GREEN ECONOMIC DEVELOPMENT IN VIETNAM - CURRENT STATUS, OPPORTUNITIES, AND CHALLENGES

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ABSTRACT

The development of "Green Economy" is a topic being studied in many countries around the world, including Vietnam, and it is spreading as a positive wave to address issues such as environmental pollution, resource depletion, environmental destruction, climate change, and the promotion of social equality. This article focuses on the basic theoretical arguments regarding the development of the "Green Economy", the experiences of some countries in developing "Green Economy and Sustainable Economic Development", analyzes trends from 2012 to 2024, with a focus on the recent period (2022-2024), evaluates the opportunities and challenges, and finally proposes several solutions for the development of the "Green Economy" in Vietnam in the future.

Keywords: Green economy, green economy experiences, green economy current status, green economy opportunities and challenges.

1. INTRODUCTION

It can be said that at the current stage, the global economy has achieved significant milestones in industrialization, modernization, and urbanization. Alongside these achievements, we still witness challenges such as environmental pollution, the depletion and destruction of natural resources, ozone layer degradation, the impacts of climate change, saltwater intrusion, and drought. It is time for humanity to recognize and take action to save our deteriorating living environment. Building and developing a sustainable economy is essential. In recognition of this importance, the authors chose the topic: *"Green Economic development in Vietnam - Current situation, Opportunities, and Challenges"* for our research. This study examines the trends in green economic development in Vietnam from 2012 to 2024, with particular emphasis on the recent period (2022-2024) to highlight current challenges and policy directions

2. LITERATURE REVIEW, THEORETICAL BACKGROUND AND METHODOLOGY

2.1. Literature review

Research on the Green Economy has gained traction since the 1970s, driven by economic crises, climate change, and resource depletion. Key studies highlight different perspectives:

(1) Yeyanran Ge & Qiang Zhi (2016) [1], in *"Literature Review: The Green Economy, Clean Energy Policy, and Employment"*, analyze clean energy policies and employment, emphasizing that while green economic development may not yield immediate profits, it is vital for long-term sustainability. (2) R. Adarina, Yu Gazukina, & K. Yankovskaya (2019) [2], in "*Indicators of the Green Economy as a Tool for Monitoring the Regional Economy, IOP Conference Series: Earth and Environmental Science*", develop an indicator system to assess economic, social, and environmental factors, guiding sustainable growth. (3) Chien-Chiang Lee, Chih-Wei Wang, & Shan-Ju Ho (2022) [3], in "*The Dimension of Green Economy: Culture Viewpoint*", examine cultural influences on the Green Economy across 122 countries. They find that individualism, risk avoidance, and long-term orientation promote green growth, while power distance, masculinity, and indulgence hinder it. Environmental policies may also face challenges in highly individualistic societies. These studies offer valuable insights into economic policies, measurement tools, and cultural impacts on Green Economy development.

Domestic research on the green economy includes notable studies such as: (1) The study by Trinh Thi Ha Trang (2023) [4] in the article *"Green Economic development - An inevitable trend in Vietnam"* demonstrates that developing a *"Green Economy"* is an unavoidable trend globally and in Vietnam. It proposes various solutions to promote this development trend in Vietnam. (2) The study by Pham Thai Ha (2018) [5], titled *"Green Economy and Sustainable development"*, focuses on describing the core concepts of the *"Green Economy, sustainable development, and climate change response"*. It also proposes green solutions and policy tools for developing and implementing public policies to achieve sustainable economic development. (3) Numerous studies presented at the 2022 National Scientific Conference by the Institute of Strategy and Policy on Natural Resources and Environment, under the theme *"Promoting innovation toward realizing the Circular Economy in Vietnam"*. (4) Studies presented at the 2022 National Scientific Conference hosted by the Ministry of Planning and Investment, titled *"Promoting Green Growth towards sustainable development"*. (5) Research presented at the 2023 National Scientific Conference held by the University of Finance and Marketing, titled *"Green Growth towards sustainable development - Global experiences and practices in Vietnam"*.

