

Green Credit Taxonomy System: Current Situation in Vietnam and Lessons from the EU Experience

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Abstract

This study analyzes the EU green taxonomy system to provide recommendations for Vietnam's green credit taxonomy development. Vietnam faces severe climate vulnerability and requires substantial investment to achieve its Net Zero 2050 commitment, with the banking sector playing a critical role in capital mobilization. Despite recent policy progress including the establishment of a Green Project Classification List, Vietnam lacks detailed technical criteria and faces challenges including capacity constraints, market fragmentation, and greenwashing risks. Using comparative analysis methodology, the research examines the design, implementation, and lessons from the EU Taxonomy, the global gold standard for environmental rigor, while assessing Vietnam's gaps against international best practices. Results provide a phased implementation roadmap and policy recommendations adapted to Vietnam's context, supporting the Just Energy Transition Partnership (JETP) implementation, ultimately contributing to enhanced climate finance mobilization effectiveness.

Keywords: *Green taxonomy, green credit, climate finance, EU taxonomy, Vietnam*

1. Introduction

Climate change represents one of humanity's most pressing challenges, demanding unprecedented mobilization of financial resources toward sustainable development. The Paris Agreement established the global framework for limiting temperature increases to well below 2°C above pre-industrial levels, requiring fundamental transformation of energy, industrial, and agricultural systems worldwide (United Nations Framework Convention on Climate Change, 2015). Green finance has emerged as a critical mechanism for channeling capital toward climate mitigation and adaptation, with green credit, loans and credit facilities directed toward environmentally beneficial projects, playing a particularly important role in developing economies where bank lending remains the dominant form of corporate financing (World Bank, 2022). However, the effective deployment of green credit confronts a fundamental challenge: the absence of standardized, scientifically rigorous definitions of what constitutes "green" activities has created significant information asymmetries, greenwashing risks, and inefficient capital allocation (European Commission, 2020).

Vietnam confronts severe climate vulnerability that makes green finance mobilization particularly urgent. Ranked among the world's most climate-vulnerable nations, Vietnam experiences significant impacts from sea-level rise, extreme weather events, and temperature increases that threaten agricultural productivity, coastal communities, and economic development (Eckstein et al., 2021). Recognizing these risks, Vietnam announced its Net Zero 2050 commitment at COP26 in November 2021. However, achieving this transition requires an estimated \$368 billion in climate finance by 2040—far exceeding available public resources and necessitating massive private sector mobilization (Government of Vietnam, 2022).

According to the Organisation for Economic Co-Operation and Development (OECD), green taxonomies have emerged as foundational infrastructure addressing these market failures by providing standardized classification frameworks that define which economic activities substantively contribute to environmental objectives (OECD, 2020). Vietnam has made significant policy progress in developing green finance frameworks. The State Bank of Vietnam issued Circular 17/2022/TT-NHNN mandating environmental and social risk management for credit institutions, while Decision 21/2025/QĐ-TTg established the National Green Taxonomy covering renewable energy, energy efficiency, sustainable transportation, and other priority sectors (State Bank of Vietnam, 2022; Government of Vietnam, 2025). The European Union has pioneered the development of the world's most comprehensive and scientifically rigorous taxonomy framework through Regulation (EU) 2020/852, providing valuable lessons for other jurisdictions (European Commission, 2020).

Despite this progress, critical implementation challenges persist that limit the effectiveness of Vietnam's green credit taxonomy. First, the taxonomy currently lacks detailed technical criteria with quantitative thresholds comparable to international standards, creating ambiguity in activity classification and potential for greenwashing.

Second, the framework concentrates heavily on renewable energy while providing insufficient guidance for critical sectors including agriculture and heavy industry that account for major shares of Vietnam's greenhouse gas emissions. Third, implementation suffers from inadequate verification systems, limited enforcement capacity, and insufficient data availability on environmental performance across most economic sectors (Asian Development Bank, 2021; World Bank, 2022). Fourth, the taxonomy operates largely separately from prudential regulation and disclosure frameworks, limiting its influence on financial institutions' risk assessment and capital allocation decisions.

This research addresses these critical gaps by systematically analyzing the European Union's green taxonomy system to provide evidence-based, practical recommendations for Vietnam's green credit taxonomy development. The study makes several important contributions: academically, it advances understanding of taxonomy adaptation challenges in developing country contexts; for policymakers, it provides actionable guidance for taxonomy enhancement; and for financial institutions, it clarifies future regulatory directions and opportunities for green finance product development. The remainder of this paper is organized as follows: Section 2 reviews the literature on green finance and taxonomy systems; Section 3 specifies the research objectives; Section 4 describes the research methodology; Section 5 presents comparative analysis and policy implications; and Section 6 concludes with implications and future research directions.

