**Urgent need for stringent legislation to regulate carbon credit markets in developing countries. A case study in Vietnam**

**Abstract**

This study analyzes the critical legislative loopholes that need to be addressed in forming a standardized carbon credit market in developing countries, using Vietnam as a primary example. Currently, the carbon credit market is regarded as a key tool for reducing carbon emissions and meeting the country's climate goals. Although Vietnam has set clear aims for sustainability and carbon neutrality by 2050, its carbon credit market is still in its early stages and faces significant regulatory challenges. This qualitative research exploited secondary data to review current legal instruments in Vietnam, international case studies, and academic literature to scrutinize the existing legislative framework and compare it with some best practices around the world. The results identify the main areas for essential new legislative reforms, including certification of carbon credit standards, the reinforcement of monitoring, reporting and verification tools, effective punishment instruments, and consistency with broader climate strategies. Besides, it investigates the role of promoting private-sector participation and supporting voluntary carbon markets. The study suggests that Vietnam should adopt comprehensive, flexible, transparent, self-adjusting, and responsive policies to ensure a credible carbon credit marketplace to achieve national targets alongside meeting international climate commitments. Hopefully, Vietnam will establish a leading carbon market in Southeast Asia by learning from global experiences.

***Keywords:*** carbon credit market; carbon certification; emission reduction; legislative reform; voluntary carbon markets

**Introduction**

The growing concern about present-day climate change requires prompt implementation of strategic actions from all countries in a collaborative effort to prevent ongoing environmental deterioration. Carbon credit markets, therefore, are one of the prominent mechanisms, which should be implemented globally to encourage carbon emission reductions. The exchanges of globalized carbon emission norms allow companies and countries to trade emission reductions in the form of carbon credits, which are generated from mutual projects to impose its mandate on reducing or offsetting greenhouse gas (GHG) emissions (Bernstein, 2023; Lawson et al., 2023). While carbon credit trading has been successfully in effect in developed countries, it is still a burning problem to enforce carbon reductions in emerging and developing countries such as Vietnam due to various regulatory and institutional bureaucracies (Finon, 2019; Liu & Zhang, 2023). In particular, the loophole of stringent legislative regulations to monitor these markets has hindered the potential to control meaningful climate actions. As such, carbon credit markets are one of the general carbon pricing instruments to tackle the negative externalities of carbon emissions (Ji et al., 2018; Jiang et al., 2023; Lin & Huang, 2022). Accordingly, the introduction of carbon credit markets provides financial incentives for emission reduction activities, such as reforestation, renewable energy deployment, or energy efficiency measures. In practice, developed countries, typically those in the European Union (EU), have long-established carbon markets with comprehensive instruments to reduce carbon emissions and foster sustainable development (Jiet al., 2018; Sun et al., 2025). The success of these markets, however, has not been universally replicated in developing countries, where many barriers, such as inadequate institutional capacity, lack of infrastructure, and weak regulatory frameworks, are still influential (Biermann et al., 2022).

Generally, Vietnam, as a developing country, has confronted several obstacles to controlling carbon emissions due to its fast industrialization and increasing energy consumption (Nguyen, 2025). The government has committed to ambitious climate targets under the Paris Agreement with a strong determination to reduce GHG emissions intensity and achieve carbon neutrality by 2050. To meet these goals, as part of these targets, Vietnam has initiated the development of a domestic carbon market with many legislative regulations, such as Decision No. 232/QD-TTg,[[1]](#footnote-1) which aims to establish a market for carbon credits. However, the effectiveness of this market is undermined by regulatory gaps that hinder transparency, accountability, and market integrity (Nghiep & Ha, 2023). Concerning the ineffectiveness of establishing a carbon credit market in Vietnam, there appear to be insufficient legally binding policies and regulations which guarantee openness, impartiality, and reliability. Trouwloon et al. (2023) point out that effective governance is important to prevent market abuses and ensure that emission reductions represented by carbon credits are real and verifiable. Without stringent legislative norms, there is a risk that the market could be exploited by businesses seeking to manipulate carbon credits for financial gain rather than promoting genuine environmental benefits (Cheong, 2025; Rana et al., 2024). Moreover, the legislation has not been explicitly designed to regulate carbon market operations, although Vietnam's current laws on the environment have made progress in some aspects. Remarkably, the 2020 Law on Environmental Protection[[2]](#footnote-2) provides a framework for environmental governance, but its provisions fail to stipulate rules on the trading of carbon credits, and the challenges market actors encounter are not addressed thoroughly (Bai et al., 2020; Sasaki, 2025). This loophole creates a fragmented legal environment that discourages the growth of the carbon credit market and means that carbon credits are not ensured to be conducted on the basis of international best practices. In addition, Vietnam's carbon has undergone a lack of effective monitoring and enforcement mechanisms until now. Tanveer et al. (2024) argue that market effectiveness is contingent upon the establishment of robust monitoring systems to track emission reductions and ensure compliance with carbon credits issued. In Vietnam, the lack of a centralized monitoring system and the absence of standardized methodologies for credit certification have created opportunities for inconsistencies in carbon credit valuations and issues with credit legitimacy (Thang et al., 2024).