Observation: A review of domestic and international studies on the green economy reveals significant contributions, such as establishing the concept of the green economy, developing measurement indicator systems, exploring the cultural impacts of the green economy, synthesizing development experiences from advanced nations, and proposing solutions for green economic development. This study offers new insights compared to previous ones. The research team employs qualitative and synthetic methods to: (i) Learn from the green economic development experiences of other nations, (ii) Analyze the current status of green economic development in Vietnam, (iii) Assess opportunities and challenges, and (iv) Propose solutions for green economic development and sustainable growth in Vietnam.

2.2. Theoretical background

2.2.1. The concept of green economy

The term *"Green Economy"* has emerged in recent years, driven by the consequences of issues such as environmental pollution, the depletion of natural resources, climate change, and income inequality. On the occasion of the 40th anniversary of *"World Environment Day"* on June 5, 2012, the United Nations Summit held in Rio de Janeiro, Brazil, discussed the theme: *"Sustainable Economic Development"*. As a result, the *"Sustainable Development Model"* was established, integrating three key objectives: (1) Economy: Jobs, Finance, and Education; (2) Society: Peace, Equity, and Democracy; and (3) Environment: Conservation, Preservation,

and Protection (Figure 1). The conference also discussed the concept of *"Green Economy - The Path to Sustainable Development"*, which represents a harmonious integration of natural capital, productive capital, and social capital (Figure 2) [6]. Natural capital, or ecosystems, focuses on the resilience of ecosystems; productive capital, or the economy, aims to enhance resource efficiency; and social and human capital, or human prosperity, seeks to improve equity and community sharing. European Union organizations [7] stated: *"A green economy is an economy that is smart, sustainable, and fair"* and that it is *"an economy that creates a better quality of life for everyone within the Earth's ecological limits"*. The United Nations Department of Economic and Social Affairs [8] summarized and defined: *"The common goal of a green economy is to reduce the negative impacts of economic activities on the environment and society"*.

In Vietnam, the 13th National Congress of the Communist Party emphasizes "rapid and sustainable development", the advancement of a Green Economy. The policy focuses on macroeconomic stability, growth model innovation, enhancing economic efficiency and competitiveness. It prioritizes climate change adaptation, sustainable resource use, environmental protection, public health. Additionally, it promotes the development of a green, circular, environmentally friendly economy while eliminating pollution-causing projects.

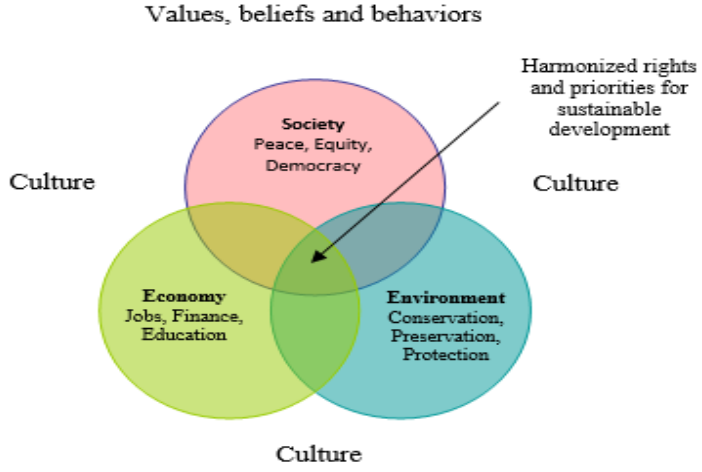

Figure 1. Sustainable Development Diagram [6]

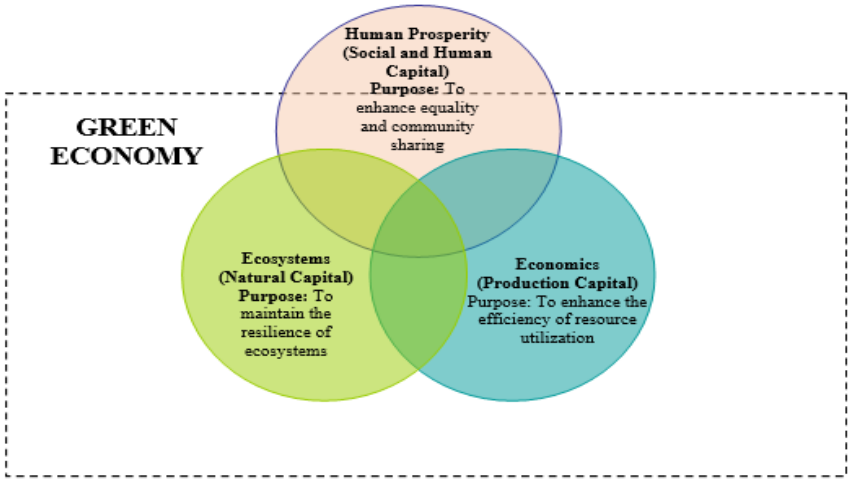

Figure 2. The Path to Sustainable development [6]