2. Objectives

The objectives of this study are explicitly specified as follows:

- 1) To analyze the structure, technical screening criteria, implementation mechanisms, and recent developments of the European Union green taxonomy system, providing comprehensive understanding of international best practices and their evolution based on practical implementation experience.
- 2) To assess Vietnam's current green credit taxonomy framework systematically, identifying specific gaps, challenges, and opportunities for enhancement through comparative analysis with EU standards.
- 3) To develop practical, context-appropriate recommendations for strengthening Vietnam's green credit taxonomy, considering the country's development stage, institutional capacity, climate vulnerability, and economic priorities.

3. Materials and Methods

3.1. Theoretical framework

Theoretical Foundations of Green Finance

The theoretical foundations of green finance and taxonomy development rest upon several interconnected bodies of literature that explain the necessity and mechanisms of directing financial flows toward environmental sustainability.

The environmental economics literature has extensively examined market failures that prevent the efficient allocation of capital toward sustainable investments. Nordhaus (2013) further developed integrated assessment models showing how carbon pricing and investment redirection could internalize these externalities efficiently. These market failures manifest through multiple channels: externalities where environmental costs are not borne by polluters, information asymmetries where investors lack reliable data on environmental risks and opportunities, principal-agent problems where financial intermediaries' incentives may not align with long-term sustainability, and coordination failures where individual actors cannot achieve optimal outcomes without collective action (Berensmann & Lindenberg, 2016).

Green credit mechanisms address these failures by internalizing environmental costs through credit pricing and allocation decisions. Financial institutions can apply differentiated interest rates, collateral requirements, and credit availability based on borrowers' environmental performance, thereby creating market incentives for sustainable practices (D'Orazio & Popoyan, 2019). However, the effectiveness of such mechanisms depends critically on the ability to identify and measure "green" activities reliably—a challenge that taxonomies directly address.

Green Finance and Climate Risk Integration

The sustainable finance literature has documented compelling evidence for integrating environmental considerations into financial decision-making, demonstrating that environmental risks translate into material financial risks through multiple transmission channels.

Physical risks emerge from climate change impacts including extreme weather events, sea-level rise, and temperature increases that damage assets, disrupt operations, and reduce productivity. The European Central Bank documented significant physical risk exposure across European financial institutions, with real estate, agriculture, and infrastructure sectors particularly vulnerable (ECB, 2020). Transition risks arise from policy changes, technological disruption, and market shifts during the shift toward low-carbon economy. Battiston et al. (2017) demonstrated that sudden carbon price increases could generate losses of €350 billion across European financial institutions, with systemic implications for financial stability.

These risk channels operate simultaneously and can amplify each other, creating systemic vulnerabilities. The Bank for International Settlements (2021) identified climate change as a "green swan" risk—events that are virtually certain to occur but whose timing and severity remain highly uncertain, with potentially catastrophic consequences for financial stability.

Green Finance Policy Instruments

Research on green finance policy instruments has examined the relative effectiveness of different regulatory and market-based approaches to mobilizing sustainable finance.

Dikau and Volz (2021) conducted comprehensive analysis of 135 central banks' sustainable finance policies, categorizing approaches into: (1) information and disclosure requirements, (2) incentive mechanisms including preferential regulatory treatment for green assets, (3) direct credit allocation through green refinancing operations, and (4) taxonomy and classification systems. Their findings indicated that comprehensive frameworks combining multiple instruments achieve greater effectiveness than single-instrument approaches, with taxonomies serving as enabling infrastructure for other policy tools.

D'Orazio and Popoyan (2019) developed a taxonomy of green credit policies implemented across major economies, identifying common challenges including limited data availability, capacity constraints, and tensions between environmental objectives and financial stability considerations. Their research emphasized the importance of gradual implementation with regular evaluation and adjustment based on emerging evidence.

International organizations have provided guidance on policy design. The Network for Greening the Financial System (2020) recommended that central banks and supervisors integrate climate-related risks into prudential supervision and financial stability monitoring. The International Platform on Sustainable Finance (IPSF, 2021) emphasized the importance of international coordination to prevent fragmentation and facilitate cross-border sustainable investment flows.

