GREEN FOREIGN DIRECT INVESTMENT: TRENDS AND HOST COUNTRY POLICIES OF VIETNAM

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Abstract: ***This article analyzes the increasingly important role of green foreign direct investment (green FDI) in the context of global green transformation and sustainable development transition. It highlights the key characteristics of green FDI, global development trends, experiences from several developing countries in attracting green FDI, and the current situation in Vietnam. Based on this analysis, the article proposes policy implications to enhance the capacity to attract and absorb green FDI effectively, contributing to the achievement of net-zero emissions commitments and the promotion of a green growth model in Vietnam.***

• Keywords: *green FDI; sustainable development; foreign investment; investment policy; green growth.*

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1. Introduction

In the context of deepening globalization and increasingly urgent environmental issues, foreign direct investment (FDI) continues to play a key role as one of the main drivers of economic growth in developing countries. FDI is expected not only to provide additional capital but also to facilitate access to advanced technologies, improve labor productivity, expand export markets, and enhance the competitiveness of domestic enterprises. However, there have been growing concerns about the negative impacts of traditional FDI flows, particularly their contribution to greenhouse gas emissions, overexploitation of natural resources, and environmental pollution when appropriate regulatory and monitoring mechanisms are lacking (UNCTAD, 2022). This poses an urgent requirement for FDI-receiving countries: not only to attract capital but also to ensure that such capital contributes to long-term sustainable development goals.

Against this backdrop, green FDI has emerged as a new global investment trend. These are foreign investments aimed at environmentally friendly sectors such as renewable energy, waste treatment, energy-saving technologies, ecological agriculture, or low-emission manufacturing. A distinctive feature of green FDI is that it does not solely pursue financial returns but also emphasizes environmental and social standards, making a positive contribution to the host country's green transition (OECD, 2021). Over the past decade, especially following the Paris Climate Summit (COP21), green FDI has increasingly become a part of the investment strategies of many multinational corporations as well as investment attraction policies of governments. This shift not only reflects corporate social responsibility but also arises from the practical need to transform growth models toward low-carbon development and climate change adaptation.

For developing countries like Vietnam, green FDI is not merely an option but increasingly a strategic necessity. In the context of Vietnam's commitment to achieve net-zero emissions by 2050, as declared at COP26, attracting green FDI projects with clean technologies and environmentally friendly approaches is essential to realizing this goal. Moreover, green FDI serves as a catalyst for energy transition, domestic technological advancement, and the creation of green jobs for the rapidly growing young workforce. However, effectively attracting and utilizing green FDI presents new challenges, requiring a coherent policy system, a clear legal framework, and strong institutional capacity to select suitable investors, monitor implementation, and ensure the diffusion of green technology and knowledge within the domestic economy. Therefore, research on green FDI is not only timely but also strategically important for investment policy formulation and sustainable development planning in Vietnam and other developing countries.

2. Basic characteristics of green FDI

Amid the global economy's strong shift toward sustainable development, green foreign direct investment (green FDI) is regarded as a strategic form of investment that harmonizes economic growth with environmental protection. Unlike traditional FDI flows, which primarily focus on maximizing financial returns and expanding production, green FDI emphasizes environmental considerations throughout

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the entire project lifecycle - from design, production, and consumption to waste treatment. According to the OECD (2021), green FDI includes foreign investments in sectors, activities, and technologies that not only have a neutral or positive impact on the environment but also contribute to emissions reduction, conservation of natural resources, and the transition to a low-carbon economy.

Sectors that attract green FDI are typically innovative and strategic industries such as renewable energy (wind and solar power), water and waste treatment technologies, smart transportation, organic agriculture, circular manufacturing, and digital environmental services. A prominent feature of green FDI is its high level of clean technology, often accompanied by modern governance systems and closed-loop production processes designed to minimize negative impacts on ecosystems. This requires investors to possess substantial technical and financial capacity to meet the technical standards, environmental regulations, and sustainable governance principles of the host country (Doytch & Narayan, 2016).

Moreover, green FDI is characterized by its long-term nature and its potential for positive spillovers to the local economy. Green FDI enterprises often build environmentally friendly supply chains and collaborate with local firms to transfer technology and skills, thereby enhancing the competitiveness of the entire production ecosystem. One of the most critical aspects of green FDI is its close alignment with ESG (Environmental - Social - Governance) standards, which are increasingly becoming indispensable indicators for assessing the sustainability of investment projects. Green FDI investors typically adopt ESG principles such as transparent governance, respect for workers' rights, and efficient use of energy and resources - thereby generating not only economic gains but also long-term social and environmental value (UNCTAD, 2022).

