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Attract Foreign Investment to Develop Green Industry in Vietnam

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Abstract

Traditional industry that has been developing for decades has revealed limitations such as: Environmental pollution, high energy consumption, labor intensive use, low competitiveness, productivity, and value creation efficiency have not been achieved. High... This characteristic is placed in the trend of industrial development, global supply chains, the goal of reducing greenhouse gas emissions, green growth, and circular economy, which requires transformation. To create competitive advantage, production efficiency, industrial product value, and environmental protection. Green industry is an industry approach that applies recognized methods, strategies and tools to decouple industrial production growth from increased resource use and environmental impacts. negative impacts on the environment with the following contents: (1) Ensuring the

security of natural resources by reducing pressure on already scarce resources such as water, raw materials and fuel; (2) Contribute to climate change mitigation and adaptation through reducing greenhouse gas emissions from energy and energy activities; (3) Better environmental management, ensuring industrial and chemical safety in business operations through the development and use of environmental goods and services and (4) Promoting the expansion of product development environmentalization. This article studies the theory of green industry, benefits and challenges in green industry development, gives lessons from some countries developing green industry in the world, and analyzes the current situation of attracting investment capital. Abroad and provide solutions to develop green industry in Vietnam in the coming time.

Keywords: Climate Change, Green Industry, Foreign Investment Capital, Reducing Emissions

1. Introduction

Industrial development plays an extremely important role, a key factor for each country, each territory and each locality. Thanks to industrial development, production is specialized and centralized and resources are used to bring about the highest efficiency. Thanks to industrial development, the birth of a commodity economy creates a huge volume of material products, not only meeting the needs of people in countries, territories and localities but also aiming to export. Based on increased industrial production capacity, productivity and labor efficiency, industrial development also helps the economy accumulate and contributes to improving the material and spiritual life of all strata of the population. However, the process of industrialization is often accompanied by rapid urbanization, high levels of emissions, the rate of exploitation of natural resources also increases to the maximum level, and the end result is environmental destruction due to pollution. Strong, resources are depleted, affecting public health and threatening the entire ecosystem. After 35 years of innovation, Vietnam's industry has an average growth rate of over 10%/year, positively contributing to the country's socio-economic development. However, industry is also one of the industries that creates the most waste, negatively affecting the ecological environment. Industries with high levels of pollution such as coal and mineral mining; electricity production industry; chemical industry; metallurgical industry; food industry, textiles, footwear... causing the Government to pose problems with highly effective solutions. Policies for environmental protection in the current industrialization process are truly an extremely urgent issue and require those policies to ensure the success of industrialization and modernization goals. While ensuring that the ecological environment reaches a safe threshold (WB, 2011) ^[1]. The downside of industrial development has destroyed the sustainability of industrial and economic development on a global scale. Without an industrial development strategy associated with environmental protection and solving social problems, the consequences will be huge and the goals of sustainable development will not be achieved. Industrial development towards green growth is a new approach that contributes to improving the quality of growth in the industrial and sustainable production process. Industrial development towards green growth will contribute to improving the quality of economic growth, reducing waste and emissions in industry, recycling and reusing by-products, and

effectively using natural resources and energy. Quality, improving environmental impacts, promoting value chain cooperation between businesses, are becoming increasingly urgent in the reality of the green growth strategy in our country. The process of industrialization is often accompanied by rapid urbanization, high levels of emissions, the rate of exploitation of natural resources also increases to the maximum, and the end result is that the environment is destroyed due to strong pollution, Depleted resources affect public health and threaten the entire ecosystem.

Industrial development towards green growth is a new approach that contributes to improving the quality of growth in the industrial and sustainable production process. Industrial development towards green growth will contribute to improving the quality of economic growth, reducing waste and emissions in industry, recycling and reusing by-products, and effectively using natural resources and energy. Quality, improving environmental impacts, promoting value chain cooperation between businesses, are becoming increasingly urgent in the reality of the green growth strategy in our country.

2. Research overview

Green industry concept

The term "Green Industry" has not appeared much in Vietnam, but has been used by most countries around the world and there have been many international conferences discussing this issue. Especially in developed countries, green industry is currently being applied and developed very strongly: in the US, China, countries of the European Union, Japan, Korea...