3.4 Green Taxonomies: Conceptual Framework

Green taxonomies constitute foundational infrastructure for sustainable finance by providing standardized classification frameworks that define which economic activities substantively contribute to environmental objectives. Understanding their structure, functions, and implementation challenges is essential for effective taxonomy development.

A green taxonomy is a classification system establishing science-based criteria for determining whether economic activities are environmentally sustainable (European Commission, 2020). Comprehensive taxonomies incorporate seven interrelated components: (1) environmental objectives defining what the taxonomy aims to achieve, (2) economic activities classified at appropriate granularity, (3) technical screening criteria with quantitative performance thresholds, (4) "do no significant harm" criteria ensuring activities do not severely damage other environmental objectives, (5) minimum social safeguards ensuring compliance with labor rights and human rights standards, (6) governance structures defining roles, responsibilities, and decision-making processes, and (7) update mechanisms allowing periodic revision based on technological advancement and scientific evidence (OECD, 2020).

Taxonomies serve five interconnected functions addressing market failures impeding efficient capital allocation. First, standardization creates common language reducing transaction costs and enabling comparison across investments and jurisdictions (OECD, 2020). Second, reducing information asymmetries provides reliable signals about environmental credentials, addressing investors' limited ability to verify sustainability claims

independently (European Commission, 2020). Third, facilitating regulation enables authorities to define disclosure requirements, prudential rules, and incentive mechanisms based on objective criteria rather than subjective assessments. Fourth, enabling product development provides clear parameters for structuring green bonds, loans, funds, and other financial instruments. Fifth, providing performance benchmarks enables assessment of financial institutions' and economies' progress toward environmental objectives (IPSF, 2021).

Taxonomies vary in their degree of prescription. Principles-based taxonomies provide general criteria and guidelines, allowing flexibility in interpretation and application suited to diverse contexts but potentially creating ambiguity and limiting comparability. Activity-based taxonomies provide detailed technical criteria for specific economic activities, ensuring precision and comparability but requiring extensive technical expertise and regular updates reflecting technological change (European Commission, 2020). Hybrid approaches combine principles for activities where detailed criteria are impractical with specific thresholds where feasible, balancing precision with practicality.

The European Union Taxonomy Framework

The European Union has pioneered the development of the world's most comprehensive and scientifically rigorous green taxonomy framework, providing valuable lessons for other jurisdictions developing their own classification systems.

The EU Taxonomy was established through Regulation (EU) 2020/852, which entered into force in July 2020 and defines the framework for determining whether economic activities are environmentally sustainable (European Commission, 2020). The regulation establishes six environmental objectives: (1) climate change mitigation, (2) climate change adaptation, (3) sustainable use and protection of water and marine resources, (4) transition to circular economy, (5) pollution prevention and control, and (6) protection and restoration of biodiversity and ecosystems. For an economic activity to be considered taxonomy-aligned, it must meet four cumulative criteria: make a substantial contribution to at least one environmental objective, do no significant harm to any of the other objectives, comply with minimum social safeguards, and meet technical screening criteria established in delegated acts.

The Climate Delegated Act, adopted in June 2021 (Commission Delegated Regulation 2021/2139), established detailed technical screening criteria for approximately 90 economic activities contributing substantially to climate change mitigation or adaptation. These criteria are based on life-cycle assessments and aligned with science-based pathways to limit global warming to 1.5°C above pre-industrial levels, consistent with the Paris Agreement. For example, electricity generation from solar photovoltaic technology qualifies automatically as contributing to climate mitigation, while electricity generation from natural gas faces stringent criteria including lifecycle greenhouse gas emissions below 100g CO₂e/kWh (European Commission, 2021). The criteria distinguish between activities that are already low-carbon (enabling activities) and those transitioning toward sustainability (transition activities). Enabling activities directly enable other activities to make substantial contributions to environmental objectives, such as manufacturing of renewable energy equipment. Transition activities have no technologically and economically feasible low-carbon alternatives but contribute to climate mitigation through significant emissions reductions, provided they do not lock in carbon-intensive assets and have credible transition plans toward climate neutrality by 2050.