The World Bank (2012) defined a green economy as *"economic development that ensures the efficient use of natural resources, minimizes pollution and environmental impacts, enhances resilience to natural changes, and strengthens the role of government management of the environment and natural resources to prevent natural disasters"* [9]. On June 7, 2022, the Prime Minister issued Decision No. 687/QĐ-TTg, approving the *"Circular Economy Development Plan in Vietnam",* which recognizes the *"Green Economy"* as a component of the *"Circular Economy"*. Developing a *"Green Economy"* addresses three issues simultaneously: (1) Economic Development: Addressing challenges related economic growth and employment. (2) Environmental Sustainability: Minimizing carbon emissions, the depletion of natural resources. (3) Social Cohesion: Ensuring poverty reduction, equal opportunities created by the green economy, while providing a healthy living environment. Thus, developing a "Green Economy" fundamentally focuses on human well-being, ensuring the highest welfare, achieving social equity, and minimizing risks to the environment and ecosystems, while enhancing, developing natural ecosystems [9].

2.2.2. The Role of Green Economy Development

First, developing a "Green Economy" contributes to poverty eradication and poverty reduction.

Transitioning to a Green Economy is key to poverty eradication and improving quality of life. According to the World Bank (2018), 2% of global GDP is allocated to green investment in energy, transportation, construction, waste, agriculture, fisheries, water, and forests. The Green Economy can provide energy for 1.4 billion people without electricity and 700 million lacking modern energy services. Renewable energy, particularly solar and wind power, along with supportive policies, can enhance living conditions for low-income populations. At Rio+20 (2012), the UN committed $323 billion to the "Sustainable Energy for All" initiative by Ban Ki-moon, aiming to provide clean energy access to 1.3 billion people by 2030 [6].

Second, developing a "Green Economy" mitigates climate change.

According to calculations by the World Bank (2018), an investment of approximately 1.25% of global GDP in improving energy efficiency across sectors and developing renewable energy, including second-generation biofuels, could reduce global energy consumption by 36% by 2030. Additionally, annual CO_2 emissions could decrease from 30.6 billion tons in 2010 to 20 billion tons by 2050. Moreover, through *"Green Agriculture",* it is estimated that the *"Green Economy"* could lower greenhouse gas concentrations to 450 ppm by 2050, a level deemed reasonable and sufficient to limit global warming to 2 °C [5].

Third, developing a "Green Economy" preserves and enhances natural resources.

According to UNESCO [10], *"green investments"* in agriculture and forestry can help reverse the current trend of deforestation, restoring approximately 4.5 billion hectares of vital forest resources within the next 40 years. Investing in *"Green Agriculture"* not only increases productivity and food output but also reduces the land required for agriculture and livestock by 6% and improves soil quality by 20% by 2050. Additionally, investments aimed at enhancing water supply, expanding access, and improving management could provide an additional 10% to the global water supply in both the short and long term. These efforts also contribute to the preservation of groundwater and surface water resources.

2.2.3. Experiences in developing a "Green Economy" in countries around the world

Experience of the United States: "Green Production" techniques

The United States, the world's largest economy, was among the first to lead the Green Economy. The government has promoted energy conservation and renewable energy through various policies. In 2009, the U.S. Congress passed the Energy Security and Clean Energy Act, setting a Green Economy goal, starting with Green Energy adoption. By 2030, 65% of energy and 35% of thermal energy are expected to come from solar power. In 2022, the U.S. passed the Inflation Reduction Act, allocating funds to combat climate change by reducing greenhouse gas emissions. The act also enables companies to trade carbon allowances. Additionally, automobile manufacturers must transition to hybrid vehicles, enhancing fuel efficiency and lowering emissions.

