



REPORT

ANALYZING THE LEGAL FRAMEWORK IN VIETNAM, GAP ANALYSIS AND CAPACITY BUILDING NEEDED TO IMPLEMENT A CARBON LABELLING PROGRAM

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ACRONYMS AND ABBREVIATIONS

AC	Accreditation Committee
ADB	Asian Development Bank
AEP	Advance Energy Plus
ASEAN	Association of Southeast Asian Nations
BEIS	Business, Energy & Industrial Strategy
BOI	Board of Investment
BoA	National Accreditation Bureau
BSI	British Standards Institution
BTR	Biennial Transparency Reports
CAGR	Compound Annual Growth Rate
CBAM	European Union's Carbon Border Adjustment Mechanism
CCCs	Certified Carbon Credits
CEEPR	Centre for Energy and Environmental Policy
CEESTA	China Electronic Energy Saving Technology Association
CFIA	Carbon Footprint International Alliance
CFP	Carbon Footprint
CFO	Carbon Footprint Organization
CoC	Chain of Custody
COP	Conference of Parties
CSDDD	Corporate Sustainability Due Diligence Directive
CSCAC	China Standard Conformity Assessment Co., Ltd.
CSRD	Corporate Sustainability Reporting Directive
CSR	Corporate Social Responsibility
DARD	Departments of Agriculture and Rural Development
DCC	Department of Climate Change
DEFRA	Department for Environment, Food and Rural Affairs
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
EPD	Environmental Product Declarations

EPR	Extended Producer Responsibility
ERP	Enterprise Resource Planning
ESG	Environmental, Social, and Governance
ETP	Energy Transition Partnership
ETS	Emissions Trading Scheme
FDI	Foreign Direct Investment
FTAs	Free Trade Agreements
GCF	Green Climate Fund
GHG	Greenhouse Gas
GoV	Government of Vietnam
GPI	General Program Instructions
GPP	Green Public Procurement
HFC	Hydrofluorocarbons
IEA	International Energy Agency
IPO	Initial Public Offering
JCM	Joint Crediting Mechanism
JEMAI	Japan Environmental Management Association for Industry
KPIs	Key Performance Indicators
LCA	Life Cycle Assessment
LEED	Leadership in Energy and Environmental Design
LEP	Law on Environmental Protection
MAE	Ministry of Agriculture and Environment
MAFF	Ministry of Agriculture, Forestry and Fisheries
M&E	Monitoring and Evaluation
MEPS	Minimum Energy Performance Standards
METI	Ministry of Economy, Trade and Industry
MILT	Ministry of Land, Infrastructure, Transport and Tourism
MNCs	Multinational Corporations
MOC	Ministry of Construction
MOIT	Ministry of Industry and Trade
MoF	Ministry of Finance

MONRE	Ministry of Natural Resources and Environment
MOST	Ministry of Science and Technology
MoU	Memorandum of Understanding
MPI	Ministry of Planning and Investment
MRV	Measurement, Reporting and Verification
NCP	National Crediting Program
NDC	Nationally Determined Contribution
OCOP	One Commune One Product
ODS	Ozone Depleting Substances
OSMEP	Office of Small and Medium Enterprise Promotion of Thailand
PACT	Partnership for Carbon Transparency
PAS	Publicly Available Specification
PCF	Product Carbon Footprint
PCR	Product Category Rules
PEF	Product Environmental Footprint
PEFCRs	Product Environmental Footprint Category Rules
PEFC	Program for the Endorsement of Forest Certification
SBTi	Science-Based Targets Initiative
SAMR	State Administration for Market Regulation
SCP	Sustainable Consumption and Production
SDG	Sustainable Development Goals
SEC	Securities and Exchange Commission
SLLs	Sustainability-Linked Loans
SME	Small and Medium Enterprises
SME-D	Small and Medium Enterprise Development Bank of Thailand
SuMPO	Sustainable Management Promotion Organization
TCVN	Tiêu chuẩn Việt Nam
T-VER	Thailand's Voluntary Emission Reduction
TGO	Thailand Greenhouse Gas Management Organization
TIIS	Technology and Informatics Institute for Sustainability
TSC	Technical Standards Committee

UNFCCC	United Nations Framework Convention on Climate Change
VACI	Vietnam Institute of Accreditation
VFCS	Vietnam Forest Certification Scheme
WBCSD	World Business Council for Sustainable Development

EXECUTIVE SUMMARY

The primary objective of this report is to assess the current legal and institutional landscape surrounding GHG emissions management in Vietnam. It explores existing policies, legal documents, and regulatory frameworks that pertain to carbon markets and emissions reduction. The report employs a mixed-methods approach, combining desk research, surveys, and stakeholder consultations to gather insights from various sectors, particularly those with high emissions such as textiles, electronics, and food processing.

Through this analysis, the report identifies the growing interest among enterprises in adopting carbon labelling practices, while also highlighting significant barriers they face. These include limited access to information, insufficient technical capacity, and financial constraints, which hinder their ability to implement effective GHG inventory and carbon labelling practices.

Key Findings

The findings of the report can be summarized in several key areas:

- **Legal framework:** The Law on Environmental Protection (LEP) of 2020 marks a significant milestone in Vietnam's climate policy, providing a solid foundation for GHG management. However, it lacks specific provisions for product-level carbon labelling, along with the absence of a formalized basis in Vietnamese legislation, creating a gap that needs to be addressed. To establish a robust carbon labelling system, it is essential to develop specific guidelines or regulations governing product-level carbon labelling. This could include defining labelling standards, verification processes, and responsibilities for businesses.
- **Private sector readiness:** Nearly five hundred enterprises were invited to participate in a digital survey to collect information on private sector readiness as well as expectations and responses were received from 96 enterprises. A significant proportion of enterprises, nearly 60% of respondents, expressed a willingness to adopt carbon labelling as a means to enhance their sustainability credentials and meet international market demands. Nonetheless, the current readiness level in terms of GHG inventory preparation, resource allocation, use of standard methods, overall awareness, etc., varies significantly across sectors. Larger enterprises are generally more prepared compared to small and medium-sized enterprises (SMEs), which often struggle with resource limitations and technical know-how. Enterprises also acknowledge that the Government initiative to policy and guidance for carbon labelling program can ensure unified approach in product GHG impact reporting across the markets.
- **International insights:** The report reviews successful carbon labelling initiatives from other countries, such as Thailand (centralized governance, regular updates), Japan (integrating international standards, establishing robust verification), Taiwan (implementing dual-labelling, developing public platform), France (mandating regulation, creating consumer-friendly formats) and the United Kingdom (launching The Carbon Trust, expanding global reach). These case studies reveal best practices in developing transparent and credible carbon labelling systems, including effective stakeholder engagement, robust verification processes, regional co-operation and alignment with international standards.

Key Recommendations

To effectively implement a carbon labelling program that aligns with Vietnam's climate goals, the following actions in the Table ES 1 are recommended.

Table ES 1. Recommended roadmap for carbon labelling program implementation

Timeframe	Action Area	Recommendations
Short Term (2025–2026)	Legal & Institutional Setup	Issue formal decision to initiate voluntary carbon labelling; establish administrative agency.
	Capacity Building	Train enterprises, verifiers, and government officials on PCF and labelling procedures.
	Technical Infrastructure	Develop basic PCF guidelines, templates, and pilot verification mechanisms.
	Pilot Implementation	Launch pilot with 2–3 products in priority sectors and monitor results.
	Financing	Propose cost-recovery mechanisms and explore funding sources for the pilot.
Medium Term (2027–2029)	Scheme Expansion & Standardization	Expand to new sectors like cement, steel, and food; refine methodologies.
	Institutionalization of Verification	Establish accreditation criteria and increase the verifier pool.
	Integration with Public Policies	Introduce carbon label criteria in public procurement and trade promotion.
	Digital Infrastructure	Build a web-based MRV system and ensure data interoperability.
	International Cooperation	Align with regional and global labelling systems and participate in platforms like PACT.
Long Term (2030 onward)	Mandating & Policy Embedding	Mandate carbon labelling for high-emission/export sectors via regulations.
	Market Alignment	Link PCF to national ETS and climate reporting systems.
	Global Harmonization	Establish mutual recognition with programs like EU PEF, Japan PCF, etc.

Timeframe	Action Area	Recommendations
	Broader Policy Integration	Embed PCF into product regulations, ESG, and trade documentation.
	Full Lifecycle Accounting	Move from cradle-to-gate to cradle-to-grave PCF approach.

Conclusion

The current market landscape in Vietnam shows that there is increasing awareness and interest from both public and private sectors. However, significant gaps remain in the legal framework, institutional capacity, technical infrastructure, and market readiness. The survey of enterprises in priority sectors such as textiles, electronics, seafood, and wood products reveal challenges such as the limited availability of primary activity data, a lack of Vietnam-specific emission factors, and low internal capacity for PCF calculation and verification. Lessons drawn from international case studies affirm that a phased, sector-specific, and standards-aligned approach will be key for sustainable implementation. Thus, the report recommends a phased approach that includes pilot testing, legal formalization, and stakeholder collaboration for developing a credible and effective carbon labelling system.

The next step suggested is to launch a pilot program involving 3 key products from priority sectors. This should include the development and publication of PCF guidelines, establishment of interim verification mechanisms, and initiation of capacity-building activities. Following the pilot, Vietnam should progressively expand the labelling scheme, formalize third-party verification systems, and integrate carbon labels into public procurement and trade promotion policies. In the long term, carbon labelling should be embedded into national ETS design, MRV systems, product regulation, and climate reporting.

I. INTRODUCTION

I.1. Context

Carbon labelling is increasingly recognized in many countries as an effective tool to promote sustainable consumption and production by providing transparent information on product emissions, helping consumers make low-carbon choices and encouraging businesses to adopt cleaner, more efficient production practices. Building on this, implementing carbon labelling in Vietnam will support similar goals and contribute to the country's sustainable development efforts. Disclosing the GHG emissions associated with products not only enhances transparency along the value chain but also guides green consumer behavior and reinforces corporate environmental responsibility. It also serves as a key preparatory step for enterprises to adapt to emerging requirements such as the European Union's Carbon Border Adjustment Mechanism (EU's CBAM).

In February 2025, the Southeast Asia Energy Transition Partnership (ETP) initiated a technical assistance program in response to a request from the Department of Climate Change (DCC). The program is currently led by the Ministry of Agriculture and Environment (MAE) through DCC acting as the technical focal point. The program, with the DCC acting as the technical focal point, aims to provide necessary technical support to design and introduce a voluntary carbon labelling scheme, while preparing the private sector for carbon inventory and emission reduction through pilot models in selected key sectors.

Vietnam has demonstrated a strong political commitment in addressing climate change, through its pledge to achieve net-zero emissions by 2050, at the 26th Conference of the Parties (COP26) in 2021. To realize this target, the Government has issued a series of foundational legal documents and policies, such as the Law on Environmental Protection (LEP) 2020¹; Decree No. 06/2022/ND-CP² on Greenhouse Gas (GHG) emissions reduction and carbon market development; Decree 119/2025/ND-CP³; updated Decree 06/2022/ND-CP; the National Climate Change Strategy to 2050⁴, and the updated Nationally Determined Contribution (NDC) (2022)⁵ (more details on these policies are given in section II).

This report provides a comprehensive assessment to support the development of a carbon labelling framework for Vietnam. The report includes a review of the existing legal and institutional framework, an analysis of private sector practices based on surveys in the energy and industrial sectors, a summary of consultations with regulatory agencies, business associations, international experts and organizations as well as a study on international experiences. The report further

¹<https://thuvienphapluat.vn/van-ban/EN/Tai-nguyen-Moi-truong/Law-72-2020-QH14-on-Environmental-Protection/463512/tieng-anh.aspx>

²<https://thuvienphapluat.vn/van-ban/EN/Tai-nguyen-Moi-truong/Decree-06-2022-ND-CP-mitigation-of-green-house-gas-emissions/503148/tieng-anh.aspx>

³<https://thuvienphapluat.vn/van-ban/EN/Tai-nguyen-Moi-truong/Decree-119-2025-ND-CP-amendments-to-certain-articles-of-Decree-06-2022-ND-CP-661711.aspx>

⁴<https://thuvienphapluat.vn/van-ban/EN/Tai-nguyen-Moi-truong/Decision-896-QD-TTg-2022-approving-the-National-strategy-for-climate-change-until-2050/525126/tieng-anh.aspx>

⁵ https://unfccc.int/sites/default/files/NDC/2022-11/Viet%20Nam_NDC_2022_Eng.pdf

identifies challenges, gaps, and the support needed to fill in the gap, and puts forward recommendations for developing a reliable carbon labelling system that is aligned with current international best practices and future carbon market development in Vietnam.

I.2. Objectives of the Study

The objective of Task 2 of ETP support program is to assess the legal, institutional, and technical readiness for implementing a carbon labelling scheme in Vietnam, thereby proposing appropriate solutions to develop a feasible voluntary carbon labelling system tailored to the national context.

Specifically, the report aims to:

- Review existing laws & policies; guiding documents related to GHG inventory, emission reduction, carbon market development; and relevant product labelling systems;
- Analyze the current institutional structure, including state management agencies, implementing entities, and coordination mechanisms related to environmental labelling and climate policies;
- Assess the current status and readiness of the private sector in the energy and industrial sectors through surveys, focusing on awareness, technical capacity, and barriers in implementing carbon footprint (CFP)⁶ inventory and disclosure;
- Synthesize inputs collected through consultations with regulatory bodies, industry associations, international organizations, and other stakeholders to identify possible implementation approach for the proposed carbon labelling program;
- Study international experiences and analyze lessons learned from selected prominent carbon labelling schemes worldwide and adapt them to Vietnam's conditions;
- Identify gaps and challenges in legal, institutional, and technical aspects in the development and implementation of the program;
- Propose policy recommendations and appropriate technical and capacity-building support needed as a basis for developing a pilot implementation roadmap.

I.3. Research Methodology

The implementation approach for Task 2 was designed to ensure comprehensiveness, objectivity, and feasibility while effectively leveraging information from multiple data sources and stakeholder groups. The methodology combines desk research, field surveys, expert consultations, and international best practice analysis. Figure 1 outlines the key steps for developing a carbon labelling program in Vietnam and the details are discussed below.

⁶ Carbon footprint is calculated and disclosed to limited people (mainly customers) and there is no need to publicly declare it. This will mainly cover business-to-business products - solar panels, capacitors, garments, etc.

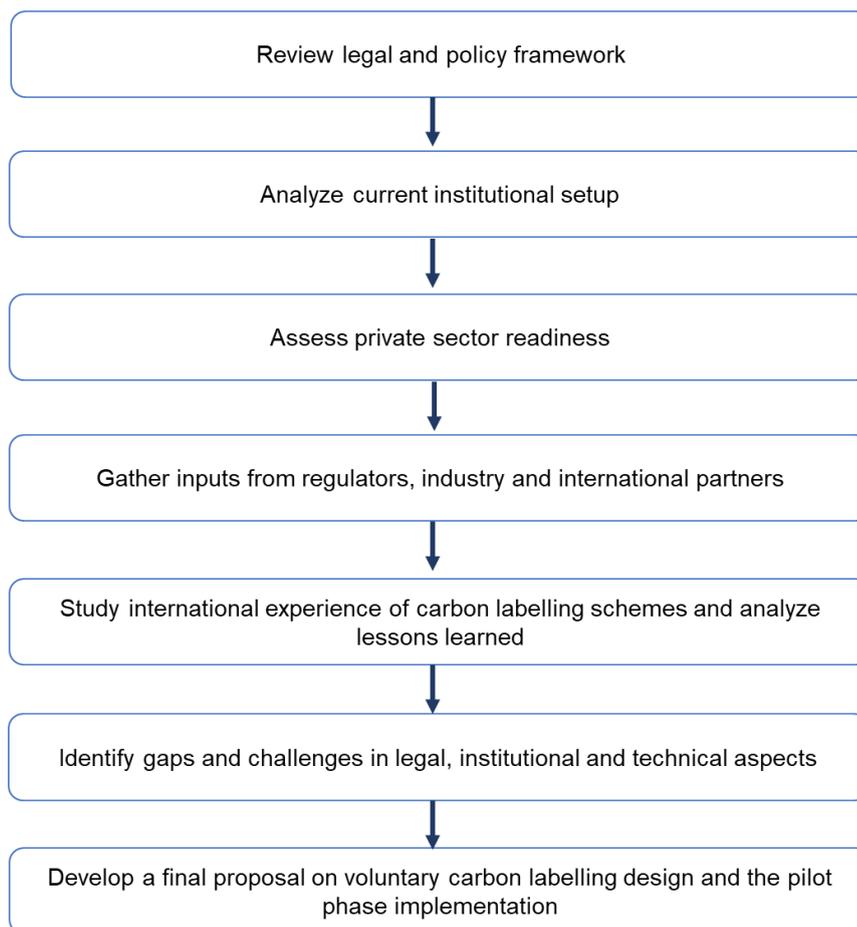


Figure 1. Methodology followed for carbon labelling assessment

Specifically, the activities included are:

- *Review of secondary documents:* National strategies, plans, and policy orientations are analyzed to assess their relevance and support for the carbon labelling initiative.
- *Institutional analysis and stakeholder mapping:* Identified key roles, functions, and coordination mechanisms among relevant organizations for their potential involvement in the carbon labelling program.
- *Private sector survey:* An online survey was conducted with companies in the energy and industrial sectors, which are the target groups currently responsible for GHG inventory.
- *Expert interviews and stakeholder consultations:* Direct meetings held with the representatives from regulatory bodies, international organizations, business associations, and independent experts.
- *Study of international experience:* Carbon labelling models from five countries were analyzed, focusing on program design, verification systems, the role of government, and the technical standards applied. The results are used for benchmarking best practices and deriving applicable lessons for Vietnam.
- *Gap analysis and needs assessment:* Training needs, capacity building, and technical support are evaluated for the upcoming implementation phase.

The approach adopted throughout the task is grounded to principles of transparency, multi-stakeholder consultation, and policy orientation. The combination of diverse data sources and analytical methods ensured that final findings and recommendations are comprehensiveness and reliable for further pursual.

II. NATIONAL ORIENTATION AND EXISTING POLICY FRAMEWORK

II.1. Legal Framework

II.1.1. Overview

In recent years, Vietnam has gradually improved its legal framework to support climate change response and to make progress towards a low-carbon economy. For this purpose, the Government of Vietnam has issued or updated several laws, decrees, national strategies to regulate key areas such as GHG inventory, emission reduction reporting, and carbon market development. Market-based instruments and economic tools have been increasingly integrated through these revisions and updates into the existing environmental protection policies.

The LEP 2020 is considered a milestone, as it was the first law in Vietnam to comprehensively and systematically regulate GHG emissions management. It introduces foundational elements such as GHG inventory, emission data systems, implementation of Measurement, Reporting and Verification (MRV), and the establishment of a domestic carbon market. Sub-law documents such as Decree No. 06/2022/ND-CP, Decision No. 13/2024/QD-TTg, and draft amendments are subsequently published to further elaborate on these aspects.

In addition, Vietnam has issued several long-term strategies, such as Decision 888/QD-TTg on approval for Scheme Setting Out Tasks and Solutions for Implementation of Outcomes of the 26th Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC), the National Climate Change Strategy to 2050, the National Green Growth Strategy for 2021-2030 period and the updated NDC 2022. All these strategies emphasize the role of carbon market mechanisms and related pricing instruments in achieving national emission reduction goals.

Although there are currently no specific legal provisions or mandates for a product-level carbon labelling scheme, foundational legal elements such as facility-level GHG inventory and MRV requirements, and the recognition of carbon credits as tradable commodities have laid a strong ground for the development of a national carbon labelling program. Moreover, the existing environmental labelling systems in Vietnam offer organizational models and operational mechanisms that can be referenced in the design and institutionalization of a carbon labelling scheme.

II.1.2. Key policies on Climate Change and the Carbon Market

Table 1 summarizes these key policies and their relevance to carbon labelling in Vietnam and a detail description is below.

Table 1. Foundational policies for carbon labelling program in Vietnam

Legal Document	Summary
Decree No. 119/2025/ND-CP	Amends Decree No. 06; expands GHG mitigation scope and introduces emissions trading roadmap.

Legal Document	Summary
Decision No. 13/2024/QĐ-TTg	Updates sectors for periodic GHG inventories, refining criteria for major emitters to enhance emissions data.
Resolution No. 93/NQ-CP (2023)	Reinforces climate action commitments
Decree No. 06/2022/ND-CP	Regulates GHG emission reduction and ozone protection; provides guidelines for Monitoring, Reporting and Verification (MRV) and domestic carbon market.
Updated NDC 2022	Increases GHG reduction targets; identifies carbon markets and voluntary programs like carbon labelling.
LEP 2020	Governs environmental management, integrates climate change mechanisms, and outlines GHG mitigation provisions.
Resolution No. 24-NQ/TW (2013)	Confirms commitment to climate adaptation and carbon crediting mechanisms.
National Climate Change Strategy to 2050	Sets a net-zero emissions target by 2050; promotes carbon pricing and sustainable practices.
National Green Growth Strategy (2021–2030)	Focuses on green products and low-carbon markets, supporting the development of carbon labelling.

Although carbon labelling is not directly addressed, the relevant documents significantly enhance the legal and technical foundation for supporting carbon footprint disclosures and voluntary labelling schemes, especially as Vietnam prepares for deeper international carbon market participation and net-zero commitments.

A. Law on Environmental Protection (LEP)

The LEP 2020, passed by the National Assembly⁷, is the highest-ranking legal instrument governing environmental management in Vietnam. For the first time, it comprehensively integrated climate action and carbon market mechanisms. The LEP 2020 marks a policy shift from command-and-control based environmental management toward a market- and economic-instrument-based approach, aligning with international trends.

Article 91 of the LEP provides specific provisions on GHG emission mitigation activities, including:

- Preparing GHG inventories at various levels (national, sectoral, sub-sectoral, and facility level);
- Developing and implementing emission reduction plans;
- Establishing systems for MRV;
- Organizing and developing a domestic carbon market;
- Assigning specific responsibilities to ministries, sectors, provincial-level People's Committees,

⁷ LEP 2020 issued on 17 November 2020 and effective from 1 January 2022 by National assembly

and targeted emissive industries/facilities

Article 139 serves as the critical legal basis for the development of Vietnam's domestic carbon market. This provision defines GHG emissions as a type of "environmental asset" that can be allocated and traded in the form of emission allowances or carbon credits. This article constitutes the core legal foundation for developing carbon pricing instruments such as the ETS and the NCP, while also providing a legal space to integrate supplementary tools such as carbon labelling programs.

In addition, the LEP 2020 introduces principles related to Extended Producer Responsibility (EPR), sustainable production and consumption, and life-cycle based analysis all of which are foundational concepts for determining, calculating, and disclosing product-level CFP.

While the LEP 2020 provides a solid legal basis for GHG inventory and mitigation, it does not yet provide explicit provisions for the disclosure of product-level CFP. The absence of legal definitions for terms such as "carbon label" or "PCF," as well as the lack of a defined procedure for verification and labelling issuance, indicates a need for future legal development. Nonetheless, the LEP 2020 will serve as a foundational framework for the implementation of a domestic carbon labelling scheme in the country.

B. Decree No. 06/2022/ND-CP

Decree No. 06/2022/ND-CP⁸ regulates GHG emission reduction and ozone layer protection. It serves as a detailed guideline for the implementation of the LEP 2020 in the field of climate change. This is the first decree in Vietnam that provides specific regulations on the MRV system, allocation of emission quota, and the operation of the domestic carbon market.

The Decree identifies four main groups of activities: (i) GHG inventory; (ii) Development and implementation of GHG mitigation plans; (iii) Development of the domestic carbon market; and (iv) Management of ozone-depleting substances (ODS) and high global warming potential GHGs (such as Hydrofluorocarbons (HFCs)).

One notable provision is Annex I of the Decree, which lists the sectors, sub-sectors, and facilities with significant GHG emissions that are required to conduct periodic inventories. This requirement forms the basis for implementing facility-level MRV systems. The resulting data are essential for generating emission indicators linked to the production processes, which directly support the calculation of product-level CFP.

The Decree also outlines a roadmap for the development of the domestic carbon market, including:

- **From 2022 until the end of 2027:** Pilot implementation of voluntary crediting mechanisms;
- **From 2028 onward:** Official operation of the domestic carbon market in accordance with the law.

Currently, the MAE is working with relevant stakeholders to develop a draft amendment to Decree No. 06/2022/ND-CP, aiming to update the regulations in accordance with practical needs and the development of the carbon market. According to information from policy consultations, several key

⁸ Decree No. 06/2022/ND-CP, dated in January 7, 2022 by the Government

topics under consideration include the expansion of GHG inventory scope, enhancement of MRV systems, and the integration of provisions related to the voluntary carbon market. Although the carbon labelling program has not yet been proposed as part of the amendment, the improvement of facility-level MRV mechanisms is still regarded as a critical technical foundation that could support initiatives such as carbon labelling in the future. This represents a valuable opportunity to strengthen the indirect legal basis for environmental information tools, particularly as carbon transparency requirements for export products continue to grow.

C. Decree No. 119/2025/ND-CP (Amending and Supplementing Decree No. 06/2022/ND-CP)

Decree No. 119/2025/ND-CP⁹, amends and supplements Decree No. 06/2022/ND-CP, establishing a more detailed legal foundation for GHG mitigation and domestic carbon market development in Vietnam. The decree expands its scope to all entities involved in GHG emissions, mitigation, absorption, and carbon credit trading under both domestic and international frameworks. It also introduces standardized definitions aligning with Articles 6.2 and 6.4 of the Paris Agreement, defines a national carbon exchange and registry, and clarifies rules for domestic crediting methodologies.

The decree sets a roadmap for emissions trading. During the 2025–2026 phase, emission allowances will be allocated to major emitters in the power, steel, and cement sectors. From 2027 onward, coverage will be expanded with a more refined allocation system based on intensity benchmarks and facility-specific factors. By 2029, the government will finalize the regulatory framework for auctioning, managing, and trading allowances and credits.

Importantly, the decree allows compliance entities to use approved carbon credits to offset up to 30% of their emissions. Credits may be sourced from domestic programs or international mechanisms, including those under Articles 6.2 and 6.4. All transactions will be conducted through a centralized national carbon exchange, with oversight shared by the Ministry of Finance (MoF) and MAE. The national registry will record all allowance and credit transactions, enabling transparency and preventing double-counting.

D. Decision No. 13/2024/QD-TTg

Decision No. 13/2024/QD-TTg¹⁰, updates the list of sectors, subsectors, and facilities required to conduct periodic GHG inventories, replacing Decision No. 01/2022/QD-TTg.

The Decision refines the criteria for identifying major emitting facilities, based on emission thresholds, types of activities, and fuel consumption levels. Heavy industry, energy, transport, chemicals, construction materials, and food processing remain the main sectors subject to GHG inventory requirements.

By mandating GHG inventories at the facility level, Decision No.13 helps enhance the completeness and transparency of Vietnam’s national emissions database. It also facilitates the use of emissions data for calculating product-level CFP, one of the technical foundations for a carbon labelling program.

From an implementation perspective, the facilities listed under Decision 13 could serve as a priority

⁹ Decree No. 119/2025/ND-CP, signed on 9 June 2025

¹⁰ Decision No. 13/2024/QD-TTg, issued by the Prime Minister on 18 March 2024

group for piloting a voluntary carbon labelling program, as they already operate relatively robust data collection and emissions reporting systems.

However, like the other legal documents discussed, Decision No.13 does not explicitly address the disclosure of product-level emissions or carbon transparency requirements for commercial goods. This remains a gap that will need to be addressed through further legal development if Vietnam is to establish a credible carbon labelling scheme aligned with international expectations such as the EU's CBAM.

E. Decision No. 232/2025/QD-TTg

Decision 232/QD-TTg¹¹ approves the establishment and development of a carbon market in Vietnam. The decision outlines the creation of a domestic carbon market comprising an ETS and NCP. For the ETS, the government will prepare decarbonization plans for key sectors and allocate emissions allowances to covered entities. Certified Carbon Credits (CCCs), including those from international mechanisms such as CDM, JCM, and Article 6.4 of the Paris Agreement, will be eligible for ETS compliance.

The Ministry of Natural Resources and Environment (MONRE) is currently developing regulations on GHG limits, allowance allocations through 2030, carbon credit management, and trading rules. Infrastructure development and capacity building for government agencies and enterprises are also underway. During the pilot phase (June 2025–December 2028), emissions allowances will be allocated for free to large-emitting facilities. Additional regulations will define sectoral coverage and emission thresholds for the pilot period, aiming to finalize legal and technical foundations for full implementation. From 2029, the market will become fully operational, with expanded sectoral coverage and the introduction of auctioning alongside free allocation.

F. Other National Strategies, Plans, and Commitments

In addition to binding legal instruments, Vietnam has developed and issued a number of long-term strategies, plans, and policy orientations that provide a foundation for climate change response, green growth, and carbon market development. These documents not only reflect a strong political commitment but also help shape the technical and institutional content of new policy instruments such as carbon labelling.

*The National Climate Change Strategy to 2050*¹², issued under Decision No. 896/QD-TTg in July 2022, sets the target of achieving net-zero emissions by 2050 and emphasizes the role of carbon pricing instruments, carbon markets, and MRV mechanisms. It also highlights technology transition and the promotion of sustainable production and consumption – which are the key objectives for implementing product-level carbon labels.

*The National Green Growth Strategy for 2021–2030*¹³, with a Vision to 2050, issued under Decision No.1658/QD-TTg, explicitly addresses the promotion of green products, enhancement of

¹¹ Decision 232/QD-TTg, issued by the Prime Minister of Vietnam on January 24, 2025

¹² [The National Climate Change Strategy to 2050, issued under Decision No. 896/QD-TTg dated 26 July 2022](#)

¹³ [The National Green Growth Strategy for 2021–2030, with a Vision to 2050, issued under Decision No. 1658/QD-TTg](#)

environmental information, and development of policy frameworks to stimulate low-carbon consumer markets. This strategy directly aligns with the development of a carbon labelling scheme.

Vietnam’s updated NDC¹⁴ (2022) increased its unconditional GHG reduction target to 15.8% below BAU by 2030, and up to 43.5% with international support. Carbon markets and other market-based mechanisms are identified as key enablers. Voluntary programs like carbon labelling could help enterprises contribute to these national goals at the facility level.

Other documents, such as *Resolution No. 93/NQ-CP*¹⁵ (2023) and *Resolution No. 24-NQ/TW*¹⁶ (2013) reaffirm Vietnam’s political orientation toward proactive climate adaptation and deep engagement with global commitments under the Paris Agreement, including mechanisms related to carbon crediting.

Overall, while Vietnam has made significant progress in developing a legal framework for climate change and the carbon market, specific clauses addressing carbon labelling are underdeveloped. Table 2 outline the key issues related to carbon labelling, their current status in legal documents, and recommendations for improvements.

Table 2. Policy gaps to be addressed for carbon labelling system

Issue	Current Status	Recommendations
Lack of Definitions	No explicit definitions for "carbon label" or "product carbon footprint" in existing laws.	Develop clear legal definitions for these terms to eliminate ambiguity and provide a solid foundation.
Verification Procedures	Absence of established procedures for verifying and issuing carbon labels.	Create comprehensive guidelines for the verification and certification processes of carbon labels.
Calculation Methodologies	Existing laws do not specify methodologies for calculating product carbon footprints.	Integrate calculation methodologies into legal frameworks to facilitate accurate assessments of carbon footprints.
Alignment with International Standards	Current legal documents do not align with international frameworks like the EU’s CBAM.	Ensure that regulations for carbon labelling align with international standards to enhance credibility and market acceptance.
Integration with existing Frameworks	Existing regulations lack provisions for product-level emissions reporting.	Amend legal documents to include specific provisions for disclosing product-level emissions and carbon transparency.

¹⁴ [Vietnam’s updated NDC \(2022\)](#)

¹⁵ [Resolution No. 93/NQ-CP](#)

¹⁶ [Resolution No. 24-NQ/TW](#)

Issue	Current Status	Recommendations
Pilot Programs	No designated priority groups for testing carbon labelling initiatives.	Identify facilities already conducting GHG inventories as pilot sites for voluntary carbon labelling programs.

This assessment highlights the need for specific legal developments to support the effective implementation of carbon labelling in Vietnam, ensuring alignment with national and international climate goals. By addressing these gaps, Vietnam can enhance the credibility of its carbon labelling initiatives and support the transition to a low-carbon economy.

II.2. Existing Product Labelling Systems

Table 3 provides an overview of existing labelling systems in Vietnam and the details are discussed below. A detailed assessment of the institutional arrangement, methodology, MRV systems, etc., followed by each of these labelling systems is discussed in this section.

Table 3. Overview of existing labelling systems in Vietnam

Labelling System	Description	Target Products	Evaluation Methodology	Key Impacts
Energy Labelling	Promotes energy efficiency through mandatory labels that indicate energy performance of products.	Household appliances, industrial devices, etc.	Based on national technical standards (TCVN/QCVN); performance testing in certified labs.	Reduces energy consumption and GHG emissions, raises consumer awareness.
Vietnam Green Label	Certifies environmentally friendly products and services to promote sustainable production and consumption.	Office paper, construction materials, etc.	Life Cycle Assessment (LCA); compliance with environmental regulations and product-specific criteria.	Encourages resource efficiency and minimizes environmental impact.
Organic Label	Verifies agricultural products produced according to organic principles, minimizing synthetic inputs.	Crops, livestock, aquaculture products.	Compliance with TCVN 11041 standards; includes document review and site inspections.	Ensures food safety, promotes sustainable agriculture, and reduces GHG emissions.
VFCS/PEFC Certification	Certifies sustainable forest management and	Timber and non-timber	On-site evaluations based on VFCS/PEFC	Enhances credibility in international

Labelling System	Description	Target Products	Evaluation Methodology	Key Impacts
	timber trade to ensure responsible practices.	forest products.	standards; periodic monitoring.	markets, preserves biodiversity, and supports carbon stocks.
OCOP Program	Recognizes and promotes local products with sustainable development criteria, enhancing rural economies.	Various local products.	Evaluation based on quality, market potential, and environmental factors; ranked 1-5 stars.	Supports local development, promotes social responsibility, and encourages eco-friendly practices.
Recycled/Bio degradable Packaging	Labels products indicating recyclability or biodegradability, though currently voluntary and unregulated.	Packaging materials across sectors.	Based on international standards, voluntary declarations with supporting documentation.	Increases consumer awareness and promotes sustainable packaging practices.

II.2.1. Energy Labelling

A. Program Description

The core objectives of the program are to reduce energy consumption in both production and consumption sectors, gradually phase out low-efficiency products from the market, and encourage manufacturers to invest in technological innovations that are energy efficiency. It also plays a crucial role in raising consumer awareness and fostering sustainable consumption behaviour through the provision of reliable and accessible information.

The program was initially launched on a voluntary basis in 2008 and became mandatory from 25 April 2017 onwards, under Decision No. 04/2017/QĐ-TTg.