Vietnam's carbon credit market has made some initial developments to bolster its significant potential to contribute to national climate goals by 2050. To illustrate its efforts to achieve its targets, the government of Vietnam has recently promulgated many new policies, such as the establishment of a carbon trading body, which shows clear signals of the government's commitment to integrating carbon markets into the national economic framework (Nghiep & Ha, 2023). However, these early attempts have encountered many obstacles because the carbon market remains susceptible to fraud, price volatility, and lack of transparency, which could undermine its effectiveness and attractiveness to international investors (Finon, 2019). In reality, the carbon credit market in developing countries like Vietnam also faces specific difficulties. These challenges include a low level of carbon market literacy, a lack of financial mechanisms to support the development of carbon credit projects, and inefficient legislative sanctions to regulate market participants (Liu & Zhang, 2023; Van, 2024). To overcome these challenges, there is a need to formulate a comprehensive legislative measure which not only supports the growth and integrity of the market but also ensures that it serves as an effective tool to achieve national climate goals (Ding et al., 2016; Nguyen, 2025; Tanveer et al., 2024). Consequently, the main objective of this research is to examine the existing legal regime on the management of the carbon credit market in the context of Vietnam and to identify the urgent requirements for more stringent legislation to ensure its effectiveness. The study overviews global best practices, particularly achievements from developed countries, to propose specific legislative instruments to better the regulatory compliance of the carbon credit market in Vietnam. Thus, the research aimed to answer the following questions as follows:

1. What are the current legislative gaps in regulating Vietnam’s carbon credit market?

2. How do international carbon market regulations compare to Vietnam's approach?

3. What specific legislative measures are needed for carbon credit market development in Vietnam?

**Method**

This qualitative research employed a structural approach of comparative laws with the research design introduced by Samuel (2014) to compare and analyze Vietnam's carbon credit market framework with international models. The research primarily utilizes secondary data, which includes academic articles, government reports, international policy documents, and industry publications. Based on the review of relevant literature, this study investigated the regulatory instruments, market framework, and operational mechanisms of carbon credit markets in Vietnam and selected international guidelines and models. To understand comprehensively Vietnam's carbon credit market, the study examined documents such as the 2020 Law on Environmental Protection of Vietnam and Decision No. 232/QD-T Tg,[[3]](#footnote-3) which provided the national strategy and action plans for carbon markets. Additionally, data from international sources, particularly the European Union Emissions Trading Scheme (EU ETS),[[4]](#footnote-4) the Kyoto Protocol,[[5]](#footnote-5) the Paris Agreement,[[6]](#footnote-6) the UNFCCC,[[7]](#footnote-7) and carbon markets in other developing countries like China and India, were briefly reviewed. The investigation was centred on some key aspects, namely legislative norms, carbon credit certification processes, market participation rules, pricing mechanisms, and governance systems. These comparative points were taken from the concepts proposed by Anckar (2020)[[8]](#footnote-8) for the most-similar and most-different systems. The study aimed to review the laws and policies of Vietnam to identify the regulatory loopholes in governing carbon emissions. It also recommended improvements that could be based on best practices from global carbon markets.

**Discussion**

**3.1. Some key takeaways impacting the legal framework for carbon credit markets in Vietnam**

The carbon credit market of Vietnam is not mature, but the country has made its utmost efforts to develop emerging legal and regulatory frameworks. The government has committed to reducing GHG emissions in line with international agreements like the UNFCCC[[9]](#footnote-9) and the Paris Agreement.[[10]](#footnote-10) Vietnam has determined its objectives to reduce GHG emissions intensity by 8-25% by 2030, compared to 2010 levels, and achieve carbon neutrality by 2050.[[11]](#footnote-11) To achieve these goals, Vietnam is working to establish a domestic carbon market supported by legislation that regulates carbon credit trading and incentivizes emissions reductions. The primary law governing environmental protection and carbon markets is the 2020 Law on Environmental Protection, specifically Law No. 72/2020/QH14.[[12]](#footnote-12) This law sets general principles for emission reduction and pollution control but does not fully address the complexities of carbon credit trading or establish a complete carbon market. As an example of the level of commitment from the Vietnamese government, a specific legislative instrument specifying the development of a domestic carbon market is outlined in Decision No. 232/QD-Ttg, issued in 2025,[[13]](#footnote-13) In particular, this Decision includes specific roadmaps to establish the mechanisms of carbon price and market (including carbon tax and carbon trading) and mechanisms of certification, monitoring, and reporting of carbon credit (Section 3).[[14]](#footnote-14) Although this Decision has been put into effect, its impacts are not very impressive, and further improvements are needed in the details and enforcement of the proposed measures (Nghiep & Ha, 2023). This suggests that Vietnam's carbon market is just emerging and still needs considerable work to achieve climate objectives.