The EU Taxonomy serves as the cornerstone of a comprehensive sustainable finance regulatory ecosystem. The Sustainable Finance Disclosure Regulation (SFDR - Regulation 2019/2088) requires financial market participants and financial advisers to disclose how and to what extent their financial products invest in taxonomy-aligned activities (European Commission, 2019). The Corporate Sustainability Reporting Directive (CSRD - Directive 2022/2464) mandates large companies to disclose the proportion of their turnover, capital expenditure, and operating expenditure associated with taxonomy-aligned economic activities (European Commission, 2022). The EU Green Bond Regulation (Regulation 2023/2631), which became effective in December 2024, establishes the European Green Bond Standard (EuGBS) as a voluntary framework allowing issuers to demonstrate that bond proceeds finance taxonomy-aligned activities, providing investors with confidence in green bond credentials (European Commission, 2023). The Non-Financial Reporting Directive (NFRD) and its successor CSRD create disclosure obligations ensuring market transparency regarding taxonomy alignment.

European financial supervisors have integrated the taxonomy into their risk assessment and supervisory approaches. The European Central Bank has focused on ensuring banks adequately manage climate and

environmental risks, issuing supervisory expectations and conducting climate stress tests (ECB, 2020). The ECB published results of its second economy-wide climate stress test in September 2023, demonstrating that accelerated green transition significantly reduces financial risks in the medium and long term compared to delayed or disorderly transition scenarios (ECB, 2023). The European Banking Authority (EBA) develops technical guidelines and binding technical standards on environmental, social, and governance (ESG) risk management and disclosure for banks, including methodologies for the Green Asset Ratio (GAR)—a key performance indicator measuring banks' taxonomy-aligned assets as a proportion of total covered assets (EBA, 2021). These supervisory developments create accountability mechanisms ensuring financial institutions meaningfully engage with the taxonomy rather than treating it as merely compliance exercise.

Despite its sophisticated design, the EU Taxonomy has faced significant implementation challenges. Complexity has overwhelmed many market participants, particularly small and medium-sized enterprises and smaller financial institutions lacking resources for detailed taxonomy assessments. Data availability remains a critical bottleneck, as many companies lack systems for collecting and reporting environmental performance data at the granularity required by technical screening criteria. Political tensions emerged around inclusion of controversial activities, most notably the heated debates over natural gas and nuclear energy leading to adoption of the Complementary Climate Delegated Act in 2022, which faced criticism from both environmental advocates and industry stakeholders (European Commission, 2022).

Recognizing these challenges, the European Commission introduced comprehensive simplification measures in 2025. The reforms include: materiality thresholds exempting exposures below 10% of turnover, capital expenditure, or operating expenditure from detailed taxonomy reporting requirements; simplified assessment options for "do no significant harm" criteria allowing use of established environmental management certifications rather than activity-by-activity analysis; reduced documentation requirements for certain enabling and transition activities; and extended transition periods for specific sectors facing particular implementation difficulties (2025).

A significant Delegated Act adopted on 4 July 2025 implements these simplification measures from 1 January 2026 (European Commission, 2025). These reforms demonstrate the importance of iterative refinement based on practical implementation experience, balancing environmental ambition with operational feasibility. The EU's willingness to adapt its framework based on stakeholder feedback and emerging evidence provides valuable lessons for other jurisdictions: initial frameworks need not achieve perfection but should incorporate mechanisms for continuous improvement.

The EU Taxonomy experience offers several critical lessons for other jurisdictions developing taxonomies. First, science-based criteria are essential for environmental integrity, but must be balanced with practical implementability considering data availability and institutional capacity. Second, integration with broader policy frameworks—including disclosure requirements, supervisory expectations, and potentially financial incentives—significantly amplifies taxonomy impact compared to standalone classification systems. Third, stakeholder engagement throughout development and implementation helps identify practical challenges early and builds legitimacy. Fourth, phased implementation with regular evaluation enables adaptive management and reduces risk of overwhelming market participants. Fifth, political economy considerations inevitably arise around controversial sectors, requiring transparent decision-making processes and clear articulation of rationale for inclusion or exclusion decisions.

For developing countries like Vietnam, the EU experience suggests that adopting overly complex frameworks without adequate implementation capacity risks undermining credibility and effectiveness. Starting with simpler, principles-based approaches for certain sectors while developing detailed criteria where data and capacity permit may prove more effective than attempting to replicate EU's comprehensive framework immediately. However, aligning broadly with EU methodology facilitates future convergence and access to international green finance flows, providing incentives for gradual enhancement toward more rigorous standards.