Experience of the European Union: Utilizing "Green Materials"

European Union countries aim to reduce emissions by approximately 40-44% by 2030 and by 79-82% by 2050. Alongside rigorous measures to minimize emissions, some EU nations, such as Sweden and Finland, have declared complete cessation of oil usage, the elimination of coal, and the exclusion of nuclear energy from their production processes.

Experience of South Korea: Promoting "Green Consumption"

South Korea leads Asia in Green Economy development, making it a national strategy. The approach focuses on industry, energy, and investment, aiming to sustain economic production, optimize resource use, and minimize environmental impact. Despite global environmental challenges, South Korea prioritizes clean energy and conservation. By 2025, it expects to supply $6 trillion in Green Equipment, achieve 30% annual growth, and contribute 6-7% to global GDP. From 2011-2015, it invested $60 billion, creating 1.8 million jobs. Beyond economic growth, South Korea promotes Green Finance, Green Products, and Green Consumption, while implementing water conservation and emission reduction policies.

Experience of Singapore: "Green City"

In 2021, Singapore, an ASEAN member alongside Vietnam, launched the *"Singapore Green Plan 2030"*, focusing on sustainable development through five objectives: becoming a city in nature, re-planning clean energy, promoting sustainable living, fostering a green economy, and building a resilient future. The government prioritized science and technology investments for a low-carbon future. Additionally, Singapore was the first Asian country to implement a carbon tax in 2019, reducing emissions and promoting clean energy development.

Experience of China: Implementing Nano technology

China aims to produce 25% of its electricity from renewable energy sources by 2025, reduce carbon emissions by 55%, and strictly prohibit the operation of environmentally polluting enterprises. The country is also advancing the production and use of solar energy batteries. Furthermore, China has made significant strides in nanotechnology, establishing the Blodal Innovation Global Initiative Center (GICNA) in Beijing in 2016, positioning itself as a global leader in *"Green Technology"* [11].

2.3. Methodology

This study employs qualitative and synthetic methods, based on secondary data from official sources such as the General Statistics Office of Vietnam, the Ministry of Planning and Investment, the World Bank, and academic journals. To improve methodological clarity, the study follows a systematic review approach, referring to the PRISMA framework to enhance

transparency in data collection and content selection. Data Collection: Documents were gathered using keywords such as *"green economy"*, *"sustainable development"*, *"Vietnam"*, and *"green growth"* from 2010 to 2024. These were sourced from government reports, scientific publications, and international organizations. Inclusion Criteria: Studies focusing on Vietnam's green economy, policy reports, and comparative international experiences were included. Exclusion Criteria: Irrelevant, outdated, or non-scientific materials were excluded. A total of 42 documents were selected after screening. The content was analyzed thematically, focusing on policy frameworks, economic and labor trends, challenges, and international lessons to propose appropriate solutions for Vietnam.

3. THE CURRENT STATUS, OPPORTUNITIES, AND CHALLENGES OF GREEN ECONOMY DEVELOPMENT IN VIETNAM

3.1. The current state of building and developing the "Green Economy" in Vietnam

The development of the *"Green Economy"* has received significant attention from the Party and the State, with efforts focused on building and advancing this sector. The 12th National Party Congress outlined a policy stating: *"...linking rapid development with sustainable economic growth, relying on science, technology, and innovation, while minimizing the use of non-renewable resources..."*. Regarding the orientation and objectives for *"Green Economy"* development, the Prime Minister approved the *National Strategy on Green Growth for the 2011-2020 Period, with a Vision to 2050*.

More recently, the Prime Minister issued Decision No. 687/QĐ-TTg dated June 7, 2022, approving the *Circular Economy Development Plan in Vietnam* which considers *"Green Economy"* development as a component of the *"Circular Economy"*. From 2012 to 2024, Vietnam's *"Green Economy"* development has achieved notable milestones, including:

Vietnam's GDP growth rate maintained an average of 6.03% during the period from 2012 to 2024