The concept of green industry began to emerge in the 1980s, when scientists and governments became concerned about the negative impact of industrial activities on the environment. In the 1990s, international organizations such as the United Nations and the Organization of Petroleum Exporting Countries (OPEC) introduced solutions and policies to encourage the use of clean energy sources and optimize production processes. Production process.

According to the United Nations Industrial Development Organization, Green Industry is an environmentally friendly industry, an industry that produces environmentally friendly products and helps the natural conditions of the environment. Better. Throughout the entire production process, green industry helps minimize negative impacts on the environment. In addition, green industry also includes the reuse of waste, energy waste, economical and efficient use of energy and other natural resources (minerals, natural wood...), Limit the use of toxic chemicals (fertilizers, pesticides, food preservation...) by using advanced technologies to overcome and control environmental pollution.

Currently, there is no unified definition for green industry, but we can understand its nature as follows:

- Green industry is an environmentally friendly industry, an industry that produces environmentally friendly products and helps improve the natural conditions of the environment. Throughout the entire production process, green industry helps minimize negative impacts on the environment.
- In addition, green industry also includes the reuse of waste, energy waste, economical and efficient use of energy and other natural resources (minerals, natural wood...), limit the

use of toxic chemicals (fertilizers, pesticides, food preservation...) by using advanced technologies to overcome and control environmental pollution.

Green industry will focus on the following 4 main groups of issues:

- + Green products
- + New and renewable energy (low CO2 emissions)
- + Green service
- + Sustainable environment.

Benefits of green industry

To develop green technology, we need to learn from previous countries such as Korea, the US, Denmark, China, EU countries, etc. to expand and develop green.

First, reduce emissions: Green industry aims to reduce emissions that pollute the environment. Instead of using energy sources from fossil sources that cause large emissions, green industry focuses on using renewable energy sources such as solar, wind, water and biology to produce goods. Goods and services.

Second, optimize resource use: Green industry also focuses on optimizing the use of resources such as water, raw materials and energy in the production process. Advanced technologies and mealy production processes help reduce waste and increase resource efficiency.

Third, protecting biodiversity: Green industry also has the goal of protecting biodiversity and maintaining habitat for plant and animal species. Green companies and production facilities comply with environmental protection regulations and standards to minimize negative impacts on the ecosystem.

Fourth, sustainable development: Green industry focuses on sustainable development, that is, meeting current needs without harming the abilities of future generations.

Fifth, create jobs and economic development: Green industry not only benefits the environment, but also creates many new jobs and contributes to economic development. Investing in green industry can create job opportunities in areas such as renewable energy, resource management and green technology.

In short, green industry is considered environmentally friendly because its thinking and actions aim to minimize negative impacts on the environment, optimize resource use and ensure sustainable development and creation of new products. Create economic benefits and new jobs.

Products of green industry

Environmentally friendly products in green industry are products that are produced and consumed without causing negative impacts on the environment. These products can be made from recycled materials, have a long life, use little energy, and do not cause harmful emissions or toxic waste. Examples of environmentally friendly products in green industry include energy-saving products such as solenoids and LED light bulbs; recycled products such as recycled paper, paper bags, recycled plastic bottles; products using renewable energy sources such as solar batteries, electric vehicles, solar water purifiers; Products that do not use toxic substances and do not pollute the environment such as organic products and cosmetics that do not contain toxic chemicals.

However, for a product to be considered environmentally friendly in green industry, there needs to be a guarantee of the entire production process, from raw materials,

production, use to waste treatment. In addition, there also needs to be a clear management system and standards to ensure that the production and consumption of these products is carried out in accordance with environmental standards and procedures.

Green industry offers a dual approach to industrialization with ensuring sustainable growth through:

Existing green industry: through actions to continuously improve operational processes and apply advanced process technology to achieve minimizing resource use and minimizing waste and emissions generation:

- Use resources and energy more efficiently
- Gradually reduce toxic substances
- Replace fossil fuels with renewable energy sources
- Improve health and safety
- Increase manufacturer responsibility and reduce hazards
- Improve waste management and waste recycling services

Promoting the development of new green industries: These are supply industries environmental goods and services, such as waste recycling, renewable energy, energy saving products or solutions for renewable energy development, collection, management and eliminate toxic waste (UNIDO, 2011) [5].