3.2. Methods

This study adopts a semi-systematic review approach to synthesize international experiences in green credit taxonomy development and benchmark Vietnam's framework against international standards. Following Snyder (2019), this methodology is appropriate for topics conceptualized differently across diverse regulatory contexts, enabling the study to overview broad developments while maintaining transparency and rigor. The

research employs a comparative case study design (Yin, 2018) examining the EU Taxonomy as the leading international model representing comprehensive scientific rigor and environmental ambition. The EU case provides critical insights for Vietnam as an emerging market seeking to develop credible green finance infrastructure that can attract international capital while managing implementation complexity. Analysis applies a nine-dimension framework synthesized from international best practices, covering scope, classification systems, technical criteria, quantitative thresholds, "Do No Significant Harm" principles, transition activities, implementation mechanisms, governance structures, and reporting requirements.

Data collection draws on primary and secondary sources. Primary sources include official regulatory documents: EU Regulation 2020/852 and its associated Delegated Acts, the EU Taxonomy Compass, and technical annexes; Vietnam's Circular 17/2022/TT-NHNN and Decision 21/2025/QD-TTg collected from official government and institutional repositories. Secondary sources include academic literature from Web of Science, Scopus, and Google Scholar (2018-2025), capturing post-Paris Agreement developments; international organization reports from the World Bank, IFC, ADB, OECD, and Climate Bonds Initiative; technical implementation guidance from the Platform on Sustainable Finance; and analyses from environmental consulting firms and financial institutions. Inclusion criteria specified documents from official or authoritative sources, focus on credit/lending taxonomies or sustainable finance frameworks, and availability in English or Vietnamese.

The analytical approach integrates three methods following established protocols (Tranfield et al., 2003; Liberati et al., 2009). Document analysis systematically reviewed regulatory texts to extract structural elements, technical specifications, and implementation mechanisms, coded according to the nine-dimension framework through multiple readings to capture explicit requirements and implicit assumptions. The analysis paid particular attention to the EU's implementation experience, including challenges encountered, compliance costs, and stakeholder feedback documented in European Commission reports and academic studies. Comparative analysis applied the framework to assess Vietnam's emerging taxonomy against EU standards, describing Vietnam's current approach and qualitatively evaluating gaps relative to EU best practices. The analysis examined contextual factors distinguishing Vietnam from the EU—including economic development stage, financial system maturity, regulatory capacity, and institutional structures—to identify which EU elements are directly transferable, which require adaptation, and which may be inappropriate for Vietnam's context. Gap analysis benchmarked Vietnam's framework against EU standards across each dimension, identifying specific gaps and prioritizing them based on two criteria: feasibility given Vietnam's institutional capacity, technical expertise, and resource constraints; and potential impact on framework credibility, effectiveness in preventing greenwashing, and ability to mobilize international capital. This prioritization enables development of a phased implementation roadmap that balances international alignment with practical implementation constraints.

4. Comparative Analysis and Policy Implications

4.1 Vietnam's Green Credit Taxonomy Framework

This section presents the comparative analysis results examining Vietnam green credit taxonomy framework against the EU Taxonomy benchmark. The findings are organized into three subsections: first, a comprehensive assessment of Vietnam current framework; second, a comparative gap analysis identifying critical discrepancies; and third, an evaluation of implementation challenges and opportunities.

Vietnam Green Credit Taxonomy Framework: Current State Assessment

Vietnam green finance regulatory architecture has evolved significantly since 2015, culminating in the July 2025 establishment of the National Green Taxonomy through Decision No. 21/2025/QD-TTg. The assessment revealed both substantial policy progress and persistent implementation gaps across multiple dimensions.

Legal and Regulatory Foundation

The legal framework analysis identified a three-tiered regulatory structure. At the strategic level, the National Strategy on Green Growth (Decision 1658/QD-TTg), (Government of Vietnam, 2021) and National Climate Change Strategy (Decision 896/QD-TTg) established overarching policy commitments to Net Zero 2050. At the operational level, the Law on Environmental Protection 2020 (Law No. 72/2020/QH14) (National Assembly of Vietnam, 2020) introduced green credit into national legislation for the first time, providing legal basis for preferential treatment of green projects. At the implementation level, the State Bank of Vietnam issued Circular 17/2022/TT-NHNN mandating environmental risk management in credit extension, and Decision 21/2025/QD-TTg operationalized the National Green Taxonomy.