The program applies to over 20 product groups, like household appliances and office equipment to industrial devices and transport vehicles. For each product group, national technical standards i.e., Tiêu chuẩn Việt Nam (TCVN) and National Technical Regulations, i.e., Quy chuẩn Việt Nam (QCVN) are used to assess energy performance.

B. Evaluation Methodology

Performance testing of products is conducted in laboratories designated by the Ministry of Industry and Trade (MOIT) to ensure objectivity and reliability of results. These test results serve as the foundation for classifying products and issuing appropriate labels.

The program applies two main types of energy labels - comparison labels and endorsement labels, depending on the characteristics and market penetration of the product group, as shown in Figure 2. Table 4 outline the different energy label types along with their key features and applicable products.

Table 4. Types of energy labels and their key features

Label Type	Shape & Colour	Characteristics	Applicable Products
Comparison Label	Rectangular, green background, 1–5 stars	Displays relative energy efficiency using a star rating (1 to 5)	High-energy-consuming products (e.g., ACs, fridges)
Endorsement Label	Triangular, green background	Confirms that the product meets or exceeds MEPS without a star-based ranking	Low-energy-consuming products (e.g., LEDs, PCs)



(a) Comparison label



(b) Endorsement label

Figure 2. Types of energy labels

The evaluation methodology not only enhances transparency for consumers but also incentivizes manufacturers to innovate and aim for higher efficiency ratings. Maintaining updated technical standards and certified testing laboratories is also essential to uphold the program’s credibility and continuity.

C. Label issuance process

The labelling process is designed based on the model of “testing, appraisal, licensing, and supervision,” are shown in Figure 3. The energy labelling process in Vietnam is structured with four main steps: testing, appraisal, licensing, and post-monitoring. These steps help to ensure transparency, objectivity, and the ability to control quality throughout the product life cycle.

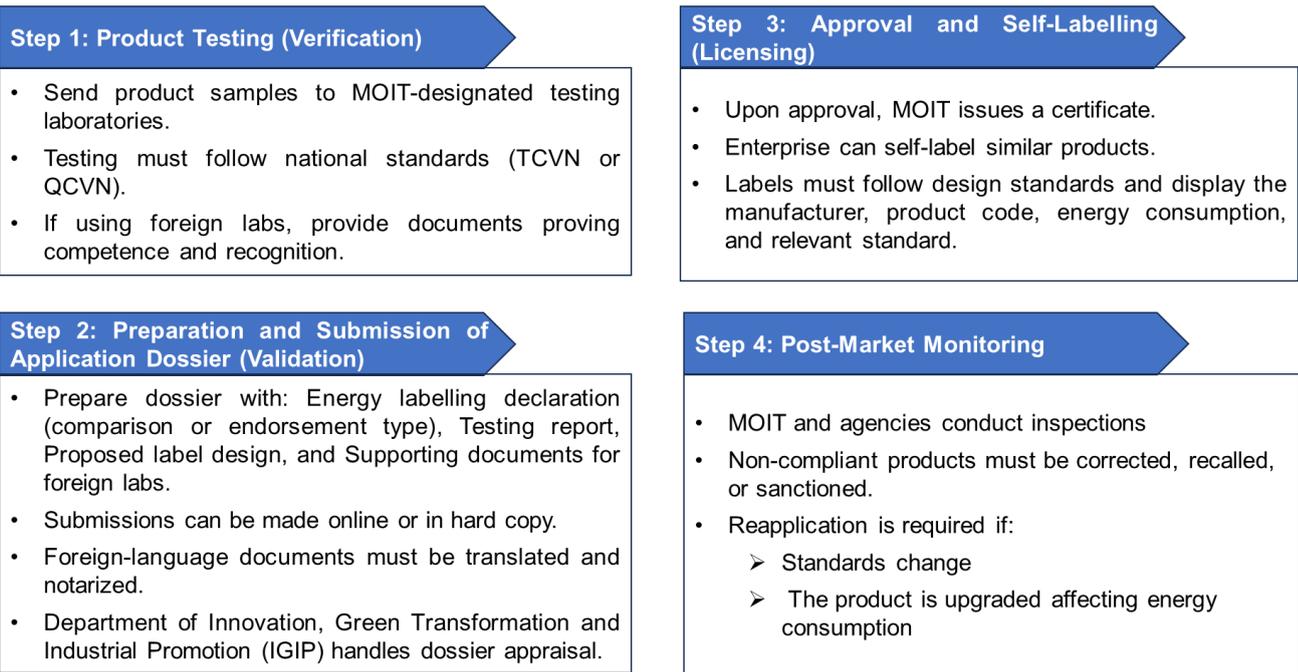


Figure 3. Label issuance process of the Vietnam Energy Label

D. Institutional Arrangement

Vietnam’s energy labelling operates through coordinated roles:

- **MOIT:** Lead agency. Oversees the program, issues guidelines, and grants certificates.
- **IGIP:** Serves as technical focal point. Appraises applications and supports implementation.
- **Testing Labs:** Conduct performance tests per TCVN/QCVN, including certified domestic and international labs.
- **Enterprises:** Responsible for labelling and driving innovation.

The co-management model enterprise self-labelling after approval ensures both efficiency and accountability. The program also illustrates a stepwise approach: from voluntary to mandatory enforcement, and from technical oversight to market surveillance. There is growing involvement of civil society organizations, consumers, and the media in supervising and promoting transparency in energy information practices.

II.2.2. Vietnam Green Label

A. Program Description

The Vietnam Green Label Program is the country’s official ecolabelling initiative, approved by the MONRE under Decision No. 253/QD-BTNMT issued in March 2009. The program aims to promote sustainable production and consumption by certifying environmentally friendly products and services, thereby minimizing negative impacts on ecosystems and human health. Its primary objectives are to encourage enterprises to innovate technologies, reduce resource consumption, and minimize pollution emissions throughout the entire product life cycle. At the same time, the program provides transparent information to consumers, enabling them to choose products and services with lower environmental impacts compared to similar alternatives.

To date, the program has developed criteria for 14 product groups, including office paper; batteries; construction paints and coatings; printers; laptops; roofing, cladding, and tiling materials made from ceramic construction materials; hair care products; bar soaps; laundry detergents; manual dishwashing liquids; biodegradable plastic packaging; composite paper food packaging; fluorescent lamps; and printer cartridges.

Many enterprises in Vietnam have been awarded the Green Label and have reported significant benefits in enhancing brand reputation and expanding market access. Notable examples include:

- Dien Quang Lamp Joint Stock Company, for fluorescent lamps;
- Jotun Paints Vietnam Co., Ltd., for construction coating products;
- Fuji Xerox Asia Pacific Pte Ltd, for its printer product lines;
- GS Battery Vietnam Co., Ltd., for environmentally friendly battery products.

These companies have not only improved their market positioning but have also contributed positively to national Sustainable Development Goals (SDG) by reducing emissions and using resources more efficiently. Figure 4 presents the evaluation methodology and Figure 5 outline the Certification procedure and institutional agreement for green label program.

Life Cycle Approach

- The program uses LCA to evaluate environmental impacts across a product's entire life cycle from raw material extraction to disposal.
- It identifies products with lower overall impacts compared to similar market alternatives.

Legal and Regulatory Compliance

- Participants must comply with all environmental and labour laws.
- Non-compliance with laws on waste management, emissions of hazardous substances, or occupational safety may be grounds for rejection.

Technical Criteria by Product Group

- Each product group must meet specific criteria issued by MONRE (now MAE), covering energy/resource use, GHG emissions, recyclability, durability, hazardous substances, and health impacts.
- Enterprises must submit relevant test data and reports.

Assessment and Testing

- Evaluations are based on test results from qualified labs:
 - Domestic labs must be registered under MOST.
 - Foreign labs must meet ISO/IEC 17025 and be ILAC/APLAC accredited.

Benefits of certification

- Enhances brand image and environmental credibility.
- Provides priority in public procurement.
- May offer tax incentives and access to green funds.
- Promotes green consumption and helps consumers choose sustainable products.

Figure 4. Evaluation methodology of green label program

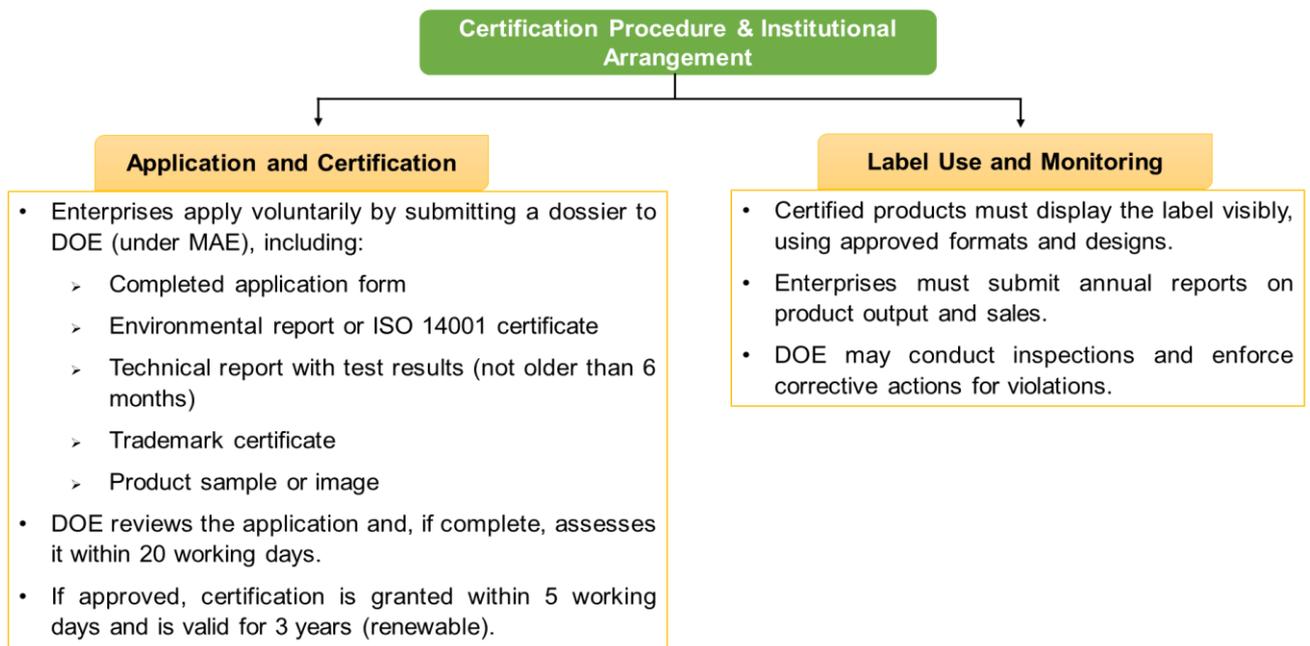


Figure 5. Certification procedure and institutional agreement for green label program

B. Institutional Roles and Coordination

The key agencies and their roles include,

- DOE leads program management, including criteria development and certification.
- Domestic and international testing labs provide independent assessments.

This institutional framework illustrates a clear division of responsibilities between state management and supporting technical entities, serving as an important institutional foundation for designing a future national carbon labelling system. The integration of testing infrastructure, life-cycle-based evaluation criteria, and verification procedures within the Green Label system will help reduce costs, shorten processing times, and enhance transparency when expanding to other environmental labelling schemes in the future.

II.2.3. Other Labelling and Certification Systems

In addition to the Energy Label and the Vietnam Green Label programs, Vietnam is currently implementing several labelling and certification systems in the fields of agriculture, forestry, and packaging. Although these systems do not directly quantify GHG emissions, many of their technical criteria are related to resource management, chemical usage, and material circularity, which significantly influence emissions throughout the product life cycle. These models can provide valuable experience and institutional infrastructure for developing a carbon labelling scheme in the future.

A. Organic Label

Program Description

Vietnam's organic label is a voluntary certification system that verifies agricultural products are produced, processed, and distributed in accordance with organic principles. The program is based on the national standard series TCVN 11041 issued by the MOST, which outlines detailed

regulations for various production types such as: crops, livestock, aquaculture, and specific products such as rice, tea, milk, and shrimp.

Organic certification not only ensures food safety and consumer health but also demonstrates a business’s commitment to environmental protection and sustainable agriculture. By minimizing the use of synthetic inputs such as chemical fertilizers and pesticides, organic practices contribute to lower GHG emissions, particularly nitrous oxide (N₂O) from agricultural soils, and enhance carbon sequestration through improved soil management. Figure 6 presents the framework of organic label that includes assessment method, certification and institutional arrangement.

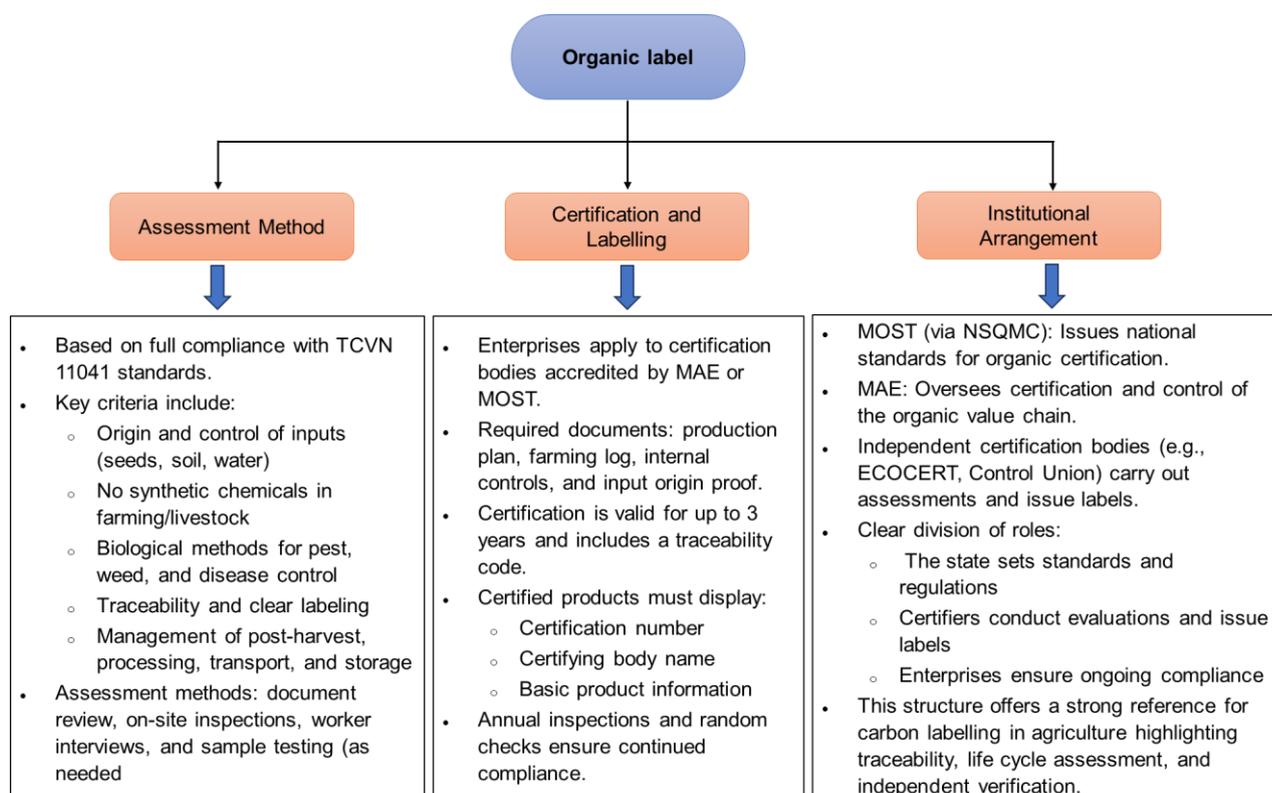


Figure 6. Overview of the organic labelling framework

B. VFCS/PEFC Sustainable Forest Certification

Program Description

The Vietnam Forest Certification Scheme (VFCS) was established in 2018 to promote responsible forest management and the legal timber trade. Since 2020, the VFCS system has been recognized as aligned with the Program for the Endorsement of Forest Certification (PEFC), thereby expanding access for Vietnamese forestry products to international markets.

VFCS/PEFC certification verifies that forests or forest products originate from sustainably managed forests in accordance with principles of environmental protection, economic development, and balanced social interests. This certification not only enhances business credibility but also paves the way for entry into stringent markets such as the European Union, the United States, and Japan. Figure 7 presents the framework of VFCS that includes assessment method, certification and institutional arrangement.

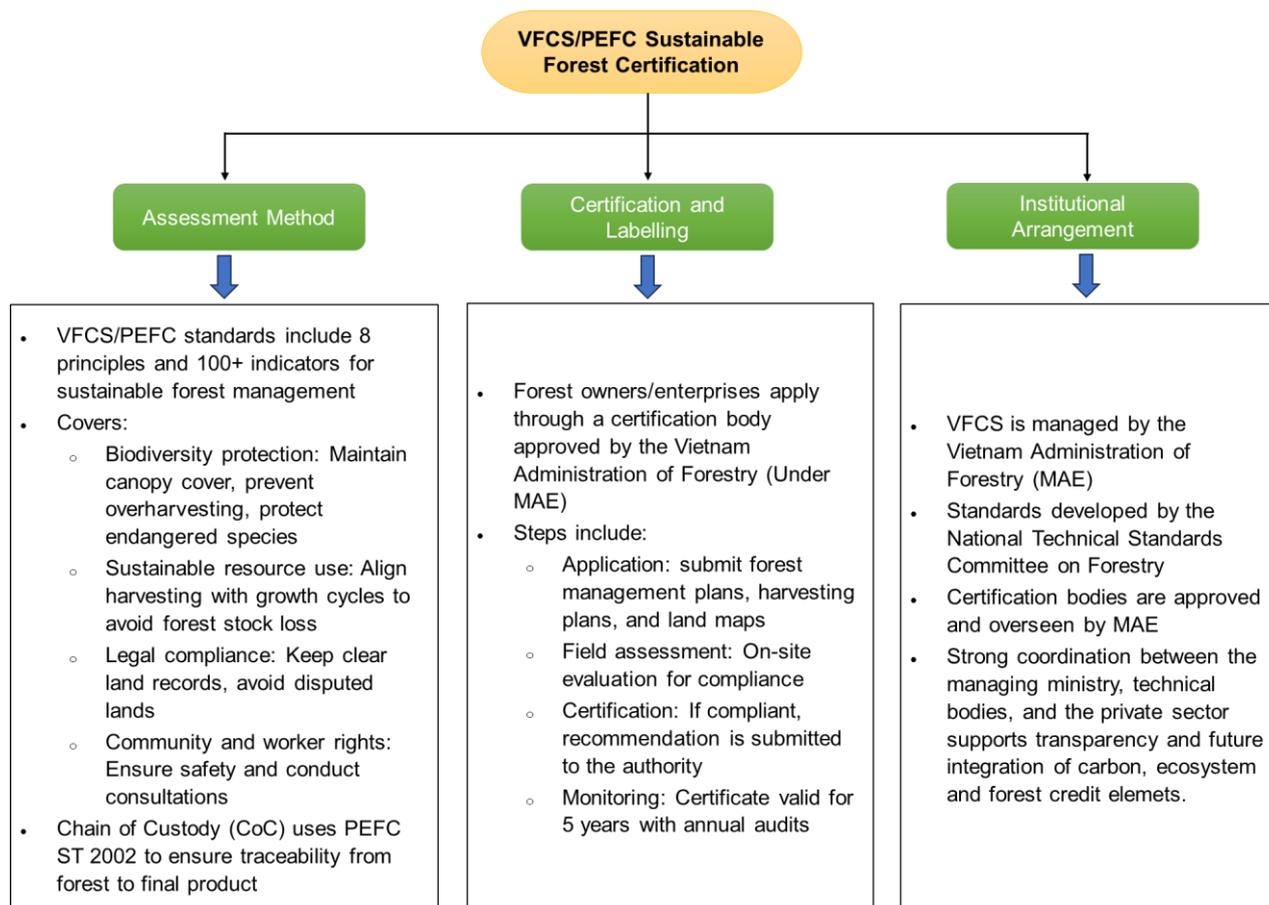


Figure 7. Overview of VFCS/PEFC sustainable forest certification framework

C. One Commune One Product Program (OCOP)

Program Description

The OCOP Program is a rural economic development policy approved by the Government of Vietnam (GoV) under Decision No. 490/QD-TTg issued in May 2018. The main objective of the program is to encourage communities to leverage local advantages to develop signature products and enhance product value through standardization, branding, packaging, and market linkage. The Program is managed by MAE, in coordination with relevant ministries, sectors, and local authorities. While OCOP is not an environmental labelling program in the narrow sense, it incorporates mechanisms for evaluating, recognizing, and ranking products based on a comprehensive set of criteria that includes sustainable development considerations. The program aims to elevate rural products not only in terms of commercial value but also in promoting social responsibility and environmental protection. Figure 8 outline the framework of OCOP program.

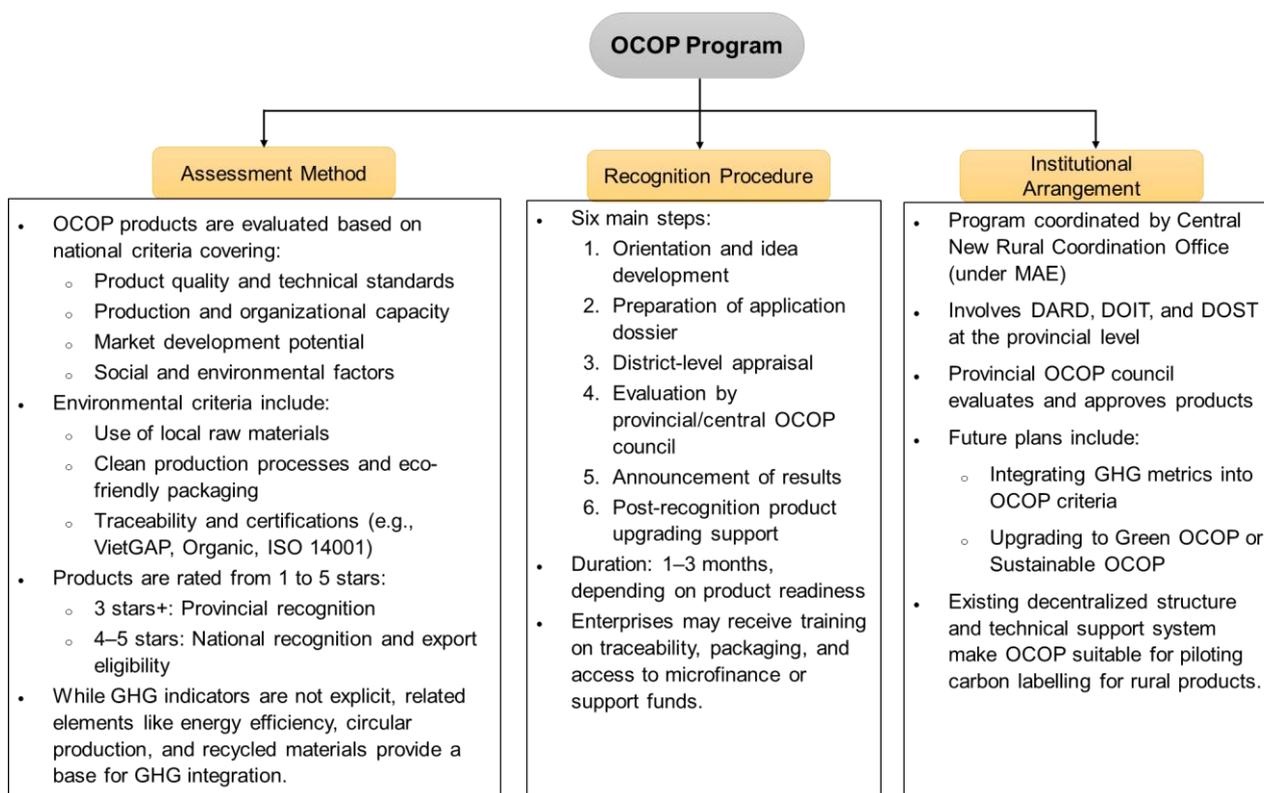


Figure 8. Overview of OCOP framework in Vietnam

D. Recycled, Biodegradable Packaging and Environmental Material Labelling

The LEP 2020 marked a significant step in integrating environmental factors into product value chains, with packaging considered a key component. Specifically, Articles 75 and 77 of LEP 2020 stipulate the Extended Producer Responsibility (EPR), requiring plastic packaging manufacturers to organize the collection, recycling, or pay financial contributions to the Environmental Protection Fund if they do not directly fulfill their recycling obligations. The list of packaging products subject to mandatory collection, as well as the applicable rates and implementation roadmap, has been detailed in Decree 08/2022/ND-CP and Circular 02/2022/TT-BTNMT¹⁷.

At the same time, market practice shows that many enterprises voluntarily include environmental information on product labels such as “recyclable packaging”, “100% from recycled materials”, “industrially biodegradable”, or “environmentally friendly”. Although currently there is no unified and mandatory national labelling system for this type of information, the trend of self-declaration and transparency in material characteristics is growing significantly. Figure 9 outline the evaluation, labelling, and institutional setup for recyclable and biodegradable packaging

¹⁷ <https://thuvienphapluat.vn/van-ban/EN/Tai-nguyen-Moi-truong/Circular-02-2022-TT-BTNMT-Detailing-articles-of-law-on-environmental-protection/507651/tieng-anh.aspx>

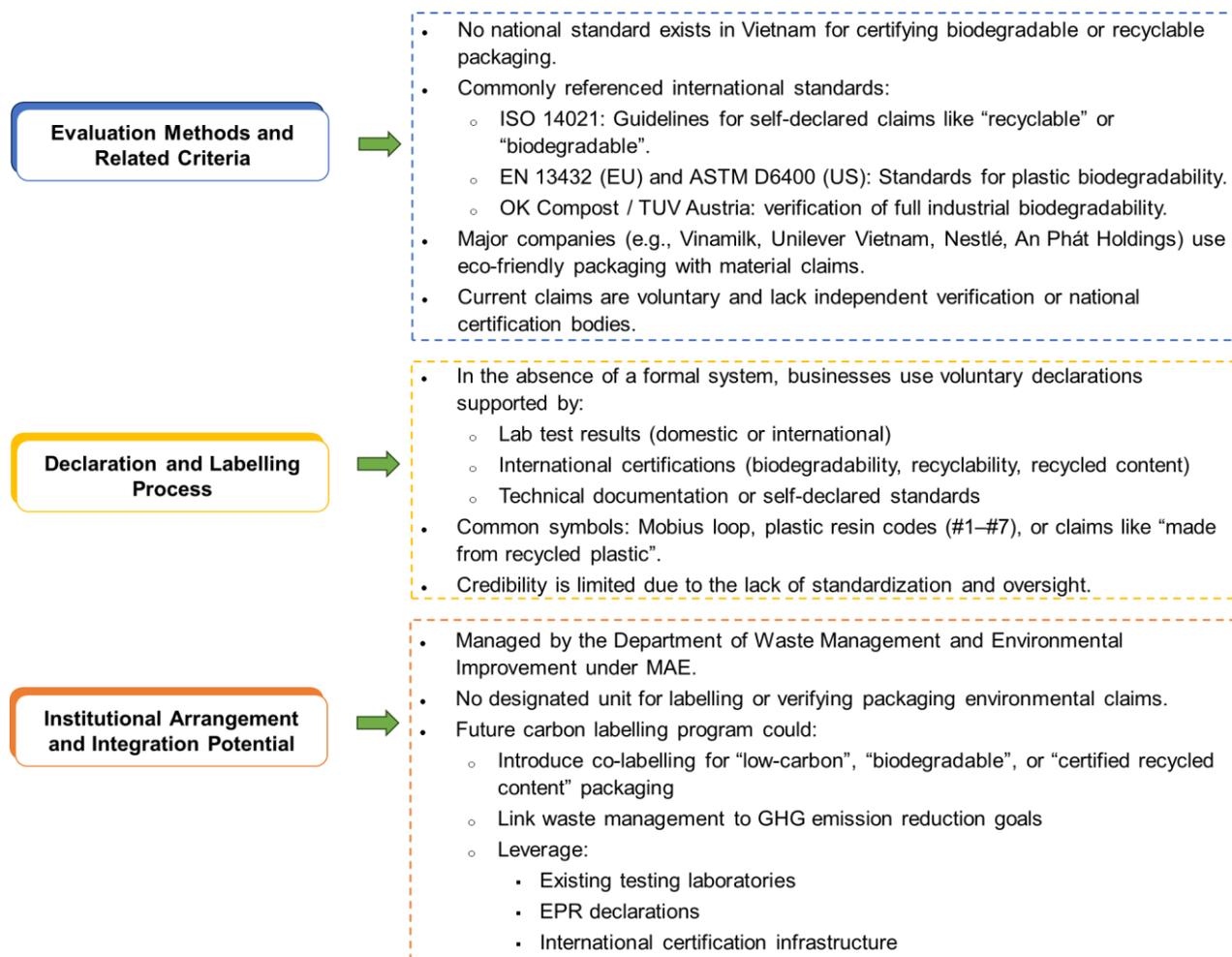


Figure 9. Scenario of recyclable and biodegradable packaging in Vietnam

Key findings from the existing labelling systems in Vietnam:

- Enterprises are aware of similar performance testing and labelling schemes
- Testing and certification bodies with an accreditation system are in place
- A successful demonstration exists in developing and implementing labelling schemes in Vietnam under several ministries

Collectively, these labelling systems aim to foster sustainable practices, improve transparency for consumers, and encourage manufacturers to innovate towards more environmentally friendly products. Integrating carbon labelling schemes could further enhance their effectiveness by linking carbon emissions to product sustainability.

II.3. Institutional Arrangement

This section discusses the relevant state agencies that would play a key role in the national carbon labelling system.

II.3.1. Key Regulatory Agencies

According to Decree No. 35/2025/ND-CP issued by the Government in February 2025, MAE was established through the merger of the MARD and MONRE. Currently, MAE is the governmental

agency responsible for state management in various fields, including agriculture, forestry, fisheries, rural development, natural resources, environment, meteorology & hydrology, climate change, surveying & mapping, integrated management of marine & island resources and environmental protection, remote sensing, and related public services. As the designated lead agency for GHG emissions management, NDC implementation, and carbon market development, MAE is considered as the most appropriate authority to lead the development and operation of a national carbon labelling program.

According to the organizational structure outlined in the Decree No. 35/2025/ND-CP, several subordinate units under MAE are expected to play key roles in implementing the carbon labelling program:

- Department of Climate Change: Primarily responsible for preparing GHG inventory, monitoring, and mitigating GHG emissions; operating the carbon market; issuing and verifying carbon credits; implementing the NDC and MRV system. This department has the technical and legal capacity to lead the development of product-level emission criteria and to coordinate the establishment of the carbon labelling mechanism.
- Department of Environment: Oversees environmental quality management, pollution control, environmental impact assessment (EIA), and the development of the national environmental monitoring and data system. With its experience in managing the Vietnam Eco-label program, this department can support the development of environmental product criteria and the integration of carbon labelling with the EIA system.
- Department of Quality, Processing and Market Development: Responsible for agricultural product quality standards, traceability, and sustainable consumer market development. This department can take charge of labelling operations, communication, and coordination with enterprises.
- Institute of Strategy and Policy on Agriculture and Environment: A policy research unit responsible for proposing operational models and potentially developing preliminary assessment tools or experimental legal frameworks.

Additionally, other agencies such as the Department of Forestry and Forest Protection, the Plant Protection Department, or local sub-departments may also be involved, depending on the scope and type of products covered by the carbon labelling program.

With its existing structure, MAE is fully capable of coordinating internally and with relevant ministries and agencies to implement a comprehensive carbon labelling program that ensures legal validity and aligns with domestic production and consumption practices.

II.3.2. Interministerial Technical Agencies

In addition to the specialized units under MAE, many other ministries play important technical roles, especially in the development of technical standards, performance testing, and the existing labelling systems that can be leveraged for the carbon labelling program. Among them, MOIT and MOST have prominent roles.

A. Ministry of Industry and Trade

According to Decree No. 40/2025/ND-CP, MOIT consists of 22 organizational units. The key units and their roles related to the carbon labelling program include:

- Electricity Regulatory Authority: Development of the electricity system, operation of the electricity market, and energy use policies. This agency can provide technical input for criteria related to electrical products or energy services.
- Department of Innovation, Green Transition and Industrial Promotion: Integrating functions to support enterprises in technology transition, green production, energy efficiency, and GHG emission reduction. It can act as a bridge between sustainable consumption initiatives and the carbon labelling system.
- Department of Industry: Production in consumer goods, food, and materials industries; an important partner in defining emission criteria for key industrial product groups.
- Department of Industrial Safety Techniques and Environment: Technical safety and environmental issues in industry, which can assist in developing and supervising environmental standards for products.

B. Ministry of Science and Technology

MOST plays a foundational role in standard setting and testing systems:

- Directorate for Standards, Metrology and Quality (STAMEQ): Developing, issuing, and managing the national standards (TCVN) and technical regulations, including standards related to carbon footprint, LCA, and CO₂e emissions evaluation. STAMEQ can support the establishment of technical standards and ensure international compatibility.
- Quality Assurance and Testing Centers (QUATESTs): Testing, calibration, and conformity assessment for products, and can play a role in future emission verification and labelling systems.

Developing an interministerial coordination mechanism, based on the existing technical and legal foundations of the above ministries, will be a key factor in ensuring the carbon labelling program is built on a reliable, feasible, and scalable foundation.

II.4. Private sector practices

II.4.1. Role of the Private Sector in the Carbon Labelling Ecosystem

In the carbon labelling ecosystem, the private sector plays a central and essential role. Enterprises are not only responsible for the implementation of GHG inventory, assessment, and disclosure at the product level, but also are direct beneficiaries of the economic, commercial, and branding advantages brought by participation in a carbon labelling program. Enterprises that proactively disclose environmental information can enhance competitiveness, meet the requirements of export markets, and contribute to achieving the national net-zero emissions target.

In Vietnam, many enterprises in key export sectors such as textiles, food processing, electronics, and furniture are facing increasingly stringent sustainable practice demands from markets like the EU, Japan, and the United States¹⁸. These requirements include carbon footprint traceability, disclosure of the PCF, and compliance with Environmental, Social, and Governance (ESG) criteria. In this context, some pioneering enterprises have started applying tools such as LCA, emissions

¹⁸<https://en.nhandan.vn/opening-opportunities-for-vietnams-textile-and-garment-industry-to-the-eu-market-post140222.html>

inventories based on international standards (ISO 14067, GHG Protocol and Publicly Available Specification (PAS)), and cooperation with independent organizations to conduct third-party verification to ensure the credibility of emissions data.

