ports, the highway connects the main means of transportation in the distribution and circulation of

goods. Reviewing packaging, waste disposal, fuel consumption and related factors at different steps of commodity production and transition processes will be the key to the success of these efforts.

## II. Warning of pollution in logistics

Commercial logistics services in Vietnam began to develop in the 1990s on the basis of freight forwarding services, which are now in the early stages of development. According to the LPI in 2014, Vietnam ranked 48 out of 160 countries surveyed and ranked fourth in ASEAN countries (after Singapore, Malaysia and Thailand). By 2014, the logistics industry contributes about 3% of GDP, (Thailand is 3% in 2014, Singapore is 9.4% in 2014). The current outsourcing rate is about 30-35%, (China is 63.3%, 2010). The level of service provided by logistics companies in Vietnam is still limited, showing that the service price is not competitive and the quality of service is not high, thus the labor productivity and competitiveness are still limited. Cover. Statistical capacity of logistics needs to be improved. Logistics costs are equivalent to about 21% of GDP (China is 17.8%, 2011), while developed countries like Singapore are about 9% - 14%. The average growth rate of logistics services in the past years is from 16-20% per year. The government's plan is to grow logistics services by about 24-25% a year by 2020 and by 2030 by 34-35% a year. It can be said that logistics services in Vietnam have a fast and stable development.

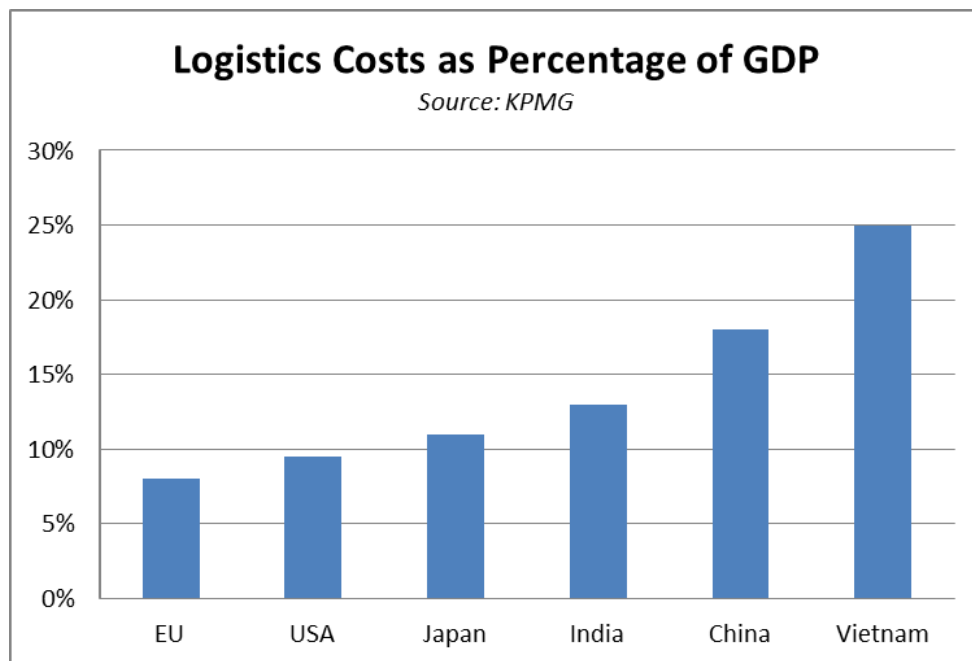


Fig. 2: Logistic cost in Vietnam

The logistics service system in Vietnam now consists of four components: the institution, the development policy and the law governing logistics services; Infrastructure (including hard infrastructure and soft infrastructure); Logistics service providers; Consumers of logistics services. The marine environment is heavily polluted by industrial, agricultural and aquacultural waste, household waste, but the impact of oil pollution on shipping, shipbuilding and seaports. Need alerts to minimize the stronger. Oil and oil spills despite the 0.1mg/liter of oil content in water can also cause zooplankton mortality and greatly affect juveniles and larvae of marine organisms.

However, the seawater of Hai Phong coastal zone has the oil concentration in the water regularly exceeding the permitted limit of 100-300%. A recent report from the Hai Phong Department of Natural Resources and Environment showed that the area with high oil content is the water surface of Hai Phong port with an oil content of 0.3-0.6mg / l, exceeding the permitted level. The coastal area of Hai An district, Kien Thuy district, average oil content of about 0.6mg / l. Bach Dang estuary concentration of oil tends to increase, especially in the Department of Oil.