Although Vietnam has tried its best to establish effective carbon credit regulations, which are still under the legislative making process, some encouraging features have already emerged, and these initial achievements are essential for the development of the carbon market. One of the most important capacities for establishing a strong legislative scheme is the country's precise alignment with global climate objectives, particularly the binding promises made through the Paris Agreement.[[15]](#footnote-15) The country's ambitious climate targets, which include reaching carbon neutrality by 2050,[[16]](#footnote-16) reflect a strong political will to integrate carbon markets into its broader climate strategy. This alignment demonstrates the government's acknowledgement of the importance of carbon markets in cutting emissions and promoting sustainable economic development (Nguyen, 2025). Through establishing specific and ambitious targets, Vietnam is preparing to take advantage of international resources, such as international support, financing, and technical knowledge from global organizations, such as the World Bank.[[17]](#footnote-17) Another strength is the government's proactive determination to work towards constructing the regulatory framework of the carbon market (Van, 2024). In 2025, the Prime Minister promulgated Decision No. 232/QD- TTg,[[18]](#footnote-18) which defines the roadmap for establishing the carbon credit market in terms of policy measures, carbon pricing strategies, and market infrastructure. This normative document signals the government's long-term commitment to the market and provides a clear direction for its evolution (Cheong, 2025). As a result of having a government-sponsored guideline, the market participants in Vietnam are given the stability and certainty demanded for a more active involvement in the carbon credit trading market, in which confidence can be built in the public and private sectors (Chen & Xie, 2023; Errendal et al., 2023). International cooperation is also considered an important factor in helping Vietnam to develop the carbon credit market. Some international organizations, such as the World Bank[[19]](#footnote-19) have actively contributed to the market's design and implementation. Actually, this collaboration highlights that Vietnam benefits from global best practices and experiences from successful carbon markets in developed countries, like Europe or some developing nations, such as China, to enhance the credibility and legitimacy of the market (Somosi et al., 2024). As a last effort, Vietnam's commitment to sustainable development is further reflected in its use of the carbon market as a tool to reduce emissions, promote green growth, and attract international investments to support long-term environmental and infrastructure goals (Nguyen, 2025).

The legal system with respect to the carbon credit market of Vietnam has encountered a number of problems, such as lack of regulation, weak enforcement of the law, and inconsistency in institutional policy. The lack of clear, standardized certification procedures for carbon credits is a major weakness, as it exposes the market to fraud, greenwashing, and invalid credits (Thang et al., 2024). Furthermore, Vietnam does not possess a comprehensive third-party verification system, so it is difficult to certify the authenticity of traded credits and constrain market scalability. The 2020 Law on Environmental Protection[[20]](#footnote-20) and Decision No. 232/QD- TTg[[21]](#footnote-21) acknowledge the need for monitoring but fails to provide a detailed framework for implementation (Nguyen, 2025; Van, 2024). The lack of a single, authoritative governing body makes it difficult for participants to follow shared standards and opens the door to self-serving behaviour. Furthermore, the policy framework is also fragmented and inconsistent, lacking specific guidance on carbon market operations, such as pricing mechanisms or emissions cap design (Cheong, 2025). This disorganization makes it difficult for the carbon market to seamlessly integrate with other environmental policies like renewable energy programs. Private sector engagement is constrained because of insufficient clarity concerning regulations and regulatory frameworks. Consequently, businesses are reluctant to commit to this since they cannot predict how rules might change or what penalties might be imposed. This oversight limits the potential for scaling emissions reductions and misses opportunities to involve global businesses in Vietnam's climate efforts.