The proactive role of the private sector is also evident in capacity building and participation in pilot carbon market mechanisms. Major enterprises in the steel, cement, and thermal power sectors participated in training courses on the ETS and carbon market, held in Hanoi and Ho Chi Minh City in December 2024¹⁹. These activities are part of a technical assistance program implemented by DCC in collaboration with the Southeast ETP, aimed at preparing the foundation for operating the domestic carbon market.

However, the level of participation across the private sector remains uneven²⁰. Large enterprises or those with foreign investment often have the resources and incentives to apply carbon measurement and reporting tools. In contrast, most SMEs still face challenges due to limited technical capacity, financial resources, and information²¹. This situation highlights the need for specific support measures to promote more comprehensive and effective participation by enterprises of all sizes, especially when the carbon labelling program is being developed in a voluntary and market-driven direction.

¹⁹ <https://vir.com.vn/training-course-focuses-on-ets-and-carbon-markets-119668.html>

²⁰ <https://vietnamnews.vn/economy/1695720/private-sector-should-be-well-prepared-for-carbon-market-launch.html>

²¹ <https://vneconomy.vn/techconnect//carbon-market-to-develop.htm>

III. CONSULTATION AND SURVEY IN ENERGY AND INDUSTRY SECTORS

III.1. Identification of relevant stakeholders and sectors

Engaging stakeholders such as organizations, government agencies, and enterprises involved in the development, implementation, and oversight of carbon labelling standards would facilitate a collaborative approach that enhances the program's credibility and acceptance. Moreover, seeking input from these stakeholders is essential for several reasons. First, their diverse perspectives and expertise can inform the development of robust and practical carbon labelling standards that are tailored to specific industries and contexts. Second, involving stakeholders fosters a sense of ownership and commitment to the program, which can lead to greater compliance and support. Finally, engaging stakeholders allows for the identification of relevant sectors or product categories where the application of carbon labelling can generate significant environmental and social benefits, thereby maximizing the program's impact.

Key institutional stakeholders identified include:

- **Ministry of Industry and Trade:** This is the authority responsible for managing and granting Vietnam Energy Labels. MOIT is in charge of establishing Minimum Energy Performance Standards (MEPS) for products such as household appliances, office equipment, industrial machinery, and vehicles. With its experience in energy efficiency, MOIT can make important contributions to the development of carbon labelling standards, particularly in assessing and reducing carbon emissions from energy-consuming products.
- **Ministry of Agriculture and Environment:** This ministry manages the Vietnam Green Label, an eco-label that evaluates the environmental performance of products across their entire life cycle. MAE has expertise in environmental impact assessment, including carbon footprint evaluation, and can thus serve as a key stakeholder in establishing and managing the carbon labelling program.
- **Certification, verification, and testing organizations:** These include international companies such as Bureau Veritas Vietnam, TÜV NORD Vietnam, SGS Vietnam, and Intertek Vietnam. These organizations provide testing, inspection, and certification services in accordance with international standards on energy efficiency and environmental management, such as ISO 50001 and ISO 14067. They can act as independent verification and certification bodies for products participating in the carbon labelling program.

Within the implementation of the carbon labelling project in Vietnam, several key industrial sectors have been identified as priority targets due to their high GHG emission characteristics and the potential to improve environmental performance through MRV activities. Specifically, the priority sectors include those listed in the 2023 List of Key Energy-Consuming Establishments issued under Decision No. 1011/QĐ-TTg (a total of 3,491 key energy-consuming establishments nationwide in 2023, including 2,864 industrial facilities²²) and in Decision No. 13/2024/QĐ-TTg on the updated list of sectors and GHG-emitting facilities required to conduct GHG inventories (a total of 2,166 facilities required to conduct inventories, including 2,864 industrial facilities²³). The 2024 list under Decision

²² [Decision No. 1011/QĐ-TTg by the Prime Minister](#)

²³ Decision No. 13/2024/QĐ-TTg by the Prime Minister

No. 13/2024/QĐ-TTg includes fewer facilities (2,166) than the 2023 list (3,491) as it focuses only on GHG inventory requirements, while the 2023 list covers all major energy users. The 2,864 industrial facilities appearing in both are likely significant energy consumers and GHG emitters. These decisions help identify sectors with both high energy use and a legal obligation to conduct GHG inventories, thus providing a suitable foundation for effectively implementing carbon labelling activities. Thus, the identified priority sectors include:

- **Chemical sector:** This sector has high emission intensity due to its large energy and fossil-based raw materials usage.
- **Electronics components sector:** The manufacturing of electronic components consumes significant energy, water, and involves many specialized chemicals.
- **Textile and garment sector:** As one of Vietnam's key export industries, the textile sector has a long value chain with emissions arising from processes such as dyeing, washing, drying, and wastewater treatment.
- **Pulp and paper sector:** Paper production is energy- and water-intensive, with high emissions generated from biological treatment and fuel combustion processes.
- **Food processing sector:** This sector has considerable energy consumption and CO₂ emissions, especially in cooking, cooling, and packaging stages.
- **Beverage sector:** Similar to the food industry, the beverage sector involves energy-intensive processes such as distillation, sterilization, and refrigeration.

III.2. Key findings of current Implementation Status and Readiness of Enterprises

Although no official quantitative assessment has been conducted, several field observations and feedback from enterprises during recent policy consultations, training sessions, and dialogues indicate that the readiness of the Vietnamese private sector to implement product-level GHG measurement and disclosure tools (carbon footprint) remains in its early stages.

Large export-oriented enterprises in sectors such as stone, wood, electronics, food processing, and textiles have begun to explore international standards such as ISO 14067 and the GHG Protocol. Some companies have partnered with international certification bodies to carry out third-party verification of product emissions. The primary driver is typically pressure from importers in the markets such as the EU, North America, and Japan, as carbon transparency requirements in supply chains become more prevalent.

However, the widespread application of carbon labels and LCA tools remains limited. Many enterprises, especially SMEs, lack sufficient access to technical information, are unfamiliar with system boundary definitions, and struggle to distinguish between facility-level emissions inventories and product-level CFP. Moreover, emission benchmarks or reference thresholds are still unclear, creating confusion in action planning.

Some technical advances have started to emerge, such as the use of digital tools (spreadsheets, specialized software) to support PCF calculation and data management. International certification bodies like TUV Nord have begun piloting assessments in Vietnam. Nonetheless, the absence of standardized systems, industry-specific databases, and domestic technical guidelines continues to be a major barrier in scaling up carbon labelling at the national level.

Common challenges include verification costs, limited internal technical capacity, and difficulties in tracking supply chain data. These issues must be addressed through technical assistance and

training programs, as well as incentive policies promoting carbon transparency aligned with the capabilities of domestic enterprises.

The above assessments are drawn from field experiences and observations made during policy development and technical support initiatives. However, to gain a more systematic and comprehensive understanding of enterprise awareness, capacity, and readiness to participate in a carbon labelling program, the research team conducted a detailed survey among enterprises in the energy and industrial sectors.

III.3. Preparation and Conduct of the Survey

A desk review and analysis of key sectors in Vietnam was conducted by the consultant to understand the important products in the market and their import and export destinations. The data available from public sources such as General Statistics Office (GSO), General Department of Vietnam Customs were used for this purpose. It was identified that the top exports of Vietnam include end-products from iron & steel, cement, fertilizers, seafoods, electrical & electronic appliances, beverages, paper & pulp, textiles, chemicals, paints and aluminium. The key destination countries include European Union (EU), United Kingdom (UK), United States of America (USA), China, Malaysia, Japan, Thailand and South Korea. Similarly, the top imports of Vietnam include raw materials for electronic appliances (silicon chips and wafers), iron & steel (raw steel), chemicals, paints and aluminium (ingots and billets) from UK, EU, Japan, Taiwan, Australia, India and South Korea.

With inputs collected from the market review, the key sectors that could be potential participant within the scope of rapid assessment survey were listed. The following aspects were taken into consideration for this purpose:

- Sectors already identified to be highly energy/carbon-intensive from previous programs/projects
- Sectors having high export volume/value identified from the market review
- Sectors likely to be affected by Carbon Border Adjustment Mechanism (CBAM) of EU based on the existing draft proposals
- Sectors where carbon labelling is in practice (at least partially) identified from the market study

Table 5 presents the classification of industrial sectors by emission intensity and potential impact from CBAM.

Table 5. Classification of industrial sectors by emission intensity and potential impact

No	Sector	Highly energy/carbon -intensive*	High contribution to export (1000 USD) **	Risk of impact from CBAM		Partial carbon labelling in practice
				Transition period from 2023 - 2025	From 2026 - 2030	
1	Aluminium		No export	x		x
2	Beverages	x	No export			x
3	Cement		1,324,900	x		x

No	Sector	Highly energy/carbon -intensive*	High contribution to export (1000 USD) **	Risk of impact from CBAM		Partial carbon labelling in practice
				Transition period from 2023 - 2025	From 2026 - 2030	
4	Chemicals (rubber, fertilizer, paint)	x	7,730,700	x		x
5	Electrical and electronic appliances		57,325,100			x
6	Electricity		No export	x		x
7	Food processing (seafoods, sugarcane and dairy).	x	29,554,400			x
8	Iron & steel	x	12,318,100	x		x
9	Paper & pulp	x	15,558,000		x	x
10	Plastics	x	5,181,600		x	x
11	Garment and textiles		59,864,300		x	x

Note: * Based on minimum energy performance standards (MEPS) issued by the MOIT

** Sources such as General Statistics Office (GSO)

Other legislation in the world is developing policies to deal with carbon leakage issues (carbon leakage = reduction of GHG emissions achieved by shifting GHG-emitting activities to another country, driven by differences in carbon regulation). One of the instruments is CBAM which has already started the implementation phase since October 2023. Industry in five sectors including iron & steel, cement, fertilizers, power and hydrogen already submitted their Quarterly reports for emissions reporting.

These enterprises are included in the 2023 List of Key Energy-Consuming Establishments issued under Decision No. 1011/QD-TTg by the Prime Minister (a total of 3,491 key energy-consuming establishments nationwide in 2023, including 2,864 industrial facilities), or in Decision No. 13/2024/QD-TTg on the updated list of sectors and GHG-emitting facilities required to conduct GHG inventories (a total of 2,166 facilities required to conduct inventories), or in both lists.

After screening and consolidation, more than 500 enterprises in the sectors of Beverages, Chemicals (rubber, fertilizer, paint), Electrical and electronic appliances, Food processing (seafood, sugarcane, and dairy), Paper & pulp, Plastics, and Garment and textiles were identified for survey.

Prior to the survey rollout, the research team developed a standardized survey form in a pre-filled template format, covering the following components:

- **General enterprise information:** This section records basic data, including company name, address, type of ownership, number of employees and revenue, main business sector, key products, and target markets (domestic and export).
- **Awareness of GHG and carbon labelling:** This part assesses the enterprise's level of understanding regarding concepts such as carbon footprint, carbon labelling, GHG inventory, international standards (ISO, GHG Protocol and PAS), CBAM, ESG and LCA.
- **Current implementation and commitments:** This section captures whether the enterprise has conducted any GHG inventories or carbon footprint assessments, which methods were used, the frequency of such assessments, the responsible department, and whether any

emission reduction plans or targets have been publicly disclosed.

- **Drivers, opportunities, and barriers:** This part identifies factors that either motivate or hinder enterprises in taking emission reduction actions, including customer demand, government policies, sustainable development strategies, costs, human resources, and support from associations or industry groups.
- **Needs for technical and institutional support:** Enterprises are asked about their needs for various types of support such as technical guidance, training/capacity building, consulting assistance, or specific policy mechanisms from the government.

The survey was conducted through two main formats: an electronic form (Google Form) and printed paper forms, depending on the specific needs of each enterprise. In addition, a dedicated technical support team was on standby to promptly answer questions and assist enterprises during the form-filling process, thereby ensuring the accuracy and completeness of the survey data.

Refer to Annex VIII 1 for the survey questionnaire.

III.4. Compilation and Analysis of Survey Results

The research team reached out to five hundred enterprises, inviting them to participate in the survey and share their experiences and inputs. The survey was conducted via a Google Form, with a total of 96 responses collected from 500 enterprises invited to participate. Among the responses, the food processing sector accounted for the highest proportion at 25% (24 enterprises), followed by the chemical sector at 21.9% (21 enterprises), indicating a significant level of awareness regarding GHG emissions in these fields. The remaining sectors were evenly distributed, including beverages (14.6%), electronic components (14.6%), textiles (12.5%), and paper–pulp (11.5%). This distribution reflects the diverse participation across processing industries, contributing to an initial overview of business awareness and actions related to GHG emission reduction. Figure 10 presents the distribution of surveyed enterprises across key business sectors.

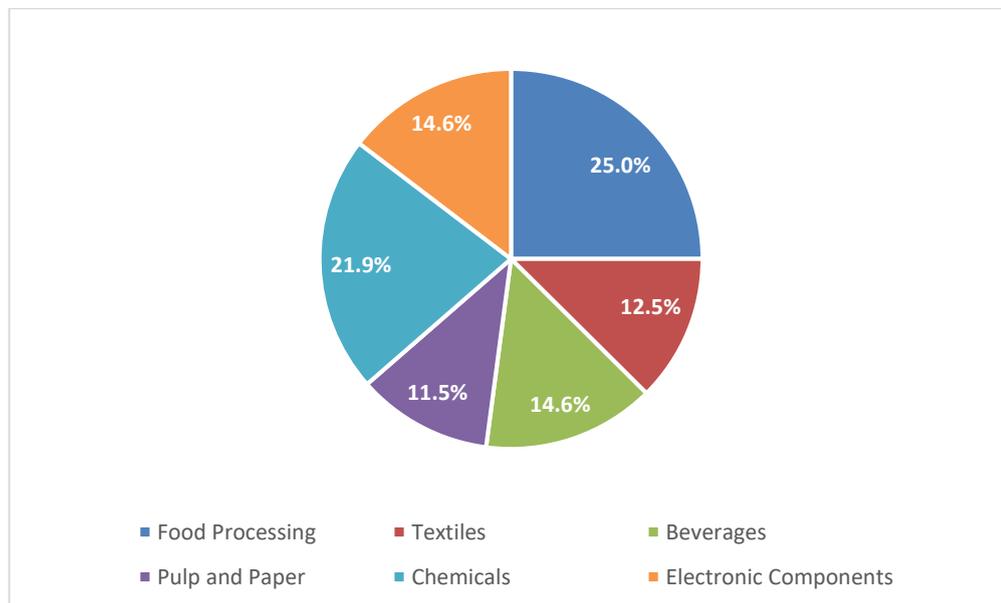


Figure 10. Distribution of surveyed enterprises by business sector

III.4.1. Characteristics of Enterprises and Operating Context

The survey results on the type of enterprises are presented in Figure 11 show that 40.6% of

participating enterprises are limited liability companies, 35.4% are joint stock companies, 22.9% are foreign direct investment (FDI) enterprises, and 1% fall under other categories such as state-owned enterprises. This structure reflects the characteristics of Vietnam’s economy, where limited liability companies dominate the markets due to their managerial flexibility and moderate capital requirements. Although FDI enterprises account for only 22.9%, they play a significant role in heavy industries and export sectors, often possessing modern management systems and the capacity to meet international standards. This distribution demonstrates that the survey successfully covered a diverse range of enterprises, from small local firms to international corporations.

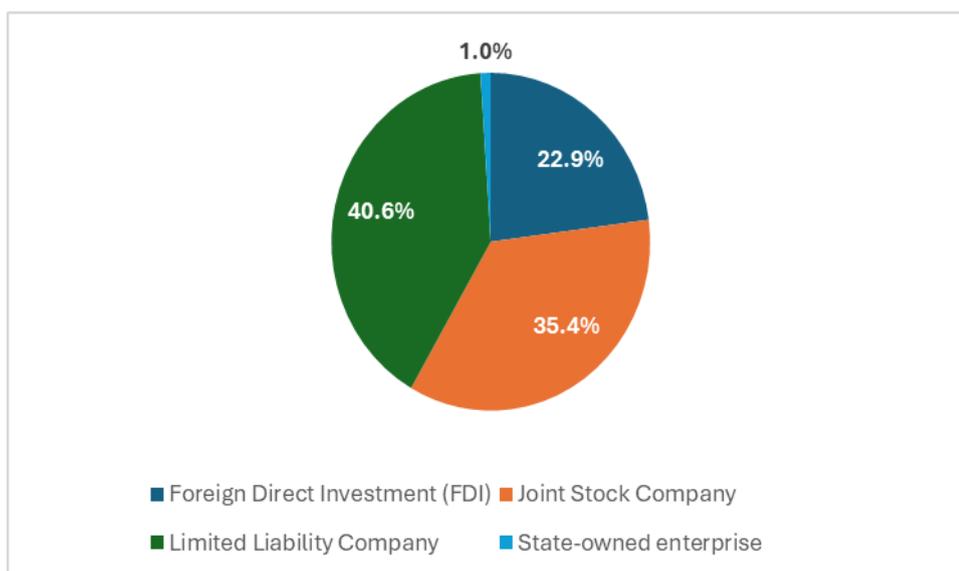


Figure 11. Type of enterprise participants

In terms of size, 7.3% (7 enterprises) are classified as small enterprises (fewer than 100 employees, annual revenue under 50 billion VND, or registered capital under 20 billion VND), 17.7% (17 enterprises) are medium-sized (fewer than 200 employees, annual revenue under 200 billion VND, or registered capital under 100 billion VND), and 75.0% (72 enterprises) are large enterprises, the highest proportion among surveyed enterprises. No micro-sized enterprises (fewer than 10 employees, annual revenue or capital under 3 billion VND) were recorded. This distribution differs from the general landscape of the Vietnamese economy, where SMEs make up the majority. However, the dominance of large enterprises in the survey aligns with the reality that this group typically contributes a significant share of total GHG emissions due to their large-scale production and high energy consumption. Therefore, controlling and reducing emissions in large enterprises is particularly important, alongside promoting energy efficiency improvements in SMEs. Figure 12 presents the size of enterprises that participated in the survey. Table 6 outline the enterprise size and description.

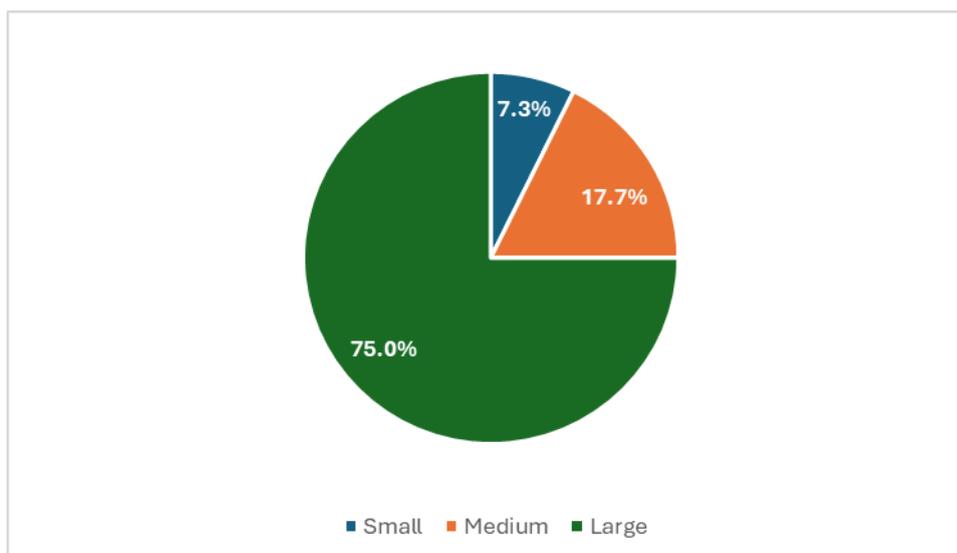


Figure 12. Size of enterprise participants

Table 6. Enterprise size and description

Size	Description
Micro	Fewer than 10 employees; annual revenue or capital under 3 billion VND
Small	Fewer than 100 employees; annual revenue under 50 billion VND; or capital under 20 billion VND
Medium	Fewer than 200 employees; annual revenue under 200 billion VND; or capital under 100 billion VND
Large	Enterprises with the highest proportion among surveyed enterprises

A sector-by-sector breakdown reveals that among large enterprises, the food processing industry holds the highest share at 25%, followed by the chemical industry at 19.4%. The textile and electronic component industries both account for 16.7%, while pulp and paper represent 12.5%, and the beverage industry ranks lowest at 9.7%. In the small enterprise group, the chemical sector dominates with 42.9%, followed by food processing at 28.6%. The beverage and electronic component sectors each contribute 14.3%. For medium-sized enterprises, the beverage industry leads with 35.3%, followed by food processing and chemicals at 23.5% each. Pulp and paper account for 11.8%, and electronic components have the lowest share at 5.9%. These figures highlight clear differences in the size structure across sectors and suggest that food processing and chemicals tend to have greater concentration and implementation capacity for GHG emission reduction activities. Table 7 presents the distribution of participants by sector and size category.

Table 7. Distribution of participants by sector and size category

	Large		Small		Medium	
	Number of enterprises	Proportion (%)	Number of enterprises	Proportion (%)	Number of enterprises	Proportion (%)
Food Processing	18	25.0	2	28.6	4	23.5

	Large		Small		Medium	
	Number of enterprises	Proportion (%)	Number of enterprises	Proportion (%)	Number of enterprises	Proportion (%)
Chemicals	14	19.4	3	42.9	4	23.5
Electronic Components	12	16.7	1	14.3	1	5.9
Textiles	12	16.7				
Pulp and Paper	9	12.5			2	11.8
Beverages	7	9.7	1	14.3	6	35.3

A notable highlight from the survey is the clear market orientation of participating enterprises.: 59.4% serve both domestic and export markets, 20.8% focus exclusively on exports, and 19.8% serve only the domestic market. Figure 13 shows the target market of enterprises. This distribution reflects the growing trend among Vietnamese enterprises to diversify sales channels and enhance product value by simultaneously accessing both markets. This approach not only increases business flexibility but also helps stabilize output amid global market fluctuations.

Export volumes among enterprises reveal a significant disparity in operational scale, ranging from companies that do not engage in export to those achieving very large output levels, over 300,000 tons of products per year. Some standout figures include 319,000 tons of fertilizers and related products per year, 70 million electronic components annually, and 150 million cans and 650 million lids each year. Export activity is recorded across various industries such as food and beverage, chemicals, textiles, and other industrial products, demonstrating the broad potential and diverse production structure of Vietnam’s export economy.

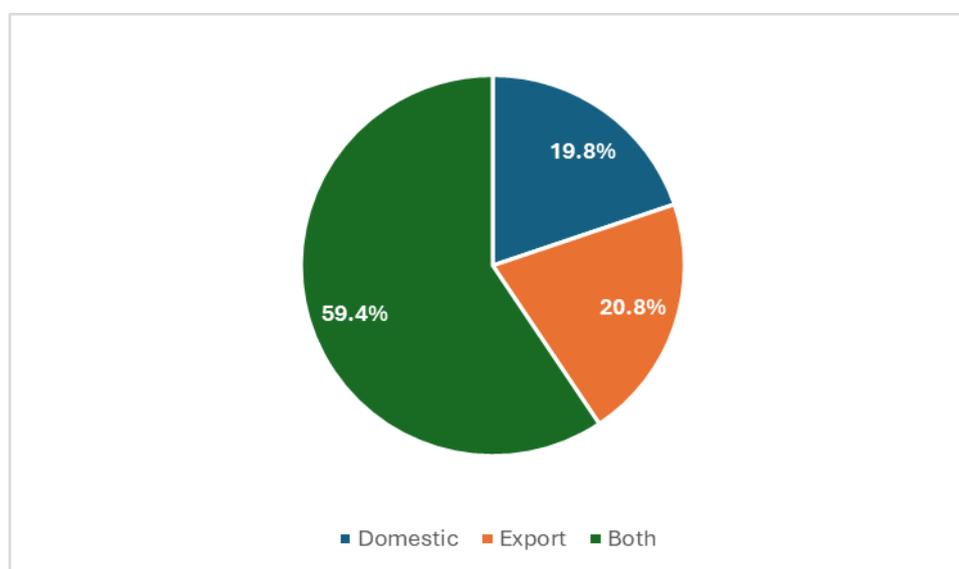


Figure 13. Target markets of the enterprises

Regarding energy management and GHG emissions, the majority of surveyed enterprises fall within the scope of current environmental regulations, as shown in Figure 14. Specifically, 62.5% of

enterprises are simultaneously listed as key energy-consuming establishments under Decision No. 1011/QD-TTg and as facilities required to conduct GHG inventories under Decision No. 13/2024/QD-TTg. Additionally, 10.4% of enterprises are only included in the key energy-consuming list, while 27.1% appear only in the GHG inventory list. This demonstrates a strong correlation between high energy consumption and emissions monitoring obligations, while also reflecting the expanding coverage of environmental policies across the business sector, a positive signal for the sustainable development roadmap.

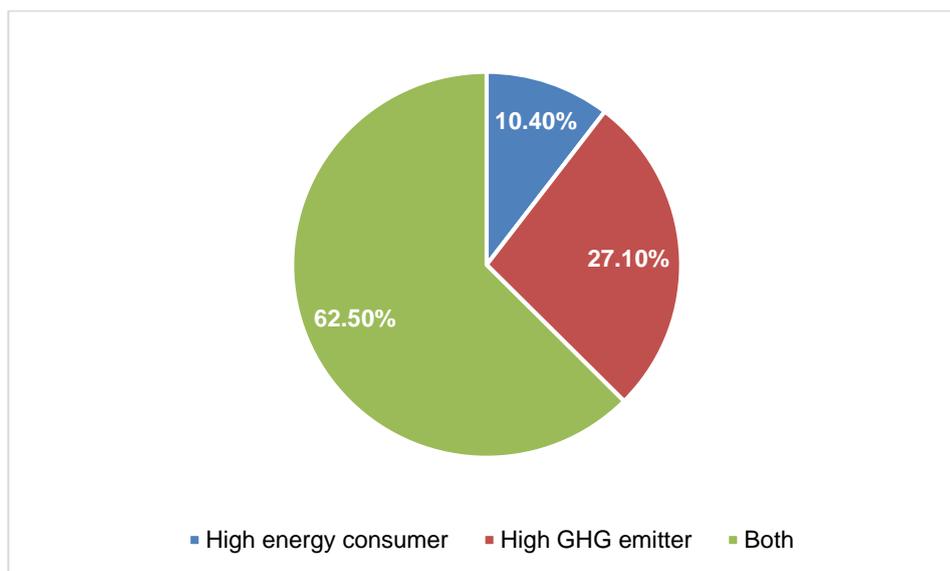


Figure 14. Enterprises subject to legal regulations

III.4.2. Awareness of Climate Change and Related Concepts

The survey reveals that most enterprises already possess a certain level of awareness regarding national climate change policies, as shown in Figure 15. Specifically, 99% of enterprises reported having heard about Vietnam’s commitments and strategic directions, with 76% being aware of the net-zero emissions target by 2050, one of the country’s most significant declarations made at COP26. Additionally, 90.6% of enterprises are aware of the annual GHG inventory requirement, indicating the relatively widespread dissemination of this regulation among the business community. However, 1% of enterprises reported having never heard of any climate change-related information, highlighting an ongoing communication gap, especially in areas with limited access to official information sources. Moreover, 63.5% of enterprises have started engaging with emerging trends such as the circular economy, green economy, and digital transformation, key pillars that are gradually shaping the path toward sustainable development.

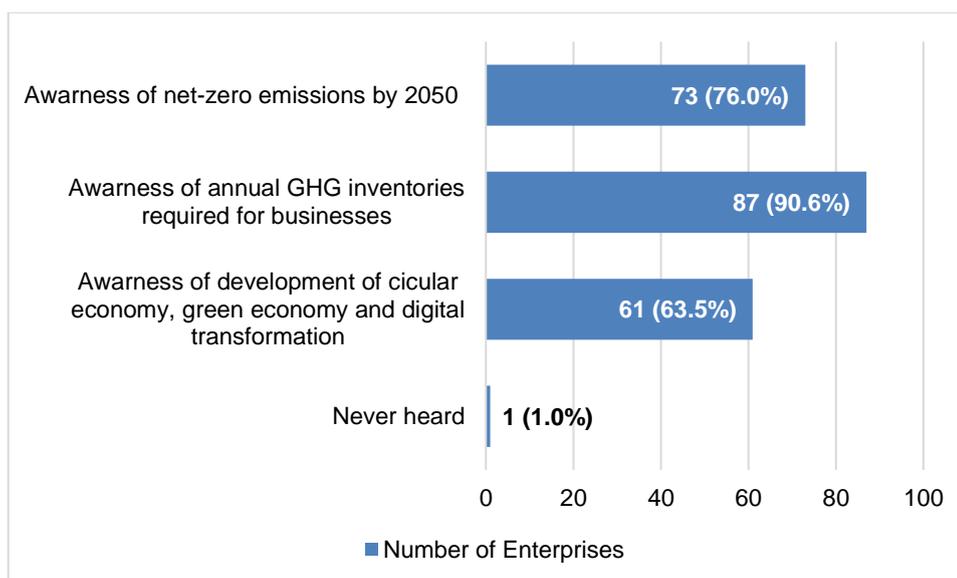


Figure 15. Enterprises' awareness on national climate change policies

Alongside general policy awareness, the level of understanding among enterprises regarding technical climate-related concepts shows a clear degree of variation. Table 8 presents the level of enterprise understanding over the climate change-related concepts. Regarding international standards and tools for emissions measurement, enterprise exposure is still relatively modest.

About 58.3% of enterprises are familiar with the term “carbon footprint”, the total amount of greenhouse gases emitted throughout a product’s life cycle. Meanwhile, 61.5% understand “carbon labeling” as a tool for transparently communicating emissions information to consumers. Notably, familiarity with the concept of GHG inventory reaches 97.9%, indicating that this activity has become widespread due to clear legal mandates.

However, awareness of more advanced concepts remains limited: only 64.6% of enterprises are aware of the carbon market, and just 27.1% are familiar with the CBAM, a new EU policy that could significantly impact Vietnamese exports in the future.

Regarding international standards and tools for emissions measurement, enterprise exposure is still relatively modest. Around 45.8% have heard of widely used standards such as ISO 14067, PAS 2050, and the GHG Protocol, which are essential technical guidelines for quantifying emissions. Additionally, 31.3% of enterprises are aware of LCA methods, while 37.5% are familiar with ESG standards and strategies. However, 2.1% of enterprises have never been exposed to any of these concepts, highlighting a considerable knowledge gap, especially as global markets increasingly demand transparency and standardization in emissions reporting.

Table 8. Enterprises' awareness on key of climate change concepts

	Number of enterprises	Proportion (%)
GHG Inventory	94	97.9

	Number of enterprises	Proportion (%)
Carbon Market	62	64.6
Carbon Labelling	59	61.5
Carbon Footprint	56	58.3
Emission standards and certifications (ISO 14067, PAS 2050, GHG Protocol, etc.)	44	45.8
ESG standards and strategies in the enterprise	36	37.5
LCA	30	31.3
CBAM	26	27.1
Never heard	2	2.1

The sources through which enterprises learn about concepts like carbon footprint and carbon labelling also reflect the connection between policy and business practice. A majority of enterprises (51%) reported receiving information through government plans and policies. Additionally, 30.2% accessed this knowledge via their parent companies or customers, 25% from certification bodies, and 13.5% through publications issued by industry associations. Other sources included industry standards, the media, technical workshops, internal company documents, or discussions with neighboring enterprises (8.3%). However, a notable concern is that up to 25% of enterprises indicated they had never encountered any information about these concepts, underscoring an urgent need to expand communication channels and provide professional training to strengthen the private sector's capacity for adaptation and transformation. Figure 16 depicts the medium of awareness of Information on carbon footprint or carbon labeling for enterprises.

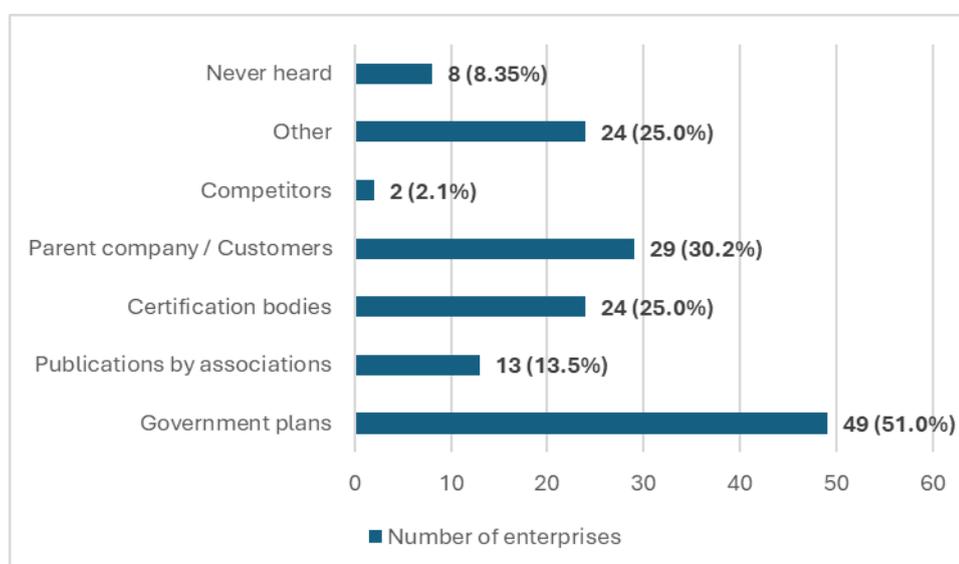


Figure 16. Medium of awareness for enterprises

III.4.3. Level of Implementation of GHG Inventory and Carbon Labelling

The survey results indicate that the process of GHG inventory and carbon labelling has started to take root in the operations of a significant portion of domestic enterprises and as shown in Figure 17. Specifically, 43.8% of enterprises reported that their company or products are subject to requirements related to emission assessments or carbon labeling certification. Meanwhile, 46.9% stated that they are not currently bound by such requirements, and 9.4% responded with other answers, mostly referring to companies that have begun GHG inventories under Decree No. 06/2022/ND-CP or Decision No. 13/2024/QD-TTg but have not yet implemented carbon labeling.