Another key difference between green and traditional FDI lies in the dual objectives pursued by green investment. While traditional FDI focuses mainly on financial profitability and return on investment, green FDI aims for both economic efficiency and tangible environmental benefits. This dual-target approach is a major reason why green FDI is becoming a dominant trend in international investment strategies, particularly as countries commit to emission reductions under the Paris Agreement and the United Nations' Sustainable Development Goals (SDGs). Therefore, a clear understanding of the fundamental characteristics of green FDI is essential for designing appropriate policies to attract, screen, and support such investments - ultimately maximizing the long-term value they bring to the development of host countries.

3. Global trends in green FDI development

In recent years, green foreign direct investment (green FDI) has emerged as a global trend, reflecting a strategic shift in cross-border investment activities toward sustainable development goals. According to the *World Investment Report* by the United Nations Conference on Trade and Development (UNCTAD, 2022), the proportion of green FDI projects in total global FDI projects increased by over 30% during the period 2015-2021. This indicates a growing interest among international investors in environmentally friendly sectors. Notably, not only has the number of green FDI projects increased, but the scale of investment per project has also expanded significantly, focusing on key sectors of the green economy such as renewable energy, electrified transportation, waste treatment technologies, and digital solutions for environmental management.

This trend is most prominent in regions with high levels of development and relatively mature institutional infrastructure, such as Europe, North America, and some advanced economies in the Asia-Pacific region. In Europe, many countries have introduced green investment incentive packages, including tax credits, clean energy subsidies, preferential loans, and mandatory ESG compliance regulations. Meanwhile, the United States and Canada have embedded carbon reduction targets into public investment laws and established multi-billion-dollar green investment funds, significantly promoting FDI flows into offshore wind energy, energy storage batteries, and green transportation infrastructure (OECD, 2021). In Asia, countries such as South Korea, Singapore, and Japan have become regional hubs for green FDI - both as destinations and as outward investors - with a clear focus on sustainability.

One of the key driving forces behind the rise of green FDI is increasing international pressure to reduce greenhouse gas emissions and fulfill commitments under the 2015 Paris Agreement. Many countries have set targets for carbon neutrality by the mid-21st century, creating a new legal framework that compels both domestic and foreign enterprises to align their investment strategies with sustainable development goals (IEA, 2021). In addition, shifting expectations among consumers, financial investors, and civil society have generated a "bottom-up" pressure, forcing multinational corporations to green their global supply chains - from input materials to final products - to protect brand reputation and mitigate legal risks. Integrating ESG standards into investment strategies also enables firms to access cheaper capital from financial markets, particularly from sustainable investment funds or green credit facilities (Sachs et al., 2019).

Moreover, the rapid advancement of digital technologies and the circular economy has made it easier and more cost-effective to implement green FDI models than in the past. Many businesses are now utilizing big data platforms, artificial intelligence, and environmental sensors to monitor and optimize the environmental performance of investment projects from the planning stage onward. This is a clear demonstration of how technology is serving as a crucial catalyst in transforming traditional FDI into green FDI, accelerating the global transition to a low-carbon economy. Overall, the convergence of sustainable development demands, policy commitments, and technological innovation is ushering in a new era for green FDI, positioning it as a cornerstone of foreign investment strategies in many countries around the world.

4. Green FDI reception policies in some countries and Vietnam

4.1. Experience in implementing green FDI reception policies in some countries

As developing countries adapt to the global trend of sustainable investment, many have proactively issued green FDI policies with a selective and long-term orientation. These policies aim not only to attract high-quality investment flows but also serve as important tools to domesticate international climate change commitments and promote domestic green transformation. Experiences from countries such as Malaysia, Chile, and Morocco show that developing nations can effectively build a green investment ecosystem by flexibly combining financial incentives, institutional reform, and green infrastructure development.

Malaysia is one of the pioneers in Southeast Asia in implementing dedicated incentive policies for green FDI. Through its lead agency - the Malaysian Investment Development Authority (MIDA) - the country has issued a list of industries eligible to be classified as “green investment” and applied incentives such as up to 10 years of corporate income tax exemption, tax reimbursements for investments in energy-saving technologies, and financial support for green R&D centers (Malaysia Investment Development Authority [MIDA], 2021). Additionally, Malaysia prioritizes land approvals in environmentally friendly industrial zones - most notably the Gebeng Eco Industrial Park, which has attracted many FDI enterprises in wastewater treatment, solar energy, and bio-chemical sectors.