**3.2. Urgent legislative needs for the development of a carbon credit market**

Vietnam’s emerging carbon credit market holds considerable promise for advancing climate targets while simultaneously supporting a more sustainable model of economic development. That promise, however, is tempered by several structural gaps and operational challenges that the current regulatory framework should be reformed to address those loopholes. It is important to have comprehensive legal frameworks which stipulate clear rules and procedures and reassure investors that their commitments will be protected over the long term. A well-functioning carbon credit market relies on clear regulatory frameworks for the issuance, trading, and monitoring of carbon credits (Liu & Zhang, 2023; Wang et al., 2022; Wetterberg et al., 2024). Vietnam's current legal framework does not provide the clarity needed for carbon markets to expand effectively. While the 2020 Law on Environmental Protection and Decision No. 232/QD-T TTg[[22]](#footnote-22) lay out general policy directions, they fall short of specifying the step-by-step procedures for certifying carbon credits or the safeguards needed to uphold that certification.[[23]](#footnote-23) Consequently, a robust certification framework is crucial for building market confidence and securing sustainable investment flows (Abbasi & Choukolaei, 2023). Vietnam should introduce explicit, enforceable guidelines for governing the insurance activities regarding the certification of carbon credits, possibly by aligning with established international benchmarks, such as the Verified Carbon Standard (VCS) or the Gold Standard,[[24]](#footnote-24) to address these loopholes. This will ensure the integrity of carbon credits, encouraging confidence and participation from buyers and sellers. Fahimnia et al. (2014) and Jenkins (2014) emphasized transparency as an important element for a successful carbon credit market, particularly to alleviate doubts from private sector participants. Inadequate definitional frameworks may create uncertainties about pricing, credit authentication, or even the overarching regulatory structure, which may deter stakeholder engagement. Fraud or market manipulation that results from insufficient openness can diminish the reliability of the entire market system. Accordingly, Vietnam's legislative framework must resolve the issues by incorporating guidelines on public reporting for the transaction and the reduction of emissions in carbon credits (Li et al., 2020; Waltho et al., 2019; Abbasi & Choukolaei, 2023). An essential first step toward solving this issue would be to develop a publicly accessible centralized carbon registry that tracks the issuance, transfer, and expiration of credits. Afionis et al. (2017) state that transparency is especially important for international buyers, who need assurance that credits meet global standards. Regular reporting by companies, including emissions inventories and third-party audits, would enable stakeholders to assess the effectiveness of carbon reduction efforts.

Vietnam's carbon credit market needs effective enforcement mechanisms to prevent fraud, misreporting, and failure to meet emission reduction targets (Luo et al., 2013; Xu, Z., Elomri et al., 2019). At present, Vietnamese law lacks a comprehensive framework for monitoring and enforcing carbon trading operations, and the 2020 Law on Environmental Protection[[25]](#footnote-25) does not specify which regulatory bodies are responsible for overseeing this emerging market. To address the present gaps in Vietnam's carbon credit legislation, it is advisable for the country to set up an independent regulatory body with the sole responsibility for market regulation as well as monitoring, enforcement and penalization. Such an agency needs to carry out regular audits, inspect transaction records, and verify emissions reductions through independent, accredited third parties.[[26]](#footnote-26) In addition, the law should include strict penalties, from fines to carbon credit revocation, for fraud. Vietnam can adopt the EU ETS[[27]](#footnote-27) as a successful international precedent, in which a designed reliable monitoring and enforcement mechanism could assist Vietnam in the rule-making process. By implementing these strict compliance mechanisms, Vietnam can establish a reliable and transparent carbon market that corresponds to international norms and also is compatible with the country’s climate change objectives (Nguyen, 2025; West et al., 2023). As such, Vietnam's carbon credit market should be integrated with its climate strategies to achieve its ambitious goals, including carbon neutrality by 2050.[[28]](#footnote-28) because the current market is not tightly integrated into the nation’s plan for climate action. To improve, Vietnam's legislation should align the carbon credit market with the Nationally Determined Contributions under the Paris Agreement,[[29]](#footnote-29) ensuring carbon credits directly contribute to emission reduction targets. This would generate carbon credits from projects that complement other climate initiatives, such as renewable energy development (Errendal et al., 2023; Lawson et al., 2023; Sasaki, 2025). Vietnam should also connect its carbon market to international carbon markets to gain access to global capital and technology and improve its market credibility (Peng et al., 2024). Harmonising the domestic market with established international standards in Vietnam appears a promising way to add a global quality legitimacy to the country’s carbon credits, to support cross-border transactions. Tanveer et al. (2024) opine that this integration supports Vietnam in meeting its global climate commitments and promotes a form of sustainable economic development that benefits both the environment and local communities.

**3.3. International lessons and best practices in carbon credit market development**

In the context of developing countries like Vietnam, which needs to launch and develop carbon credit markets, some experiences will be important learnings from the efforts of the other countries that have succeeded in implementing carbon trading markets. These experiences are also drawn from the achievements of both the developed and developing countries involved, from the regulatory context, market design, and policy options that are important to consider in the context of efficient carbon credit market design and functioning.