It is only marine pollution in a large seaport where most of the fishing boats, cruise ships, military vessels regularly

wash ships, dispose of engine oil, ballast water, discharged waste water directly Oil into the sea. Most types of vessels have no oil and waste of water collection and treatment facilities, whereas under the MARPOL for Vessels entering and leaving ports, all ships must dispose of their wastewater into the port waters.

Nationwide, approximately 4 million tons of petroleum fuel from more than 1,700 transporters and about 130,000 fishing vessels a year are responsible for pollution in coastal and coastal areas and in many places. Focus on marine ecosystems, destroying marine resources, endangering human health. Particularly in Binh Dinh province, there are nearly 7,000 vessels, of which 2,500 are fishing offshore. The implementation of Decree 67 of the Government will help fishermen in 28 coastal provinces gradually modernizing the fleet of offshore fishing, exploiting the strength of the ocean tuna fishing to enrich the sea. But the technology of shipbuilding, whether fishing or shipping, needs to be renewed with new green maritime standards, reduced engine emissions - ship engines, and incinerators, are rarely mentioned.

The current technology of shipbuilding, petroleum fuel is used quite heavily, causing a considerable amount of waste oil in construction stages. All major pollutant emissions to coastal waters, oil pollution and sediment heavy metal contamination in shipyard and shipyard areas. They alter the physical and chemical nature of seawater, bad effects on marine fauna and flora, salt production, aquaculture and marine tourism. Renewal of shipbuilding technology requires the installation of advanced equipment, especially pollution prevention equipment on board, to minimize the pollution caused by maritime and shipbuilding activities. Reducing toxic emissions to the sea to limit ocean acidification impacts is a global current issue. According to recent scientific reports, global warming is causing serious damage such as heat, heavy rain, ocean acidification and sea level rise. Ocean acidification is the phenomenon of continuous decrease of pH in the Earth's oceans due to the absorption of carbon dioxide by human action into the atmosphere. The means of shipping - especially old, backward ships emit more toxic gases due to low fuel burning efficiency and no exhaust gas treatment system, is a very polluting source. In the marine environment field, Vietnam should have policies, normative documents, regulations and standards for reducing emissions, especially greenhouse gas emissions, for fishing vessels and transport ships, which can be controlled and good emissions from ships in marine operations. Emission control areas need to be researched, built and established in seaports close to sea areas of special ecological value, such as Quang Ninh - Hai Phong, Vung Tau - Ho Chi Minh City. . There are large sized vessels with emissions in excess of the permissible limits that will not be docked or under special pilot regimes. The policy to levy tolls on ships should also be enacted. It is necessary to blame the waste generator, to license operation to the certification of ecological ships, seaports, ecological enterprises.

### III. Conditions to become a green logistics in Vietnam

Logistics is one of many types of large-scale commercial infrastructure, which in the process of operation always has certain effects on the environment. Therefore, the direction of environmental protection in the development of logistics system should ensure the conditions:

1. The development of logistics centers should be carried out on the basis of the implementation of the master plan for trade development in the country, the planning of other infrastructure systems, especially the planning of transport sector, urban planning, residential planning.
2. Development of logistics centers must be associated with the requirements to improve the responsibility of the environmental management of the competent agencies in terms of planning management, investment licensing and environmental management. According to the provisions of Decree No. 80/2006 / ND-CP, Decree No. 21/2008/ND-CP; Circular 08/2006/TT-BTNMT, the project owners are responsible for making environmental impact assessment report, environmental protection commitment, environmental protection project. However, due to various reasons, many investors have not fully implemented these regulations.
3. Development of logistics centers must be associated with raising the social responsibility and environmental protection of enterprises of all economic sectors involved in investment. The capital for the construction of logistics centers is actively mobilized from all resources of society, on the basis of ensuring reasonable benefits to attract investment of enterprises, including FDI enterprises. Improving the social responsibility of the environment for investment in the logistics system is not only to prevent negative impacts on the environment, but also to promote the positive aspects of enterprises in improving the environment. . For example, in the space of building a logistics center, if the company promotes social responsibility for the environment, then the enterprise will choose the investment plan in harmony with surrounding landscape and architecture.
4. The process of industrialization, rapid urbanization is causing a lot of pressure on environmental pollution. In addition, the formation and development of large-scale logistics centers will increase the pressure on environmental pollution and the response to environmental incidents. Therefore, the planning implementation must be accompanied with the plan to strengthen the inspection and assessment of environmental impacts during the operation of the logistics center.
5. The investment licensing of large-scale logistics centers in areas that are close to the inner city need to be limited. But it needs to encourage the development of urban periphery to minimize the flow of traffic, people and goods concentrated in the medium at the same time improve the ability to solve environmental problems on the basis of reasonable allocation of green areas and water surface in the project area. According to the trend of development in general and development of logistics system in particular in our country until 2020, orientation to 2030, the areas to be considered are the South East, Red River Delta, South Central Coast. The increase in large-scale logistics centers increases the risk of environmental impact.