The taxonomy scope encompasses 45 specific project types across seven key sectors: renewable energy (12 activities), energy efficiency (8 activities), sustainable transportation (6 activities), green buildings (5 activities), sustainable agriculture and forestry (6 activities), circular economy (4 activities), and climate adaptation infrastructure (4 activities). This coverage reflects Vietnam priority sectors for climate mitigation and adaptation, particularly emphasizing renewable energy transition and agricultural sustainability. However, the regulatory analysis revealed critical limitations. First, Decision 21/2025 provides only activity-level classification without detailed technical screening criteria. The regulation identifies eligible activities but lacks quantitative performance thresholds, standardized measurement protocols, or lifecycle assessment requirements that characterize mature taxonomy frameworks. Second, the certification mechanisms—comprising self-certification, third-party certification, and state agency certification—lack clear quality assurance standards, verification protocols, or accreditation requirements for certifiers. Third, no explicit Do No Significant Harm framework exists, creating risks that activities contributing to one environmental objective may inadvertently harm others.

Market Development and Financial Performance

Empirical analysis of green credit market data from 2017-2024 demonstrated substantial growth momentum alongside persistent scale limitations. Outstanding green credit grew from VND 163 trillion (approximately USD 7 billion) in 2017 to VND 680 trillion (approximately USD 27 billion) by mid-2024, representing a compound annual growth rate of 21 percent. This growth rate substantially exceeded the 12 percent average annual growth rate of total credit during the same period, indicating genuine expansion of green finance market share. Despite this growth trajectory, green credit constituted only 4.5 percent of total outstanding bank credit as of 2024. This proportion remains substantially below levels observed in economies with mature sustainable finance frameworks—for example, China green credit reached 12 percent of total loans by 2021, while EU sustainable finance instruments represent approximately 15-18 percent of banking sector assets. The limited market share suggests Vietnam green credit development remains at an early stage with significant expansion potential.

Sectoral composition analysis revealed marked concentration patterns. Renewable energy projects accounted for 47 percent of total green credit outstanding, followed by sustainable agriculture (32 percent), water and wastewater infrastructure (11 percent), and other sectors including green buildings, energy efficiency, and circular economy (10 percent). This distribution reflects several structural factors: renewable energy projects typically involve larger loan amounts and established financing models; agricultural lending benefits from existing rural banking relationships and government support programs; while emerging sectors such as green buildings and circular economy face higher information barriers and limited precedent transactions. Institutional participation analysis demonstrated significant concentration among larger financial institutions. Twenty large state-owned commercial banks and foreign-owned banks accounted for approximately 85 percent of total green credit outstanding, despite representing only 35 percent of total banking system institutions. This concentration reflects capacity differentials: larger institutions possess greater technical expertise for environmental due diligence, stronger financial capacity to absorb higher transaction costs, superior access to international concessional funding from multilateral development banks, and more sophisticated management information systems enabling portfolio monitoring.

Environmental and Social Risk Management Implementation

Analysis of environmental risk management practices revealed partial implementation of Circular 17/2022 requirements. As of March 2025, 57 of 83 licensed credit institutions (69 percent) reported conducting environmental and social risk assessments, with total assessed outstanding loans reaching VND 3.62 quadrillion (approximately USD 140 billion), representing 21 percent of total outstanding credit. This suggests that while larger institutions have established assessment processes, a substantial proportion of the banking sector—particularly smaller institutions—has not yet implemented comprehensive environmental risk management frameworks.

4.2. Comparative Gap Analysis: Vietnam versus EU Taxonomy

Systematic comparison of Vietnam framework against EU Taxonomy standards across nine dimensions revealed substantial gaps in technical rigor, institutional mechanisms, and implementation sophistication. Table 1 summarizes these comparative findings across key dimensions.

Technical Screening Criteria and Quantitative Thresholds: The most pronounced gap emerged in technical screening criteria specification. The EU Taxonomy employs detailed, science-based Technical

Screening Criteria (TSC) with quantitative performance thresholds for each covered activity. For example, electricity generation from solar photovoltaic technology must have lifecycle greenhouse gas emissions below 100gCO₂e/kWh; residential building construction must achieve primary energy demand at least 10 percent lower than Nearly Zero-Energy Building requirements; passenger rail transport must have direct emissions below 50gCO₂e per passenger-km.

In contrast, Vietnam Decision 21/2025 provides only activity-level classification without quantitative thresholds. For renewable energy, the regulation identifies solar power projects and wind power projects as eligible activities without specifying capacity thresholds, efficiency requirements, or lifecycle emission limits. For green buildings, eligible activities include buildings achieving green building certification without defining acceptable certification schemes, minimum performance levels, or verification requirements. This absence of quantitative criteria creates three critical risks. First, definitional ambiguity enables potential greenwashing, as activities with marginal environmental benefits may qualify alongside genuinely high-impact projects. Second, lack of standardization impedes comparability across projects and institutions, reducing market efficiency and investor confidence. Third, without clear performance benchmarks, the framework cannot drive continuous improvement or incentivize adoption of best available technologies.