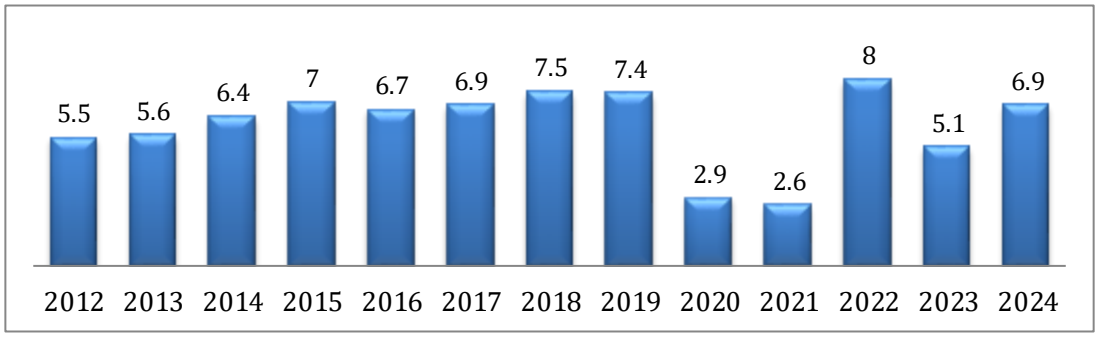

Figure 4. GDP Growth Rate of Vietnam from 2012 to 2024 [12]

World Bank data on Vietnam's GDP growth (2012-2024) shows an average of 6.63% (2012-2019). The COVID-19 pandemic slowed growth to 2.9% (2020) and 2.6% (2021), while ASEAN's GDP contracted. In 2022, Vietnam rebounded with 8.02% growth, but in 2023, it declined to 5.1% due to global inflation, tighter monetary policies, and reduced consumption/investment. By 2024, GDP improved to 6.9%, supported by economic recovery, increased consumption, and controlled inflation. Over 2012-2024, Vietnam's average GDP growth was 6.03%, reflecting steady progress. Despite challenges, the economy remains on a sustainable development path. The economic structure has shifted positively, with a gradual

decrease in the contribution of agriculture and an increase in the contribution of industry and services to GDP

Table 1. Structure of major Economic sectors in Vietnam (2017-2024) [13]

Economic Sector Structure	2017	2018	2019	2020	2021	2022	2023	2024
- Agriculture, Forestry and Fishery (%)	15.34	14.57	13.96	14.85	12.36	11.88	11.96	11.64
- Industry - Construction (%)	33.34	34.28	34.49	33.72	37.86	38.26	37.12	37.10
- Services (%)	41.32	41.17	41.64	41.63	40.95	41.33	42.54	42.80

Vietnam's economic structure has shifted significantly. Agriculture, forestry, and fishery declined from 15.34% (2017) to 11.64% (2024), with policies promoting clean energy, emission reduction, and green production. High-pollution industries like fertilizer and pesticide production must meet strict environmental standards. The industrial and construction sector grew from 33.34% (2017) to 38.26% (2022) before slightly dropping to 37.10% (2024). The focus is on green industry, cutting CO2 emissions and toxic waste, while investing in wind and solar power. The services sector saw a modest rise from 41.32% (2017) to 42.80% (2024). Structural shifts stem from policies encouraging FDI and private sector investment in green agriculture and advanced technologies, including tax incentives, vocational training support, and high-yield crop adoption.

The labor structure in Vietnam is shifting towards sustainability, with a gradual decrease in the share of labor in agriculture and an increase in the share of labor in industry and services

Table 2. Labor structure of major Economic sectors in Vietnam from 2019 to 2024 [14]

Labor Structure of Economic Sectors	2019	2020	2021	2022	2023	2024
- Agriculture, Forestry and Fishery (Million people)	14.81	14.15	14.18	14.10	13.80	13.00
- Industry - Construction (Million people)	14.46	16.51	16.26	16.53	17.20	17.60
- Services (Million people)	19.37	19.38	18.58	19.90	20.30	20.80

According to the General Statistics Office of Vietnam, from 2019 to 2024, the labor force in Agriculture, Forestry, and Fishery declined from 14.81 million to 13 million. Meanwhile, employment in Industry and Construction grew significantly from 14.46 million to 17.6 million. The Services sector also saw an increase, with labor rising from 19.37 million to 20.8 million, reflecting a shift toward industrialization and service-oriented economic growth.