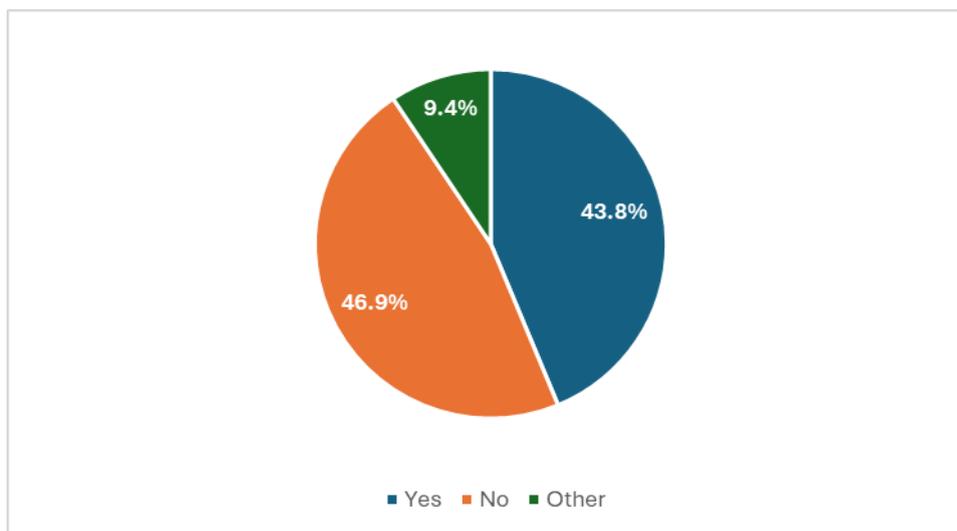


Figure 17. Enterprises practicing emission assessment

Figure 18 presents the enterprises that reported implementing carbon labelling or being aware of related requirements. Some enterprises choose to follow international standards, with the most common being those of the International Organization for Standardization (ISO), cited by 24.1%, followed by the GHG Protocol at 22.4%. Only a few enterprises apply methods such as LCA (5.2%) or PAS standards of the British Standards Institution (3.4%). Additionally, 12.1% of enterprises selected "Other," with some specifying that they are conducting GHG inventories in accordance with national regulations, such as LEP 2020, Decree No. 06/2022/ND-CP, or Decision No. 13/2024/QD-TTg. This reflects the reality that Vietnam currently lacks a unified legal framework and detailed guidance on carbon labeling, and that most enterprises are still in the exploratory phase or have only reached the stage of emission inventory without fully standardizing carbon labeling practices.

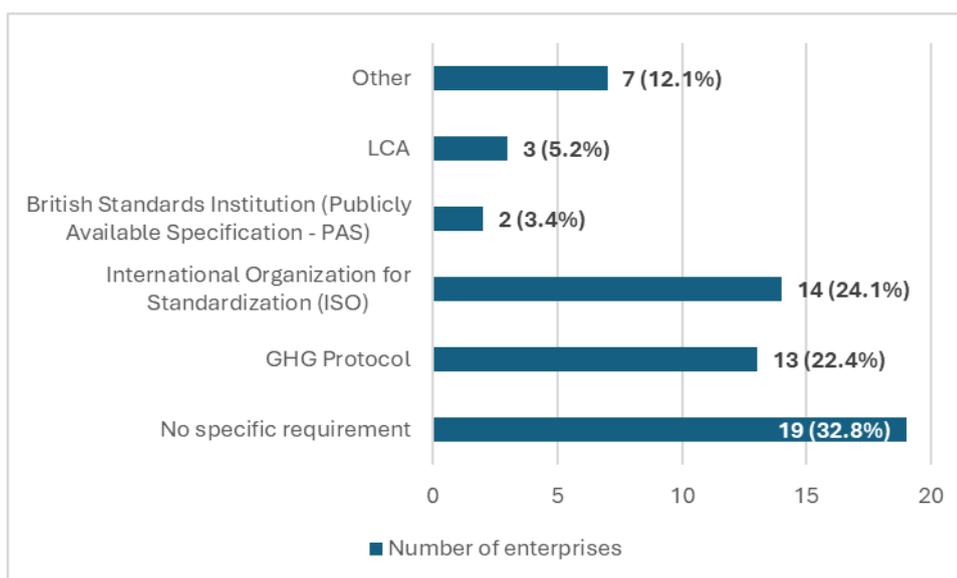


Figure 18. Carbon labelling standards followed by enterprises

The motivations driving enterprises to conduct GHG inventories and determine their carbon footprint are highly diverse and go beyond mere legal obligations. This marks a positive shift in mindset from "compliance-driven" to "initiative-based" action. Among the enterprises that have implemented these activities, 34.4% do so to comply with government regulations, while 31.3% are guided by internal commitments to Corporate Social Responsibility (CSR), demonstrating proactive engagement in sustainable development strategies. Additionally, customer and international supply chain requirements play a significant role, with 18.8% aiming to access new markets and 14.6% complying with requests from parent companies or adhering to international industry standards. Notably, 22.9% of enterprises view this effort as a tool for reducing operational costs, highlighting the growing connection between environmental performance and economic efficiency in corporate management. This marks a positive shift in mindset from "compliance-driven" to "initiative-based" action. Table 9 outlines the need for company's carbon footprint or GHG emissions.

Table 9. Need for company's carbon footprint or GHG emissions

	Number of enterprises	Proportion (%)
Government requirements	33	34.4
Corporate Social Responsibility (CSR)	30	31.3
Business cost reduction plan	22	22.9
Customer demand or entry into new markets	18	18.8
Carbon standard to which the company participates	14	14.6
Parent company requirements	14	14.6
Competition with similar market players	12	12.5

	Number of enterprises	Proportion (%)
Other	2	2.1

This shift is further reflected by the extent to which environmental criteria are integrated into raw materials procurement activities and shown in Figure 19. Nearly 60% of enterprises (59.4%) reported that they consider the carbon footprint or GHG emissions of products when selecting raw materials, indicating a growing awareness of sustainable supply chains. However, 40.6% of enterprises still do not incorporate emissions-related factors into their supplier selection process, highlighting that the integration of environmental criteria into procurement remains in its early stages and varies across industries. This underscores the need to strengthen communication and provide technical support to promote best practices for green supply chains.

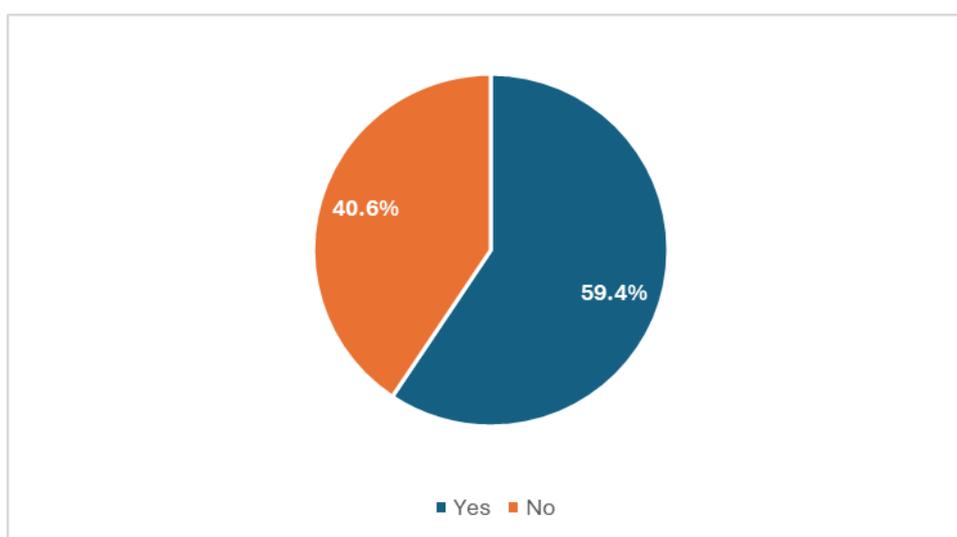


Figure 19. GHG emissions criteria in purchasing a raw material/product

The proportion of enterprises that have conducted GHG inventories or carbon footprint assessments is presented in Figure 20 and Figure 21 presents the same, but according to standards, is notably high, with 90.6% reporting they have implemented such activities in recent years. This reflects a growing commitment to compliance driven by both government regulation and market demands. Only 5.2% of enterprises have not conducted these assessments, and 4.2% were unsure.

Among the methods and standards applied, the GHG Protocol is the most widely used (42.7%), followed by ISO standards (34.4%) and LCA at 4.2%. Notably, 25% selected “Other,” with many referring to domestic legal instruments such as Circular No. 38/2023/TT-BCT, Decree No. 06/2022/ND-CP, Decision No. 2626/QD-BTNMT, or Intergovernmental Panel on Climate Change (IPCC) guidelines, indicating that GHG inventory practices in Vietnam are gradually being incorporated into national law while also aligning with international norms.

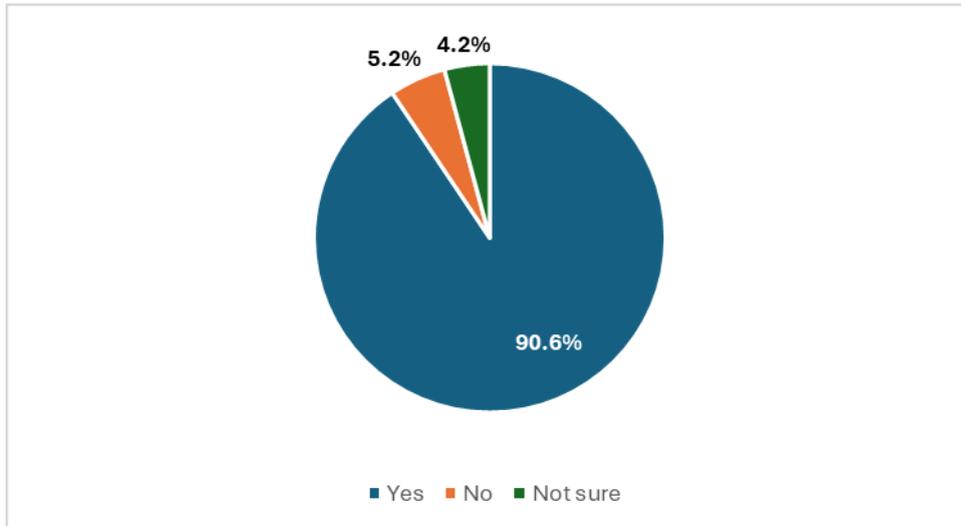


Figure 20. Enterprises conducting GHG assessments in recent years

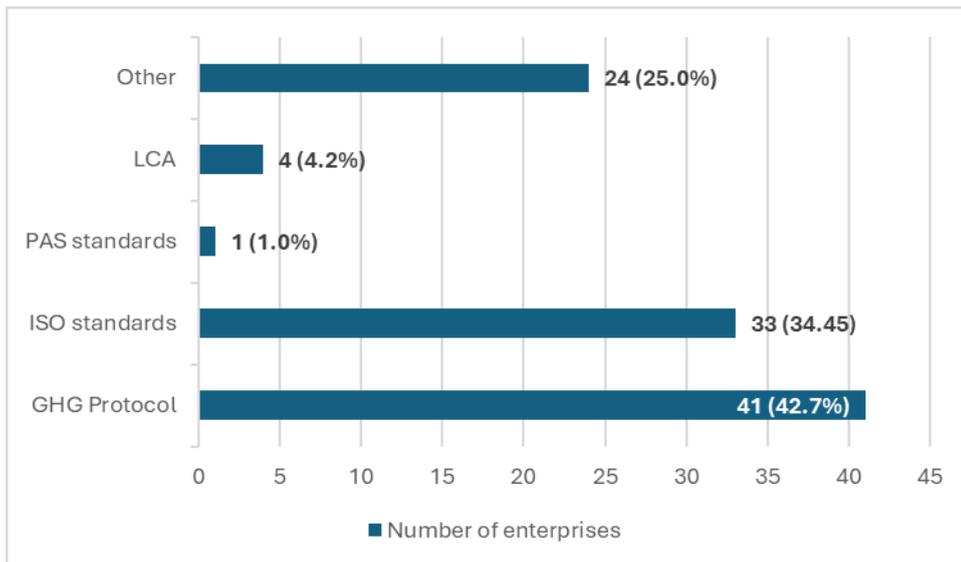


Figure 21. Proportion of enterprises conducting GHG inventories according to standards

Figure 22 presents the enterprises that have conducted GHG inventories or carbon footprint assessments in recent years., the food processing industry accounts for the highest proportion at 21.8%, followed by the chemical industry at 20.7%. Enterprises in the electronic components sector represent 16.1%, while the beverage industry contributes 14.9%, and textiles account for 13.8%. The pulp and paper sector has the lowest proportion in this group, at 12.6%. This distribution indicates that sectors with high emissions potential —such as food processing and chemicals are relatively proactive in carrying out GHG inventory activities.

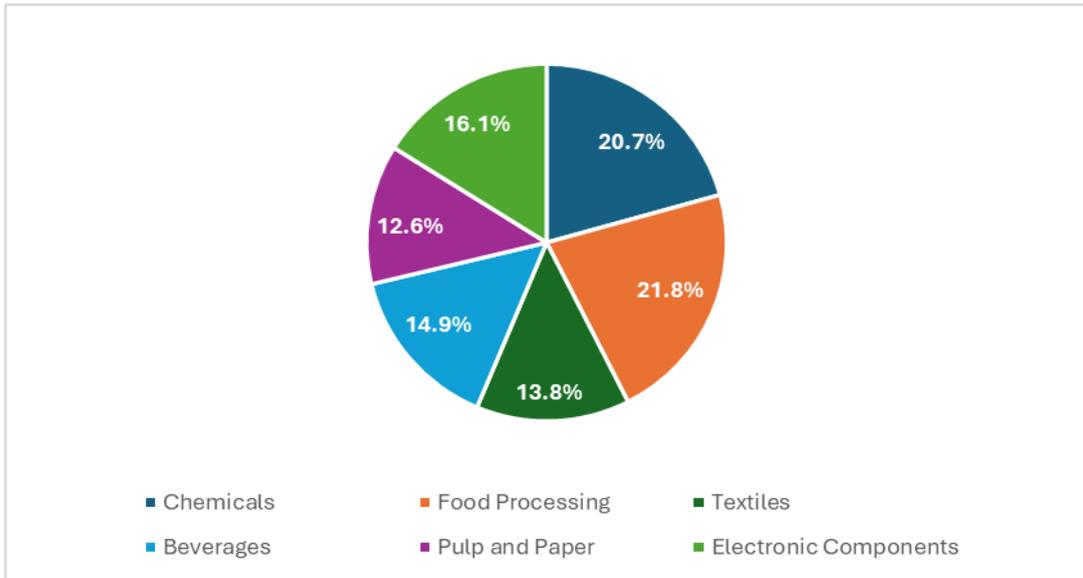


Figure 22. Sector-wise share of enterprises doing GHG assessment

Figure 23 presents the responsibility for GHG inventory within enterprises. In terms of implementation methods, the majority of enterprises (51%) chose to hire external consultants to conduct their GHG inventories. This highlights a strong demand for specialized technical support and reflects the current limitations in internal capacity. Meanwhile, 27.1% of enterprises assigned the task to their internal environmental departments, and 7.3% delegated it to technical departments. This highlights a strong demand for specialized technical support and reflects the current limitations in internal capacity. A number of enterprises adopted a hybrid model, combining internal teams with external consultants to ensure both expertise and regulatory compliance. This trend indicates that internal capacity for GHG inventory is still in the development phase and will require further strengthening in the near future.

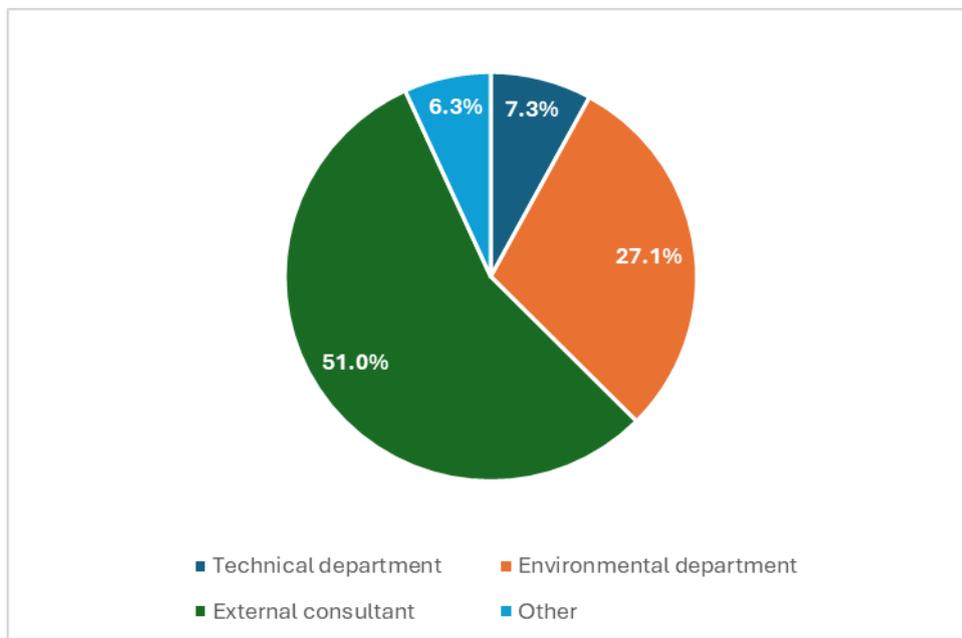


Figure 23. Responsibility for GHG inventory within enterprises

Figure 24 presents the frequency of GHG assessment within enterprises. In terms of frequency, the majority of enterprises (68.8%) conduct GHG inventories annually, demonstrating a strong commitment to maintaining these activities on a regular and continuous basis. Meanwhile, 25% of enterprises selected "Other", most of them follow a biennial cycle, which aligns with the provisions of Decree No. 06/2022/ND-CP. Some others carry out inventories based on customer requests or have not yet clearly defined a fixed cycle, indicating a degree of flexibility depending on the specific characteristics of their industry and market relationships.

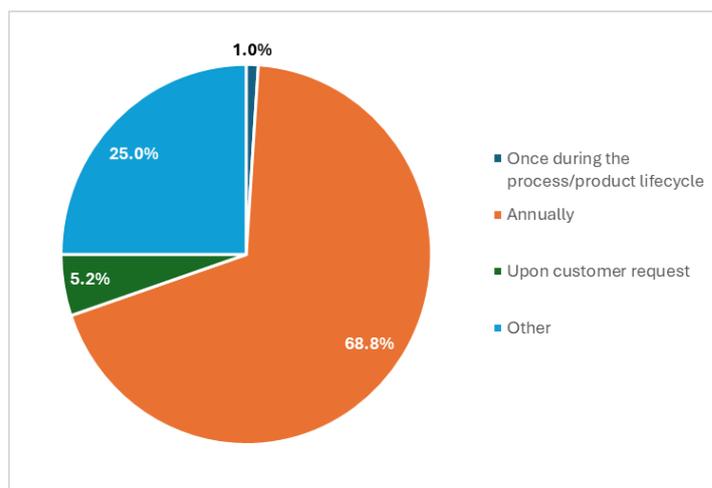


Figure 24. Frequency of GHG assessment within enterprises

Figure 25 presents the query about their upcoming carbon labelling or GHG inventory plans. When asked about their upcoming carbon footprint labeling or GHG inventory plans, 70% of enterprises reported they would carry out these activities in fiscal year 2025 (29%) or 2026 (39%), indicating compliance with government timelines and alignment with internal planning. Approximately 10% of enterprises plan to conduct inventories based on customer requests, while 7% have no specific plan. Another 15% have either already conducted inventories in 2024 or scheduled them for 2027, reflecting a shift toward regular inventory cycles in accordance with new regulations. These findings demonstrate that enterprises are gradually developing GHG inventory roadmaps aligned with both regulatory frameworks and domestic and international market expectations.

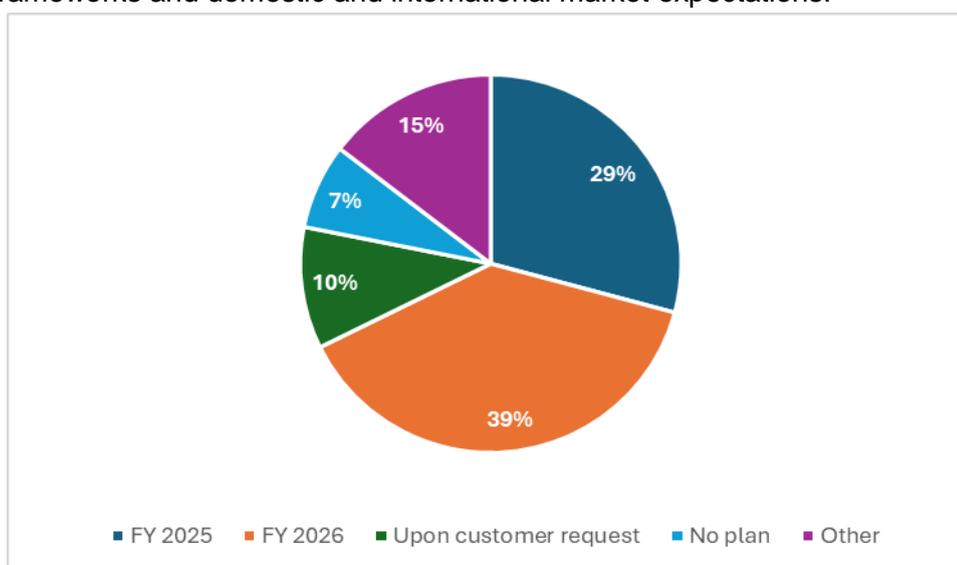


Figure 25. Enterprises' plans or GHG inventory or assessment

III.4.4. Current Status of ESG Reporting

BOX 1: ESG reporting is highly relevant to carbon labelling as both frameworks aim to enhance transparency and accountability regarding a company's environmental impact. ESG reporting provides a comprehensive overview of an organization's sustainability practices, including its carbon emissions, resource usage, and overall environmental footprint. By integrating carbon labelling into ESG frameworks, companies can better communicate their sustainability efforts to stakeholders, align with regulatory expectations, and improve their competitive edge in the market²⁴²⁵.

Carbon labelling is a tool that enhances transparency regarding the greenhouse gas (GHG) emissions associated with a product, thereby promoting sustainable production and consumption. It is a key component under the "Environmental" of the ESG framework. Implementing carbon labelling not only enables enterprises to measure and manage the environmental impacts of their products, but also demonstrates a commitment to sustainability, information transparency, and compliance with international supply chain requirements. As such, carbon labelling supports and complements the implementation of ESG reporting, serving as tangible evidence of a company's environmental actions. In the context of growing ESG requirements across global markets, integrating carbon labelling into ESG strategies can help businesses enhance their competitiveness and build a more sustainable brand image.

Figure 26 presents that the enterprises are practicing ESG or environmental reports. Survey results show that the majority of enterprises (70.8%) have already produced ESG or environmental reports, reflecting the growing trend of integrating ESG factors into corporate development strategies. However, some enterprises have not yet implemented such reports (8.3%) or are still in the planning stage (6.3%), indicating an uneven level of adoption. Notably, up to 14.6% of enterprises reported that they do not know what ESG is, highlighting a significant awareness and information gap, particularly among smaller companies or those operating in sectors not yet under strong sustainability reporting pressure. Figure 22 illustrates these proportions. This underscores the need to enhance the dissemination of knowledge and provide technical guidance to help enterprises progressively approach and implement ESG reporting more effectively in the near future.

²⁴ <https://assets.kpmg.com/content/dam/kpmg/xx/pdf/2020/12/the-time-has-come-executive-summary.pdf>

²⁵ <https://pubsonline.informs.org/doi/10.1287/mnsc.2014.1984>

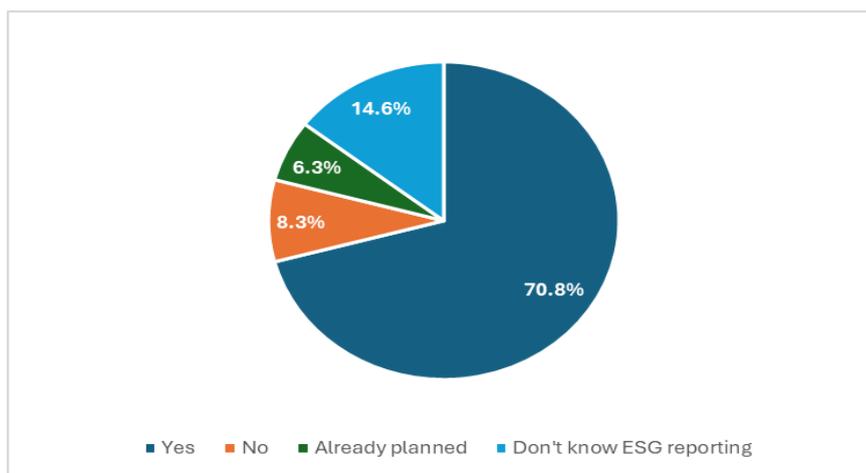


Figure 26. Enterprises practicing ESG or environmental reports

Table 10 presents the sector-wise enterprises practicing ESG or environmental reports. Among all sectors, enterprises in the chemical and food processing industries account for the highest proportions, each contributing 22.1% among enterprises that have already conducted ESG reporting. The electronic components sector follows with 17.6%, then beverages with 16.2%, textiles with 11.8%, and pulp and paper with 10.3%.

In addition, 3 enterprises in the food processing industry (50.0%), 2 in the chemical industry (33.3%), and 1 in the pulp and paper industry (16.7%) are planning to implement ESG reports in the future. Notably, 3 enterprises in the food processing sector (37.5%) and 2 in the chemical sector (25.0%) have not yet implemented ESG reports. Moreover, 4 enterprises in the textile industry (28.6%), 3 in food processing (21.4%), and 2 in pulp and paper (14.3%) reported being unfamiliar with the concept of ESG reporting.

These figures highlight significant differences in both awareness and implementation of ESG reporting across industries. Sectors with stronger international supply chain requirements, such as chemicals, food processing, and electronics, are leading in ESG adoption. In contrast, other industries still need capacity building and better access to information in order to gradually adopt this sustainable management tool.

Table 10. Sector-wise enterprises practicing ESG or environmental reports

	Yes		Already planned		No		Don't know ESG reporting	
	Number	Proportion (%)	Number	Proportion (%)	Number	Proportion (%)	Number	Proportion (%)
Chemicals	15	22.1	2	33.3	2	25.0	2	14.3
Food Processing	15	22.1	3	50.0	3	37.5	3	21.4
Electronic Components	12	17.6			1	12.5	1	7.1
Beverages	11	16.2			1	12.5	2	14.3
Textiles	8	11.8					4	28.6

	Yes		Already planned		No		Don't know ESG reporting	
	Number	Proportion (%)	Number	Proportion (%)	Number	Proportion (%)	Number	Proportion (%)
Pulp and Paper	7	10.3	1	16.7	1	12.5	2	14.3

The proportion of enterprises that have organized projects, programs, or events related to carbon footprint assessment and climate change remains very low, as shown in Figure 27.

Survey results show that the proportion of enterprises that have organized projects, programs, or events related to carbon footprint assessment and climate change remains very low. Specifically, only 13 enterprises (equivalent to 13.5%) confirmed having organized such activities, while the vast majority (86.5%) have never done so.

Among the enterprises that have implemented such initiatives, activities varied and included: conducting GHG inventories in accordance with legal regulations, organizing ISO 14067 training sessions, performing carbon tracing and verification, purchasing carbon credits, developing GHG mitigation plans, and announcing sustainability targets such as achieving a net-zero target by 2035. Some enterprises also implemented carbon footprint programs based on their parent corporation’s plans. Although the number is still modest, these activities reflect the initial proactive steps of some enterprises in adapting to emission reduction trends and green transformation.

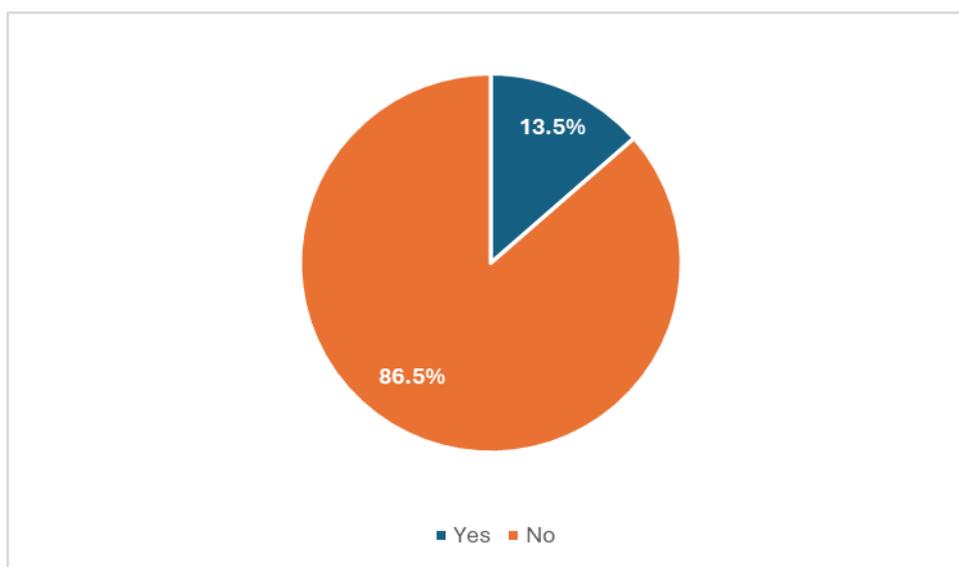


Figure 27. Enterprises that have organized GHG related events/activities

III.4.5. Opportunities, Barriers, and GHG Emission Reduction Targets

Figure 28 shows that the enterprises are still in the stage of exploring and evaluating the impact of carbon neutrality commitments and ESG requirements on their production and business activities. Survey results indicate that most enterprises are still in the stage of exploring and evaluating the impact of carbon neutrality commitments and ESG requirements on their production and business

activities. Specifically, 58.3% of enterprises acknowledged that they need more time to research in order to clearly identify the opportunities or challenges arising from these trends. However, 35.4% of enterprises already see this as an opportunity to transition toward sustainable development, reflecting a positive attitude among a segment of enterprises in response to the pressure to transform. Conversely, only 5.2% believe that carbon neutrality does not affect their business, and 1% admitted that they have not looked into the issue in detail. These figures suggest that ESG and carbon neutrality have begun to gain attention in business strategies, although the level of understanding and engagement remains uneven.

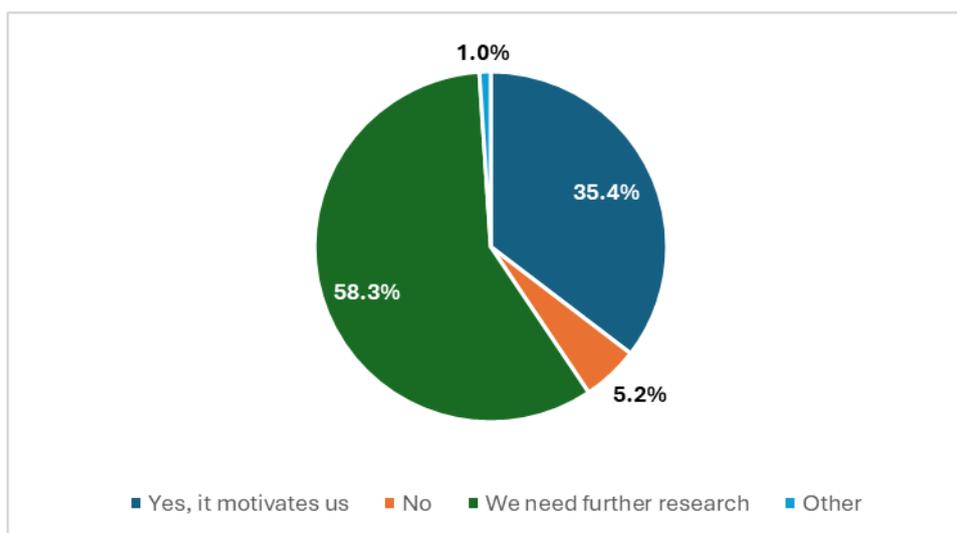


Figure 28. Perceptions over GHG assessment enabling business operations

Figure 29 presents the status of GHG assessment targets in enterprises. Along with improving awareness, many enterprises have proactively established GHG emission reduction roadmaps. Specifically, 68.8% of enterprises reported having developed both quantitative targets and reduction plans, demonstrating a clear commitment and specific direction in environmental activities. Additionally, 13.5% of enterprises have set targets but have not yet formulated concrete plans, while 10.4% have plans without clearly defined targets. A smaller proportion (5.2%) reported having neither targets nor plans, and 2.1% are not familiar with the concept. These results show that while emission reduction is widely recognized, there remains a significant gap in readiness and implementation capacity among enterprises.

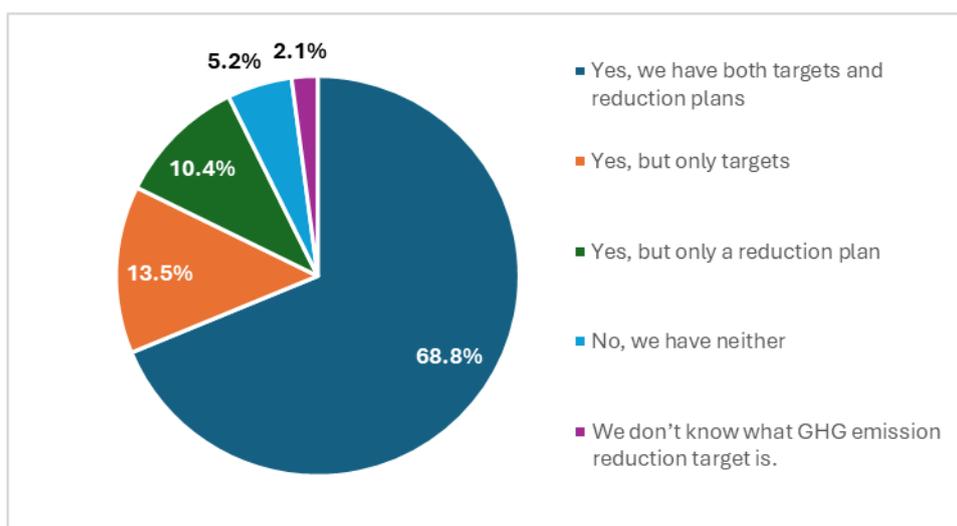


Figure 29. Status of GHG assessment targets in enterprises

When analyzing the motivations that drive enterprises to set emission reduction targets, it becomes evident that social values and brand image play a prominent role. Table 11 outlines the motivation for enterprises for GHG reduction targets and plans. “Interest in a green environment” was the most frequently selected reason, with 88.5% of enterprises citing it as the main motivation, highlighting that environmental responsibility is becoming a core value in modern business management. This is followed by the desire to “enhance company image” (82.3%) and “improve employee knowledge and perspectives” (61.5%), reflecting efforts to elevate brand reputation and build a corporate culture aligned with sustainable development. Economic benefits such as “enhancing product value” (58.3%), “reducing production costs” (52.1%), and “increasing net profit” (22.9%) were also mentioned, though to a lesser extent. Additionally, some enterprises (5.2%) referred to motivation stemming from regulatory compliance. These findings suggest that beyond commercial goals, enterprises increasingly view emission reduction as an integral part of their long-term strategy for social and environmental benefit.

