

EXPERIENCE IN ATTRACTING GREEN FDI IN SOME ASIAN COUNTRIES AND IMPLICATIONS FOR VIETNAM

MA. Mai Tuyet Nhung*

Abstract: *Green foreign direct investment (FDI) is when foreign investors inject clean technologies, practices, projects, and capital into a host country. This type of investment aims to support development and tackle issues like pollution, climate change, and resource depletion. In Vietnam, in recent years, it has been evident that alongside the positive contributions and the demand for "greening" FDI, there are still many FDI projects that have negative impacts on the environment. In this context, green FDI is an inevitable investment trend. The paper discusses the experiences of some Asian countries in attracting green FDI, thereby providing some implications for Vietnam.*

• Keywords: *green foreign direct investment, FDI projects, capital, climate change.*

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1. Introduction

Currently, facing environmental pollution, recipient countries are increasingly focusing on strengthening environmental protection policies. When a country receives clean FDI investment projects, it will have the opportunity to receive modern environmentally friendly processing technologies, both increasing economic benefits and ensuring the environment.

In Vietnam, since the Government announced its commitment to achieving net-zero emissions by 2050, there have been many new high-quality FDI projects that focus on sustainable investment choosing Vietnam as their destination, creating a new wave of investment that is transforming the economy. Along with the strong determination from the government, ministries, sectors, and localities towards a green economy, Vietnam has a clear opportunity to attract FDI, especially for high-tech investment projects with minimal environmental impact from developed countries.

In recent years, it has been evident that alongside the positive contributions and the demand for "greening" FDI, there are still many FDI projects that have negative impacts on the environment. In this context, green FDI is an inevitable investment trend.

In fact, in addition to the characteristics of Vietnam's large market size and potential, investors from developed countries are increasingly interested in environmental

and sustainability issues in the process of making investment decisions. The flow of FDI into Vietnam has seen many projects aimed at developing green technology and clean technology of the future. This also reflects Vietnam's direction for foreign investment cooperation in the new phase. As a result, the concept of green FDI is now becoming popular in Vietnam. In this paper, the author discusses the experiences of some Asian countries in attracting green FDI, thereby providing some implications for Vietnam.

2. Overview of Green FDI

2.1. Concept of Green FDI

Currently, there are quite a few different perspectives on green FDI. The United Nations Conference on Trade and Development (UNCTAD, 2008) refers to green FDI as comprising two types of investment: (i) FDI that complies with national environmental standards; (ii) investment in the direct production of environmental products and services in the host country. In agreement with this view, Stephen Golub and colleagues (2011) categorize FDI into two directions: i) investment in products and services, and ii) investment in production processes.

According to UNCTAD (2008) and OECD (2010b), green FDI is characterized by its significant contribution to improving environmental performance, often through

* *Thuongmai University; email: nhung.mt@tmu.edu.vn*

advanced technologies that surpass conventional industry standards. Green FDI includes: (i) FDI in the field of environmental goods and services and (ii) FDI in processes that mitigate environmental damage, such as the use of cleaner technologies or more energy-efficient practices. This approach not only promotes economic growth but also plays a crucial role in environmental protection.

UNCTAD (2010) continues to present its views on green FDI, emphasizing low-carbon FDI as an important aspect of green FDI. It defines it as the transfer of technology, practices, or products from multinational companies to host countries through forms of FDI that can be either fair or unfair. In other words, when discussing green FDI, UNCTAD highlights two factors: (i) low-carbon products and services and (ii) low-carbon processes.

According to Johnson Lise (2017), green FDI is when foreign investors inject clean technologies, practices, projects, and capital into a host country. This type of investment aims to support development and tackle issues like pollution, climate change, and resource depletion. By adopting sustainable technologies and practices, foreign investors can enhance performance and assist in moving to a less-carbon market. Green FDI can include investing in energy projects, energy-efficient infrastructure, waste management systems, and sustainable agriculture practice.

Thus, it can be understood that green FDI refers to FDI in the production of environmental products and services, or FDI that employs production processes that minimize environmental pollution, with the aim of both economic development and the rational use of resources, while avoiding environmental destruction, climate change, and ecological imbalance in the host country.