***3.3.1. Some key points from the Kyoto Protocol and the 2015 Paris Agreement***

The Kyoto Protocol to the UNFCCC,[[30]](#footnote-30) adopted in 1997,[[31]](#footnote-31) was a landmark international agreement aimed at combating climate change by reducing greenhouse gas emissions. It set legally binding emission reduction targets for developed countries, acknowledging their historical responsibility for global emissions. Under the Kyoto Protocol, participating countries were required to reduce their emissions of six key greenhouse gases - carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride - by an average of 5.2% compared to 1990 levels, within a commitment period from 2008 to 2012. The Kyoto Protocol[[32]](#footnote-32) introduced market-based mechanisms, such as emissions trading, the Clean Development Mechanism (CDM), and Joint Implementation, to help countries meet their targets more flexibly. While it marked a significant step in international climate action, the protocol faced challenges, including the withdrawal of key countries like the United States, and its limited scope in addressing future global emissions. It was eventually superseded by the Paris Agreement in 2015.[[33]](#footnote-33)

The 2015 Paris Agreement[[34]](#footnote-34) is a landmark international treaty within the UNFCCC[[35]](#footnote-35) that aims to limit global warming to well below 2°C, with efforts to restrict it to 1.5°C above pre-industrial levels. Unlike its predecessor, the Kyoto Protocol, the Paris Agreement[[36]](#footnote-36) requires all countries, regardless of their development status, to take action on climate change. It introduced nationally determined contributions, where each country sets its own emission reduction targets based on its national circumstances and capabilities.[[37]](#footnote-37) The agreement emphasizes the importance of financial support to developing countries for mitigation and adaptation efforts. A key feature is the “global stocktake,” held every five years, to assess progress and encourage more ambitious commitments. The Paris Agreement was signed by nearly every country in the world, marking a global consensus on the need to tackle climate change collaboratively and urgently.

***3.3.2. Overviewing European Union emissions trading scheme***

The EU ETS, launched in 2005,[[38]](#footnote-38) is one of the most successful and established carbon credit markets globally. It was the first multi-country carbon market and has evolved through several phases of expansion and refinement. Today, the EU ETS serves as a model for other nations and regions implementing carbon trading systems. A remarkable experience from the EU ETS is the importance of a transparent and predictable carbon price. However, the EU ETS once suffered from an oversupply of carbon credits, so a dramatic collapse in prices occurred. The creation of the Market Stability Reserve (MSR) has managed the supply of allowances, stabilized the price level and improved the effectiveness of carbon pricing for emission reduction. This reason highlights the importance of having a flexible design of the market that allows changes according to variations in the economy, the development of new technologies, and variations in emissions. The introduction of the MSR has been proven to work to control the supply of allowances, stabilize prices and increase the efficiency of price signals for reducing emissions. This, indeed, stresses the role of a flexible market structure, which facilitates the fast reaction to economic changes, technological progress, and emissions variations (Wu et al., 2024). Vietnam could get better results by integrating a similar stability mechanism to ensure carbon prices remain stable and encourage long-term emission reductions.[[39]](#footnote-39) Another key lesson is the integration of carbon trading with broader climate policies.[[40]](#footnote-40) The EU ETS operates together with other policy instruments, such as renewable energy targets and energy efficiency regulations, to create a comprehensive climate change mitigation strategy.[[41]](#footnote-41) Accordingly, Vietnam can take advantage of this paradigm by integrating the carbon credit market with other policies like the adoption of renewable energy and emission reduction goals in all sectors. This alignment optimizes the influencing power from the carbon credit market and prevents the contradiction between the market-driven policy (Bai et al., 2020). Furthermore, the EU ETS emphasizes the importance of better monitoring, reporting, and verification (MRV) systems. Companies are required to report their emissions annually, with third-party verification ensuring transparency and preventing manipulation. It is advisable for Vietnam to develop a robust MRV system to build trust in its carbon market and provide credibility in that carbon credits result in real emissions reductions.

***3.3.3. Some lessons from developing countries regarding carbon credit market: China, Brazil, and India***

China is accused of being the world's largest producer of carbon dioxide, so the country launched its national carbon trading scheme in 2021 and has made some impressive achievements. Initially, the program focused on electric power generation, but authorities have revealed that heavy emissions sectors such as steel, cement, and chemical production will also be included in the near future (Liu & Zhang, 2023; Sheng et al., 2025; Sun et al., 2025). Although China's carbon credit market has been in its early stages, it can offer valuable references to Vietnam from its early experiences. An interesting structural feature is the use of sector-specific emissions limits systems, which adjust the trading system to inequities in the emissions and mitigation opportunities across industries. This strategy enables a more efficient distribution of emissions allowances and encourages emissions reduction in areas that are the most cost-effective (Wu et al., 2024). With more advanced industries, Vietnam might benefit from a sectoral-based emission caps approach to optimize the alignment of efforts toward emission reductions for each sector's capabilities. Another key insight concerns the phased model of China's carbon market, which began with a narrow focus on the power sector and eventually broadened to encompass other sectors. This allows the opportunity to evaluate and enhance self-sustained market components, such as the information system design for data collection, validation, and trading before full market integration (Van, 2024). Accordingly, Vietnam might learn from such a phased introduction to dealing with the intricacies of carbon pricing and to trial and refine regulatory frameworks. It would support capacity building among regulatory bodies and industry participants. The Chinese experience also highlights that even a phased approach requires firm and continuous government oversight if the market is to operate transparently and effectively. The Chinese government has actively participated in both the design of the market and its operation (Sheng et al., 2025). Similarly, the involvement of the Vietnamese government will be necessary for upholding equity, integrity, and compliance with national environmental objectives. Although market forces should regulate carbon credit trading, the government should supervise so that the market system can be conducted in an effective and credible way.