Table 11. Motivation for enterprises for GHG reduction targets and plans

	Number of enterprises	Proportion (%)
Enhance company image	79	82.3
Interest in green environment	85	88.5
Improve employee knowledge and perspectives	59	61.5
Enhance product value to the target customer group	56	58.3
Reduce production costs (mainly by saving resources)	50	52.1
Make employees proud of the organization and/or satisfied with their working environment	49	51.0
Influence customer retention	31	32.3
Reduce production errors and waste rates	26	27.1

	Number of enterprises	Proportion (%)
Increase market share	24	25.0
Increase net profit	22	22.9
Shorten production time	15	15.6

Figure 30 shows that the enterprises having clear emission reduction targets, the process of publicly announcing these commitments remains limited. Only 22.9% of surveyed enterprises have officially disclosed their GHG emission reduction targets and/or plans, while 27.1% have not, and up to 50% are still considering it. Common reasons for not making announcements include awaiting verification of their GHG inventory report from state agencies, lacking technical guidelines or internal data, or simply waiting for a more appropriate time, such as closer to the official disclosure deadline (before December 31, 2025). Some enterprises have already taken action but have not yet formalized them in writing, while a small enterprise does not require or plan for public disclosure. This reality highlights that the transition from awareness to concrete action still faces many challenges, requiring stronger support from authorities and better internal readiness from enterprises to drive consistent and meaningful GHG reduction efforts.

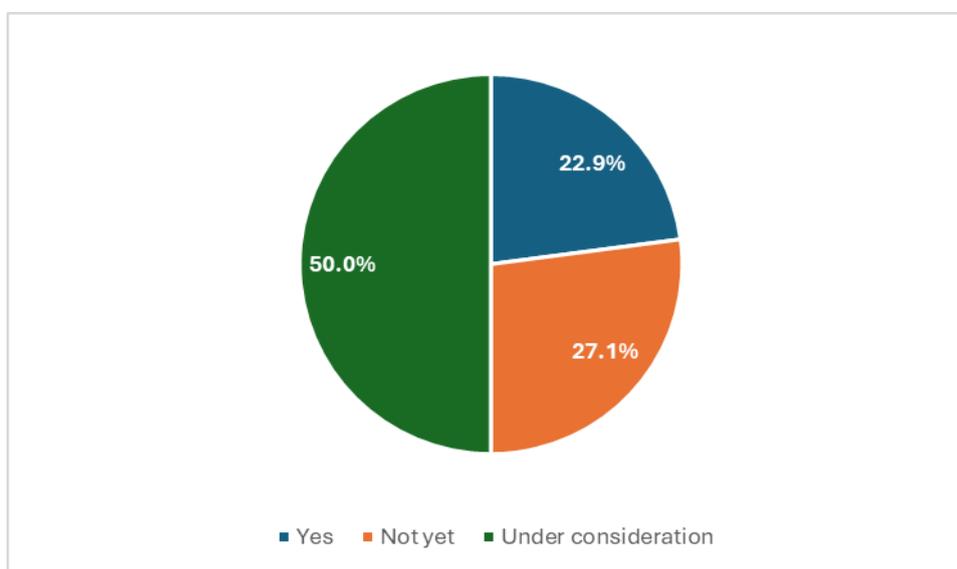


Figure 30. Public disclosure of GHG performance by enterprises

Table 12 outlines the sector-wise public disclosure of GHG performance by enterprises. Among the surveyed enterprises, only 22 companies have officially announced their GHG reduction plans, accounting for 22.9% of total responses. The electronic components sector stands out with the highest rate of disclosure (31.8%), followed by pulp and paper (22.7%), suggesting that these sectors tend to be more proactive—possibly due to pressure from export markets or global supply chains.

Notably, 48 enterprises (47.9%) are currently developing their emission reduction plans. Among them, food processing enterprises make up the largest portion (33.3%), followed by chemicals (22.9%) and textiles (16.7%). This indicates significant potential for transition in these industries, especially if provided with proper technical, policy, or financial support. However, 26 enterprises

(27.1%) have not yet initiated or have no intention of developing emission reduction plans. The beverage industry accounts for the highest share in this group (26.9%), equal to food processing and chemicals (both 23.1%).

The slow response from a portion of enterprises highlights the urgent need for awareness-raising and action from both enterprises and regulatory authorities to ensure the timely achievement of net-zero emission targets in the future.

Table 12. Sector-wise public disclosure of GHG performance by enterprises

	Not yet		Yes		Under consideration	
	Number of enterprises	Proportion (%)	Number of enterprises	Proportion (%)	Number of enterprises	Proportion (%)
Beverages	7	26.9	2	9.1	5	10.4
Chemicals	6	23.1	4	18.2	11	22.9
Food Processing	6	23.1	2	9.1	16	33.3
Pulp and Paper	3	11.5	5	22.7	3	6.3
Textiles	2	7.7	2	9.1	8	16.7
Electronic Components	2	7.7	7	31.8	5	10.4

III.4.6. Perspectives on Carbon Labelling and Scope of Control

Figure 31 shows that most enterprises have clearly recognized that GHG inventory and carbon labelling will gradually become unavoidable requirements in the future. Survey results show that most enterprises have clearly recognized that GHG inventory and carbon labeling will gradually become unavoidable requirements in the future. Among the 96 responding enterprises, 39.6% believe these will be mandatory regulations, while 46.9% think they will start as voluntary initiatives but eventually become compulsory. Only 11.5% believe they will remain voluntary. These responses indicate that the business community is gradually adapting to policy shifts and showing a readiness to align operations toward greater transparency and sustainability.

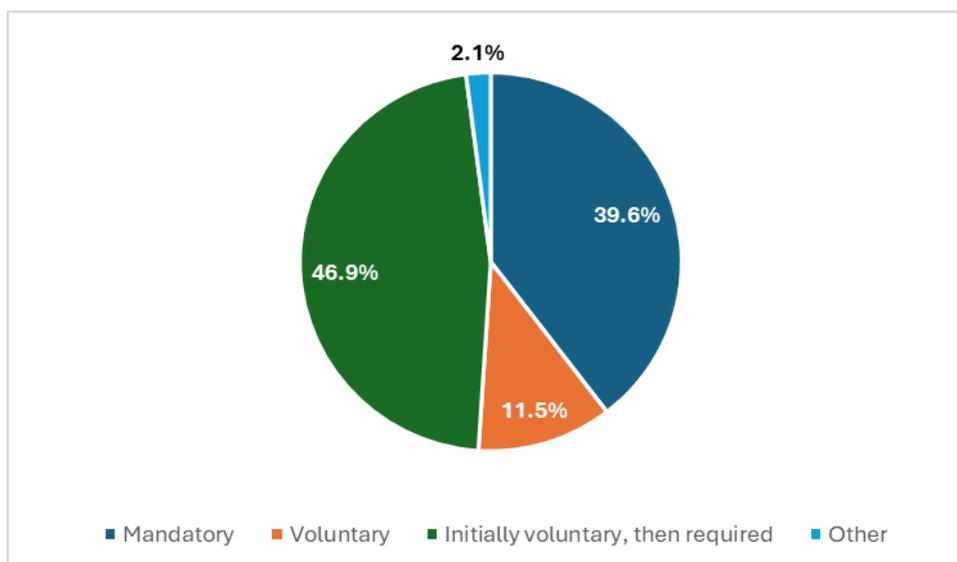


Figure 31. Enterprises' opinions on future GHG compliance

In line with the growing awareness that carbon labelling may become mandatory, enterprises also expressed diverse views on what information should be included on such labels, are shown in Figure 32. Notably, 46.9% of enterprises wanted carbon labels to present comprehensive information on the number of emissions per product unit, a performance rating based on emissions, and the level of carbon footprint reduction. Meanwhile, 36.5% prioritized the specific GHG emissions per unit, considering it the most crucial element. This highlights an urgent need for detailed guidance and standardized criteria to ensure consistency and effectiveness in applying carbon labels in practice.

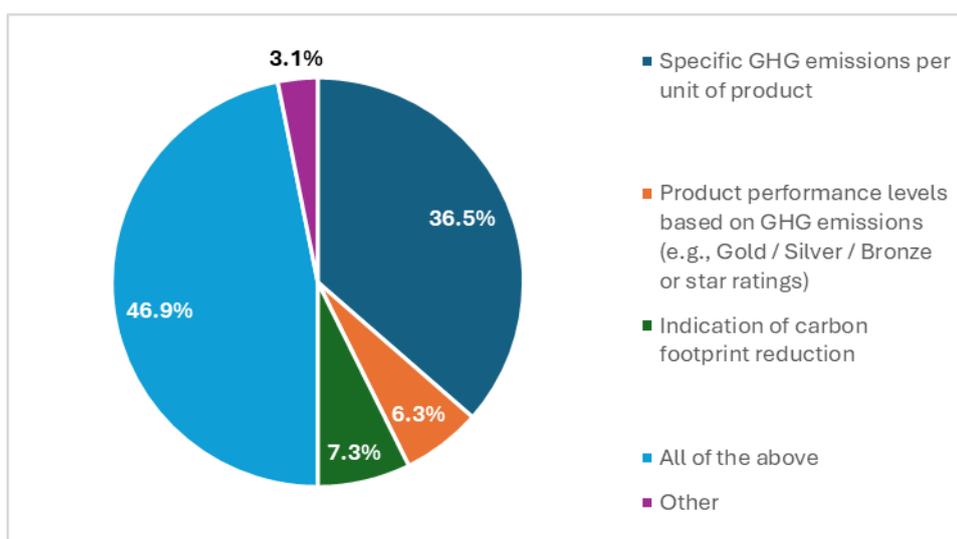


Figure 32. Enterprises' opinions on information on carbon labels

Figure 33 shows that the enterprises' understanding of the scope of GHG inventory and emissions control is also improving, with a growing trend toward a more comprehensive value chain approach. Specifically, 82.3% of enterprises clearly identified emissions from internal production processes (Scope 1 and 2) as a primary focus for control. At the same time, 58.3% of enterprises have paid attention to emissions from upstream raw materials, and 56.3% considered emissions generated during the use phase of products by end users (Scope 3). However, 5.2% of enterprises reported

difficulties in collecting data for Scope 3, emphasizing the need for technical support tools and standardized assessment procedures across the full value chain.

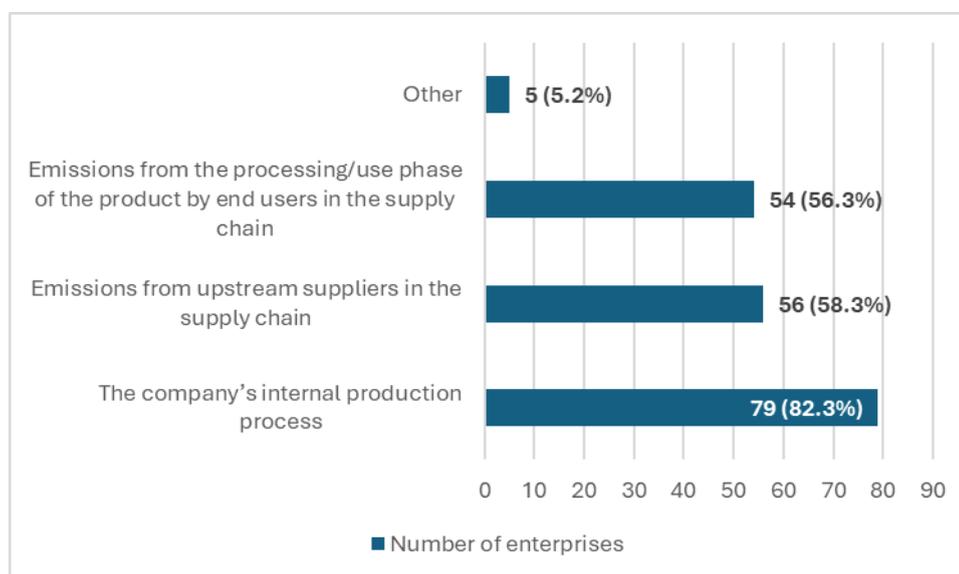


Figure 33. Enterprises' opinions on control of GHG assessment boundary

As awareness has become clearer, many enterprises have begun taking concrete actions to reduce GHG emissions, are presented in Figure 34. Survey data shows that the majority of enterprises have either taken action or expressed specific intentions to implement GHG emission reduction measures. 42.7% of enterprises reported that they have already developed action plans, and 34.4% are ready to begin implementation immediately. Only 2.1% confirmed they have no plans to implement such measures, while 20.8% are considering them in the future. This reflects a growing level of awareness and readiness for action on emission reduction within the business community.

The most common GHG reduction measures are on reducing electricity and fossil fuels consumption through replacing low-efficiency equipment, optimizing production processes, and conducting energy audits. Many enterprises have already implemented or are in the process of implementing rooftop solar projects, purchasing renewable electricity, or switching fuel sources from oil/coal to biomass or purchased steam. Other frequently adopted solutions include converting forklifts from diesel to electric, tree planting, and managing internal energy usage.

Some enterprises are also taking the lead in developing long-term emission reduction roadmaps, applying smart factory models, and promoting digital transformation to optimize operations and improve emissions control. However, some enterprises are still in the early stages of this journey, mainly limited to conducting GHG inventories without yet having specific action plans.

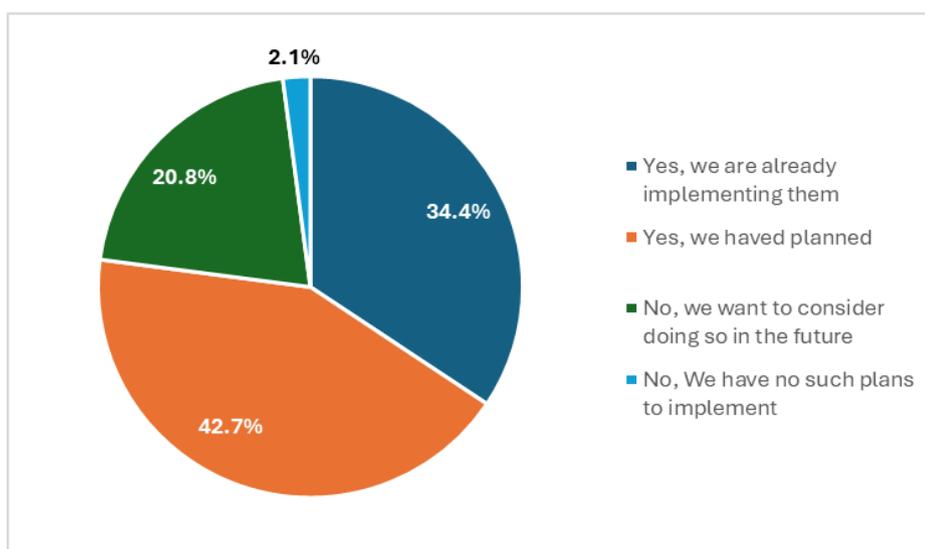


Figure 34. Proportion of enterprises with plans to implement measures or projects

Table 13 outline the sector-wise enterprises with GHG mitigation plans. Enterprises across various sectors in Vietnam are demonstrating differing levels of commitment to implementing GHG emission reduction measures or projects. Among them, the food processing and chemical industries lead in the proportion of enterprises that have already developed action plans, accounting for 26.8% and 24.4% respectively. In addition, companies in these two sectors also show relatively strong readiness to carry out emission reduction projects in the near future.

The electronic components industry shows a noteworthy trend, with 21.2% of enterprises ready to implement emission reduction measures. However, the number of enterprises with concrete plans remains limited. This suggests that the sector is in a transitional phase, requiring clearer guidance and external support to move from readiness to real action.

In contrast, sectors such as beverages, textiles, and pulp and paper show moderate levels of preparedness and readiness. Some enterprises in these sectors have developed specific plans, but most are still in the consideration phase or have only expressed intent. Notably, a small proportion of enterprises in the beverage and chemical industries indicated they currently have no plans at all, reflecting a segment of enterprises that are either not yet driven by policy pressure or have not perceived clear benefits from emission reduction efforts.

Table 13. Sector-wise enterprises with GHG mitigation plans

	Yes, we have planned		Yes, we are already implementing them		No, we have no such plans to implement		No, we want to consider doing so in the future	
	Number of enterprises	Proportion (%)	Number of enterprises	Proportion (%)	Number of enterprises	Proportion (%)	Number of enterprises	Proportion (%)
Food Processing	11	26.8	8	24.2			5	25.0
Chemicals	10	24.4	4	12.1	1	50.0	6	30.0

	Yes, we have planned		Yes, we are already implementing them		No, we have no such plans to implement		No, we want to consider doing so in the future	
	Number of enterprises	Proportion (%)	Number of enterprises	Proportion (%)	Number of enterprises	Proportion (%)	Number of enterprises	Proportion (%)
Beverages	7	17.1	5	15.2	1	50.0	1	5.0
Textiles	5	12.2	4	12.1			3	15.0
Electronic Components	5	12.2	7	21.2			2	10.0
Pulp and Paper	3	7.3	5	15.2			3	15.0

Corresponding to the actual level of implementation, the organization of human resources for GHG inventories and carbon footprint assessments in enterprises remains quite fragmented as shown in Figure 35. Among the 96 surveyed companies, about 35.4% have assigned full-time staff to a dedicated department, while 26% have delegated the task to existing staff based on their original job responsibilities. Notably, 22.9% of enterprises have not yet assigned anyone to be responsible for this task, reflecting limited readiness in some cases. In addition, 15.6% of enterprises selected "Other", including cases where external consultants are hired, staff take on dual roles, or the company is still preparing but has yet to formalize plans.

In terms of the number of personnel currently conducting GHG inventories, the data reveals wide variation across enterprises. Many companies assign just 1–2 people, some have 3 to 5, and one company even reported involving 27 staff, indicating varying levels of investment and attention. Some enterprises have yet to allocate any specific personnel or have no clear structure in place. Furthermore, many companies confirmed internal cross-department collaboration or the use of external consultants to support the implementation of inventories and emission reduction reports. This indicates that GHG inventory efforts are still in the process of being established, with both in-house and outsourced models coexisting to meet emerging reporting requirements.

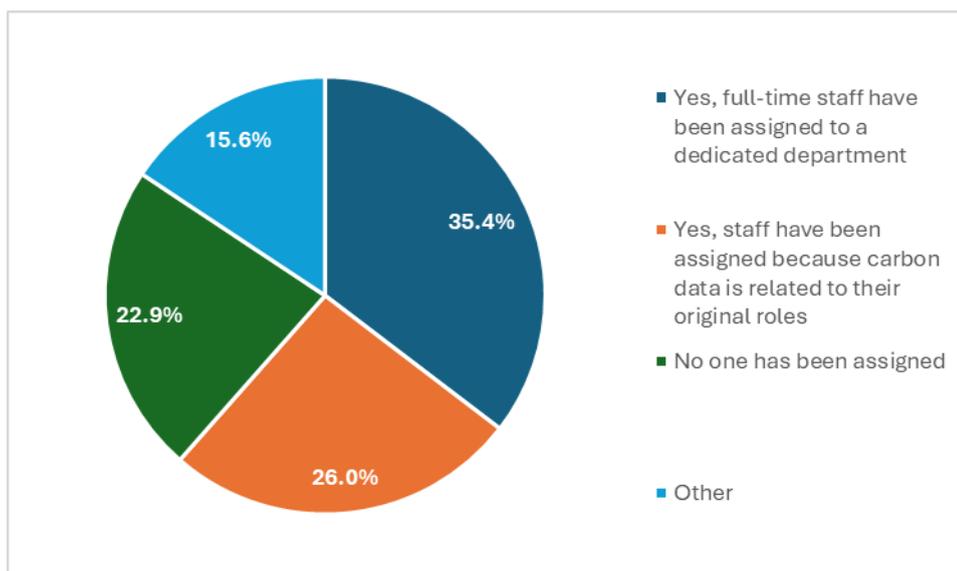


Figure 35. Enterprise's approaches on staff allocation for GHG assessment

III.4.7. Drivers, Challenges, and Support in GHG Emission Reduction

Survey data presented in Table 14 shows that enterprises are driven by various motivations in implementing GHG emission reduction actions, with social responsibility and regulatory compliance being the most influential factors. Survey data shows that enterprises are driven by various motivations in implementing GHG emission reduction actions, with social responsibility and regulatory compliance being the most influential factors. Specifically, 57.3% of enterprises completely agreed that reducing emissions contributes to the realization of NDC, and 62.5% considered it a matter of social responsibility. Additionally, over half (55.2%) agreed that emission reduction is integrated into CSR strategies and disclosed to stakeholders. These figures reflect a growing awareness among enterprises of their role in supporting national climate goals and contributing to society.

Beyond social and legal obligations, many enterprises also recognize intrinsic benefits from emission reduction. Nearly half (47.9%) fully agreed that it helps reduce operating costs, and 35.4% believed it improves medium- and long-term performance. However, external factors such as supply chain pressure or business partner demands are not yet seen as strong motivators, as the agreement level remains moderate and the "Unsure" rate is relatively high (14.6%). Similarly, initiatives from corporate headquarters or opportunities for new business have not yet generated significant influence, suggesting that current actions are still largely driven by obligation rather than long-term strategic development.

For the "Other" category, 20.8% fully agreed with additional reasons, but the "Unsure" rate reached 34.4%, with many responses lacking specific content. A few mentioned motivations such as enhancing brand reputation, improving production process control, achieving sustainable development, or raising community awareness. These insights highlight the current lack of a clear direction regarding intrinsic motivations, especially when emission reduction actions could evolve into a strategic factor for competitiveness and integration. This underlines the need to raise awareness and foster long-term strategic thinking among the business community.

Table 14. Main criteria driving enterprises to take action on GHG emission reduction²⁶

	1	2	3	4	5	Unsure	Total
It can contribute to national targets under NDC	0.0%	2.1%	12.5%	25.0%	57.3%	3.1%	100.0%
It is a social responsibility	0.0%	1.0%	7.3%	27.1%	62.5%	2.1%	100.0%
It is stated in our CSR and disclosed to stakeholders	0.0%	3.1%	21.9%	14.6%	55.2%	5.2%	100.0%
Peer pressure from other companies/sectors	1.0%	3.1%	31.3%	34.4%	15.6%	14.6%	100.0%
It can reduce business costs (e.g., energy savings)	2.1%	2.1%	13.5%	31.3%	47.9%	3.1%	100.0%
It can improve medium- and long-term performance	1.0%	3.1%	20.8%	34.4%	35.4%	5.2%	100.0%
Pressure from suppliers/business partners	3.1%	5.2%	24.0%	36.5%	16.7%	14.6%	100.0%
It can become a new business opportunity	3.1%	3.1%	27.1%	30.2%	28.1%	8.3%	100.0%
Initiatives from corporate group and/or headquarters	1.0%	4.2%	21.9%	28.1%	29.2%	15.6%	100.0%
Requirements from ministries/sectors	1.0%	2.1%	10.4%	28.1%	56.3%	2.1%	100.0%

Alongside the motivating factors, enterprises are also facing a variety of barriers in implementing GHG emission reduction actions, are shown in Table 15. The most commonly reported challenge is the lack of information on methods and/or techniques (58.3%), followed by a shortage of financial resources (51%) and limited access to policy information related to climate change (41.7%). This highlights the urgent need for technical assistance programs, knowledge dissemination, and financial instruments to support enterprises.

In addition, internal limitations such as a lack of specialized human resources (39.6%) or unclear implementation procedures (36.5%) remain major obstacles, especially for small and medium-sized enterprises. A considerable proportion also cited limited understanding of emission management (29.2%) and low prioritization of climate issues within the organization (26%) as constraints. Notably, 24% of enterprises expressed doubts about the actual effectiveness of emission reduction actions, a factor that could delay long-term investment and implementation. Beyond these common barriers, some respondents also pointed out specific challenges such as technological inconsistencies or the lack of a clear legal framework from the government, indicating a need for flexible and tailored policy approaches to support enterprises effectively.

²⁶ [5: Strongly agree, 4: Somewhat agree, 3: Neutral, 2: Somewhat disagree, 1: Strongly disagree, Unsure]

Table 15. Challenges faced by enterprises in implementing GHG emission reduction actions

	Number of enterprises	Proportion (%)
Lack of information on methods and/or techniques	56	58.3
Lack of financial resources	49	51.0
Lack of information on climate change mitigation actions	40	41.7
Lack of human resources	38	39.6
Lack of clarity on how to implement them	35	36.5
Lack of management-level understanding	28	29.2
Low prioritization of climate mitigation actions	25	26.0
Unclear of effectiveness	23	24.0
No opinion	16	16.7
Other	2	2.1

Table 16 shows that the support role of industry associations is expected to serve as a vital bridge and catalyst for encouraging enterprises to take action on emissions reduction. In this context, the support role of industry associations is expected to serve as a vital bridge and catalyst for encouraging enterprises to take action on emissions reduction. However, survey results indicate that this role remains quite limited in practice. Only 47.9% of enterprises reported that their association provided timely policy updates — the most common form of support. Other forms of assistance, such as sharing technical information (24%) or representing the voices of enterprises to government agencies (19.8%), remain modest. Only 14.6% of enterprises believed that their association played an influential role in decision-making on emission reduction, revealing a significant gap between expectations and actual performance.

This limitation is further underscored by the fact that 40.6% of enterprises had no opinion on the association’s role, and one respondent explicitly stated they had received no support at all. These findings highlight an urgent need to enhance the capacity, strengthen commitment, and establish more effective communication channels between associations and enterprises, thereby supporting a more holistic and coordinated green transition.

Table 16. Support for enterprises to implement GHG emission reduction actions

	Number of enterprises	Proportion (%)
Proactively provides timely and complete information on policies, rules, and regulations	46	47.9
No opinion	39	40.6
Shares technical trends and best practices from other companies	23	24.0

	Number of enterprises	Proportion (%)
Fully supports member companies' actions on climate change mitigation	20	20.8
Actively voices member companies' opinions to the government	19	19.8
Plays an important role in decision-making on climate mitigation actions	14	14.6
Other	1	1.0

Figure 36 presents that most enterprises expressed a strong need for support in complying with the requirements of Decree No. 06/2022/ND-CP, in relation to fulfilling the obligation of GHG emissions inventory. In relation to fulfilling the obligation of GHG emissions inventory, most enterprises expressed a strong need for support in complying with the requirements of Decree No. 06/2022/ND-CP. According to the survey, 70.8% of enterprises wanted guidelines or technical instructions, and 68.8% required training and capacity building to effectively carry out the inventory. Additionally, nearly half (43.8%) suggested the need for consulting or one-on-one support, indicating a desire for deep and continuous assistance throughout the implementation process.

Although the "Other" option accounted for only 10.4%, open responses revealed that some enterprises had proactively conducted inventories or submitted reports. However, many still expressed concerns about where to submit reports or noted that they were not ready to proceed without a mandatory requirement or a complete data system. This indicates that in addition to technical assistance, the government must also finalize reporting procedures, provide clear communication, and standardize guidance to encourage more proactive and compliant engagement from enterprises.

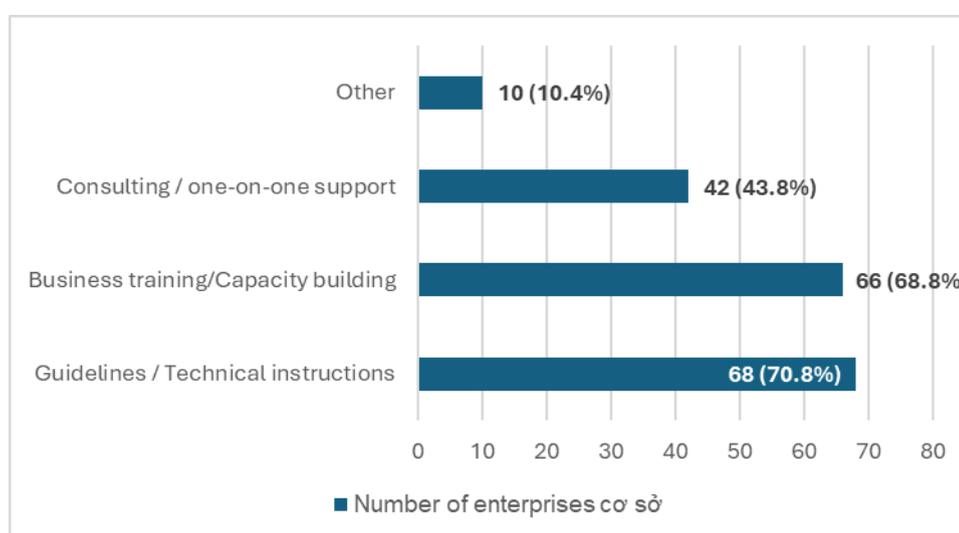


Figure 36. Support options for enterprises

Figure 37 shows that the enterprises are willing to participate in the pilot program to receive support for carbon labelling. In addition, the demand for participating in a carbon labeling program was recorded at a relatively high level, with 59.4% of enterprises expressing their willingness to join a

pilot program. This indicates a growing readiness among enterprises to adopt emission transparency tools not only to enhance brand reputation but also to meet the requirements of customers, partners, and international markets. However, 40.6% are not yet ready to participate, mainly due to uncertainty about the specific benefits or concerns over costs and technical feasibility.

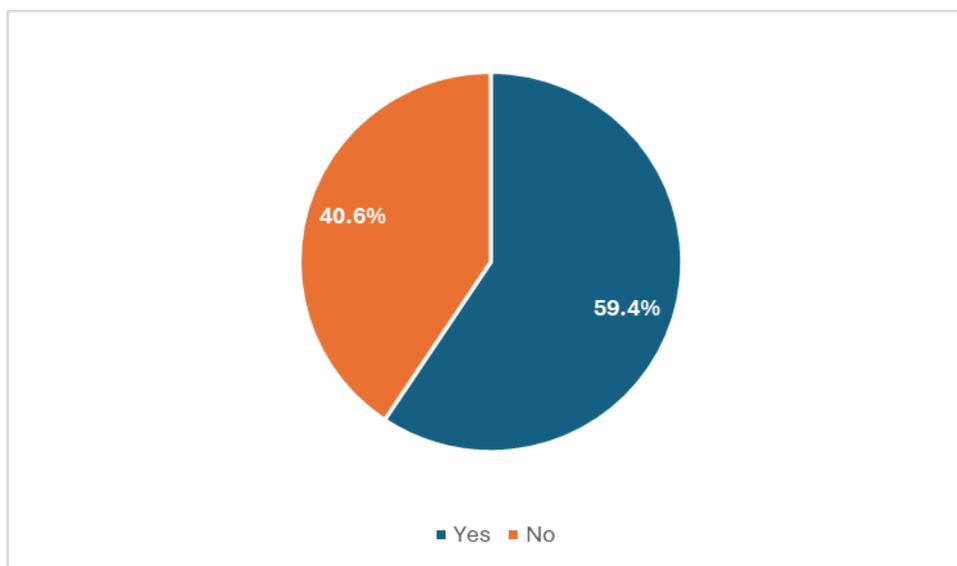


Figure 37. Enterprises' willingness in carbon labelling pilot program

Table 17 presents that of enterprises in different sectors willing to participate in the pilot program to receive support for carbon labelling. By industry, the food processing sector shows the highest level of interest, with 14 enterprises (accounting for 24.6% of the "yes" group), indicating a growing proactiveness in meeting increasing environmental requirements from both markets and consumers. The chemical industry also stands out with 12 enterprises (21.1%) expressing willingness to participate, reflecting the rising pressure to comply with international environmental standards that are becoming more common in this field.

Other sectors, such as beverages (17.5%), electronic components (15.8%), pulp and paper (10.5%), and textiles (10.5%), also recorded notable participation, highlighting the widespread adoption of green transition trends across various manufacturing industries.

On the other hand, the highest share of enterprises declining or not interested in participating is found in industries with larger production scales, such as food processing (25.6%) and chemicals (23.1%). However, this does not necessarily reflect a lack of interest; rather, it may point to practical challenges regarding resources, information access, or unclear support mechanisms that cause hesitation among some companies.

Table 17. Sector-wise enterprises' willingness in carbon labelling pilot program

	Yes		No	
	Number of enterprises	Proportion (%)	Number of enterprises	Proportion (%)
Food Processing	14	24.6	10	25.6

	Yes		No	
	Number of enterprises	Proportion (%)	Number of enterprises	Proportion (%)
Chemicals	12	21.1	9	23.1
Beverages	10	17.5	4	10.3
Electronic Components	9	15.8	5	12.8
Textiles	6	10.5	6	15.4
Pulp and Paper	6	10.5	5	12.8

III.5. Key Insights from the Survey

III.5.1. Awareness of Climate Change and Related Concepts

The survey reveals that most enterprises in Vietnam have a relatively high level of awareness about climate change and related policies, as shown in Figure 15. In particular, 76% of enterprises are well aware of national commitments such as the net-zero emissions target by 2050, and 90.6% are familiar with the annual GHG inventory requirement. However, there remains a significant information gap, with 1% of enterprises having never heard of any climate change-related content. Beyond policy awareness, enterprises' understanding of technical concepts shows clear variation. Basic terms such as GHG inventory (97.9%), carbon footprint (58.3%), and carbon labeling (61.5%) are widely recognized. In contrast, more advanced concepts, such as the carbon market (64.6%) and CBAM (27.1%), are less well known, despite their potential major impacts on export activities and future competitiveness.

Similarly, access to international standards and tools like ISO 14067, the GHG Protocol, LCA, or ESG frameworks remains limited, with only 31% to 46% of enterprises having ever heard of them. Notably, 25% of enterprises have never accessed information on concepts like carbon footprint or labeling, and 2.1% are entirely unaware of any tools or standards related to emission measurement. The main sources of information for enterprises include government policies (51%), followed by parent companies, customers, certification organizations, and industry associations.

The findings in section III show that while initial awareness has been established, there is still a strong need to enhance communication, technical training, and dissemination of support tools to improve enterprises' capacity to access, adapt to, and transition in the face of increasing demands for emission transparency in global markets.

III.5.2. Current Status of GHG Inventory and Carbon Labelling Implementation

According to the survey, a significant number of enterprises have started conducting GHG inventories and implementing carbon labelling. While GHG inventories are mandatory for facilities listed under Decision 13/2024/QD-TTg, carbon labelling is often carried out voluntarily as part of broader sustainability initiatives, reflecting growing awareness and action regarding emissions. Figure 21 shows that most enterprises are conducting GHG inventories according to standards GHG protocol.

According to the survey, 43.8% of enterprises are currently engaged in these activities, using common standards such as the GHG Protocol, ISO, LCA, and PAS 2050. However, nearly 20% of enterprises have yet to follow any specific standard, reflecting a lack of technical guidance in certain sectors. Among the 87 enterprises in sectors that have implemented GHG inventories or carbon footprint assessments in recent years, the food processing industry accounts for the highest share at 21.8%, followed by chemicals (20.7%), electronic components (16.1%), beverages (14.9%), textiles (13.8%), and pulp and paper (12.6%) as shown in Figure 22. This distribution shows that sectors with high emission potential, such as food processing and chemicals, are relatively proactive in implementation.