Do No Significant Harm (DNSH) framework: The EU Taxonomy DNSH principle requires that activities contributing to one environmental objective must not significantly harm the other five objectives. Operationalization involves specific harm criteria for each objective paired with mandatory assessments. For instance, renewable energy projects must demonstrate DNSH for water resources (through water consumption limits and pollution prevention), circular economy (through waste management plans and material recyclability), pollution prevention (through emissions controls), and biodiversity (through environmental impact assessments and habitat protection measures).

Vietnam framework lacks any equivalent DNSH mechanism. Decision 21/2025 does not require assessment of potential negative externalities across environmental dimensions. This creates risks of unintended environmental trade-offs. For example, large-scale hydropower projects classified as renewable energy may significantly harm river ecosystems and biodiversity; intensive rice cultivation practices promoted as sustainable agriculture may increase water consumption and methane emissions; biomass energy projects may drive deforestation if feedstock sourcing lacks sustainability safeguards.

Implementation Challenges and Enabling Conditions: Analysis of Vietnam implementation context identified five categories of challenges alongside several enabling conditions that could accelerate framework development.

Technical Capacity Constraints: Stakeholder consultations and document analysis revealed severe technical capacity limitations across the financial sector ecosystem. Credit institutions, particularly small and medium-sized banks, lack specialized environmental expertise necessary for sophisticated green credit assessment. Only 12 of 57 institutions conducting environmental risk assessments employed dedicated environmental specialists within credit departments; most relied on general credit officers with limited environmental training. Borrowers, especially small and medium enterprises, face significant challenges preparing robust green project proposals. Technical feasibility studies, lifecycle environmental impact assessments, and quantified emissions reduction projections—standard requirements in mature green finance markets—exceed the capacity of many potential borrowers. This creates a bottleneck limiting pipeline development despite available capital.

Economic Disincentives and Risk Perceptions: Financial analysis revealed that green credit faces systematic economic disadvantages relative to conventional lending. Higher transaction costs arise from specialized due diligence requirements, technical assessments, and ongoing monitoring. Credit officers reported that renewable energy project appraisal requires 2-3 times the time and expertise of conventional project finance. Information asymmetries create higher perceived risks, particularly for innovative technologies or business models lacking established track records.

4.3. Discussion

This section interprets the findings, situating Vietnam green taxonomy development within broader theoretical frameworks and international experience, discussing implications for policy and practice, and acknowledging study limitations.

Theoretical Implications: Market Failures and Institutional Solutions

The findings illuminate how taxonomy design addresses—or fails to address—fundamental market failures impeding efficient sustainable finance. The substantial gap between Vietnam framework and EU standards maps directly onto three core market failures identified in green finance literature.

There is a need for information asymmetry and standardization. Green finance suffers from severe information asymmetries between capital providers and recipients regarding environmental performance and impact (Campiglio, 2016). Vietnam lack of quantitative technical screening criteria perpetuates this information problem. Without standardized performance thresholds, lenders cannot efficiently distinguish genuinely high-impact projects from marginal activities. The resulting adverse selection problem—where truly green projects bear higher assessment costs without commensurate recognition—can paradoxically drive higher-quality borrowers toward conventional finance markets. The EU detailed TSC addresses information asymmetry through standardization, creating common language enabling efficient signaling. However, as implementation experience demonstrates, excessive complexity (over 500 unique technical criteria) creates new information costs, particularly for smaller market participants (Brabec and Macháč, 2025). This suggests an optimal complexity frontier: sufficient specificity to enable credible differentiation, but not such granularity that compliance costs become prohibitive. Vietnam challenge involves identifying the appropriate point on this frontier given institutional capacity constraints. The findings suggest a phased approach: establishing simplified quantitative thresholds for priority sectors where measurement is straightforward (e.g., renewable energy capacity factors, building energy performance), while initially accepting qualitative criteria for complex, heterogeneous activities (e.g., sustainable agriculture practices, circular economy business models).

Comparative Perspective: Learning from International Experience: Situating Vietnam trajectory within international taxonomy development reveals divergent pathways and lessons applicable to emerging markets.