Apart from experiences from developed economies, developing countries provide valuable insights into how carbon markets can be adapted to local contexts. Brazil and India have introduced carbon crediting schemes that focus on emission reduction projects, such as afforestation, reforestation, and renewable energy development (Silva & Vieira, 2025). Current projects take charge of issuing certifiable carbon credits that are subsequently traded on global exchanges, which contribute to global efforts to mitigate climate change. A key lesson from Brazil’s voluntary carbon market is the importance of project-based carbon credits. Brazil has developed an adequate system for issuing carbon credits, which is subject to specific projects that reduce emissions, particularly in the forestry and renewable energy sectors (Franki, 2022; Palazzi et al., 2024). This approach not only helps to reduce emissions but also generates sustainable income for local communities. As a result, Vietnam can get valuable experiences from this model to support local emission reduction projects, for example, forest conservation, waste-to-energy initiatives, and renewable energy projects. These permissions can generate carbon credits that contribute to both global and local climate goals. India’s experience with the CDM under the Kyoto Protocol[[42]](#footnote-42) may serve as another important model (Mahapatra & Irfan, 2023). India successfully attracted international investment in carbon credit projects, particularly in renewable energy and energy efficiency, through its CDM framework. Despite some early achievements, India struggled with issues concerning additionality - the principle requiring emission reductions to be surplus to any that would have occurred under a business-as-usual scenario (Luo et al., 2013; Wang et al., 2020). For Vietnam, it will be particularly critical to establish precisely defined policies and stringent frameworks for determining additionality. Consequently, these policy frameworks ensure that carbon credits generated within the domestic market correspond with genuine emissions reductions instead of credits that were preordained to happen.

**3.4. Recommendations for policy reform: Strengthening Vietnam's carbon credit market**

As Vietnam continues its efforts to reduce GHG emissions and meet international climate targets, the development of a robust and effective carbon credit market will be pivotal. However, to ensure the success of this market, Vietnam’s current policy framework must be strengthened through a series of key reforms. These reforms should focus on enhancing market integrity, improving transparency, creating effective enforcement mechanisms, and ensuring that the carbon credit market aligns with the country’s broader climate goals.

***3.4.1. The requirement of establishing clear and standardized carbon credit certification***

The implementation of a transparent and uniform system for certifying emissions reductions is essential to any carbon credit market. Without effective certification and validation, carbon credits could be subject to manipulation, such as the issuance of credits for emission reductions that do not actually occur (Trouwloon et al., 2023). This discourages investment in Vietnam and undermines market credibility. Accordingly, it is necessary for Vietnam to establish a comprehensive certification regime in line with internationally recognized standards, such as the Verified Carbon Standard or Gold Standard (Biermann et al., 2022). These standards cover comprehensive guidelines for measuring and validating carbon credits, ensuring that they represent real, additional, and permanent emissions reductions. More importantly, Vietnam can use internationally recognized certification mechanisms such as the VCS to help make Vietnam’s carbon credits acceptable on the global market and attract domestic and international funds (McAfee, 2016). In addition to adopting international standards, Vietnam should establish a national accreditation body responsible for overseeing the certification process. That body would provide uniformity in evaluating and verifying projects and might also operate as a hub for gathering and publishing carbon credit data. The commission would establish means of transparency and accountability, trust institutions within the carbon credit market, and ensure that the credits meet environmental and legal standards (Akon, 2023).

***3.4.2. The strength of monitoring, reporting, and verification systems***

The credibility of the carbon credit market will be determined by reliable and transparent MRV systems. These infrastructures are indispensable to verify that emission reductions are real and that carbon credits actually reflect environmental services. Without strong MRV systems, carbon credit markets can become susceptible to fraud and manipulation, undermining their effectiveness in reducing emissions (Wetterberg et al., 2024). Vietnam should prioritize the development of a comprehensive MRV framework that requires companies and project developers to regularly report their emissions reductions and submit to third-party verification (Finon, 2019). To do this, the government must create clear guidelines on how emissions reductions should be measured, reported, and verified. Furthermore, the MRV should be linked to a carbon registry publicly available for public scrutiny and verification (Jiang et al., 2023) that also contains information on carbon credits issued, transferred, and retired. Such a process would build confidence in the legitimacy of carbon credits and the ability to verify them, which is crucial to markets and investor interest in emissions-reduction projects. Vietnam could take lessons from the EU ETS as a model for MRV systems. The EU ETS mandates that companies submit annual emissions reports, which are subsequently validated by independent third parties. This level of transparency has been a key factor in the credibility and success of the EU ETS (Sheng et al., 2025). Consequenly, adopting a similar MRV framework in Vietnam would help protect the environmental integrity of the carbon market by ensuring that credits issued in the market reflect actual emissions reductions.