Limitations in developing the "Green Economy" in Vietnam

Practical experiences from developed countries such as Germany, France, South Korea, China, and the United States demonstrate that transitioning to a green economy can lead to stable and sustainable growth, effective environmental protection, conservation of natural resources, and significant reductions in emissions. However, Vietnam still faces a range of limitations in this transition.

First, Vietnam's low savings rate, limited capital resources, low labor quality, and modest scientific and technological capacity present significant constraints. Outdated production technologies remain widespread, particularly in key industries such as textiles, steel, and fertilizer production, where manual or semi-automated machinery is still prevalent. These technologies often consume large amounts of energy and natural resources, resulting in high emissions and low production efficiency. The slow pace of technological renewal across industrial sectors continues to be a major obstacle to reducing environmental impacts and improving green productivity.

Second, as Vietnam transitions from a *"developing"* to a *"developed"* economy, its growth remains heavily based on extensive rather than intensive development. Many sectors still prioritize output quantity over resource efficiency. Industries such as mining and heavy manufacturing account for a large share of GDP, while the service sector continues to grow at a slower pace (as shown in Table 1). Industrial output still relies on resource extraction, and outdated machinery remains in use. Consequently, energy consumption per unit of GDP remains high, and emissions control is weak in many areas.

Third, while the economic structure has shifted, the labor structure is adjusting more slowly (see Table 1 and Table 2). There is a regional imbalance in labor supply and demand, with urban areas and industrial zones attracting more workers, while rural, mountainous, and remote areas continue to face shortages. At the same time, a significant portion of the population-particularly in rural communities and small enterprises-still lacks awareness and understanding of green economic development. This limited awareness stems from several factors, including limited access to formal environmental education, a lack of targeted outreach campaigns in local languages, and deep-rooted cultural attitudes that prioritize short-term economic survival over long-term sustainability.

Fourth, although awareness is increasing, the actual adoption of renewable energy, low-carbon technologies, and environmental protection measures remains limited. Many production facilities still operate using old-generation machinery that consumes large amounts of electricity, water, and raw materials, and generates high levels of emissions. According to global air quality statistics from over 3,000 cities, 64% exceed the World Health Organization's annual PM2.5 limit of 10 $\mu g/m^3$. In Southeast Asia, this figure rises to 95%, and Vietnam has 20 cities among the most polluted. Notably, Hanoi ranks second and Ho Chi Minh City ranks 15th in terms of fine particulate matter (PM2.5) exposure [9]. These alarming figures underscore the urgent need for investment in green technologies and stronger regulatory enforcement, particularly in urban and industrial areas.

3.2. Opportunities for Green Economic development in Vietnam

Firstly, Vietnam has favorable natural conditions. The political, economic, and social situation is conducive to the development of the green economy.

Vietnam is located in the tropical monsoon region, with abundant sources of thermal, hydropower, and wind energy, making it favorable for the sustainable development of industry and construction. The weather and climate are highly suitable for the development of agriculture, forestry, and fisheries. The majority of the population supports the policy of combating environmental pollution and building a green economy. This commitment is demonstrated through resolutions of the Central Committee, the XI Congress, and specific decisions such as Decision No. 153/2004/QD-TTg and Decision No. 1658/2021/QD-TTg, which approve the national strategy for green growth and development, with a vision toward 2050. According to the Ministry of Finance, the funds supporting green growth and development have increased by an average of 20% annually. Funds from foreign sources,

including green FDI, green FPI, and green ODA are growing, and they are estimated to account for about 3-5% of GDP each year [14].

Secondly, the labor force and employment are relatively stable, which is beneficial for the development of the green economy.

According to data from the General Statistics Office in 2023, the labor force and employment for individuals aged 15 and above reached 52.4 million people, an increase of 707.5 thousand people compared to 2022. Employment in urban areas stood at 19.5 million people, accounting for 37.3%, while rural areas had 32.9 million people, making up 62.7%. The demand for labor and employment in businesses in the early months of 2023 remained higher than the number of people who lost their jobs or quit. The number of new businesses established exceeded the number of businesses withdrawing from the market, indicating that more jobs were being created for workers. The unemployment rate in 2023 decreased by 0.04% compared to 2022. The unemployment rate for individuals aged 15-24 decreased by 0.09%, and the underemployment rate decreased by 0.2%. These trends highlight a positive economic trajectory, marked by labor and employment recovery post-COVID-19 and growth in 2023 [15].