Table 9 presents the motivation to implement GHG inventories and carbon labelling stems not only from legal requirements (34.4%) but also from internal sustainability commitments (31.3%), customer and parent company demands (14.6%), and the desire to reduce operational costs (22.9%). Figure 19 presents that the enterprises have integrated emissions as a criterion in raw material procurement which highlights that the integration of environmental criteria into procurement remains in its early stages and varies across industries. Figure 20 shows that the enterprises report having conducted a GHG inventory, with the GHG Protocol and ISO being the most widely used standards, reflecting a trend toward the domestic legal adoption of international standards, as seen in Decree 06/2022/ND-CP and Circular 38/2023/TT-BCT, this reflects a growing commitment to compliance driven by both government regulation and market demands. Figure 36 presents the implementation methods; more than half of the enterprises opt to hire external consultants, highlighting a strong demand for technical support, while the rest assign the task to internal environmental departments or through interdepartmental coordination. GHG inventories are mostly conducted annually, though flexibility exists depending on sector-specific characteristics and client requirements. Most enterprises plan to carry out inventories and carbon labelling between 2025 and 2026, demonstrating proactive efforts to meet increasingly stringent domestic legal frameworks and international standards.

III.5.3. Drivers, Opportunities, and Challenges in Emission Reduction

Enterprises in Vietnam are increasingly recognizing their role and responsibility in reducing GHG emissions, with the primary motivations shown in Table 14. The primary motivations are stemming from social responsibility (62.5%), contributions to the national NDC targets (57.3%), and CSR strategies (55.2%). Beyond legal obligations, many enterprises also acknowledge direct economic benefits such as reduced operational costs (47.9%) and improved medium- to long-term efficiency (35.4%). However, factors like supply chain pressure or initiatives from parent companies have yet to exert significant influence, indicating that actions are still largely driven by compliance rather than proactive strategy. Enterprises in Vietnam's manufacturing sectors show varying levels of commitment to implementing emission reduction measures or projects. The food processing and chemical industries lead in this regard, with 26.8% and 24.4% of enterprises, respectively, having already developed action plans. This reflects a relatively strong interest and readiness to implement GHG mitigation solutions in the near future. The electronic components sector also reports a readiness rate of 21.2%, though most companies have yet to formulate concrete plans, indicating a need for clearer guidance and technical support to move from awareness to action. Meanwhile, sectors such as beverages, textiles, and pulp and paper show moderate levels of preparedness, with some companies having developed plans, while the majority are still in the consideration stage. Notably, survey results indicated in Figure 29 show 68.8% of enterprises have already established

comprehensive emission reduction targets and plans, reflecting a growing level of commitment, although disparities still exist between sectors. Specifically, the food processing sector shows the highest level of engagement, with 14 enterprises (24.6% of the “yes” group), followed by the chemical sector with 12 enterprises (21.1%). This highlights the proactive stance of these sectors in responding to increasingly stringent environmental requirements from both markets and policy frameworks. Table 17 presents the enterprises in different sectors willing to participate in the pilot program to receive support for carbon labeling. Other sectors, such as beverages (17.5%), electronic components (15.8%), pulp and paper (10.5%), and textiles (10.5%), also demonstrate meaningful participation, illustrating how the green transition is spreading across various manufacturing fields. However, there remains a proportion of enterprises that either decline or do not yet see a need to participate, most notably in the food processing (25.6%) and chemical (23.1%) sectors. This hesitation is not necessarily due to a lack of interest, but could stem from limited resources, insufficient technical information, or unclear support mechanisms.

Table 15 shows the challenges faced by enterprises, including a lack of technical information, financial constraints, limited access to policy information, and weak internal capacity (such as insufficient staff, knowledge gaps, and low prioritization). Notably, 24% of enterprises remain skeptical about the actual effectiveness of emission reduction measures. In the context of growing pressure for carbon neutrality and ESG compliance, 58.3% of enterprises feel they need more time to research, while 35.4% view this as an opportunity to transition towards sustainable development. The main drivers of action include environmental responsibility (88.5%), enhanced corporate image (82.3%), internal awareness (61.5%), and economic benefits such as cost savings and increased product value. These results indicate that emission reduction is increasingly seen not just as a compliance requirement but as a strategic component of long-term business development.

III.5.4. Role of Industry Associations and Support Needs

Table 16 shows that the role of industry associations in promoting emission reduction among enterprises remains limited. Only 47.9% of enterprises reported receiving policy information from associations, currently the most common form of support, while other forms such as sharing technical information or representing business voices to government agencies, are significantly less common. Just 14.6% of enterprises believe that associations have a real influence on decisions related to emission reduction, and notably, as many as 40.6% expressed no opinion on the role of associations. This indicates a lack of engagement and unmet expectations.

In this context, there is a strong demand for support in conducting GHG inventories in accordance with Decree 06/2022/ND-CP, with 70.8% of enterprises seeking technical guidance and 68.8% requiring training and capacity building shown in Figure 36. This highlights the need for both technical assistance as well as building. In addition, 43.8% of enterprises would like to receive one-on-one consulting or support during implementation. While some enterprises have proactively conducted inventories and submitted reports, many still express confusion over the procedures, reporting authorities, and compliance requirements. This highlights the need not only for technical support but also for improved data systems, clear communication, and consistent guidance from the government to enhance proactivity and ensure compliance among enterprises.

IV. INTERNATIONAL EXPERIENCE AND CASE STUDIES

IV.1. Overview of Global Trends in Carbon Labelling

As international efforts to combat climate change grow, CFP plays a vital role by measuring and reducing GHG emissions from products, organizations, and supply chains. This is one of the GHG reduction mechanisms, like carbon taxes, carbon pricing, and carbon markets. CFP systems have been in development since 2009, with early adoption by countries such as Japan, South Korea, Taiwan, Thailand, and the United Kingdom (UK). In the early stages, carbon labelling schemes were implemented primarily by government initiatives, while independent initiatives also emerged in parallel. Now, more than 50 countries²⁷ and regions worldwide are reported to have adopted carbon labelling schemes. The case studies presented in this report focus on government-led initiatives, offering relevant insights for Vietnam's policy-oriented approach. Developed countries such as the UK, France, Germany, the US, Japan, and South Korea are major exporters and often require carbon footprint information from their trading partners. As a result, developing countries like Vietnam, which trade with these markets, are also beginning to adopt CFP to stay competitive and meet trade and climate goals.

The global carbon footprint market is expanding rapidly, and the CFP management market is expected to grow from USD 11.3 billion in 2023 to USD 30.8 billion by 2028 (Compound Annual Growth Rate (CAGR) 22.2%)²⁸ and the PCF certification market is projected to reach USD 3.5 billion by 2033²⁹. This growth shows that CFP is becoming a global practice, especially important for countries engaged in international trade and climate action.

Recent initiatives from selected countries:

Governments worldwide are increasingly adopting CFP initiatives to promote climate-friendly products and services. The carbon labels, often supported by government policies, regulations, or incentives, help consumers make informed choices by displaying the carbon footprint of goods and services. The following examples highlight recent efforts by governments to mainstream CFP through voluntary and regulated labelling schemes.

1. **Spain:** The country is strengthening its legal framework by introducing a new Royal Decree, effective from January 2025, that will make it mandatory for certain organizations to calculate their carbon footprint, develop reduction plans, and publicly disclose their carbon footprint and progress reports³⁰.
2. **Japan:** In March 2024, Japan's Ministry of Agriculture, Forestry and Fisheries (MAFF) introduced a voluntary GHG reduction labelling system for 23 domestically produced

²⁷ <https://www.mdpi.com/2071-1050/17/8/3477#B3-sustainability-17-03477>

²⁸ <https://www.prnewswire.com/news-releases/the-global-carbon-footprint-management-market-is-projected-to-reach-usd-30-8-billion-by-2028-from-an-estimated-usd-11-3-billion-in-2023--at-a-cagr-of-22-2-301771824.html>

²⁹ <https://www.verifiedmarketreports.com/product/product-carbon-footprint-certification-market/>

³⁰ <https://www.cuatrecasas.com/resources/carbon-footprint-text-en-681b44381fc20542906628.pdf?v1.89.0.20250530#:~:text=Companies%20that%20prepare%20consolidated%20financial,through%20the%20corresponding%20sustainability%20report.>

agricultural products. Producers can use the label to self-declare that their products are made using sustainable practices that result in lower GHG emissions compared to conventional methods. The system aligns with MAFF's Green Food System (MIDORI) Strategy, aiming to promote consumer awareness of environmentally friendly agricultural practices. According to MAFF, there are over 200 products eligible for the labels and as of June 2024, over 350 retail outlets are selling these products. MAFF stated that these numbers have steadily grown since the launch of the labelling system³¹.

3. **Taiwan:** In March 2025, Taiwan's Ministry of Environment issued two regulations namely (i) Voluntary Product Carbon Footprint Management Regulations and (ii) Revised GHG Certification and Verification Bodies Management Regulation, to Promote Voluntary Product Carbon Footprint Application³². Earlier, it has issued the Climate Change Response Act on February 15, 2023, adding new rules to promote and expand the application of carbon footprint systems.
4. **France:** The "Label bas carbone" (Low-Carbon Label) was launched in 2018 by the Ministry of Ecological Transition to certify projects reducing GHG emissions or sequestering carbon in France. It provides a transparent framework for monitoring, reporting, and verifying emission reductions or removals to support the voluntary carbon market. As of January 2023, 376 projects have been awarded the label and are expected to reduce 1,431,819 tCO₂e³³.

The above initiatives illustrate how government-led carbon labelling efforts are rapidly evolving to meet national climate goals and engage diverse sectors. These actions not only promote transparency and behavioral change but also lay the groundwork for robust voluntary carbon markets and net-zero pathways. As more countries implement similar systems, harmonization and knowledge sharing will become crucial for ensuring effectiveness and global comparability.

IV.2. Key drivers of CFP

Table 18 outlines the key factors driving the adoption of CFP globally, highlighting how policies, market demands, and environmental goals are shaping its widespread implementation.

Table 18. Key drivers of CFP

Aspect	Remarks
Impact of CBAM & carbon taxes	Mechanisms like EU's CBAM ³⁴ and growing implementation of carbon taxes are key drivers of carbon labelling. These policies require companies, especially exporters, to disclose and account for the CFP of their products. To avoid financial penalties or loss of market access, enterprises are increasingly adopting carbon labelling to quantify and communicate emissions in a transparent, standardized

³¹ https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Japan%20Launches%20Greenhouse%20Gas%20Reduction%20Labelling%20System%20for%20Agricultural%20Products_Tokyo_Japan_JA2024-0038.pdf

³² https://envilience.com/regions/east-asia/tw/report_13473

³³ <https://carbongap.org/wp-content/uploads/2023/03/carbongap-LCLpolicybrief-March2023.pdf>

³⁴ Insight from stakeholder consultation show that CBAM, adopted in 2023, is in its transitional phase and will fully apply from 2026, with financial obligations deferred by a year, giving countries like Vietnam time to strengthen domestic policies, Monitoring, Reporting and Verification (MRV) systems, and pricing mechanisms.

Aspect	Remarks
	way. Carbon labelling helps firms prepare for regulatory compliance, reduce exposure to carbon costs, and remain competitive in global markets with tightening climate policies.
Net-zero target	The growing adoption of CFP is closely aligned with global efforts to meet climate targets under the Paris Agreement, particularly the goal of limiting global warming to 1.5°C above pre-industrial levels. Achieving this requires net-zero GHG emissions by around 2050, where the total emissions produced are balanced by those removed from the atmosphere. As net-zero targets become a central part of national and corporate climate strategies, CFP is increasingly seen as a critical mechanism for driving systemic change and accelerating the transition to a low-carbon economy. Initiatives like the Science-Based Targets Initiative (SBTi) and the UN's Race to Zero campaign support enterprises and governments in setting credible net-zero pathways. Countries such as Japan and members of the EU have already adopted official net-zero targets and strategies.
Scope 3 emissions	There are indirect emissions that occur outside an organization's direct operations, such as those from supply chains, product use, and disposal. Since Scope 3 emissions often represent the largest share of a product's total carbon footprint, CFP helps keep track, highlight their impact and encourages enterprises to work with suppliers and consumers to reduce emissions across the product's life cycle.
Regulatory schemes	Organizations are increasingly required to conduct carbon footprint assessments to comply with national climate regulations and reporting frameworks. One such example is the Thailand's CFP for organizations under its Carbon Footprint for Organization (CFO) program, managed by the Thailand Greenhouse Gas Management Organization (TGO). Participating organizations must calculate their GHG emissions annually and work toward verified reductions.
Environmental/green certification	CFP is also essential for obtaining environmental or green certifications, which enhance brand image and market competitiveness. In Vietnam, companies that export to markets like the EU or Japan increasingly pursue product-level carbon labelling or certification to meet buyer requirements and gain market access. By achieving such certifications, enterprises demonstrate environmental responsibility, improve customer trust, and often gain access to green finance or preferential procurement programs.

Nowadays, climate reporting practices are becoming more stringent to prevent greenwashing, with increasing requirements for transparency, third-party verification, and public disclosure of carbon data. For Vietnam, adopting robust CFP practices is essential, not just to meet international compliance and market expectations, but also to build trust, secure green certifications, and remain competitive in a low-carbon global economy. These actions not only promote transparency and behavioral change but also lay the groundwork for robust voluntary carbon markets and net-zero pathways.

IV.3. Challenges of Implementing Carbon Footprinting

Although CFP has strong potential to encourage more sustainable choices among consumers and producers, its uptake can be limited by several key challenges. These include concerns related to the accuracy of emissions data, lack of standardized methodologies, inadequate consumer awareness, and issues of credibility and trust in the labelling system.

- *China* launched the “Carbon Footprint Label³⁵” initiative in early 2018 with a pilot program in the electrical and electronic industry. It was developed under the leadership of the China Electronic Energy Saving Technology Association (CEESTA). China encountered several challenges during the introduction of its initiative, including cost barriers, a lack of standardization, and insufficient industry guidelines.
- *Thailand* initially faced challenges, particularly in terms of inadequate knowledge and expertise. However, these challenges were gradually overcome by learning from international experiences, developing customized emission databases and standards aligned with IPCC methods, and engaging major industries to build capacity over more than a decade. Thailand also identified and addressed gaps in the system, supported strongly by the Federation of Thai Industries throughout the design and implementation phases.
- *Japan* still faces some challenges with its PCF program. Initially, there were major constraints on human and financial resources. To address this, the program collaborated closely with the academic institutions and professors to build capacity. For verifier qualification, strict criteria were established, like candidates must have prior experience in PCF, complete a two-day training course, pass an examination, and undergo two additional training sessions before receiving official approval.

IV.4. Benefits of carbon footprint labelling

Countries and organizations that implement carbon footprint labelling benefit in several important ways, both domestically and internationally. Some of the key benefits are discussed below.

- Improved Export Competitiveness:** Carbon footprint labelling enables products to meet the environmental requirements of export markets, such as the EU and the US. It helps exporters comply with mechanisms like the EU’s CBAM, reducing the risk of trade barriers and carbon-related tariffs.
- Low-Carbon Industry Development:** Carbon footprint labelling encourages enterprises to identify high-emission areas in their operations and invest in cleaner technologies. It supports innovation in product design, materials, and supply chains, helping industries shift toward more sustainable production.
- Enhanced Transparency and Consumer Trust:** Verified carbon labels provide reliable information to consumers, enabling informed choices. This increases public confidence in companies and reinforces the country’s commitment to climate action.
- Support for National Climate Commitments:** Carbon footprint data helps track progress toward national climate targets, including net-zero goals and NDCs. It also informs policy development by highlighting high-emission sectors.
- Prevention of Greenwashing:** A standardized and verified labelling system helps ensure that environmental claims are accurate and credible. This builds accountability and reduces the risk of misleading information.
- Promotion of Sustainable Consumption:** Carbon labels raise public awareness about the environmental impact of products, encouraging consumers to choose low-carbon options and supporting a shift toward more sustainable market behavior.

³⁵ <https://www.china-briefing.com/news/carbon-labelling-on-products-global-practice-and-implementation-in-china/>

Apart from the general market benefit discussed above, the CFP schemes have been observed to bring additional investment flows into the market, make financial access less costly, reduce public spending, etc. Table 19 summarizes such additional revenues or incentives generated, either directly or indirectly, from CFP.

Table 19. Financial opportunities unlocked by CFP

Category	Finance Stream	Description	Example
Government	Green Investment & FDI	Transparent CFP attracts climate finance, impact funds, and sustainable FDI.	Thailand's Voluntary Emission Reduction (T-VER) and Board of Investment (BOI) incentives attracted foreign investment in clean energy, boosting economic growth and tax revenues ³⁶ .
	Green Procurement Efficiency	Public (GPP) Savings and improved efficiency in public spending indirectly free up fiscal space or reduce environmental liabilities	South Korea implemented a mandatory GPP policy in 2005 under the <i>Act on the Promotion of Purchase of Green Products</i> , requiring public institutions to prioritize eco-labelled products. For example, green purchases in 2017 reduced CO ₂ equivalent emissions by an estimated 665,000 tons, which translates to savings from reduced pollution estimated at USD 35.4 million and 4,415 new jobs created in the green economy ³⁷ .
	Green Industries & Jobs	Government revenue increases from VAT, corporate tax, and income tax as associated green sectors (like renewables, Electric Vehicles (EVs), and eco-construction) expand.	Japan's Green Growth Strategy estimates a JPY 190 trillion (USD 1.23 trillion) gain by 2050 through the expansion of low-carbon industries ³⁸ .
Companies	ESG - Driven Investment and Sustainable Assets	Investors prioritize ESG-aligned companies with verified emissions data.	Access to green bonds, sustainability-linked loans (SLLs), and impact funds.
	Climate Access	Finance Can facilitate access to loans and grants from international climate funds.	Reporting enables funding from the Green Climate Fund (GCF), the

³⁶ <https://belaws.com/thailand/thailand-tax-incentives-from-the-boi/>

³⁷ <https://www.open-contracting.org/2024/09/25/how-south-korea-enables-its-green-transition-through-green-public-procurement/>

³⁸ <https://www.linkedin.com/pulse/japans-green-growth-strategy-towards-2050-carbon-neutrality-le-d%C3%BB/>

Category	Finance Stream	Description	Example
			Asian Development Bank (ADB) and the World Bank, etc.
	Lower Capital Costs	Verified low or reduced CFP led to favorable loan terms.	Kasikornbank (KBank) ³⁹ from Thailand and Mizuho ⁴⁰ from Japan have offered SLLs that are tied to corporate emissions reduction Key Performance Indicators (KPIs). Interest rates are adjusted based on the achievement of these targets.
	Entry into Green Supply Chains	Multinational corporations (MNCs) prefer low-carbon suppliers with footprint data or labels.	Improves market access and supplier contracts.
	Government Incentives	Tax breaks, subsidies, and procurement preferences for certified companies.	In Taiwan, Japan, and Korea, companies with carbon reduction labels benefit from public procurement preferences and tax incentives.
	Brand Value & Initial Public Offering (IPO) Value	Carbon transparency builds trust, reduces risk of stranded assets or regulatory penalties	ESG-aligned IPOs in the UK and Japan receive higher subscription rates and long-term institutional support.

In summary, adopting carbon labels not only contributes to a low-carbon future but also enables the country to enhance global trade competitiveness, attract investment, support industrial innovation, and accelerate progress toward national climate goals.

IV.5. International Cooperation on Carbon Footprint Labelling

International collaboration plays a key role in promoting harmonized, credible, and transparent carbon footprint labelling systems. One of the leading examples is the Carbon Trust from the UK, which supports CFP initiatives in over 40 countries. Recently, Carbon Trust partnered with China Standard Conformity Assessment Co., Ltd. (CSCAC) and has officially been registered with China’s State Administration for Market Regulation (SAMR). Through this partnership, Carbon Trust launched its carbon labelling services in the Chinese market, covering six categories (i.e., Carbon footprint, Carbon reduction, Low-carbon and carbon neutrality, Low-carbon packaging, and Carbon-neutral packaging). The presence of an internationally recognized institution like the Carbon Trust

³⁹<https://www.kasikornbank.com/en/news/pages/kbankxgc.aspx#:~:text=KBank%20provides%2010%20billion%20B aht,support%20its%20sustainability%20goals%20%2D%20KASIKORNBANK>

⁴⁰<https://www.mizuhogroup.com/asia-pacific/china/news/2024/2024-10-07.html#:~:text=In%20this%20sustainability%20linked%20cross,which%20these%20goals%20are%20achieved.>

in China strengthens the credibility of carbon claims and helps international brands meet foreign sustainability certification requirements. This cooperation also supports China's carbon neutrality goals and enhances low-carbon transitions across global supply chains.

Pilot cooperation was demonstrated between Thailand and South Korea (in 2014-15), allowing producers to apply for each other's PCF labels through their respective local authorities. This cooperation helped to promote mutual recognition, reduce duplication, and foster innovation and standardization in cross-border certification processes.

The Carbon Footprint International Alliance (CFIA) was established through a Memorandum of Understanding (MoU) among several countries, including Italy, Korea, Costa Rica, Los Angeles (USA), Thailand and New Zealand. CFIA aims to support consistent, credible, and standardized carbon footprint quantification and reporting. It connects national carbon footprint labelling programs that use similar standards for carbon footprint quantification and verification. In the CFIA portal, all registered CFP are stored. Figure 38 shows the members of CFIA from Italy, Los Angeles, New Zealand, Costa Rica, and Thailand, respectively.



Figure 38. Members of CFIA

Refer to Annex VIII 2, international stakeholder consultation, for additional insights on CFIA.

IV.6. Case studies

The countries selected for case studies include three from the Asian region (Thailand, Japan and Taiwan) to reflect similarities in context and market conditions with Vietnam, and two from developed countries (the United Kingdom (UK) and France), preferably a key export destination.

Table 20 provides the criteria for selecting case study countries, based on their relevance to Vietnam and the availability of information on their carbon labelling practices.

Table 20. Criteria for selection of case study countries

Country		Criteria for Selection
Asian	Thailand	Chosen for its advanced carbon labelling system and regional, environmental, and product-related similarities with Vietnam.
	Japan	Included because, out of approximately 15 countries contacted for information on carbon labelling, Japan was one of the few that responded and provided detailed insights on their national carbon labelling system.

Country		Criteria for Selection
	Taiwan	Selected for its government-led carbon labelling initiative, offering a structured and institutionalized approach.
Developed	UK	Selected for its extensive experience in exporting to various international markets, which is highly relevant for Vietnam's export-driven economy.
	France	Chosen to represent a retail-driven model, providing a contrast to government-led initiatives and offering insights into private sector engagement in carbon labelling.

Table 21 provides a comparative summary of international carbon labelling case studies and the detailed discussions on each country are presented below.

Table 21. Comparative summary of international carbon labelling case studies

Country	Governance & Implementation	Year of Implementation	Type of Labels	Legal Status
Thailand	TGO	2009	PCF, CFR, CFO, CE-PCF	Voluntary
Japan	SuMPO; in collaboration with JEMAI and various ministries	2002 (Ecoleaf); 2012 (Carbon Footprint), 2024(SuMPO EPD)	SuMPO EPD, Carbon Footprint Communication Program and Ecoleaf	Voluntary
Taiwan	EPA	2009 (label launched in 2010)	Carbon Footprint Label and Carbon Reduction Label	Voluntary
United Kingdom	Carbon Trust (independent agency, supported by government initially)	2007	Product Carbon Footprint Label and Carbon Neutral Certification	Voluntary (widely adopted)
France	Retailer-led (Casino, Leclerc) + Government law (Grenelle 2)	2008 (pilot); partial mandate in 2012	Indice Carbone and Bilan Carbone	Voluntary

IV.6.1. Thailand

Thailand aims to achieve net-zero emissions between 2050 and 2065 and is the first Southeast Asian country to develop its own voluntary carbon footprint labelling system, along with assessment

guidelines. TGO, launched in 2007 as an autonomous governmental organization under MONRE, is the official certifying body for carbon labels and serves as a GHG information hub. TGO established the Thai Carbon Labelling Scheme in 2009 together with the Technology and Informatics Institute for Sustainability (TIIS), which promotes low-emission production technologies and raises consumer awareness for sustainable purchasing based on product carbon footprint data.

Figure 39 shows the different types of carbon footprint labelling systems in use for different products in Thailand.

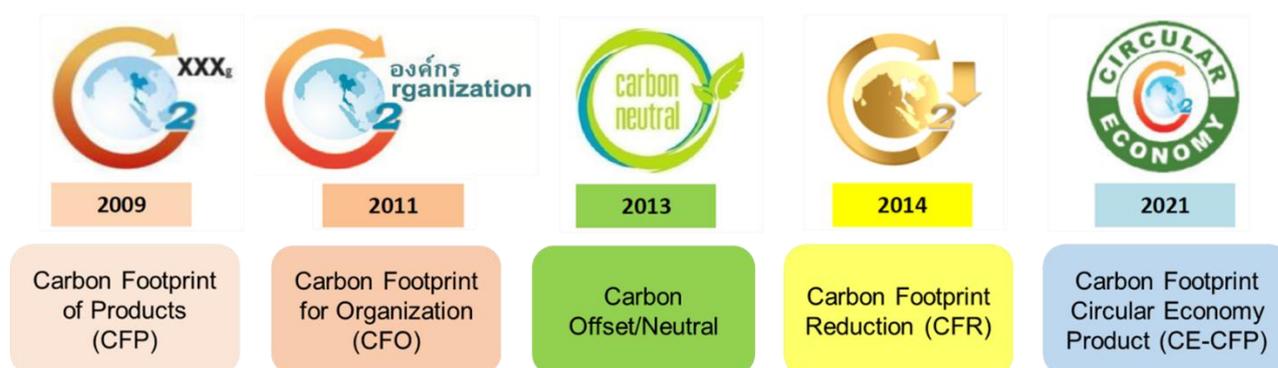


Figure 39. Different types of carbon labels in Thailand

Table 22 presents the types of labelling approved for various industries, companies, and products in Thailand.

Table 22. Label types, products and sectors

Label type	No. of companies	No. of products	No. of sectors	Key sectors
PCF	1,228	11,530	22	Food, beverages, packaging, electronics, automobiles, etc.
CFR	204	1,557	17	
CFO	2,702	-	22	
CE-PCF	80	461	22	

As for the countries under the Association of Southeast Asian Nations (ASEAN), Thailand’s system is more regionally relevant than models from Europe or the U.S. Thailand has also been active in regional cooperation, offering opportunities for the regional countries for technical exchange and mutual recognition in the future. Its active role in regional cooperation and initiatives like the CFIA makes it a valuable partner for knowledge sharing and future harmonization.

Unique Features:

- Centralized governance under a single government entity, TGO.
- Harmonized management of multiple carbon schemes like carbon footprint, carbon markets, emission trading system, etc., complementing each other, thereby ensuring consistency across the schemes, avoiding duplication of efforts
- Responsive to market evolution, with carbon labels regularly updated and improved to reflect changing industry needs and consumer expectations.
- Active regional and international cooperation, such as collaboration with South Korea and membership in the CFIA.

Key Takeaways for Vietnam:

- Align with multiple international carbon initiatives, ensuring they complement rather than conflict with national efforts.
- Adapt to market developments by regularly updating and improving carbon labels based on evolving industry needs.
- Establish clear governance to foster trust and reduce institutional overlap.

Refer to Annex VIII 2, international stakeholder consultation, for additional insights on Thailand PCF gathered through TGO.

IV.6.2. Japan

In order to meet its carbon neutrality goals (net-zero by 2050 and 46% GHG reduction by 2030), Japan is increasing its focus on disclosure tools such as Environmental Product Declarations (EPD) and Carbon Footprint Communication Program. The country is promoting collaboration across industries, government agencies, investors, manufacturers, and consumers to support this transition.

Japan's carbon footprint program is managed by the Sustainable Management Promotion Organization (SuMPO), a non-profit organization with over 20 years of experience in EPDs. The program began in 2002 under the name "Ecoleaf" and later integrated Carbon Footprint Communication Program declarations. Today, both initiatives are operated under SuMPO EPD Japan, covering diverse sectors such as construction, electronics, textiles, and automobiles. Figure 40 illustrates the evolution of Japan's environmental labelling program, tracing its development from the Ecoleaf program to the current SuMPO EPD system between 2002 and 2024.

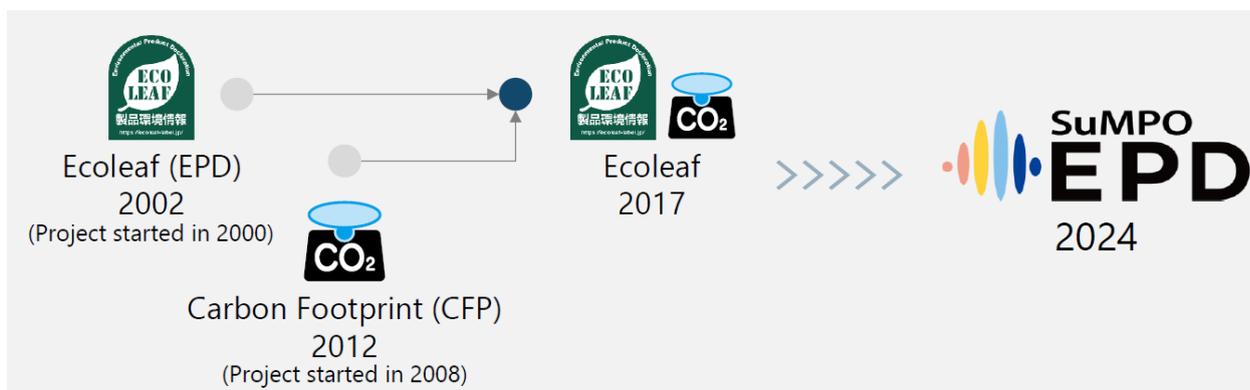


Figure 40. Evolution of Japan's environmental labelling program

SuMPO follows international standards like ISO 14025, 14040/44, and 14067. It has developed around 70 Product Category Rules (PCRs), mostly for the construction and electronics sectors. The verification system includes both product-by-product and system certification methods, ensuring reliability and transparency.

For product-by-product verification: When a company applies for PCF verification, Japan Environmental Management Association for Industry (JEMAI) selects a licensed verifier to assess the product. The verifier evaluates the application and makes a decision, which is then reviewed

and confirmed by a Review Panel.

For system certification: This process ensures that a company's internal PCF system meets JEMAI's requirements for quantification, verification, and disclosure. A JEMAI-registered certification body audits the system, and the Review Panel confirms the results. Once certified, the company can independently verify and register PCF declarations⁴¹.

As of 2025, there are nearly 2,900 active declarations, with growing interest in the construction sector.

BOX 2: PCRs are standardized guidelines used to develop EPDs for specific product types. They define how to conduct LCA for a product category, including the functional unit, system boundaries, data quality, impact categories (like carbon footprint), and reporting formats. PCRs ensure consistency and comparability between similar products. Developed by program operators with input from industry experts and stakeholders, PCRs undergo public consultation and expert review before being published. They are essential for credible, transparent environmental labelling and support green procurement and sustainability reporting.

Verifiers under SuMPO EPD are selected based on a rigorous eligibility criteria. They must have prior carbon footprint experience, complete a 2-day training, pass an exam, and undergo two additional training sessions before receiving accreditation. Once accredited, they must regularly submit assessments, and SuMPO conducts annual quality checks to ensure compliance with product standards and certification systems.

Although SuMPO EPD operates independently, it collaborates closely with several ministries, including the Ministry of Environment, the Ministry of Economy, Trade and Industry (METI), the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), and the MAFF, to align with national decarbonization strategies⁴².

Unique Features:

- Gradual transition from government to independent management (Ministry of Economy, Trade and Industry (METI) → JEMAI → SuMPO).
- Integration of environmental and carbon footprint requirements into a single EPD scheme, thereby delivering multiple benefits.
- Robust and transparent verifier accreditation system, ensuring credibility and continuous quality assurance.
- Sectoral strength in construction and electronics, supported by 70+ PCRs.
- Emphasis on long-term sustainability, data transparency, and global interoperability.

Key Takeaways for Vietnam:

- Begin with a voluntary approach to encourage initial participation from industries.
- Focus initial efforts on high-emission or export-oriented sectors, such as construction and electronics
- Use a dual system of product-specific and system-level verification to support diverse industry

⁴¹ <https://www.PCF-japan.jp/english/verification/index.html>

⁴² Insights from Stakeholder consultation of SuMPO EPD Japan.

sizes and capacities.

- Plan for a gradual transition to an independent, professional body for managing and implementing the scheme to ensure long-term sustainability.

Refer to Annex VIII 2, international stakeholder consultation, for additional insights on Japan's carbon footprint communication program gathered through SuMPO.

IV.6.3. Taiwan

In 2008, Taiwan introduced the Framework of Taiwan's Sustainable Energy Policy, which aimed to promote nationwide energy conservation and carbon reduction. The overall goal was to reduce per capita daily carbon emissions by one kilogram. In response, the Environmental Protection Administration (EPA) developed a carbon labelling system to provide consumers with transparent information about the CFP of domestically produced goods. With this initiative, Taiwan became the 11th country globally to launch a product carbon footprint labelling program.

Taiwan's labelling system features two key labels:

- Carbon Footprint Label: Indicates the total GHG emissions throughout the product life cycle.
- Carbon Reduction Label: Awarded when a company successfully reduces emissions from a product that has already been carbon footprint labeled.
- These labels (Figure 41) are part of Taiwan's broader strategy to promote sustainable consumption and production.



Figure 41. a) Carbon Footprint Label and b) Carbon Reduction Label

To support implementation, the Taiwan Carbon Footprint Information Platform was established in 2009 alongside the Product Carbon Footprint Labelling Scheme. A public design contest was held that year to finalize the label's visual identity, and the formal use of the carbon footprint label on products began in April 2010. The information platform remains active and is updated regularly.

As of January 2024, Taiwan had 530 products certified with the Carbon Footprint and Carbon Reduction Labels, increasing from 394 in March 2016. Certified items include beverages, condiments, processed foods, reusable chopsticks, personal care products, tissue paper, and credit cards. Tainan City's (from Southern Taiwan) electric buses have reported a carbon footprint of 90g CO₂e per person per kilometer⁴³.

Unique Features:

⁴³<https://www.taipeitimes.com/News/feat/archives/2024/01/10/2003811872#:~:text=Tainan%20City%20Governme nt's%20Bureau%20of%20Transportation%20has,or%20clothes%2C%20the%20CFIP%20is%20no%20help.>

- Directly aligned with national carbon reduction goals, targeting per capita emissions.
- Includes two-tier labelling: basic carbon footprint and additional carbon reduction certification.
- Operates a public, regularly updated information platform, enhancing transparency and public engagement.
- Initiated strong consumer outreach from the start, including label design competitions to increase awareness.

Key Takeaways for Vietnam:

- Link carbon labelling to national climate targets to create policy coherence.
- Develop a publicly accessible information platform for data transparency and consumer education.

IV.6.4. UK

The UK has been a global pioneer in carbon footprint labelling through the Carbon Trust⁴⁴, a not-for-profit organization established by the UK government in 2001 to accelerate the transition to a low-carbon economy. In 2007, the Carbon Trust introduced the world's first carbon footprint label on consumer products, starting with major brands such as Walkers crisps, Tesco, and Boots. Since then, it has become a widely recognized benchmark for credible and standardized PCF.