***3.4.3. The need to implement strong enforcement and compliance mechanisms***

The mechanisms for compliance and enforcement are foundational in ensuring that any system of carbon credits operates efficiently. Where there is no effective enforcement or compliance, a market may be subject to manipulation, fraud, and non-compliance with emissions reduction goals (Ding et al. 2016). In Vietnam, the current regulations do not have a comprehensive enforcement mechanism that will ensure that carbon credits are properly utilized and that market participants comply with established rules. This can be addressed by having an autonomous and strong regulator with a separate mandate to regulate carbon credit trading, monitor compliance, and enforce penalties for violations. This administrative organization should be allowed to conduct audits on companies and projects that deal with carbon credits, address violations of the policies issued, and impose relevant fines or penalties on non-compliant firms. Additionally, the government should establish a clear legal framework for penalties, which should include both financial penalties and, in severe cases, the revocation of carbon credits or the suspension of market participation (Thang et al., 2024). The government can create incentives to prevent insubordination and confidence in the market of carbon credit through proper and consistent enforcement of the penalties (Fahimnia et al., 2014; Franki, 2022). Moreover, Vietnam needs to consider setting up a governing body for emissions trading that may interface with some government departments as well as third-party independent verification firms (Ji et al., 2018; Akon, 2023). This committee would oversee the reduction in emissions and ensure that carbon credits are issued only for real, verified reductions. This would build confidence in the market and uphold the reputation of the trading system as a whole.

***3.4.4. The alignment of carbon market policies with national climate goals***

For Vietnam’s carbon credit market to effectively contribute to the country’s long-term climate goals, it must be fully integrated with the nation’s broader climate policy framework. Currently, the government has set emission reduction targets, including achieving carbon neutrality by 2050; however, the carbon credit market still lacks the necessary alignment to these goals. In addition, it is also desirable to incorporate the carbon credit market into the broader national climate strategy to achieve greater market-based influence (Finon, 2019; Jiang et al., 2023). This can be achieved by aligning the issuance of carbon credits with specific climate targets and policies, such as renewable energy development, energy efficiency programs, and reforestation efforts. As an example, Vietnam should establish an emission reduction target for each sector and require that carbon credit programs help contribute to these targets (Lin & Huang, 2022; Nghiep & Ha, 2023). This alignment would improve the coherent and effective implementation of climate change mitigation strategies, integrating the carbon credit market as a central element in Vietnam’s climate policy (Biermann et al., 2022). Apart from aligning carbon credits with national climate targets, it will also be necessary for the country to match its carbon market with other regional and international markets. As global carbon markets grow more interconnected, ensuring compatibility of the Vietnamese carbon market with international markets would enable access to international buyers and sellers, improve market liquidity, and offer new opportunities for emissions reductions. This would also help ensure that carbon credits generated in Vietnam meet global standards, making them eligible for use in international carbon markets (Sheng et al., 2025).

***3.4.5. The necessity of fostering private sector participation and innovation***

Government policies and participation from the private sector will determine how efficient Vietnam’s carbon credit market is. Participation from the private sector has the potential to promote innovation in the reduction of emissions, create new investment opportunities, and and increase the market’s liquidity (Finon et al., 2019; Lin & Huang, 2022). However, Nghiep and Ha (2023) assert that lack of clarity in terms of regulations and benefits has hindered the participation of the private sector in Vietnam’s carbon market. It is a good incentive for the government of Vietnam to introduce financial incentives, such as tax breaks or subsidies for companies that invest in carbon reduction projects to encourage private sector participation. Furthermore, there needs to be clarity around regulatory frameworks concerning participation in the market so that it is clear what criteria companies need to meet in order to benefit from participating in the carbon credit market (Bernstein, 2023). For example, clear guidelines for carbon credit certification and the validation of emissions reductions would reduce uncertainty and provide businesses with the confidence to invest in carbon credits (Akon, 2023). Vietnam could also consider establishing carbon credit financing mechanisms, which would provide funding for private-sector projects aimed at reducing emissions. These mechanisms could be modelled after successful programs in other countries, such as the Clean Development Mechanism in India, which has attracted significant investment in renewable energy and energy efficiency projects (Luo et al., 2013). By creating favourable conditions for private sector innovation, Vietnam can help ensure the long-term success and scalability of its carbon credit market.