Thirdly, the level of education among the population has improved, and people's habits and behaviors are increasingly aligned with a civilized society, promoting a green, clean, and sustainable environment.

Consumer behavior has shifted toward green consumption. People are increasingly focused on using environmentally friendly products and services. In recent years, many green consumption models have been embraced by the community, such as reducing the use of plastic bags and bottles. Instead, they are opting for biodegradable products such as wrapping vegetables and fruits with banana leaves, using reusable glass bottles, bamboo or paper straws, and paper cups or fabric bags. The trend of green consumption and sustainable living is expected to grow significantly in the coming years to collectively protect the environment and the shared ecosystem [16].

3.3. Challenges in developing a Green Economy

Firstly, financial and technological resources for green economy investment remain limited.

According to the World Bank & the Ministry of Planning and Investment [17], Vietnam needs about 30 billion USD to implement the green growth strategy by 2030. The state budget can cover only 30% of this amount, with the rest needing to come from enterprises and other sources. Furthermore, developing a green economy requires the application of many advanced scientific and technological achievements. However, technology adoption in Vietnam's industrial and agricultural production, as well as business activities, remains limited. Enterprises have not yet had the opportunity to access the knowledge, experience, and technologies of developed countries, nor do they have sufficient financial resources to fully implement these technologies.

Secondly, the legal system is incomplete, a portion of the population has insufficient awareness, production technology is outdated, and resources are being depleted, all of which affect the development of the green economy.

The legal system remains underdeveloped and misaligned with global trends in green growth. Organizational system and management structures are fragmented, unsuited for green economic integration and development. Awareness of businesses and the public about the green economy is still limited, as the development of the green economy lacks synchronization, comprehensiveness, and sufficient financial resources, human resources, and technology. The

quality of human resources and expertise in the green economy is still weak, and the structural shift in human resources to support green economic development remains slow. The production technology is still outdated and prevalent, with low labor productivity, limited competitiveness, and relatively low efficiency in resource utilization. Renewable energy production technology has not yet developed, and the level of science and technology is still low. Additionally, natural resources are seriously degraded, partly due to the growth model that is still heavily focused on quantity, relying on fossil energy and raw materials. The use of new technologies to reduce material consumption is limited, and resource management practices are insufficient [18].

4. SOME SOLUTIONS TO PROMOTE GREEN ECONOMY DEVELOPMENT IN VIETNAM

Located in Southeast Asia's tropical monsoon climate, with a long coastline, Vietnam has abundant natural resources and strong potential for renewable materials. To achieve a Green Economy and Sustainable Development, Vietnam must balance economic growth with environmental protection and social equality. The authors propose key recommendations for developing a Green Economy in the coming period.

Firstly, regarding the government's policy mechanism

It is necessary to focus on and create favorable conditions for industries and sectors with high technology, low carbon emissions, environmentally friendly processes, and efficient use of resources. The government should develop and enforce strict environmental regulations, promote climate-resilient agriculture, and support the transition to green industry and services. This includes increasing the share of renewable energy, reducing reliance on fossil fuels, and implementing the circular economy model in industrial zones. Vietnam can draw lessons from the European Union's Green Deal, which sets ambitious renewable energy targets, implements carbon pricing mechanisms, and provides subsidies for green innovation. The EU's approach to integrating environmental objectives across policy areas serves as a useful reference for Vietnam in building a cross-sectoral green policy framework. Similarly, China's roadmap for solar power development and its strong regulatory enforcement against polluting enterprises offer valuable insights. Vietnam may also consider South Korea's eco-industrial park model, where inter-firm collaboration and green technologies are embedded into production systems under centralized planning and monitoring.

Secondly, regarding awareness-raising and education efforts

It is necessary to incorporate green economy education into the formal education system from secondary schools to universities. Curriculum updates should include sustainability concepts, green consumption, and environmental responsibility. At the tertiary level, modules on green economy should be embedded into economics, business, and development courses to prepare future professionals. This approach aligns with South Korea's green education strategy, which integrates environmental knowledge across subjects and promotes sustainable values from a young age. By learning from this model, Vietnam can enhance environmental consciousness and long-term behavior change throughout society.