The products of new green industries include:

- Environmental goods and services according to the traditional approach
- Low carbon goods and services
- Renewable energy goods and services

Table 1: List of environmental, renewable energy and low carbon goods and services

Traditional environmental goods and services	Renewable energy goods and services	Low carbon goods and services
Air pollution	Biomass	Clean energy sources to replace fossil energy (hydrogen energy, biology...)
Soil contamination	Geothermal	Fuel/vehicles using alternative fuels
Consulting for each school	Hydroelectric	Additional energy sources
Environmental control	Photovoltaic	Building technology
Control marine pollution	Waves and tides	Energy management
Control noise and vibration	Wind	Carbon storage
Recycle and reuse	Renewable energy consulting	Carbon finance
Waste management		Nuclear energy
Water supply and wastewater treatment		

Source: BIS (2013) [3]

Green industry development trends of some countries around the world

Denmark: A leading country in green development. Denmark orders restrictions on the use of different types of bags and packaging. 20% of total energy consumption in Denmark is wind energy. Windmill manufacturers have achieved breakthrough technological success, so the cost of producing wind energy is equivalent to producing electricity

at a thermal power plant. Denmark is the first country in the world to achieve 1/3 of electricity consumption from wind turbines.

Korea: Promote green consumption. Korea issued a stimulus package "New Green Growth Agreement" (January 2009) worth 50 trillion Won over 4 years with 9 green projects, creating 956,000 jobs.

America: Improving green production techniques. The US chooses alternative energy development as the main direction for green economic development. The world's largest economy targets that by 2030, 65% of energy consumption and 35% of heat will be from solar panel installations.

EU: Say no to fossil raw materials. The EU also adopted a program towards a low-carbon economy by 2050. The program aims to reduce emissions by 40-44% by 2030 and 79-82% by 2050. In addition, the program also proposes methods to complete other goals such as reducing costs (175-320 €/year).

China: Deploying nanotechnology. China strives to reach 15% of electricity produced from renewable energy by 2020, reducing carbon emissions by 45%. The green development trend in China started with a 5-year plan in 2011. The Chinese government closed more than 2,000 enterprises that polluted the environment. The volume of state investment in the fields of energy conservation, renewable energy and adaptive technology exceeds US and EU targets. In particular, Chinese manufacturing enterprises have accounted for 40% of the world's solar cell exports.

3. Attract foreign investment in green industry development

It can be seen that the green development trend or sustainable development trend is clearer than ever in Vietnam. For example, Denmark's LEGO Group recently invested in building a 44-hectare children's toy factory in Vietnam - Singapore Industrial Park III (Binh Duong province), with a total investment of more than 1 billion USD. This is Lego's sixth factory in the world and second in Asia. The LEGO Group deal marks a milestone in attracting "clean" investment capital from Vietnam [4].

It is worth noting that in order to strongly attract green foreign investment capital to Vietnam in general and Binh Duong province in particular in the future, Binh Duong province started construction of Vietnam-Singapore Industrial Park III in September. 3 years now, on an area of 1,000 hectares with a total investment of more than 6,400 billion VND. This is an industrial park invested and built in a greener, smarter, more sustainable direction, in line with world and Vietnamese trends.

In Vietnam, there are many investors who own projects that have achieved green building certification. A typical example is Vietnam - Singapore Industrial Park (VSIP) or DEEP C Industrial Park Complex (a system of industrial parks and seaports developed and operated by Belgian investors in Hai Phong City and Quang Binh province). Ninh. These units are using rooftop solar power systems to provide electricity to part of the industrial park.

In addition, many future projects will also be green and smart oriented. Recently, the Green Park Nam Binh Xuyen industrial park project, in Vinh Phuc province, was also funded. Accordingly, the project owns a scientific water supply and drainage system and surrounding high-tech

wastewater treatment, helping to ensure clean water for workers as well as the factory's consumer needs.