2.2. Classification of Green FDI

Green FDI can be divided into two types of investment: clean FDI and low-carbon FDI (low-carbon FDI - LCF), in which:

- Low-carbon FDI refers to the transfer of technology, expertise, or products from transnational corporations (TNCs) to the host country through FDI, which helps reduce greenhouse gas (GHG) emissions.

- Clean FDI is understood as a type of direct investment that must be directed towards the

sustainable growth of the economy, primarily meeting the requirements for environmental protection as well as economic and social benefits.

2.3. Key benefits of Green FDI

Green FDI brings benefits like promoting sustainable development by introducing clean technologies, practices, and projects, leading to reduced environmental impact, job creation in green sectors, economic growth, and access to advanced technologies... According to the research of Florence Jaumotte Jaden Kim Samuel Pienknagura Gregor Schwerhoff (2024), there are many key benefits of green FDI as follows in Table 1.

Table 1: Key benefits of Green FDI

Benefits	Meanings
Environmental benefits	Reducing greenhouse gas emissions, promotes cleaner production processes, and helps conserve natural resources.
Economic benefits	Creating new jobs in green industries, boosts economic growth through technology transfer, and attracts further investment in sustainable sectors
Social benefits	Improving living standards by enhancing access to clean energy and sustainable infrastructure.
Social benefits	Improving living standards by enhancing access to clean energy and sustainable infrastructure.
Innovation driver	Encouraging the development and adoption of new green technologies and practices
Development potential for emerging economies	Allowing developing countries to leapfrog traditional polluting technologies and access advanced sustainable solutions.

Source: Florence Jaumotte Jaden Kim Samuel Pienknagura Gregor Schwerhoff (2024)

3. Experiences of some countries in attracting green FDI

3.1. Experiences of China

Since the initiation of economic reforms and opening up, China has experienced a continuous increase in the scale of FDI. According to the China Foreign Investment Development Report (2022), China's actual utilization of FDI has risen from \$111.716 billion in 2012 to \$173.48 billion in 2021, marking an impressive growth rate of over 55%. China consistently maintains its position as the second-largest recipient of FDI globally. In 2024, despite the global economic slow recovery and rising uncertainties, China's ability to maintain the growth of newly established foreign-invested enterprises highlights its continued attractiveness to foreign investors. The data also reflects the ongoing optimization of China's foreign investment structure, with high-tech industries and professional services increasingly drawing foreign capital, indicating a shift toward more advanced and specialized sectors.

In 2024, the number of newly established foreign-invested enterprises in the country reached 59,080, marking a 9.9 percent increase compared to the previous year. However, the actual utilization of FDI declined by 27.1 percent, totaling RMB 826.25 billion (USD 115.56 billion). Sector-wise, the manufacturing industry saw a substantial portion of the FDI, with RMB 221.21 billion (US\$30.85 billion) in actual foreign investment, while the service sector attracted a larger share, receiving RMB 584.56 billion (USD 81.47 billion). Among the high-tech sectors, high-tech manufacturing stood out with RMB 96.29 billion (USD 13.42 billion) in FDI, accounting for 11.7 percent of the total foreign investment in China. Notably, certain high-tech industries saw impressive growth in foreign investment, including the medical instruments and equipment manufacturing industry, which grew by 98.7 percent, the professional technical services sector, which saw a 40.8 percent increase, and the computer and office equipment manufacturing industry, which grew by 21.9 percent.

Over the years, China has been making efforts to attract green FDI associated with environmental protection and sustainable development. For example, in 2024, China's legislature has released a new plan to attract foreign investment after a year of falling FDI inflows. The Plan, the latest in a series of efforts to boost foreign capital in China, proposes measures to improve the business environment, ease administrative burdens, expand market access in key industries, and even the playing field for foreign companies. According to the Action Plan, one of measures is the expansion of the national catalogue that will focus on increasing support for areas such as advanced manufacturing, high-tech, energy conservation, and environmental protection. The Action Plan also calls for increasing financial support for foreign-invested enterprises (FIEs), with financial institutions encouraged to provide high-quality financial services and financing support to qualified FIEs. Qualified FIEs will also be supported to issue RMB bonds domestically for financing and use for domestic investment projects.