In Latin America, Chile is considered a model in attracting green FDI thanks to its policy mix of private investment incentives and strategic resource planning. The Chilean government has proactively directed the development of the renewable energy sector with a clear roadmap, committing to phase out coal-fired power entirely by 2040 while vigorously expanding solar energy in the Atacama Desert - one of the sunniest regions in the world. To attract FDI into this sector, Chile has implemented transparent energy auction mechanisms, exempted green equipment from import taxes, and established green credit guarantee funds to reduce investor risks (International Renewable Energy Agency [IRENA], 2020).

In North Africa, Morocco has asserted its leadership in clean energy development across the continent with large-scale FDI projects such as the Noor Ouarzazate solar power plant - one of the world’s largest renewable energy facilities. Morocco’s success is largely attributed to a proactive policy strategy, including the creation of a National Energy Legal Framework, the establishment of the Moroccan Agency for Sustainable Energy (MASEN), and the implementation of public-private partnerships (PPP) to mobilize green FDI and ODA. The country has also developed eco-industrial parks that house clean production enterprises with integrated infrastructure such as centralized waste treatment, decentralized renewable energy systems, and low-carbon logistics networks.

From these international experiences, a key lesson emerges: effective green FDI policies must go beyond isolated tax or financial incentives. They should be part of a comprehensive policy framework that includes green development planning, inter-agency institutional coordination, and transparent monitoring and evaluation mechanisms. Creating a stable, transparent, and investor-friendly environment for green FDI is essential for developing countries to successfully compete in attracting high-quality investment and realize their national sustainable development goals.

4.2. Current status of Vietnam’s reception policies on green FDI

In recent years, Vietnam has demonstrated a clear effort to integrate sustainability into its foreign investment attraction policies, particularly by prioritizing projects that utilize environmentally friendly technologies. Through the 2020 Investment Law and its accompanying guidelines, the government has introduced various incentives such as corporate income tax reductions, import tax exemptions on equipment, and R&D expense deductions for projects involving clean technologies or environmentally friendly products. Additionally, investment projects in renewable energy sectors - such as wind and solar power - have benefited from supportive policies related to electricity pricing, flexible bidding mechanisms, and access to electricity transmission infrastructure

(Ministry of Planning and Investment, 2021).

Notably, Vietnam has adopted the *National Green Growth Strategy for the 2021-2030 period, with a vision to 2050*, with the overarching goal of "promoting economic restructuring towards green, low-carbon growth, enhancing resource efficiency, and ensuring social equity." This strategy explicitly emphasizes the role of the private sector and FDI in transforming the development model, and it encourages investment projects that meet green, clean, and circular economy criteria. Furthermore, Vietnam's commitment at COP26 to achieve net-zero emissions by 2050 has provided a strong policy impetus to reorient foreign investment attraction toward more selective, prioritized green and high-tech FDI projects with low emissions.

However, despite these positive developments, several significant challenges remain in the implementation of green FDI policies in Vietnam. First and foremost, the country currently lacks a clear, unified legal framework to define, classify, and prioritize green FDI. Terms such as "green investment project," "sustainable investment criteria," and "ESG standards" are still scattered across a few sectoral strategies and have yet to be integrated into a robust regulatory system capable of effectively governing the investment market (UNDP Vietnam, 2022).

Second, the investment licensing process in many provinces remains cumbersome, fragmented, and not conducive to green FDI. Many enterprises report that access to information, land, infrastructure, and administrative procedures still takes considerable time and varies greatly between localities. This inconsistency diminishes Vietnam's attractiveness in the eyes of international investors, who are placing increasing importance on environmental factors and procedural efficiency.

Third, Vietnam's ecosystem for receiving green technologies remains underdeveloped, reflected in the shortage of technical experts, environmental engineers, and high-quality labor in green industries. Furthermore, the limited internal capacity of domestic enterprises hinders their ability to absorb, learn from, and diffuse green technologies introduced by FDI projects. This shortcoming weakens the spillover effects of green FDI and constrains its role in boosting productivity and the overall technological level of the economy.

Finally, a significant barrier lies in the current system of standards, technical regulations, and environmental monitoring mechanisms, which remain fragmented and insufficiently robust to ensure that investors comply strictly with sustainability criteria. The absence of a comprehensive and transparent environmental impact assessment mechanism throughout the project lifecycle makes it difficult to distinguish between genuine green FDI and "greenwashing."

5. Policy implications for Vietnam

In an increasingly competitive global environment for attracting FDI - especially capital linked to high technology and sustainable development - developing countries urgently need to establish effective green FDI policy frameworks. To not only attract but also effectively absorb such investment, governments must proactively design and implement a strategic policy system based on clear, transparent, and adaptive long-term development criteria.