Tin Thanh Group (TTG) has signed a contract to receive capital from the financial institution Acuity Funding (Australia) with a total value of 6.4 billion USD. This group said it will use the above loan amount to implement a series of projects in Vietnam and two projects in the US, both related to sustainable development, or "green" economy. Specifically, one billion USD is expected to be used by TTG to develop four biomass power plants and thousands of hectares of sorghum cultivation in Central and Southern Vietnam. While 1.7 billion USD was used to build a tire retreading factory and truck service in South Carolina, the goal was to reduce emissions, save costs and convert to green energy. With the remaining 3.7 billion USD, Tin Thanh Group will build a green hydrogen production facility in South Carolina, in cooperation with Air Products.

Previously, on September 19, 2022, IFC also committed to invest 3,500 billion VND (about 150 million USD) in sustainable bonds in local currency issued by BIM Land Company (100 million USD) and Thanh Xuan Company. (50 million USD), all issued by BIM Group. The money was used by Thanh Xuan to develop an environmentally friendly residential area project with a hotel complex in Vinh Phuc. BIM Land also uses and invests in water and energy saving solutions at two hotels in Phu Quoc. IFC said the sustainable bond helps the two companies save water and improve energy efficiency at three hotels that will meet EDGE standards - IFC's green building certification system. These solutions are expected to help reduce about 4,000 tons of CO₂ emissions per year. To date, IFC has committed more than 900 million USD in long-term funding to support climate-related projects in Vietnam. The total investment commitment of this financial institution under WorldBank Group reached nearly 1.9 billion USD in the fiscal year ending June 30.

Economic experts believe that high-quality foreign investment flows play a very important role in greening the country's economy. On the other hand, the consumption trends of countries with developed economies in the world today have changed. They are not only interested in product design and quality but also interested in environmentally friendly products. Therefore, developing green industries has also become an important factor for Vietnam to attract investment competition.

Challenges in developing green industry in Vietnam

According to the representative of the Ambassador of the Federal Republic of Germany in Vietnam sharing at the international forum on Green Industry and Structural Policy for Vietnam, to have a green industry, Germany always encourages initiatives in industry, good models are promoted and replicated. However, Vietnam has its own difficulties, which are concerns about how to develop harmoniously between green growth and economic development.

The representative of the Central Institute for Economic Management (CIEM) also said that today, there is an urgent problem in Asia Pacific countries that are constantly developing their economies with the goal of reducing poverty. Achieve the goal of social progress.

However, increasing environmental degradation, climate change and resource depletion require these countries to reassess their development paths. In particular, green growth

needs to be considered as a branch of sustainable development by a country that not only encourages economic growth but also needs to pay attention to environmental and social issues.

It can be said that during the growth process, economic sectors, production and production factors in the industry must change. Green industrial policy is a collection of specific policies aimed at adaptation to climate change and processes that help growth by using resources more efficiently and reducing negative external impacts on the environment. Environment.

The Green Growth Strategy recently approved by the Prime Minister demonstrates the determination of the Vietnamese Government for growth with clean technology, sustainable development, and protection of the environment and natural resources.

However, according to the Institute of Industrial Policy Strategy, the three major challenges of green industry development policy in Vietnam are awareness, capacity, and institutions. On the other hand, the greening process is slow due to a low starting point such as industrial pollution which is still very serious; Cleaner production still does not achieve expected results; Corporate governance is weak, only very few businesses have achieved ISO certification.

Regarding green product capacity, in fact, Vietnam still has few products granted green labels compared to the Korean market of nearly 9,000; lack of human resources for green products; large market resistance; Unsuitable product, high price. In particular, Vietnam's environmental industrial capacity is still weak, and the rate of treated domestic waste and urban wastewater is low.

Also, according to experts, Vietnam has initially formed an institutional framework towards green industry such as legal framework, incentive policies, system of norms and standards, responsible agencies and related organizations. At the same time, experts also point out that the financial challenge for green industry development in Vietnam today is limited budget resources to implement the green industry development strategy, and businesses have difficulty finding capital in the context of green industry development. Economic difficulties, lack of financial institutions.