3.2. Experiences of Singapore

Singapore is the leading destination for FDI in Asia, particularly in high-tech and sustainable

industries. The number of greenfield investment projects in Singapore has also increased significantly, from 307 projects in 2020 to 410 projects in 2022, with the investment value rising from USD 6.869 billion to USD 16.228 billion during the same period (UNCTAD, 2023). Singapore has developed a comprehensive policy framework to attract green FDI, focusing on strong policy support, strategic incentives, and significant infrastructure investment. This nation's approach includes a diverse strategy aimed not only at direct economic benefits but also aligned with long-term sustainable goals. For example, the Green Plan 2030 sets ambitious targets to reduce carbon emissions, increase electric vehicle usage, and enhance green spaces throughout the city (National Resources and Environment Ministry, 2021). This plan provides clear guidance for businesses and investors regarding the Singapore government's commitment to sustainability.

Additionally, to specifically attract green FDI, Singapore offers a range of incentives including tax rebates, subsidies for technological innovation, and financial support for sustainable projects. The EDB manages various programmes such as the Energy Efficiency Investment Grant to provide tax deductions on capital expenditure for projects that achieve significant energy efficiency improvements (EDB, 2023). Singapore has invested heavily in modern infrastructure to support green technologies, including developing eco-industrial parks and improving public transport systems to reduce its carbon footprint. This infrastructure not only supports sustainable practices but also enhances business efficiency.

The Singapore's significant progress in renewable energy, highlighted by the completion of one of the world's largest floating solar power systems and a significant increase in solar capacity, has positioned this nation as a pioneer in sustainable urban development. These efforts not only underscore Singapore's commitment to achieving its solar energy targets but also enhance its attractiveness as a destination for green FDI.

4. Current status of attracting green FDI capital in Vietnam

By the end of 2024, the total newly registered, adjusted and contributed capital for shares and capital contributions by foreign investors into

Vietnam reached nearly USD 38.23 billion, down 3% over the same period in 2023. Specifically, there were 3,375 new investment projects (up 1.8% over 2023), the total registered capital reached more than USD 19.7 billion (down 7.6% over 2023); there were 1,539 projects registered to adjust investment capital (up 11.2% over 2023), the total additional investment capital reached nearly USD 14 billion (up 50.4% over 2023).

Until 2024, foreign investors have invested in 18 out of 21 sectors of the national economy. In particular, the processing and manufacturing industry leads with a total investment capital of nearly USD 25.58 billion, accounting for 66.9% of the total registered investment capital, an increase of 1.1% compared to 2023. The real estate business industry ranks second with a total investment capital of USD 6.31 billion, accounting for 16.5% of the total registered investment capital, an increase of 18.8% compared to 2023. Next are the electricity production, distribution and wholesale and retail industries with a total registered capital of more than USD 1.42 billion and nearly USD 1.41 billion respectively; the rest are other industries such as construction, transportation and warehousing, information and communication, etc.

As an attractive destination for FDI in the ASEAN region, along with the green transformation trend, a number of large investors from Europe have chosen Vietnam to invest in green capital. Many large German corporations have followed the strategy of reducing emissions, which means that Vietnamese enterprises as suppliers and processors must also join in achieving this goal. Green FDI from other countries also flows into Vietnam with a number of projects such as LNG Bac Lieu, LNG Long An I and II... Green FDI from European countries - the 6th largest foreign investor in Vietnam, is expected to continue to grow in the coming time.

To welcome green FDI projects, the urgent requirement is to have clean infrastructure available for investors to build factories to serve production and business needs. Currently, the Vietnam has 425 industrial parks and export processing zones established with an industrial land fund of more than 89 thousand hectares, of which 299 industrial parks have come into operation, attracting huge capital, supplementing

important resources for investment in socio-economic development of the country. In recent years, Vietnam has piloted the conversion of some traditional industrial zones into eco-industrial zones by promoting cleaner production and cooperation in production to efficiently use resources. The emergence of eco-industrial zones will create new momentum to convert industrial zones nationwide to new standards.