***3.4.6. The assistance of the development of voluntary carbon markets***

As Somosi et al. (2024) suggest, voluntary carbon markets could be instrumental in the initial phases of carbon market development by encouraging investment from the private sector and increasing the supply of carbon credits to meet corporate and individual emission goals. Such markets allow companies and individuals to voluntarily purchase carbon credits beyond what is legally required. Franki (2022) and Lin & Huang (2022) noted that with the purchasing of carbon credits, there will be more monetary resources available for projects aimed at reducing carbon emissions. However, as Akon (2023) notes, Vietnam is not actively fostering policies to develop a voluntary carbon market. In this case, the government of Vietnam should consider adding flexible provisions to its legislation system regarding carbon markets to stimulate the development of voluntary carbon markets (Tanveer et al., 2024). Such provisions could justify the use of voluntary carbon credits by outlining criteria for their issuance while simultaneously promoting public awareness of the importance of acquiring voluntary credits - thereby fostering greater public interest in purchasing them (Sheng et al., 2025). Thus, facilitating participation through these adjustments would diversify funding sources available for emission reduction projects, thereby reinforcing the effectiveness of existing mechanisms relevant to the trading of carbon credits.

**Conclusion**

Vietnam has tried to achieve its climate goals as part of global commitments to reduce greenhouse gas emissions, the development of a strong carbon credit market represents a significant indicator. This market enables the possibility of achieving emission reductions while simultaneously promoting sustainable long-term economic growth through increased investment, creation of new markets, encouragement of cleaner technologies, and innovation, which reduces emissions. Nevertheless, realizing these opportunities requires Vietnam to deal with some critical gaps within the country's existing regulatory framework alongside making important policy changes that would give confidence in an effective market. Key reforms include regulatory clarity, transparency, robust enforcement, and integration with national climate strategies. Although Vietnam's existing carbon credit market legislation is a step forward, it lacks the specificity needed to create a fully functioning market. By learning from international best practices, such as those in the European Union and China, Vietnam can refine its approach to market development. One of the most urgent reforms is establishing clear, standardized carbon credit certification. The certification process is very important to make sure that carbon credits actually reflect real reduced emissions. Without this, the market risks becoming ineffective. Vietnam should adopt internationally recognized standards like the Verified Carbon Standard and Gold Standard and establish a national accreditation body to verify carbon credit issuance, improving transparency and traceability. As effective MRV systems are necessary for ensuring carbon emissions reductions, Vietnam should establish transparent MRV systems with third-party verification and public carbon registries to enhance trust among all stakeholders, including foreign investors. Besides, Vietnam has to ensure effective enforcement and compliance mechanisms to address the loophole in the existing legal framework, and the country faces challenges with strong legislative schemes, which could lead to market manipulation. As such, an independent regulator with the power to monitor transactions, impose fines and maintain compliance is critical to increasing the market's independence and alignment with the country's climate objectives.

Vietnam's general climate policy must be a basis for the carbon credit market. The market has to support other policies, including renewable energy and energy efficiency initiatives. By integrating the carbon market with these goals, Vietnam can create a unified approach to climate change mitigation. This would also enhance liquidity, prompting international cooperation and attracting cross-border investments. Participation from the private sector is also a critical ingredient of an effective carbon market. While the government is essential in setting the regulatory framework, the private sector must actively finance emission reduction projects and create demand for carbon credits. The private sector will be motivated to be involved with financial incentives such as tax benefits and subsidies and with clear rules governing market participation. Furthermore, encouraging voluntary carbon markets can attract additional investment during the initial phases of market development. Long-term effectiveness greatly depends on how flexible the proposed framework is. It is necessary to respond to new economic conditions, technological advancements, and changes in climate policies in a meaningful way.  Vietnam should implement an MSR, similar to the EU ETS, to adjust the supply of carbon credits in response to market fluctuations. This will help improve price stability and support carbon pricing as an effective tool to promote emissions reduction activity.  Overall, the success of Vietnam's carbon credit market requires the government to implement a comprehensive, transparent policy framework. The efficient functioning of the market and its contribution to Vietnam's climate objectives require clearly defined certification standards, effective MRV systems, robust enforcement mechanisms, alignment with national climate goals, private sector engagement, private sector participation, and adaptability. By drawing from international lessons and adapting them to its specific needs, Vietnam can create a carbon credit market to help achieve its carbon neutrality target by 2050 and position the country as a leader in Southeast Asia's carbon market development. With the right regulatory framework in place, Vietnam can contribute meaningfully to both national and global climate goals while fostering sustainable economic growth.

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