The Carbon Trust's labelling initiative is based on the PAS 2050 standard, developed jointly by the Carbon Trust, the British Standards Institution (BSI), and the Department for Environment, Food and Rural Affairs (DEFRA), which provides a consistent methodology for measuring life cycle GHG emissions of products, from raw material extraction through production, distribution, use, and disposal.

The Carbon Trust has offered various types of product labels, including carbon-neutral verification, since 2012. Over time, the label has expanded globally, covering sectors such as food and beverages, electronics, packaging, and personal care. The organization has verified and labeled over 37,000 individual product footprints, with labels appearing on products in more than 40 countries. It has also supported and collaborated with agencies in China, Africa, Mexico, Malaysia, the Netherlands, and Singapore, making the PAS 2050 standard a global reference point for other national carbon labelling schemes. Figure 42 presents the timeline of the Carbon Trust's carbon footprint labelling scheme.

⁴⁴ <https://www.carbontrust.com/en-as>

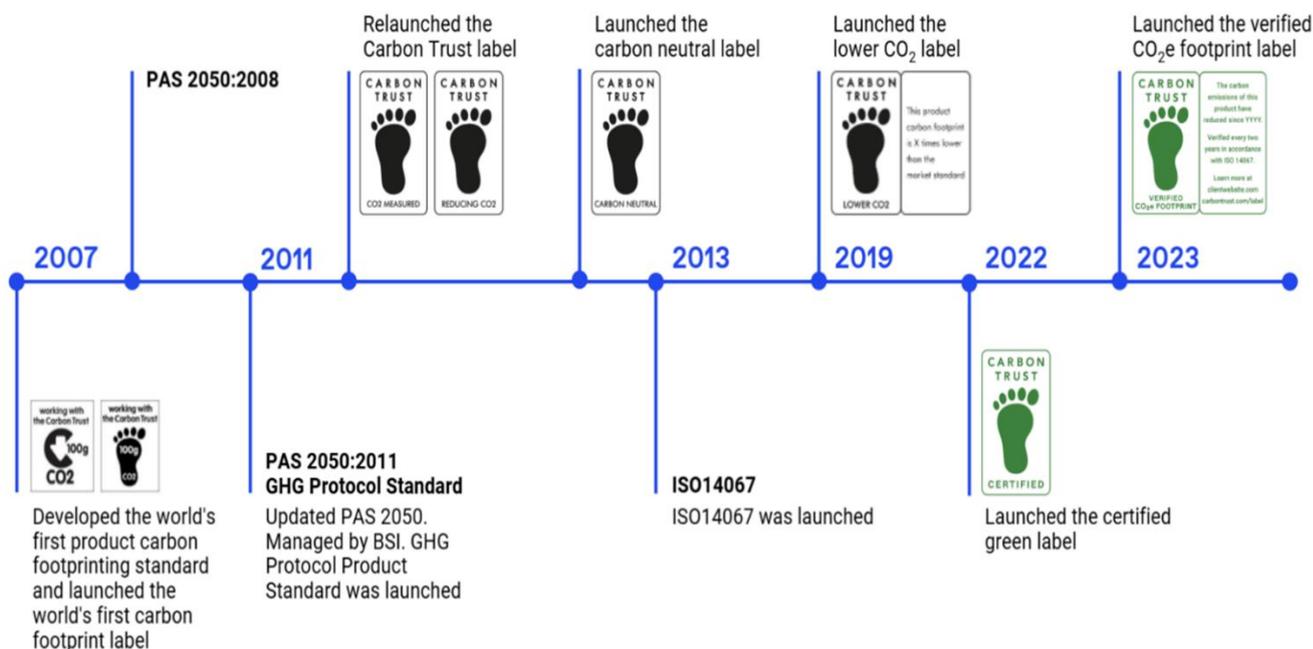


Figure 42. Carbon Trust's Carbon Footprint Labels timeline⁴⁵

Unique Features:

- Globally scalable Carbon Trust framework used in 40+ countries.
- Developed the PAS 2050 – a comprehensive life cycle GHG assessment standard.
- Label use requires public emission reduction commitments by companies.
- The Carbon Trust serves as an international benchmark for carbon labelling credibility.

Key Takeaways for Vietnam:

- Adopt standardized methodologies like PAS 2050 for robustness and comparability.
- Ensure the scheme is export-ready to support global market access.
- Embed emission reduction commitments into labelling requirements.

IV.6.5. France

France was among the earliest adopters of carbon footprint labelling, with initiatives starting as early as 2008. Leading French supermarket chains Casino and Leclerc pioneered the display of numeric carbon dioxide values directly on product price tags or receipts, offering consumers tangible data on the GHG emissions associated with their purchases.

Each retailer developed a distinct labelling format:

- Casino introduced the “Indice Carbone”, calculated based on the PAS 2050 standard. The label, shown in Figure 43 (a), includes a simple leaf design, GHG emissions in grams of CO₂e per 100 grams of product, and the phrase “Indice Environnement.” It is usually positioned above the product barcode.
- Leclerc launched the “Bilan Carbone”, a label that features a color-coded bar chart, with each color signifying a different level of GHG emissions (Figure 43 (b)). This approach aimed to make carbon data more visual and consumer-friendly.

⁴⁵ <https://www.carbontrust.com/en-as/what-we-do/carbon-footprint-labelling/product-carbon-footprint-label>

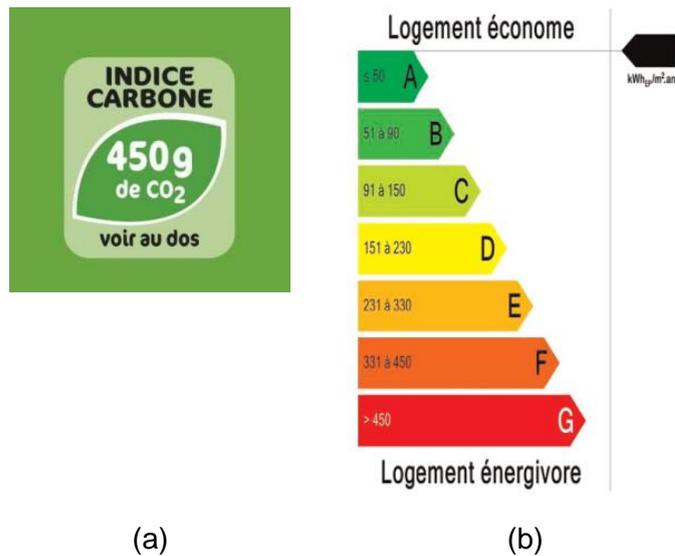


Figure 43. Carbon labels in France: (a) Indice carbone, (b) Bilan carbone

In 2010, France advanced its commitment through the “Grenelle 2” law, which introduced a legal framework for environmental labelling. This made France the first country in the world to formalize carbon labelling through legislation. Initially rolled out voluntarily in January 2011 for all consumer products, the scheme became mandatory for specific product categories beginning in July 2012.

Unique Feature of France’s Carbon Footprint Labelling System:

- First country to legally mandate carbon labelling for specific products.
- Successfully combined retailer-led innovation (Casino, Leclerc) with government regulation.
- Pioneered visual labelling formats, such as color-coded indicators and numeric values on receipts or product tags, making carbon data more consumer-friendly.

Key Takeaways for Vietnam:

- Consider establishing a legal framework to support and formalize carbon labelling efforts.
- Encourage public-private innovation before regulatory enforcement to build capacity.
- Use visual tools and user-friendly formats to make emissions information easily understandable for consumers.
- Begin with voluntary schemes, transitioning to mandatory standards where appropriate.

IV.7. Key Considerations for Implementing Carbon Footprinting

Carbon footprint labelling can be introduced either voluntarily or through government regulation to support low-carbon development.

- **Voluntary Schemes:** These are launched by governments or NGOs and are optional for enterprises. They aim to improve brand image or benefit from promotional policies. Most existing programs, such as those in the UK, Japan, Thailand, and Taiwan, are voluntary.
- **Regulatory or Compliance Schemes:** These are mandated by law or policy at national or subnational levels, often targeting high-emission sectors or specific industries for mandatory participation.

Implementing a robust CFP system at the national level requires strategic planning across multiple dimensions. The international experiences show that the following areas are critical to ensure successful development and long-term effectiveness:

1. Prioritize High-Impact Sectors:

- Focus on sectors with high GHG emissions.
- Target industries with strong export orientation.
- Prioritize sectors likely to be affected by international carbon regulations (e.g., the EU's CBAM).

2. Assess Industry Readiness: Evaluate the readiness of key sectors, including the

- Availability and quality of emissions data,
- Technical capacity within companies,
- Awareness of CFP practices.

3. Set Clear Methodological Guidelines:

- Develop standardized guidelines to ensure consistency and comparability across sectors.
- Ensure alignment with international standards such as:
 - ISO 14067 (Product Carbon Footprint)
 - PAS 2050
 - GHG Protocol (Corporate and Product Standards)

4. Establish Verification and Certification Mechanisms: To ensure credibility and avoid greenwashing, carbon footprint claims should be independently verified by accredited bodies. The country should,

- Identify or accredit national and international third-party verifiers (e.g., SGS, TÜV, or local institutions),
- Train local certification bodies and auditors in carbon footprint verification.

5. Build Institutional Capacity:

- Assign a lead agency or task force (e.g., relevant government ministries) to coordinate implementation.
- Clearly define roles for policy development, technical support, and enforcement.
- Engage industry associations or institutional academia.
- Establish MRV protocols, and
- Collaborate with development partners to secure funding, training, and pilot initiatives.

6. Integrate with Climate and Trade Policies: CFP should

- Align with broader national strategies like the net-zero roadmap and NDCs
- Linking CFP to green finance, eco-labelling, and public procurement schemes can further incentivize business participation.

7. Raise Awareness and Build Trust: Stakeholder engagement is key to successful implementation. The country should

- Conduct awareness campaigns targeting enterprises and consumers,
- Provide training and guidance materials (in local languages, e.g., Vietnamese), and
- Establish public databases or dashboards to promote transparency and accountability.

V. GAP ANALYSIS AND NEEDS ASSESSMENT

V.1. Analysis of Challenges and Gaps

Legal and Policy Framework

(a) No direct legal directive on carbon labelling

At present, Vietnam does not have a comprehensive legal framework regulating voluntary PCF or carbon labelling. While LEP 2020 provides a foundational policy base for the GoV's decision on introducing a carbon labelling scheme, key legislative instruments such as implementing decrees, technical circulars, and sectoral guidance documents are yet to be developed. This legal gap limits the ability of enterprises to align their product-level emissions disclosure with national climate objectives or international market expectations.

(b) Cross-ministry coordination and operation

The current proposal to introduce a national carbon labelling system by the Government envisions a responsibility split between MAE and other line ministries such as MOIT and MOST. While this reflects the cross-cutting nature of PCF, it also introduces coordination challenges in defining institutional mandates, ensuring consistency across related regulatory systems, and avoiding duplication in GHG reporting obligations. For example, integration with existing product labelling regulations, such as Decree No. 43/2017/ND-CP on product information, is not yet formalized, potentially causing misalignment between carbon labelling requirements and broader product compliance frameworks.

(c) Absence of regulations to meet international requirements

Moreover, the absence of regulatory alignment with emerging international requirements, most notably the EU's CBAM, poses increasing risks to Vietnamese exporters, especially in carbon-intensive and export-oriented sectors such as garments and textiles, electronics, and steel. Without clearly defined national methodologies and verification systems, these exporters may struggle to meet the emissions disclosure expectations set by foreign regulators and buyers. Although the CBAM is still evolving, its reliance on robust MRV procedures under the EU ETS indicates a future compliance burden that Vietnamese enterprises must anticipate. The current lack of a compatible regulatory framework limits Vietnam's ability to proactively position itself in response to these global shifts.

Institutional Capacity

(a) Need for a dedicated/independent agency for carbon labelling

The proposed carbon labelling framework envisions the establishment of an Independent Administrative Agency under the MAE, which would be responsible for overseeing technical implementation, managing third-party verification processes, and issuing carbon labels. However, no such entity currently exists with the required institutional mandate, technical expertise, or administrative infrastructure to execute these complex responsibilities. As highlighted in earlier

proposals, the agency is expected to perform a wide range of functions, from developing product-specific methodological guidelines and managing accreditation systems to coordinating industry consultations and reporting to MAE. In the absence of an operational body with these capabilities, the implementation of a robust carbon labelling system remains constrained.

(b) National validation/verification system for carbon labelling

Moreover, Vietnam currently lacks a formal national verification infrastructure or accreditation system for third-party PCF verifiers. Although earlier reports have recommended leveraging the country's existing network of certified energy auditors, by providing additional training and accreditation for carbon footprint verification, no institutional mechanism has yet been established to operationalize this transition. The absence of such a system creates uncertainty around the quality, consistency, and credibility of verification outcomes, particularly as the scheme expands to multiple sectors with varying levels of technical complexity.

(c) Role of industry associations

Industry associations have been identified as key stakeholders in the development of technical standards and emission factor inventories. They are expected to contribute sector-specific insights and data necessary for the formulation of product carbon footprint guidelines. However, current engagement mechanisms with these associations remain informal and ad hoc. There is no clearly defined mandate or structured collaboration framework that enables consistent participation in the design and implementation of the carbon labelling system. As a result, their potential contributions to guideline development, default value generation, and stakeholder mobilization remain largely untapped.

Market Readiness

(a) Inadequate capacity of enterprises

While initial priority sectors for piloting the carbon labelling scheme, such as garments and textiles, electronics, seafood processing, and wood products, have been identified based on export potential, carbon intensity, and exposure to CBAM, comprehensive readiness assessments at the sectoral level are yet to be undertaken. Specifically, there is a lack of detailed evaluations on enterprises' capacity to quantify and verify Scope 1 and Scope 2 emissions according to internationally accepted methodologies. This gap in baseline readiness may lead to inconsistencies in data quality and hinders the ability to scale the scheme across industries with varying technical maturity.

(b) Absence of country specific emission factor database and standards

A critical technical barrier to market readiness is the absence of a centralized, Vietnam-specific emission factor database and PCF inventory. Most enterprises currently rely on international secondary datasets such as Ecoinvent, International Energy Agency (IEA), or Department for Business, Energy & Industrial Strategy (BEIS), which may not accurately reflect Vietnam's production processes, energy mix, or supply chain characteristics. This dependency not only reduces the contextual relevance of PCF results but also introduces potential distortions when these results are compared across companies or assessed for compliance with international schemes.

Furthermore, currently, there is no nationally endorsed PCF methodology that operationalizes a hybrid LCA model suitable for Vietnamese industrial conditions. While international standards such as ISO 14067 and the GHG Protocol offer general guidance, the lack of country-specific adaptation creates confusion, particularly around system boundary definitions (e.g., Cradle-to-Gate vs. Cradle-to-Grave) and treatment of Scope 3 emissions. This results in inconsistent application of PCF methods and challenges in benchmarking emissions data for similar product categories.

(c) Need for structured administrative process

Although the proposed scheme is intended to begin as a voluntary initiative, no structured administrative process for carbon label application, review, and approval is currently in place. The operational modalities, such as application forms, review procedures, committee structure, and timelines, remain undefined. Moreover, the financial implications of implementing the scheme, both for the government (via the Administrative Agency) and for enterprises (in terms of PCF calculation, third-party verification, and label application), have not been fully assessed. These unresolved issues limit the willingness and capacity of enterprises, particularly SMEs, to participate in early-stage labelling efforts.

V.2. Capacity Building Needs

a) Regulatory Improvements

There is a need to establish a dedicated legal basis for a voluntary carbon labelling scheme that builds upon existing PCF systems. This could be done through a new decree or by integrating carbon labelling into existing legal instruments, such as Decree No. 43/2017/ND-CP on product labelling. Accompanying circulars should clarify the labelling criteria, PCF calculation standards, certification processes, and roles of relevant agencies. These instruments should align with Vietnam's NDC targets and future carbon market mechanisms to ensure policy coherence and promote export readiness.

b) Institutional Strengthening

There is a need for an independent administrative agency with solid technical knowledge and management capability to oversee the implementation and certification of carbon labels. This agency should be supported by technical and accreditation committees, including representatives from industry associations and relevant government bodies. Coordination mechanisms among line ministries such as MAE, MOIT, the Ministry of Construction (MOC), and others are also required to avoid regulatory overlaps and to promote harmonization across sectoral mandates.

c) Technical and Industry Support

Enterprises and stakeholders require access to sector-specific PCF guidelines based on existing standards like ISO 14067, PAS 2050, and the GHG Protocol. Country-specific GHG emission factor databases and an open infrastructure for sharing PCF data across the supply chain are also necessary to enable accurate and consistent calculations. Enterprises need guidance on selecting appropriate software solutions for PCF calculation based on sectoral applicability, compatibility with internal systems, and audit functionality.

d) Awareness and Stakeholder Engagement

There is a strong need for targeted capacity building for enterprises, government agencies, local service providers, and third-party verifiers. Aspects should include the PCF process, emission factor databases, calculation tools, and MRV protocols. Stakeholders also need familiarization with industry-specific methodologies to ensure market relevance. Stakeholder engagement through multi-sectoral working groups and communication campaigns is essential to build trust, foster ownership, and ensure that the carbon labelling framework is practical and inclusive.

V.3. Opportunities for Technical Assistance and Training

The implementation of a carbon labelling framework in Vietnam presents multiple opportunities for targeted technical assistance and structured training programs to address the identified institutional and technical gaps.

One key area is the development of PCF methodologies and sector-specific guidelines for target sectors. Technical assistance needed in the formation of industry working groups to repurpose existing international product category rules (e.g., European Commission Product Environmental Footprint Category Rules (PEFCRs)) to the Vietnamese context. These working groups should also identify priority products and emissions hotspots in each sector to guide PCF development.

Another area is the establishment of a national emission factor and supply chain database. International experts and donors can assist in designing an open infrastructure for PCF data sharing across supply chains. This includes setting up processes for the accreditation of emission factors and input values, as well as mechanisms for regular updates and verification. Technical support can also help integrate Vietnam's MRV systems with the data requirements of PCF and align them with emerging standards such as the Pathfinder Framework under PACT (World Business Council for Sustainable Development).

On the institutional side, capacity building is needed for the creation of an independent administrative agency under the MAE, responsible for overseeing the carbon labelling system. Technical assistance can support the establishment of its organizational structure, training on PCF review procedures, verifier accreditation, and scheme governance.

Targeted training programs should be designed for:

- Enterprises: Training should focus on GHG accounting, PCF calculation (cradle-to-gate), data collection, and documentation for verification
- Third-party verifiers: Program should cover PCF audit protocols, tools, and reporting requirements aligned with ISO 14064/14067 and GHG Protocol
- Industry associations and technical experts: Capacity building should emphasize the development of technical guidelines and default emission factor
- Government officials (MAE and line ministries): Training should address scheme design, policy coordination, and compliance monitoring

International experiences show that such training can also incorporate guidance on selecting appropriate software for PCF calculation, based on evaluation criteria such as alignment with GHG standards, data integration capabilities, audit functions, and cost effectiveness.

Finally, technical assistance should support awareness-raising and outreach campaigns to ensure

buy-in from enterprises and consumers. This includes designing a clear carbon label, effectively communicating its value to exporters and regulators, and encouraging early adoption during the pilot phase.

VI. RECOMMENDATIONS AND ROADMAP FOR IMPLEMENTATION

A roadmap is proposed for the development and implementation of the carbon labelling scheme in Vietnam as given in Table 23. Initially, the scheme can be introduced on a voluntary basis and in a phased approach.

Table 23. Tentative timeline for carbon labelling scheme in Vietnam

			2025	2026	2027	2028	2029	2030
Carbon labelling scheme for Vietnam	Capacity building	Training for relevant stakeholders						
	Institutional set-up	Establishment of verification system (certification + accreditation) for the pilot program						
	Technical track	Impact assessment of voluntary carbon labelling						
		Pilot scheme of the voluntary carbon labelling.						
		Evaluation of the pilot carbon labelling scheme						
	Policy framework	Decision on voluntary carbon reporting mechanism (voluntary carbon labelling)						

For instance, it can evolve from a pilot phase during commencement to a full implementation phase later on, followed by a mandatory compliance phase, after a few years. During the pilot phase, two or three products from priority sectors can be tested and in later phases, other sectors will be added to the scheme. Lessons learned from the pilot phase can serve as input to the design of the full implementation phase. Table 24 presents the short-, medium-, and long-term recommendations for implementing the carbon labelling program in Vietnam. Detailed descriptions are provided in the sections below.

Table 24. Recommended roadmap for carbon labelling program in Vietnam

Timeframe	Action Area	Recommendations
Short Term (2025–2026)	Legal & Institutional Setup	Issue formal decision to initiate voluntary carbon labelling; establish administrative agency.
	Capacity Building	Train enterprises, verifiers, and government officials on PCF and labelling procedures.
	Technical Infrastructure	Develop basic PCF guidelines, templates, and pilot verification mechanisms.
	Pilot Implementation	Launch pilot with 2–3 products in priority sectors and monitor results.
	Financing	Propose cost-recovery mechanisms and explore funding sources for the pilot.

Timeframe	Action Area	Recommendations
Medium Term (2027–2029)	Scheme Expansion & Standardization	Expand to new sectors like cement, steel, and food; refine methodologies.
	Institutionalization of Verification	Establish accreditation criteria and increase the verifier pool.
	Integration with Public Policies	Introduce carbon label criteria in public procurement and trade promotion.
	Digital Infrastructure	Build a web-based MRV system and ensure data interoperability.
	International Cooperation	Align with regional and global labelling systems and participate in platforms like PACT.
Long Term (2030 onward)	Mandating & Policy Embedding	Mandate carbon labelling for high-emission/export sectors via regulations.
	Market Alignment	Link PCF to national ETS and climate reporting systems.
	Global Harmonization	Establish mutual recognition with programs like EU PEF, Japan PCF, etc.
	Broader Policy Integration	Embed PCF into product regulations, ESG, and trade documentation.
	Full Lifecycle Accounting	Move from cradle-to-gate to cradle-to-grave PCF approach.

VI.1. Short term actions

To lay the groundwork for a credible and scalable carbon labelling framework in Vietnam, a series of foundational actions must be undertaken in the short term. These actions focus on formalizing the legal mandate, establishing institutional capacity, and preparing the technical foundations for piloting the scheme.

a) Formalizing the Legal Mandate for a Voluntary Carbon Labelling Scheme

In the absence of a comprehensive legal foundation for product carbon labelling, it is necessary for the Government of Vietnam, through the MAE, to issue a formal decision that recognizes carbon labelling as a component of the national GHG mitigation strategy. This decision should define carbon labelling as an integral part of the broader legal framework provided under LEP 2020, ensuring coherence with Decree No. 06/2022/ND-CP and its updates. In doing so, the legal instrument should clarify the roles and responsibilities of MAE and relevant line ministries including the MOIT, MOST and MOC, in administering and supervising various components of the scheme.

b) Establishment of the Independent Administrative Agency

In parallel with legal formalization, institutional mechanisms must be initiated through the creation of an Independent Administrative Agency under MAE. This agency will serve as the central technical and administrative body responsible for coordinating carbon label certification, overseeing methodological development, managing third-party verifier accreditation, and facilitating inter-sectoral stakeholder coordination. In the initial phase, it is recommended that an interim task force be established within the DCC under MAE. This task force should be responsible for designing the agency’s operational structure, recruiting personnel, and defining core functions and processes.

To support its technical mandate, the Administrative Agency should convene a Technical Standards Committee (TSC) and an Accreditation Committee (AC). These committees will draw representatives from government agencies, industry associations, and academic institutions to support the development of methodological guidelines and establish rules for verifier qualification, accreditation, and oversight. This structure mirrors international best practices and provides the institutional foundation required for piloting and scaling the labelling scheme. Table 25 provides the proposed roles and responsibilities of key entities. Figure 44 outline the legal framework for a carbon labelling scheme.

Table 25. Proposed roles and responsibilities of key entities

ENTITY	RESPONSIBILITY
MAE	<ul style="list-style-type: none"> ● Develop rules and implementation procedures based on the overall regulatory mandate proposed by the GoV. ● Identify and allocate resources/budget for the administrative agency ● Offer potential incentives for the carbon labelled products through coordination with other line ministries in both export and domestic market
INDEPENDENT ADMINISTRATIVE AGENCY (UNDER THE MAE)	<ul style="list-style-type: none"> ● Design the carbon label as necessary ● Develop the methodological approach needed for PCF and create technical guidelines through TSC ● Liaise with the industry associations to establish an inventory of emission factors and other inputs for PCF guidelines ● Develop guidelines for accreditation of the third-party verifiers through the accreditation committee ● Enforce and implement the carbon labelling scheme for identified target sectors through the carbon label certification committee ● Plan annual activities and prepare the budget for the scheme and mobilize resources ● Report on the implementation progress to the MOIT
INDUSTRY ASSOCIATIONS	<ul style="list-style-type: none"> ● Be part of the technical standards committee under the Administrative Agency and offer assistance in developing the technical guidelines for PCF calculation, default emission factors, and MRV requirements
THIRD-PARTY	<ul style="list-style-type: none"> ● Get accredited for verification of PCF under the Independent Administrative Agency ● Verify the carbon footprint calculations submitted by the enterprises

ENTITY	RESPONSIBILITY
ENTERPRISES	<ul style="list-style-type: none"> • Calculate the PCF and file the application along with third-party verified supporting documents for labelling approval. • Display carbon labels on all products/services, after issuance.

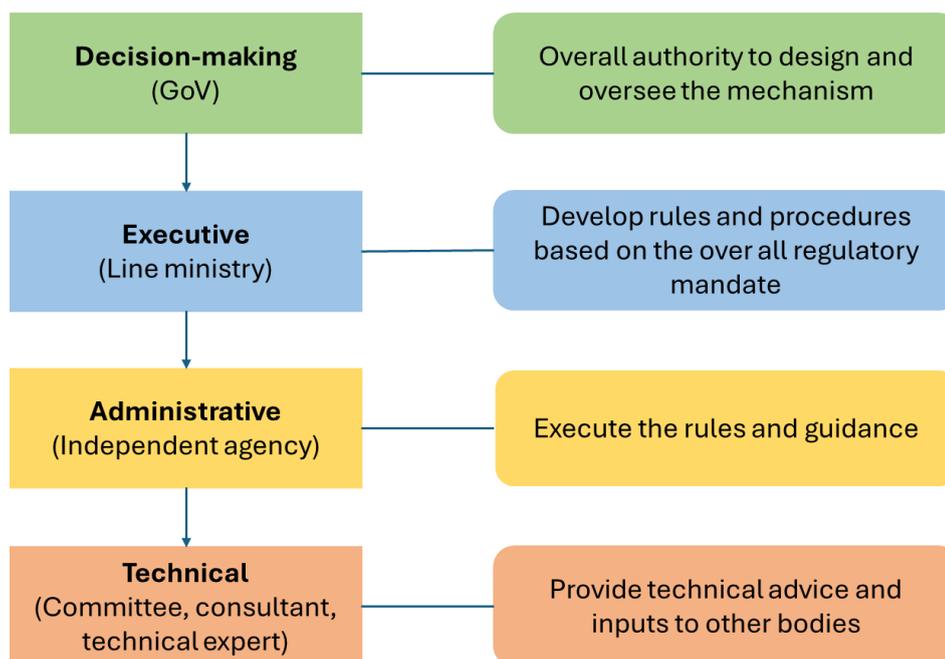


Figure 44. Legal framework for carbon labelling scheme

c) Development of Methodological Guidelines for Pilot Sectors

To ensure technical credibility and consistency, sector-specific methodological guidelines for calculating PCFs must be developed as part of the pilot phase. Building on the prioritization criteria established in earlier assessments namely export volume, carbon intensity, and exposure to international regulatory mechanisms such as the EU CBAM, it is proposed that 3 pilot products be selected from surveyed sectors. The final list of pilot sectors must be consulted with DCC before the pilot implementation.

Industry working groups should be consulted for each pilot sector to provide input to the development of PCF guidelines. These groups will be responsible for reviewing and adapting existing international methodologies such as ISO 14067:2018, PAS 2050, and the European Commission’s Product Environmental Footprint Category Rules (PEFCRs) and so on, to fit the specific production conditions and supply chain characteristics in Vietnam. The methodological guidelines should clearly define key technical parameters including system boundaries (e.g., cradle-to-gate), the scope of emissions to be covered (Scopes 1 and 2, with potential future inclusion of upstream Scope 3 emissions), data quality requirements, and verification criteria.

d) Design and Pilot a National Emission Factor and Supply Chain Data Infrastructure

Accurate and consistent PCF calculation requires a robust national infrastructure for emission factors and supply chain data. In the short term, efforts should be directed towards the design and piloting of such a system, beginning with the compilation of Vietnam-specific emission factors.

These should cover key variables such as electricity generation, transportation modes, raw material extraction, and production processes relevant to the pilot sectors.

This initiative should be carried out in collaboration with industry associations, technical experts, and institutions involved in maintaining Vietnam's national GHG inventory. Data collection protocols must be developed to ensure quality, traceability, and periodic updates. Where possible, alignment with existing MRV systems should be pursued.

An initial web-based platform should be launched to serve as the central repository for verified emission factors and product-level data. The platform must provide secure, user-friendly interfaces for data access and submission, with appropriate data governance standards in place. This infrastructure will enable companies, verifiers, and regulators to reference standardized data, thereby enhancing the credibility and comparability of carbon labels issued under the pilot scheme.

e) Implementation of the Pilot Voluntary Carbon Labelling Scheme

The pilot phase represents a critical opportunity to operationalize and test the methodological and institutional components of the carbon labelling framework. Selected enterprises from the identified pilot sectors should be invited to participate on a voluntary basis. These enterprises will be supported in calculating PCFs for their selected products using the published sector-specific methodology.

To ensure credibility and consistency, participating enterprises will be required to engage accredited third-party verifiers to validate their PCF calculations. In the initial phase, the verifier pool may be composed of certified energy auditors who receive additional training and accreditation in GHG emissions accounting. Verified PCF results and supporting documentation will then be submitted to the Administrative Agency, which will evaluate each application through a structured certification workflow. Approved products will receive carbon labels issued by the Agency, marking a key milestone in the practical rollout of the scheme.

f) Delivery of Foundational Capacity Building and Training

Effective implementation of the pilot requires targeted capacity building for key stakeholder groups, including enterprises, government personnel, industry associations, and third-party verifiers. Training sessions should be delivered to enterprise teams on topics such as data collection protocols, PCF calculation tools, documentation preparation, and verification engagement strategies. Likewise, verifiers should receive instruction on ISO 14067, the GHG Protocol, and sector-specific reporting formats and audit procedures.

Complementing these trainings, the Administrative Agency should develop user-friendly resources including technical manuals, checklists, calculation templates, and toolkits to guide participants through the pilot phase. These efforts will be critical in building technical confidence, ensuring procedural consistency, and strengthening overall scheme credibility.

g) Monitoring and Evaluation of Pilot Implementation

A robust monitoring and evaluation (M&E) system should be established to assess the pilot phase and generate lessons for future scaling. Key Performance Indicators (KPIs) should be defined at the outset, including metrics such as the number of enterprises and products participating, success rate of PCF verification, time required for certification, and qualitative feedback from stakeholders.

A systematic feedback loop should be maintained throughout the pilot to capture implementation challenges, procedural bottlenecks, and user experiences. These insights will be used to refine methodological guidelines, improve institutional structures, and strengthen data systems. The findings from the M&E process will form the foundation for adjustments needed before transitioning into the medium-term scaling phase of the carbon labelling scheme.

VI.2. Medium Term Actions

Following the successful implementation and evaluation of the pilot phase, the carbon labelling scheme should be progressively expanded and institutionalized. The medium-term actions focus on building system maturity by scaling the scheme across sectors, formalizing third-party verification, and enhancing technical infrastructure to ensure national consistency and international credibility.

a) Expansion of the Carbon Labelling Scheme to Additional Sectors and Products

Building on the insights and lessons generated from the pilot phase, the carbon labelling framework should be refined and adapted for broader application. The review of pilot results will guide the revision of sectoral guidelines, methodological specifications, and certification procedures to enhance usability, transparency, and sectoral relevance.

New candidate sectors such as steel, cement, and food processing should be prioritized based on a combination of carbon intensity, exposure to international trade-related carbon regulations (e.g., CBAM), and domestic or export market demand for low-carbon products. As new sectors are integrated, the national PCF data infrastructure must also be expanded to include additional Vietnam-specific emission factors and supply chain modules tailored to the specificities of each sector.

b) Institutionalization of Third-Party Verification

To ensure long-term credibility and scalability of the labelling scheme, third-party verification must transition from a provisional arrangement to a fully institutionalized system. The Administrative Agency should finalize and operationalize a national accreditation system for PCF verifiers, based on internationally accepted best practices and drawing from initial pilot experiences.

Clear accreditation criteria must be established, including minimum technical qualifications, training and certification standards, defined audit procedures, and ongoing performance monitoring requirements. This will create a structured, transparent, and accountable ecosystem of verification service providers. To support scale-up, the pool of accredited verifiers should be expanded through structured training programs, including collaborations with international accreditation bodies and carbon certification initiatives. This will help ensure verifier competence, geographic coverage, and consistency in PCF evaluation across all sectors of implementation. Figure 45 presents the step-wise procedure for the issuance of carbon labels for products.

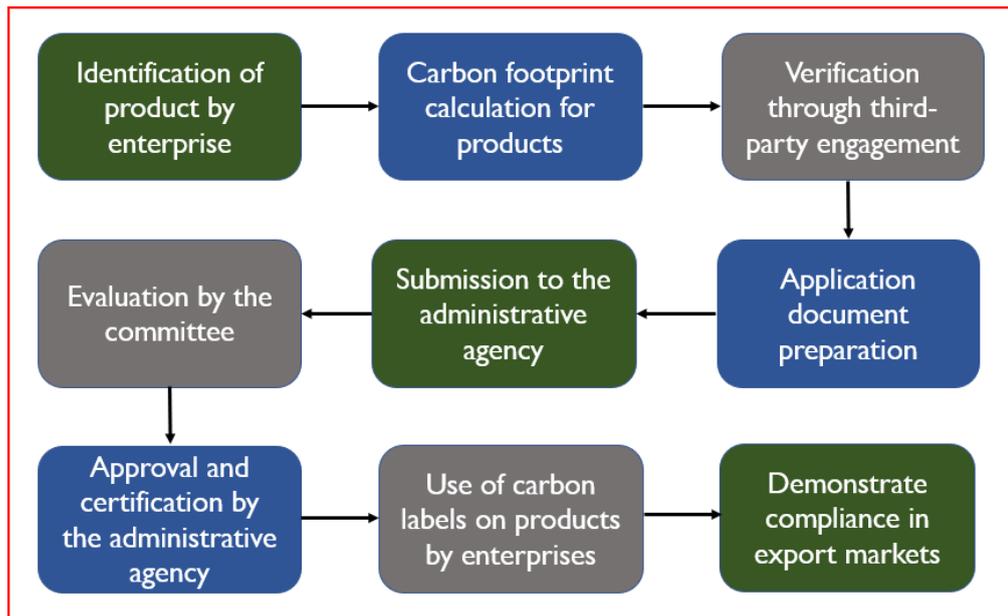


Figure 45. Step-wise procedure for issuance of carbon label for product

c) Integration of Carbon Labelling into Public Procurement and Trade Promotion Policies

To drive market demand and stimulate adoption of the carbon labelling scheme, the Government of Vietnam should mainstream low-carbon product recognition into national procurement and trade facilitation strategies. In coordination with the Ministry of Finance (MOF), the Ministry of Planning and Investment (MPI), and other relevant ministries, carbon performance criteria should be introduced into public procurement regulations, favoring products that carry verified carbon labels.