Green industrial growth in Vietnam is the right and reasonable path, especially in the context of environmental pollution, climate change happening every day and natural resources being gradually depleted. Therefore, green growth needs a reasonable policy framework and a specific and feasible implementation roadmap.

4. Solutions to attract investment capital to develop green industry in Vietnam

Vietnam is at the gateway of development, with much potential to reach further in the world map. However, our country's industry needs to look at lessons from other countries in the region and around the world to avoid falling into the same trap. Vietnam needs to consider the 'green' factor as a necessary condition in industrial development. China is a typical example. 30 years ago, this power also possessed many outstanding advantages in the region like Vietnam. The government has taken full advantage of existing strengths to increase the attraction of FDI capital in many industries, including production, manufacturing and export. However, this has caused environmental pollution at red alert levels in China. In local and international media, there have been a series of articles about the capital Beijing

being engulfed in dust and smog, created by many factories in neighboring areas. To deal with this pollution situation, the Chinese Ministry of Environment has strengthened control over industries that use a lot of energy and create high emissions. This is a lesson that Vietnam needs to pay attention to. To achieve green growth in industry and attract foreign investment, the following solutions need to be implemented:

First, require businesses to prepare reports on Environment, Society and Governance (ESG).

Currently, all companies listed on the Vietnamese stock exchange must report on Environmental, Social and Governance (ESG) annually. This requirement requires companies to disclose their energy efficiency as well as measure their labor and human rights policies. And this regulation needs to be made mandatory for businesses.

Second, the industry needs to shift to prioritizing investment capital in the high-tech and "cleaner" manufacturing sector.

These are industries with high added value, including manufacturing and assembling electronic equipment and components. At the same time, it is necessary to limit traditional industries such as textile dyeing, leather shoe processing, and battery and accumulator production that are using outdated and obsolete technology. These are fields that use a lot of chemicals and emit a lot of toxic substances to workers as well as the surrounding environment. In addition, the Government also introduces policies to encourage investment and use of renewable energy and alternative energy, such as wind power, solar power, geothermal power or hydropower.

Third, promote restructuring of production and business activities.

Innovate production methods, improve management efficiency and determine key goals in each project, industrial development goals, taking high-tech innovation and new technology as the spearhead, development motivation.

Fifth, create an industrial ecosystem that plays a key role, leading the industry, deeply participating in the global supply chain.

The selection of strategic investments for industrial sub-sectors must ensure technological advancement, application of high technology, new technology, sustainability, both ensuring international competitiveness and ensuring the Requires industrial development according to green standards.

Sixth, the Government needs to invest in connecting technical infrastructure, connecting traffic, planning reasonable production zones, promulgating policies to access stimulus capital, training high-quality human resources, prioritizing Tax incentives, land rent, international trade promotion programs, and quick and neat administrative procedures.

If you want to attract investors, you must be prepared in all aspects, meet their needs, have preferential policies and incentives to attract investment, and create clear procedural conditions for investors to stick with for a long time. long. The above synchronization will help businesses create optimal prices for products, improving competitiveness in the global supply chain. Promoting and building a developed green industry, attracting many investors to participate in the production of green, high-value products will affirm new achievements and outstanding results of the process of industrialization and modernity. Transformation,

contributing to the goal of green economic development and green growth.

5. Conclusion

The green development trend is an inevitable and sustainable solution for the current and future economy. Our government has focused on green industrial policies, economic growth associated with environmental protection, and sustainable development. Developing sustainable economic models right from the early stages, minimizing negative impacts on biodiversity, ensuring a clean and safe living environment. To attract foreign investment into industry many recommended solutions need to be implemented, such as the need for multi-sectoral approaches and solutions in institutions and coordination of green industry policies; regional approach, strengthening regional links; It is necessary to mention the role of other stakeholders... Green industrial growth in Vietnam is the right and reasonable path, especially in the context of environmental pollution and climate change happening every day. And natural resources are gradually depleted. Therefore, green growth needs a reasonable policy framework and a specific and feasible implementation roadmap.

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