However, Vietnam still faces many difficulties, challenges and barriers in attracting green FDI, specifically: Vietnam does not have much experience and environmental mechanisms and standards to effectively screen FDI projects; Coordination between levels and sectors in controlling waste sources from FDI projects is not effective, synchronous and tight; There is still a situation of taking environmental protection lightly, especially in the process of appraisal, approval and implementation of FDI projects; The capacity of prevention, control and environmental protection of some FDI enterprises is still inadequate, the management capacity of relevant agencies has not yet met the requirements...

5. Implications for Vietnam

Based on experiences of some Asian countries like China, Singapore in attracting green FDI, there are some implications for Vietnam as follows:

- According to studies by the Organization for Economic Cooperation and Development (OECD), tax incentives or low tax burdens are not as attractive as a favorable business environment. Therefore, in the following years, the Government needs to continue to issue and effectively implement Resolution on improving the business environment and enhancing national competitiveness with an emphasis on reducing administrative procedures and business conditions; simplify business registration procedures, specialized inspections... Along with that, the Vietnamese Government also needs to implement solutions to improve infrastructure (traffic, information); Improve quality and ensure the supply of qualified labor...

- Building institutions, preferential policies, and competition, creating favorable business conditions to attract large, key national projects, high-tech projects... to attract strategic

investors, multinational corporations to invest, set up headquarters and establish research and development (R&D) centers in Vietnam.

- Giving priorities on attracting FDI into high-tech, advanced industries and fields, environmentally friendly technology, clean energy, renewable energy; high-tech agricultural production, smart agriculture; developing modern technical infrastructure, especially new industries on the basis of the Industrial Revolution 4.0.

- Establishing clearer legal definitions and standards for green FDI in line with international practices. This includes not only drafting comprehensive laws but also ensuring strict enforcement to protect environmental interests while facilitating business operations. Developing and promulgating criteria, standards and regulations on exploitation, use of natural resources and environmental protection in attracting and using FDI. Upgrading environmental standards to serve as a basis for not accepting projects that do not encourage investment (such as: dyeing and weaving using old technology...). Always ensuring the principle of “not attracting FDI at all costs”; Not extending or expanding operations for projects using low technology that do not meet technological and environmental standards.

- Reviewing and amending laws on technology transfer registration; import of machinery and equipment of FDI enterprises to control, promote technology and technology transfer; preventing and limiting fraud and acceptance of environmentally unfriendly technology.

- Developing appropriate incentive and preferential mechanisms to increase the linkage between FDI and domestic investment, priority areas to attract; developing industry clusters and value chains, contributing to increasing domestic added value, product competitiveness and national position in the global value chain. Encouraging technology and management transfer to Vietnamese enterprises.

- Strengthening inspection, supervision and examination work in conjunction with enhancing the responsibility of local authorities and leaders in implementing the Party’s guidelines and policies and the State’s laws related to foreign investment; promptly detecting, preventing and

strictly handling violations of environmental protection.

- Training and coaching to improve the qualifications of the management team related to FDI, focusing on updating knowledge about green FDI capital trends; green FDI criteria in the world; experience in managing green FDI projects; experience in handling environmental risks including from FDI projects with “green commitment”.

- Implementing incentives based on companies’ environmental performance, thus not only encouraging the establishment of green projects but also encouraging continuous improvement and adherence to best practices. Developing modern green industrial parks equipped with the necessary infrastructure to support high-tech green industries. These areas can provide facilities for waste recycling, energy reduction and use of renewable energy sources.

Conclusion

Green FDI brings benefits in many aspects as: Environmental benefits, Economic benefits, Social benefits, Social benefits... Along with the strong determination from the government, ministries, sectors, and localities towards a green economy, Vietnam has a clear opportunity to attract FDI, especially for high-tech investment projects with minimal environmental impact from developed countries, gradually paving the way to attract actually green FDI projects in the near future. Based on experiences of some Asian countries in attracting green FDI, there are some implications for Vietnam.

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