Thirdly, investment in science, technology, and environmental development should focus on advancing a green economy

Priority should be given to developing and adopting renewable energy technologies, energy-efficient production systems, and emission-reducing innovations. The state should allocate dedicated funds for environmental R&D and support businesses in transitioning toward low-carbon production. Vietnam can look to China's national innovation hubs and public-private partnerships in clean energy development. China's rapid advancement in solar panels and battery storage technologies provides a strong case for strategic investment in green industries. Likewise, Germany's experience in promoting green exports and environmental technologies through industrial policy offers relevant practices that could strengthen Vietnam's global competitiveness in sustainable production.

Fourthly, plan the allocation of land resources appropriately

Urban and rural land-use planning should support green objectives by preserving forests, expanding green spaces, and prioritizing land for renewable energy projects and ecological agriculture. Integrating green infrastructure in urban design is also crucial to reduce emissions, enhance environmental resilience. The Singapore Green Plan 2030 demonstrates effective land-use management with sustainability in mind. Despite limited space, Singapore has successfully balanced urban growth with ecological protection. Vietnam could apply similar principles to optimize land allocation while maintaining environmental balance.

Fifthly, mobilize financial resources for green economic development

Vietnam must diversify sources of green finance, including state budgets, international aid, private capital, and climate funds. Fiscal policies should offer tax incentives for green investment, subsidies for clean energy, and risk-sharing mechanisms for green start-ups. For example, the EU's NextGenerationEU fund and South Korea's Green New Deal illustrate how large-scale government-led financing can stimulate green innovation, job creation, and sustainable infrastructure. These experiences suggest that Vietnam should establish a dedicated national fund to accelerate green transition efforts and attract global investment.

Sixthly, raise public awareness and encourage green consumption behavior

Encouraging green consumption through education, media campaigns, eco-labeling, and market incentives is essential. Citizens should be empowered to make environmentally responsible choices in daily life. Vietnam could replicate South Korea's promotion of green consumption, which includes financial support for eco-friendly products, national labeling schemes, and integration of sustainability into cultural norms. Additionally, the EU's *"Farm to Fork"* strategy offers a model for linking sustainable production with responsible consumption, particularly in the agriculture and food sectors. Such approaches can help Vietnam build a strong domestic market for green goods and services.

5. CONCLUSION

Developing a *"Green Economy"* is both an inevitable trend and a key sustainable development goal for the global economy, including Vietnam. The goal is to safeguard the living environment for future generations by balancing the exploitation of natural resources with their protection, preserving the environment, and promoting social equality social equality. This paper present: (i) the theoretical framework for developing a *"Green Economy"*, (ii) lessons learned from various countries around the world, (iii) an evaluation of the current status of *"Green Economy"* development in Vietnam from 2012 to 2024, and (iv) proposed solutions for promoting and building a *"Green Economy"* in Vietnam in the near future.

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TÓM TẮT

PHÁT TRIỂN KINH TẾ XANH Ở VIỆT NAM: THỰC TRẠNG, CƠ HỘI VÀ THÁCH THỨC

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Phát triển "kinh tế xanh" là chủ đề được nhiều quốc gia trên thế giới, trong đó có Việt Nam, quan tâm nghiên cứu và triển khai. Đây được xem là một xu hướng tích cực nhằm giải quyết các vấn đề như ô nhiễm môi trường, cạn kiệt tài nguyên, suy thoái hệ sinh thái, biến đổi khí hậu, đồng thời thúc đẩy bình đẳng xã hội. Bài viết tập trung làm rõ những luận điểm lý thuyết cơ bản về phát triển "kinh tế xanh", phân tích kinh nghiệm của một số quốc gia trong việc gắn kết "kinh tế xanh" với phát triển kinh tế bền vững, đánh giá xu hướng giai đoạn 2012-2024 (đặc biệt nhấn mạnh giai đoạn 2022-2024), từ đó chỉ ra những cơ hội và thách thức mà Việt Nam đang đối mặt, đồng thời đề xuất một số giải pháp nhằm thúc đẩy phát triển "kinh tế xanh" trong thời gian tới.

Từ khóa: Kinh tế xanh, Kinh nghiệm quốc tế, Thực trạng, Cơ hội và thách thức.