### Technical solutions

It is necessary to determine the location of works that meet the environmental criteria, in places that can minimize the impact of nature, avoid areas prone to floods, landslides, Areas where polluted underground water is located, etc. The construction sites must ensure the fire and explosion prevention and fighting, convenient for firefighting,

prevention of forest fire and water source pollution; not close to schools, hospitals, defense facilities and other buildings that need noise isolation. In addition, the design should also minimize the environmental impact such as the increase of green areas, lakes, increase the area of roads in the project area, build the area of collection and treatment, waste on site, parking.

They must be built and installed solidly and fully and synchronously according to current standards and norms for works such as sanitation and fire-fighting systems, water supply and drainage systems, Waste and solid waste (solid waste) and liquid waste (wastewater) systems are combined with appropriate waste collection and treatment processes, regimes and technologies. Particular attention should be paid to the system of collecting and treating wastes from food processing and food service areas, storage areas for chemicals, etc. For works in relatively isolated positions there is a need for on-site waste treatment systems, which will require the strengthening of solid waste management capacity, especially the sorting of solid waste from the source. Pay attention to building plans and investment capacity to rescue environmental incidents. Full installation, synchronization of equipment, means, tools fire. Design of emergency exit and escape routes, doors and roads in case of disasters according to current standards and regulations.

### **Management solution**

With regard to state management agencies, to further study to institutionalizing regulations on environmental protection for production and business activities of commercial establishments, especially large scale establishments. Like TT logistics, training and fostering to improve the capacity to assess and appraise reports on environmental impacts and environmental protection solutions of investment projects for the construction of logistics centers before the competent authorities and investment certification.

Organize and direct the activities of the specialized agency in charge of State management of environmental protection, with a focus on environmental impact assessment, implementation of environmental protection measures and operation of the environment. Environmental protection of logistics system TT, strengthening the role of the system of environmental protection organizations at the grassroots level, promulgating and enforcing environmental protection regulations for industrial parks and economic zones in order to enhance the effectiveness of environmental management and protection are carried out. For service business enterprises, the management of logistics centers, it is necessary to assign leaders in charge, set up the team specializing in environmental protection activities of the logistics center. At the same time develop annual plans for environmental protection activities; and regularly monitor and supervise environmental protection activities.

For social organizations and associations, the rights and obligations of state agencies, socio-political organizations, communities and individuals in the protection of the environment must be clearly defined. And to bridge the logistics business enterprises with competent state agencies. Disseminate and provide information on state policies and laws to enterprises, and reflect the aspirations and proposals of enterprises to state agencies. Strengthen

the dissemination and dissemination of environmental protection laws to organizations and individuals to raise public awareness and sense of self-discipline in environmental law. Enterprises, management boards of logistic centers in participating in environmental protection activities, and at the same time reflect to the competent State agencies mistakes in the implementation of investment of enterprises.

### **Conclusion**

Currently, logistics costs are accounting for a large proportion in enterprise costs, making it the biggest barrier to the competitiveness of enterprises. In order to reduce logistics costs, most experts and businesses in the industry said that it is necessary to synchronize transport infrastructure and connections between modes of transport, and at the same time develop a transport floor to connect well. Most shippers and enterprises providing logistics services, creating a basis for Vietnamese logistics enterprises to participate more in the supply chain, avoiding one-way transportation. Vietnam logistics and transport industry still has plenty of room for development. For businesses, in addition to focusing on investment in improving service quality, building brand reputation is also important. For foreign manufacturing enterprises, when setting foot in Vietnam, seeking and cooperating with reputable logistics enterprises is an intermediary connecting connecting safe transport of goods to partners and customers, contributing to completing Chain of production - distribution, adversely impact Vietnamese transport and logistics enterprises to participate more deeply and better positioning on global logistics maps.

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