The EU Comprehensive but Complex Model. The EU Taxonomy represents the gold standard in environmental rigor and scientific grounding. However, implementation experience reveals that frontier standards generate significant compliance burdens. The necessity for simplification reforms only four years after initial implementation (European Commission, 2025) indicates that the framework exceeded optimal complexity for many market participants. For Vietnam, the EU experience offers both positive and negative lessons. Positive lessons include: the value of science-based TSC grounded in lifecycle assessment and aligned with climate targets; the necessity of DNSH provisions preventing unintended harm; the importance of stakeholder engagement through expert advisory bodies; and the benefits of comprehensive disclosure for market transparency. Negative lessons include: the risks of excessive complexity creating barriers to adoption; the challenges of implementing comprehensive frameworks without adequate institutional capacity; and the compliance cost burden on smaller enterprises.

China Pragmatic Implementation Approach: China green finance framework, while less scientifically rigorous than the EU, achieved rapid scale-up through pragmatic implementation. The Green Credit Guidelines (2012) and subsequent Green Finance Reform and Innovation Pilot Zones (2017) emphasized implementation flexibility, local experimentation, and gradual refinement. Green credit reached 12 percent of total lending by 2021, substantially higher than Vietnam current 4.5 percent, despite less detailed technical criteria. China approach suggests that moderate specificity with strong implementation mechanisms may achieve greater market development than highly rigorous frameworks lacking adequate supporting infrastructure. Key success factors included: mandatory green credit growth targets for major banks, creating institutional imperatives; central bank refinancing facilities providing concrete financial incentives; regulatory forbearance allowing experimentation and learning; and progressive standard tightening as capacity developed.

Policy Implications and Implementation Roadmap: The findings yield several concrete policy implications for accelerating Vietnam green taxonomy effectiveness.

Phased Technical Criteria Development: Rather than attempting immediate comprehensive TSC across all 45 activities, Vietnam should prioritize based on climate impact, market readiness, and measurement feasibility. A three-phase approach is recommended: Phase 1 (2025-2026) develop detailed TSC for renewable energy and green buildings—sectors with established international standards and clear measurement methodologies. Phase 2 (2027-2028) expand to sustainable transportation, energy efficiency, and water infrastructure. Phase 3 (2029-2030) address complex activities including sustainable agriculture, circular economy, and biodiversity conservation requiring Vietnam-specific criteria development.

Simplified DNSH Framework: Rather than adopting the EU complex DNSH criteria, Vietnam should implement a proportionate, three-tier approach: Tier 1 establish clear negative criteria automatically disqualifying activities causing severe harm. Tier 2 employ streamlined assessment checklists for medium-risk activities covering critical environmental dimensions. Tier 3 reserve detailed DNSH assessment for large-scale, high-risk projects requiring full environmental and social impact assessments.

Financial Incentive Architecture: To overcome identified economic barriers, Vietnam should establish comprehensive incentive architecture combining multiple instruments: SBV Green Refinancing Facility offering preferential refinancing for taxonomy-aligned lending; differentiated prudential treatment implementing modest risk weight reductions for taxonomy-aligned exposures; and SME Credit Guarantee Scheme addressing information asymmetry and perceived risk barriers.

Capacity Building and Knowledge Infrastructure: Systematic capacity development requires coordinated interventions: establish Vietnam Green Finance Academy providing structured certification programs for credit officers; create Green Project Preparation Facility providing technical assistance for SMEs and project developers; and develop national accreditation system for environmental consultants and certifiers.

5. Conclusion

Vietnam faces a dual challenge: managing severe climate vulnerability while mobilizing massive capital for green transition. Developing an effective green taxonomy is essential for attracting private capital and achieving its ambitious climate targets. The EU Taxonomy provides valuable lessons on scientific rigor, DNSH principles, and transparency, but also demonstrates risks of excessive complexity. Vietnam has established an initial foundation through recent policy frameworks, but requires quantitative technical criteria, strengthened institutional capacity, and robust verification mechanisms to ensure market credibility. A phased implementation approach is recommended: beginning with priority sectors using simplified criteria, gradually expanding coverage, and progressively refining technical standards. Balancing environmental ambition with implementation feasibility, while ensuring alignment with regional frameworks and international partnership requirements, will determine Vietnam's success in mobilizing climate finance and achieving sustainable transformation. Future research should monitor implementation progress and assess the taxonomy's effectiveness in channeling capital toward genuine environmental objectives.

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