First, it is essential to establish a dedicated legal framework for green FDI, with a clear definition, classification criteria, and scope of application. Precisely defining what constitutes a "green investment project" provides the foundation for designing appropriate incentive policies and helps distinguish genuine green FDI from "greenwashing" - projects that appear sustainable on the surface but offer no real environmental value (OECD, 2021). In addition, legal regulations should integrate ESG-based project evaluation criteria and be updated regularly in line with international best practices to ensure flexibility and alignment with global standards.

Next, there must be strong inter-agency coordination among ministries, sectors, and local authorities to design and operate a specialized one-stop service mechanism for green FDI investors. This model should go beyond administrative reform to include technical consultation, market information access, value chain linkage support, and post-licensing accompaniment. Experiences from countries such as Singapore and Chile demonstrate that an efficiently organized "one-stop green investment desk" can act as a strategic intermediary between investors and the public sector, shortening investment timelines and reducing transaction costs (IRENA, 2020).

Another necessary policy is to design green performance-linked incentives. Rather than offering blanket incentives to all projects, the government can implement a "reward-for-green-performance" mechanism - where tax breaks, preferential loans, or infrastructure support are granted only if investors meet specific environmental performance indicators such as emission reductions, renewable energy usage, resource savings, or the number of green jobs created. This mechanism helps ensure the authenticity of green investment and encourages investors to maintain their environmental commitments throughout the project lifecycle (UNCTAD, 2022).

At the same time, investing in human resource development in environmental technology is a key condition for enhancing the absorptive capacity and spillover effects of green FDI. The government should promote a triple-helix model of cooperation between the state, universities, and businesses to develop specialized training programs in environmental engineering, green supply chain management, sustainable finance, and ESG standards. Additionally, policies should be introduced to attract foreign experts and high-tech engineers to work in green investment projects, thereby helping to build endogenous capacity in the domestic labor market.

Finally, to ensure that green FDI projects truly generate environmental and social value, it is crucial to establish a comprehensive environmental monitoring and evaluation system. This system should measure not only quantitative environmental indicators - such as emissions, water usage, and recycling rates - but also indirect impacts like shifts in green consumption behavior, technology transfers across supply chains, and knowledge spillovers to local businesses. Evaluation results should be made public and transparent to facilitate social oversight and strengthen investor accountability.

In summary, green FDI policy implications go beyond merely "attracting investors"; they involve a strategic regulatory approach to ensure that these capital flows genuinely contribute to an equitable, green, and sustainable economic transition. As a dynamic developing country, Vietnam has strong potential to become an attractive destination for green FDI - provided that it promptly improves its institutional framework, enhances its ability to demonstrate environmental commitments, and builds a comprehensive green investment ecosystem.

6. Conclusion

In the context of a global shift toward green growth and sustainable development - an irreversible trend - green foreign direct investment (FDI) is emerging as a key factor in reshaping the international investment landscape. This is not merely a passing trend but a strategic opportunity, offering the potential to restructure economies on a more sustainable, environmentally friendly, and globally aligned foundation - consistent with international commitments such as the Paris Agreement and the Sustainable Development Goals (SDGs). Green FDI not only brings financial resources and advanced technology but also introduces a new value system in corporate governance, where environmental and social considerations are placed on par with financial returns - an especially critical factor for developing countries that are more vulnerable to climate change and resource degradation.

For Vietnam, proactively embracing the wave of green FDI is not just about attracting high-quality capital; it also serves as a measure of the country's commitment and capacity to implement a sustainable development transition. Establishing priority policies, defining a clear legal framework, and building effective institutional coordination between ministries and sectors are fundamental to creating a green investment environment that is fair, transparent, and stable. In addition, investing in human resources, technical infrastructure, and innovation is essential to enhance Vietnam's capacity to absorb and diffuse the positive impacts of green FDI throughout the domestic economy.

However, to fully realize the potential of green FDI, there must be a shift in policy thinking - from a "growth at all costs" approach to a "strategic selection" mindset, prioritizing projects that generate synergistic value in terms of environmental protection, technological advancement, and local development. The pursuit of sustainability must be operationalized through technical standards, transparent environmental performance evaluation mechanisms, and genuine incentive policies - avoiding the risk of turning green FDI into a symbolic concept or a "greenwashing" tool in an increasingly complex global competition.

In conclusion, green FDI presents an opportunity for Vietnam and other developing countries to redefine their role in the global economy - as responsible partners and as green innovation hubs in their regions. If leveraged effectively, green FDI will not only yield short-term economic benefits but also contribute significantly to building a future where growth and environmental stewardship go hand in hand - the ultimate goal for every nation in the 21st century.

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