Parallel to regulatory alignment, the Government can design targeted incentive mechanisms to enhance participation. These may include preferential treatment in government tenders, tax incentives for labelled products, and marketing or branding support for companies demonstrating low-carbon innovation. In the international context, the recognition of verified carbon labels should be explored for inclusion in Free Trade Agreements (FTAs) and national export quality standards to enhance Vietnam's trade competitiveness and compliance with emerging global carbon regulations, particularly in the EU and US markets.

d) Issuance of National Guidance on Carbon Footprint Software Tools

As the scope and complexity of PCF calculations expand across sectors and supply chains, enterprises will require robust software solutions to manage data and streamline reporting. To support consistent and efficient tool adoption, the Administrative Agency should commission a national evaluation study of leading PCF software platforms currently in use (e.g., OpenLCA, SimaPro, Ecochain, OneClick LCA, SAP).

The assessment should review these platforms based on alignment with the GHG Protocol, compatibility with sector-specific guidelines, flexibility in data input (especially for Scope 3 emissions), ability to integrate with Enterprise Resource Planning (ERP) systems, and audit transparency. Following this evaluation, a comprehensive guidebook should be published to assist enterprises in selecting appropriate tools tailored to their operational needs, sector characteristics,

and reporting obligations. This guidance will help standardize methodological application and improve data quality and verification consistency across users.

e) Enhancement of the MRV System and Digital Reporting Infrastructure

To support reliable and scalable implementation of carbon labelling across sectors, Vietnam must modernize its MRV system. Building on the initial Excel-based tools proposed for the pilot phase, a web-based MRV platform should be developed with standardized templates, built-in guidance, and automated validation features. This will reduce administrative burden for enterprises while improving data consistency and auditability.

The upgraded MRV system must be designed for interoperability with Vietnam's broader GHG inventory and sectoral MRV platforms, particularly those being developed under ETS roadmap. Key functionalities should include traceability of emission calculations, document version control, and secure access for accredited third-party verifiers. This digital architecture will be critical for ensuring transparency, maintaining verification integrity, and facilitating future integration with international systems.

f) Deepening of International Cooperation and Alignment

To future-proof the Vietnamese carbon labelling framework and enhance its international credibility, medium-term efforts should prioritize collaboration and alignment with global initiatives. Vietnam should establish formal cooperation with platforms such as the Partnership for Carbon Transparency (PACT), the World Business Council for Sustainable Development (WBCSD), and ASEAN's Sustainable Consumption and Production (SCP) initiatives. These partnerships will enable harmonization of methodologies, mutual recognition of standards, and exchange of implementation experiences.

Special attention should also be given to aligning with the evolving technical guidelines of the EU CBAM. Key areas for alignment include system boundaries (e.g., cradle-to-gate), emissions scopes, MRV procedures, and verification protocols. In parallel, Vietnam can seek donor and technical assistance to conduct regional benchmarking and interoperability assessments with foreign carbon labelling systems. These actions will enhance market access for Vietnamese exports and position the national framework as a credible and adaptive system within the global carbon transition landscape.

VI.3. Long-Term Actions (5+ years)

a) Mandating Carbon Labelling for High Emission and Export Critical Sectors

Once the voluntary phase proves successful, the GoV, via MAE, should transition to mandatory carbon labelling in sectors with significant GHG emissions or high exposure to international carbon trade measures such as the EU CBAM. A regulatory circular should be issued to define the scope of the mandate, identifying eligible product categories and establishing technical requirements for labelling. This circular must specify standardized formats for emissions disclosure, verification timelines, and compliance procedures. By embedding these criteria into legally binding instruments, Vietnam can ensure consistency, accountability, and competitiveness for key export sectors, reinforcing the credibility of low-carbon Vietnamese products in global markets.

b) Integration of Carbon Labelling into the National Carbon Market and Climate Policy Instruments

To reinforce policy coherence and maximize the value of carbon labelling, PCF calculation methodologies and MRV protocols should be fully aligned with the ETS framework. This integration will enable enterprises that have obtained certified carbon labels to benefit from ETS-linked mechanisms such as allocation of tradable emission allowances, official credit recognition, and incentives like reduced reporting requirements or fiscal support. Moreover, aggregated carbon labelling data, derived from verified PCFs across labelled product portfolios, should be leveraged to enhance Vietnam's national climate reporting. These verified figures can feed into Biennial Transparency Reports (BTR) submitted under the UNFCCC, strengthening Vietnam's ability to demonstrate progress on emission reductions and adherence to international obligations.

c) Harmonization of Vietnam's Carbon Label with International Schemes

To ensure long-term relevance and global acceptance, Vietnam's carbon labelling system should be harmonized with international programs through mutual recognition arrangements. Strategic cooperation should be pursued with established schemes such as the EU's Product Environmental Footprint (PEF), Japan's PCF program, and Singapore's LowCarbonSG initiative. These agreements would facilitate equivalence in labelling standards and reduce the verification burden for exporters, particularly in sectors facing compliance obligations under CBAM and other international mechanisms.

Vietnam's carbon label should also be actively promoted in export markets as a reliable mark of sustainability and product quality. This will not only enhance brand positioning but also differentiate Vietnamese goods in carbon-sensitive markets. Engagement in international platforms such as ASEAN's SCP initiative and WTO-led environmental goods negotiations will be essential for co-developing shared standards, ensuring compatibility of MRV systems, and securing Vietnam's role in shaping global trade rules for low-carbon products.

d) Embedding Carbon Labelling into Broader Product Policy and Trade Systems

As the carbon labelling scheme matures, it should be institutionalized across related policy domains to ensure cross-sectoral consistency and maximize climate impact. This includes integrating carbon labelling requirements into Vietnam's product quality regulations, consumer protection frameworks, and customs documentation systems. Enterprises should be required to disclose carbon footprint data as part of ESG reporting obligations, environmental licensing processes, and compliance with circular economy regulations.

Moreover, carbon label indicators should be embedded within Vietnam's national branding and export promotion strategies. Leveraging the carbon label as a recognized symbol of sustainability can boost consumer trust and competitiveness in international markets. This strategic alignment will reinforce Vietnam's long-term trade resilience and climate policy ambition, while supporting its transition towards a low-carbon economy.

e) Expansion of the PCF Data Ecosystem to Support Full Lifecycle and Cross Sectoral Integration

As Vietnam's carbon labelling scheme advances, its underlying PCF system should evolve from a narrowly focused cradle-to-gate model to a full cradle to grave lifecycle approach, particularly in sectors with mature data and technical readiness. This transition will enable a more complete accounting of emissions associated with product use, maintenance, and end-of-life stages critical for sectors like electronics, consumer goods, and packaging.

In parallel, the PCF data infrastructure should be linked with national systems for circular economy, resource efficiency, and waste management to support holistic sustainability assessment and policy coherence. This will allow policymakers to evaluate the environmental impacts of products across multiple dimensions and design incentives that align carbon, material, and resource performance. Furthermore, Vietnam should take steps to establish a regional PCF database gateway, interoperable with ASEAN data platforms and global supply chain systems. This would enhance transparency, foster mutual recognition, and facilitate the flow of low-carbon goods across borders.

f) Development of Sustainable Financing and Cost-Recovery Mechanisms

To ensure the long-term financial sustainability of the carbon labelling program, a diversified funding model should be adopted. A tiered fee structure for certification and verification services can be introduced, scaled according to company size, sectoral impact, and revenue, with reduced rates or exemptions for SMEs and export-oriented producers. This would make participation in the scheme more equitable and encourage wider uptake across sectors.

Vietnam should also explore leveraging public–private partnerships and climate finance instruments to support the infrastructure, capacity building, and technology needs of the program. Potential sources include the GCF, the Joint Crediting Mechanism (JCM), and emerging carbon finance markets. Additionally, a share of revenues from the national ETS or allocations from green fiscal budgets could be earmarked for maintaining and upgrading the carbon labelling ecosystem. This integrated approach will ensure that the scheme remains technically robust, accessible to stakeholders, and responsive to evolving national and international priorities.

VII. CONCLUSION

VII.1. Summary of key findings

This study has assessed the current landscape and readiness for implementing a carbon labelling scheme in Vietnam. It highlights that while there is increasing awareness and interest from both public and private sectors, significant gaps remain in the legal framework, institutional capacity, technical infrastructure, and market readiness. The LEP 2020 provides a strong policy foundation, yet specific legal instruments and operational structures for voluntary PCF and labelling are still absent.

The survey of enterprises in priority sectors such as textiles, electronics, seafood, and wood products reveals limited availability of primary activity data, a lack of Vietnam-specific emission factors, and low internal capacity for PCF calculation and verification. Institutions such as MAE and relevant line ministries have begun preliminary planning, but dedicated agencies and verification systems are yet to be established. Lessons drawn from international case studies affirm that a phased, sector-specific, and standards-aligned approach is essential for success.

VII.2. Final recommendations for policy and capacity building

To effectively implement a carbon footprint labelling program that aligns with international best practices and meets Vietnam's trade, climate, and industry goals, the following recommendations are proposed:

- Launch the pilot as a voluntary program, targeting high-emission and export-oriented sectors such as construction, electronics, textiles, and food processing.
- Define the scope and coverage of the program clearly, specifying which sectors and product types are included, along with the level of detail required in carbon footprint assessments.
- Develop foundational documents like the General Program Instructions (GPI) and PCRs, and make them publicly accessible to ensure standardization and transparency.
- Establish a national accreditation and verification system to ensure credibility and build trust in third-party verification processes.
- Since third-party verification involves significant costs, the government should assess how much financial assistance it can offer, especially to SMEs.
- Integrate CFP into national strategies, including the net-zero roadmap, NDCs, GPP, and ESG frameworks, to align climate action with trade and investment goals.
- Drawing from international frameworks like the EU's CBAM, Vietnam should establish clear guidance on data sources and accountability, outlining responsibilities for both manufacturers and associated entities.

VII.3. Next steps for moving towards a national carbon labelling framework

The immediate next step is to launch a pilot program involving 2–3 key products from priority sectors. This should include the development and publication of PCF guidelines, establishment of interim verification mechanisms, and initiation of capacity-building activities. The pilot's outcomes will inform adjustments to technical methods, institutional design, and financing models.

Following the pilot, Vietnam should progressively expand the labelling scheme, formalize third-party verification systems, and integrate carbon labels into public procurement and trade promotion policies. In the long term, carbon labelling should be embedded into national ETS design, MRV

systems, product regulation, and climate reporting. Through international cooperation and strategic alignment, Vietnam can position its carbon label as a credible sustainability signal in global markets and accelerate its transition to a low-carbon economy.

VIII. ANNEXES

VIII.1. Survey Questionnaire

SURVEY QUESTIONS

(To determine the current organizational system and institutional setup for both the private and public sectors to manage carbon labelling requirements.)

(Attached to Official Dispatch No. 362/BDKH-TTTCB dated 29 May 2025 requesting collaboration to survey on readiness to participate in voluntary carbon labelling)

I. CONTACT INFORMATION

Full name	
Position	
Phone number	
Email address	

II. BASIC INFORMATION ABOUT THE ENTERPRISE

Company name	
Address	
Phone number (Head Office)	
Website	
Year established	
Legal representative	
Type of business	<input type="checkbox"/> Foreign Direct Investment (FDI) <input type="checkbox"/> Joint Stock Company <input type="checkbox"/> Limited Liability Company <input type="checkbox"/> State-owned enterprise <input type="checkbox"/> Other (please specify): _____
Business size	<input type="checkbox"/> Micro (≤ 10 people, annual revenue or registered capital under 3 billion VND) <input type="checkbox"/> Small (≤ 100 people, annual revenue under 50 billion VND or registered capital under 20 billion VND) <input type="checkbox"/> Medium (≤ 200 people, annual revenue under 200 billion VND or registered capital under 100 billion VND) <input type="checkbox"/> Large

Primary sector of business	<input type="checkbox"/> Agriculture <input type="checkbox"/> Food <input type="checkbox"/> Healthcare / Pharmaceuticals <input type="checkbox"/> Chemicals <input type="checkbox"/> Construction <input type="checkbox"/> Environment <input type="checkbox"/> Manufacturing <input type="checkbox"/> Transportation <input type="checkbox"/> Other: _____
Main product	
Nominal production capacity of the facility for the main product (design)	____ (units/year) (Please specify the unit)
Current production capacity of the facility for the main product (actual)	____ (units/year) (Please specify the unit)
Target market of the product	<input type="checkbox"/> Domestic <input type="checkbox"/> Export <input type="checkbox"/> Both
If your company exports goods/products, please state the total volume exported:	____ (units/year) (Please specify the unit)
Is the facility listed as a key energy-consuming establishment (Decision No. 1011/QD-TTg) and/or listed under greenhouse gas (GHG) inventory requirements (Decision No. 13/2024/QD-TTg)?	<input type="checkbox"/> Listed in Decision No. 1011/QD-TTg <input type="checkbox"/> Listed in Decision No. 13/2024/QD-TTg <input type="checkbox"/> Both

III. FOCUS QUESTIONS

Basic terms and definitions

- *Carbon footprint or GHG: The total amount of GHGs (e.g., CO₂, CH₄, N₂O, SF₆, HFCs, PFCs, NF₃) generated by a company's activities.*
- *Carbon labelling: Indicates the GHG emissions resulting from the production, transport, or disposal of a consumer product, helping consumers understand its environmental impact.*
- *ESG: A set of standards for a company's operations that socially conscious investors use to screen potential investments.*

1. Are you aware of any climate change-related activities or information from the Government

- Net zero emissions by 2050
 - Annual GHG inventories required for businesses
 - Development of circular economy, green economy, and digital transformation
 - Never heard
2. Have you heard about the following concepts?
- Carbon Footprint
 - Carbon Labelling
 - GHG Inventory
 - Carbon Market
 - CBAM
 - Emission standards and certifications (ISO 14067, PAS 2050, GHG Protocol, etc.)
 - LCA
 - ESG standards and strategies in the enterprise
 - Never heard
3. How did you learn about carbon footprint or carbon labelling?
- Government plans
 - Publications by associations
 - Certification bodies
 - Parent company / Customers
 - Competitors
 - Other (please specify): _____
 - Never heard
4. Does your company or product need to meet any requirements regarding GHG emission assessments or carbon labelling certification?
- Yes
 - No
5. If question number 4 is “Yes”, then please specify the mandatory standards for carbon labelling:
- No specific requirement
 - GHG Protocol
 - ISO
 - British Standards Institution (PAS)
 - LCA
 - Other (please specify): _____
6. Before purchasing a material/product, do you consider its carbon footprint or GHG emissions?
- Yes
 - No
7. If question number 4 is “Yes”, then, why do you consider your company’s carbon footprint or GHG emissions?
- Customer demand or entry into new markets
 - Carbon standard to which the company participates
 - Parent company requirements
 - Our own Corporate Social Responsibility (CSR) policy (e.g., environmental protection, corporate image)

- Business cost reduction plan
 - Competition with similar market players
 - Government requirements
 - Other (please specify): _____
8. Has your business conducted any GHG inventories or carbon footprint assessments in recent years?
- Yes
 - No
 - Not sure
9. If question number 8 is “Yes”, then which method/standard did you use for GHG inventory?
- GHG Protocol
 - ISO standards
 - PAS standards
 - LCA
 - Other (please specify): _____
10. If question number 8 is “Yes”, then which department in your organization conducted the GHG inventory?
- Technical department
 - Environmental department
 - External consultant
 - Other (please specify): _____
11. If carbon footprint labelling or GHG inventory is being carried out, then what is the frequency?
- Once during the process/product lifecycle
 - Annually
 - Upon customer request
 - Other (please specify): _____
12. When is the next period of carbon footprint labelling/GHG inventory to be carried out in your organization?
- FY 2025
 - FY 2026
 - Upon customer request
 - No plan
 - Any other?
13. Does your business produce ESG or environmental reports?
- Yes
 - No
 - Already planned
 - Don't know ESG reporting
14. Has your business ever organized any projects/programs/events related to carbon footprint assessment or climate change?
- Yes
 - No

If yes, please briefly describe the project/event: _____

15. Since carbon neutrality is becoming a global trend, and private sectors are expected to commit to climate change mitigation through ESG. Do you see any opportunities or challenges for your current business?
- Yes, it motivates us
 - No
 - We need further research
 - Other (please specify): _____
16. Does your company have set targets and quantitative plans for GHG emission reduction?
- Yes, we have both targets and reduction plans
 - Yes, but only targets
 - Yes, but only a reduction plan
 - No, we have neither
 - We don't know what GHG emission reduction target is.
17. If yes, what are your motivations for setting these targets? (select all that apply)
- Enhance company image
 - Improve employee knowledge and perspectives
 - Make employees proud of the organization and/or satisfied with their working environment
 - Reduce production costs (mainly by saving resources)
 - Reduce production errors and waste rates
 - Influence customer retention
 - Increase market share
 - Shorten production time
 - Enhance product value to the target customer group
 - Increase net profit
 - Interest in green environment
 - Other (please specify): _____
18. Have the GHG emission reduction targets and/or plans been announced?
- Yes
 - Not yet, because: _____
 - Under consideration
19. Do you think GHG inventory and carbon labelling will be?
- Mandatory
 - Voluntary
 - Initially voluntary, then required
 - Other (please specify): _____
20. If carbon labelling is required for your company's products, what information do you think it should include?
- Specific GHG emissions per unit of product
 - Product performance levels based on GHG emissions (e.g., Gold / Silver / Bronze or star

- ratings)
- Indication of carbon footprint reduction
 - All of the above
 - Other (please specify): _____
21. At which stages can the carbon footprint be considered and managed? (select all that apply)
- The company's internal production process
 - Emissions from upstream suppliers in the supply chain
 - Emissions from the processing/use phase of the product by end users in the supply chain
 - Other (please specify): _____
22. Does your company have any plans to implement measures or projects to reduce GHG emissions?
- Yes, we are already implementing them
 - Yes, we have planned
 - No, we want to consider doing so in the future
 - No, we have no such plans to implement
23. Please describe in detail the measures/projects your company has implemented and/or is planning to implement. _____

(For companies that provide detailed information, we may follow up after the survey to explore potential partnerships)

24. Has your company assigned responsibility for GHG inventory or carbon footprint assessment to any specific department?
- Yes, full-time staff have been assigned to a dedicated department
 - Yes, staff have been assigned because carbon data is related to their original roles
 - No one has been assigned
 - Other (please specify): _____
25. How many employees are currently in charge of carbon emissions assessments in your company? _____

26. How many of the following criteria motivate your company to take action to reduce GHG emissions?

[5: Strongly agree, 4: Somewhat agree, 3: Neutral, 2: Somewhat disagree, 1: Strongly disagree, Unsure]

Reasons for taking up GHG emission reduction actions	5	4	3	2	1	Unsure
It can contribute to national targets under NDC						
It is a social responsibility						
It is stated in our CSR and disclosed to stakeholders						
Peer pressure from other companies/sectors						

Reasons for taking up GHG emission reduction actions	5	4	3	2	1	Unsure
It can reduce business costs (e.g., energy savings)						
It can improve medium- and long-term performance						
Pressure from suppliers/business partners						
It can become a new business opportunity						
Initiatives from corporate group and/or headquarters						
Requirements from ministries/sectors						
Other (please specify):						

27. What difficulties does your company face in implementing GHG emission reduction actions? (select all that apply)

- Low prioritization of climate mitigation actions
- Lack of clarity on how to implement them
- Lack of human resources
- Lack of financial resources
- Lack of information on climate change mitigation actions
- Lack of management-level understanding
- Lack of information on methods and/or techniques
- Unclear of effectiveness
- Other (please specify): _____

28. What support does the association your company belongs to provide for GHG emission reduction actions?

- Proactively provides timely and complete information on policies, rules, and regulations
- Shares technical trends and best practices from other companies
- Actively voices member companies' opinions to the government
- Fully supports member companies' actions on climate change mitigation
- Plays an important role in decision-making on climate mitigation actions
- Other (please specify): _____

29. The Government of Vietnam will require facility-level GHG emission reports for large emitters under Decree 06/2022/ND-CP. What kind of support does your business need?

- Guidelines / Technical instructions
- Business training/Capacity building
- Consulting / one-on-one support
- Other (please specify): _____

VIII.2. International stakeholder consultation

Table 26. International stakeholder details

No	Name/Organization	Details
1	Thailand PCF Organization	TGO
2	Japan Carbon Footprint Organization	SuMPO EPD
3	CFIA	Carbon Footprint International Alliance
4	Mr. Michael Mehling	Deputy Director, MIT Center for Energy and Environmental Policy Research (CEEPR)
5	Mr. Vivat Khositsakul	Managing Director, Advance Energy Plus (AEP)
6	Dr. Hubert Fallmann	Senior Expert on EU ETS and CBAM

1. Summary from Thailand - TGO

Stakeholder's Name: Mr. Pathom Chaiyapruksaton, Ms. Nonthaphat Sangsongsin

Designation: Senior Manager, Manager/Technical Officer, Senior Professional Level

Organization: Low Carbon Business Certification Office, TGO.

Email ID: pathomc@tgo.or.th

Date: 29 May 2025 (Thursday)

Time: 8.30 am to 9.30 am, IST

Quick note:

The discussion highlighted Thailand's efforts in developing a carbon labelling scheme since 2009 to support carbon footprint measurement, reduction, and certification for products and organizations. Five main labels have been introduced, and over time, the program expanded to align with international standards and partnerships, including those with Korea and the CFIA. Despite initial challenges like limited data and capacity, TGO built local expertise, created its own databases, and engaged industries. Currently, for PCF, 10,027 products from 1,047 organizations have been certified. For CFO, 1,527 organizations have been certified.

Summary of discussion:

Thailand's Carbon Labelling Framework

- Thailand targets net zero emissions between 2050–2065.
- TGO initiated the Thai Carbon Labelling Scheme to encourage carbon footprint measurement, reduction, and certification.

- Launched in 2009, the scheme was developed with the TIIS.
- Five key carbon labels have been introduced:
 1. PCF – 2009
 2. CFO – 2011
 3. Carbon Offset / Neutral Label – 2013
 4. CFR – 2014
 5. CE-PCF – 2021

Key Label Details

- **PCF**
 - Quantifies GHG emissions across the product lifecycle—from raw materials to disposal.
 - Follows International Organization for Standardization ISO 14067 / ISO 14044.
- **CFR**
 - Highlights carbon reductions over time; must show at least 2% reduction from PCF or meet TGO benchmarks.
- **CE-PCF**
 - Promotes circular economy products with at least 20% recycled content and a lower carbon footprint compared to virgin alternatives.
- **CFO**
 - Supports organizations in calculating and reducing GHG emissions.
 - Uses international standards like ISO 14064-1, 14064-3, 14065, and ISO/PDTR 14069.
 - Aims to improve reliability and global recognition.

Implementation Statistics

- 10,027 products and 1,047 companies certified under PCF.
- 1,527 organizations are certified under CFO.
- TGO develops 2–3 PCRs⁴⁶ each year (National level PCR).
- Certification and registration processes for PCF, CFR, and CE-PCF are similar with regard to necessary processing documentation (includes Application Form, Consultant, PCR, PCR form, Verification Sheet, PowerPoint Presentation, Verifiers, Emission Factor, PCF Guideline)

International Collaboration

- In 2014–2015, Thailand and Korea exercised a mutual certification pilot for cross-recognition of product carbon labels.
- The Thai Carbon Labelling scheme joined the CFIA through an MoU to strengthen international cooperation and standardization.

Personal Carbon Footprint

- “Net-zero Man” mobile app provides a one-stop service for individuals to measure, reduce, and offset their emissions.

How Challenges Were Overcome

Initially, inadequate knowledge and expertise were the major challenge. However, it was overcome from

- Learning from global experiences.

⁴⁶ PCRs are specific guidelines that dictate how to assess and report the environmental impact of a product's lifecycle. To assess the carbon footprint of each product, PCR must be followed.

- Developing customized emission databases and standards following IPCC methods.
- Engaging major industries and built capacity over 10+ years.
- Identifying gaps and improved.
- Strong support and involvement from the Federation of Thai Industries during the design and implementation processes.

Experience with CBAM and Carbon Tax

- Clarity and a better understanding of emission levels and mitigation costs during export and import are important.
- For any emissions not priced within the country, the Thailand exporters will pay at the import point as per EU regulations (by law), such as the CBAM or carbon taxes.

Capacity Building and Support

- Separate training teams available for industry guidance.
- Followed GHG Protocol and ISO standards (most commonly used) for monitoring, reporting and verification.
- Support from Small and Medium Enterprise Development Bank of Thailand (SME-D Bank) and the Office of Small and Medium Enterprise Promotion (OSMEP) of Thailand
- Technical assistance and subsidy given for SMEs to undergo PCF & CFO.

Certification Ecosystem

- CFO: 17 verification bodies (entities) are accredited in accordance with ISO 14065 by the National Accreditation Body (TISI, which is the IAF member).
- PCF: 95 Verifiers (individuals), 7 verification bodies (entities) are registered according to the TGO eligible requirements.

Key Takeaways:

- Start with a few core carbon labels (e.g., product and organization) and expand gradually.
- Align the carbon labelling system with international standards (like ISO 14067, 14064) to ensure global recognition.
- Develop a step-by-step plan for PCRs, beginning with key sectors involved in major exports.
- Build a network of certification and verification bodies to support credibility.
- Provide technical and financial support for SMEs to participate in carbon labelling.
- Use digital tools (e.g., mobile apps) to engage the public in carbon footprint reduction.
- Learn from other countries but adapt approaches to Vietnam's context.
- Partner with industry associations to scale adoption and gather timely feedback subsequently.
- Plan for long-term development, allowing time for capacity building and system improvement.
- Explore international cooperation and mutual recognition to prepare for carbon regulations like CBAM.
- Invest in data systems and staff training to support accurate emissions calculation, monitoring, and reporting.
- Government leadership and multi-stakeholder coordination are essential to succeed.

2. Summary from Japan Carbon Footprint Organization – SuMPO EPD

Stakeholder Name and Designation: 1. Mr. Yuta Kamiya – Deputy Unit Manager,
2. Mr. Hiro Iwashita - Director

Organization: SuMPO EPD Japan.

Email ID: kamiya@sumpo.or.jp

Date: 18 June 2025 (Wednesday)

Time: 10.30 to 11.30 AM IST

Quick note:

The meeting focused on learning from Japan's experience with its EPD and carbon labelling system, operated by SuMPO EPD, an independent non-profit organization, which has over 70 product category rules and 3,000 active EPDs. Discussions centered around the scheme's structure, implementation history, motivation for industry participation, and possible implications for Vietnam's pilot voluntary carbon labelling project. The program integrated carbon footprint and other environmental indicators, with government incentives like subsidies and public procurement criteria. Challenges included initial resource constraints which were overcome through academia-supported research and tool development. Key recommendations for Vietnam include starting with voluntary PCF calculations and gradually expanding to broader environmental assessments.

Summary of discussion:

1. Introduction to Japan's EPD Program (SuMPO EPD):

- SuMPO is a private, non-for-profit organization which became independent from the Japan Environmental Management Association for Industry (JEMAI) in 2019
- The program integrated two earlier schemes: Ecoleaf and CFP communication program, now unified as "SuMPO EPD Japan."
- SuMPO has over 30 years of knowledge and experience, with more than 20 years in EPD program operations.
- Operates with about 70 Product Category Rules (PCRs). 700 new declarations approved in 2024 resulting in a total of 2,900 active EPDs as of March 2024. About half of the PCRs (over 30) are in construction and the other half is for other industries
- Major sectors covered are construction, electronics, and consumer goods (food/beverages, textiles and so on).
- Product category breakdown as of March 2025: 65% from electrical and electronics, 15% from Construction and 20% from other steel (non-construction), foods, beverages, packages, etc.

2. Program Structure and Verification:

- The program structure is based on ISO standards: ISO 14040/44 (LCA), ISO 14025 (EPD), ISO 14067 (CFP).
- The program offers two types of options for verification:
 - Product-to-product verification (verification for specific products or product groups)
 - System certification (company-level approval allowing faster multi-product verification)
- EPD includes multi-criteria information, not only carbon footprint but also assessments related to other environmental aspects, including resource use, biodiversity, water, energy, etc., throughout product's lifecycle.

3. Motivations and Benefits to Industries participating in EPD:

- It basically operates on voluntary-basis in the Japanese market. However, the Japanese government is providing incentives (e.g., subsidies for LCA, carbon footprint) for labelled products.

- EPDs can be used in schemes like Leadership in Energy and Environmental Design (LEED), a green building rating system in the United States (US) and Japan's Green Public Procurement (GPP) Law.
- Participation is often driven by market pressure, export competitiveness, and public image.
- SuMPO EPD are working together with industries, government, investors, manufacturers, and consumers to meet the Carbon neutrality goals (net-zero by 2050, 46% GHG reduction by 2030) and create demand for disclosure tools like EPDs or CFP.

4. Policy and Government Role:

- Though independent, SuMPO closely collaborates with the key ministries (i.e., the Ministry of Environment, METI, MLIT, and MAFF) to support fulfilling the government initiatives towards their decarbonization and sustainability goals.

5. Relation to International Policies like CBAM:

- No direct link between EPD and CBAM (CBAM focuses on factory-level emissions).
- However, data from EPDs may be useful in developing compliance documents for CBAM or product-level carbon accounting in exports.

6. Initial Challenges:

- The program still faces some ongoing challenges.
- Initially, there were major constraints on human and financial resources, which were addressed by partnering closely with academia, ministries, and industries. Also, the program engaged with LCA practitioners to bring the tool into practice.
- JEMAI, the original owner of SuMPO EPD programme, developed an LCA software called MiLCA to make manufactures conduct LCAs and create EPDs easier.
- SuMPO EPD received support from ministries, especially METI, who encouraged manufacturers to conduct LCAs and issue EPDs.
- After 10-plus years of initial operation, the program has started gaining momentum due to the environmental and socio-economic benefits instilled by the Sustainable Development Goals (SDGs) and the Paris Agreement.

7. Accreditation and Verification Systems:

- Verifiers are accredited based on a rigorous criteria, including prior LCA and CFP experience, completion of a 2-day training, an exam, and two additional on-the-job training sessions before receiving approval from the EPD programme.
- The verifiers shall submit regular assessments to the EPD programme as a part of compliance to maintain their credentials.
- Also, the EPD programme conducts the quality check every year, to monitor the quality of each verifier registered in the programme.

Recommendations for Vietnam's Voluntary Carbon Labelling Pilot:

- **LCA/CFP and Verification Costs:** It is important to assess how much financial support the government of Vietnam is willing to provide, particularly concerning verification, as this process involves significant costs.
- **Government Assurance and Compliance:** Clarify the level of assurance the government wants to seek, especially concerning third-party verification requirements.
- **Scope and Coverage of the Carbon Footprint Program:** Define how broad and detailed the program should be in terms of sectors covered, types of products by identifying the

government's priorities for which sectors or products to work on first, and properly allocate resources to such prioritized sectors.

- **Data Sources and Accountability:** Frameworks like CBAM require emission data from manufacturers and reporting from associated entities such as importers in the EU market. Vietnam should establish clear guidance on how data should be collected and passed down to the importers.
- **Improving CFP Calculation and Reporting:** Strengthen the process of collecting, calculating, and reporting carbon footprint data to ensure accuracy, transparency, and consistency.
- **Foundational Documentation:** Develop essential reference guidance for every manufacture can follow. Such documents are called the General Programme Instructions (GPI) and Product Category Rules (PCRs) in EPD scheme. These documents should be made publicly accessible to promote transparency and support standardized CFP calculations and declarations.
- **Consider multiple environmental aspects:** CFP is one of many environmental indicators of products. Other aspects such as water consumption and impacts on resource use and nature should also be taken into consideration.

Key Takeaways:

Key lessons learned from Japan's EPD program that can be applied to Vietnam's carbon labelling program:

1. **Start Voluntary:** Begin with a voluntary approach to encourage initial participation from industries.
2. **Focus on Education:** Invest in training and capacity building for practitioners and verifiers.
3. **Develop Comprehensive Tools:** Create clear guidelines, program instructions, and product category rules to guide implementation.
4. **Provide Incentives:** Explore government incentives like subsidies, procurement preferences, or certification scheme points to motivate participation.
5. **Consider Broader Impact:** Look beyond just the carbon footprint to include a comprehensive environmental impact assessment.
6. **Collaborate with Stakeholders:** Work closely with government sectors, academia, and industries to develop the program.
7. **Build Flexibility:** Design the program to adapt to future international market requirements and potential regulatory changes.
8. **Gradual Approach:** Start with calculation and verification processes that are cost-effective and gradually increase rigor.
9. **Long-term Vision:** Aim for broader goals like carbon neutrality and public communication of environmental efforts.
10. **Continuous Improvement:** Regularly update verification processes and maintain high-quality standards through ongoing training and surveillance.

3. Summary from CFIA

Stakeholder's Name: Mr. Daniele Pernigotti

Designation: Director

Organization: Carbon Footprint of Italy.

Email ID: cfia@carbonfootprintitaly.it

Date: 16 June 2025 (Monday)

Time: 1.30 pm to 2.00 pm, IST

Quick note:

The discussion provided insights on advancing carbon footprint practices from CFIA member countries. Membership in CFIA requires alignment with ISO standards. Also, specific recommendations for Vietnam were shared with emphasis on the importance of establishing a national accreditation body and aligning the carbon footprint system with international frameworks for effective implementation.

Summary of discussion:

- CFIA is a voluntary group where countries (such as Italy, New Zealand, Korea, Thailand, Costa Rica and Los Angeles) and programs work together, supporting and sharing their experiences with each other, on carbon footprint labelling.
- CFIA supports international cooperation by signing MoUs with other countries.
- To join CFIA, countries need to follow ISO-based systems for carbon footprint labelling.
- Italy and South Korea are key members ("2 pro-operators") and have signed a cooperation agreement.
- The Carbon Footprint of Italy created its labelling system and is the first founder of CFIA.
- Countries like South Korea, China, and Indonesia are now using carbon footprint labelling.
- The Carbon Footprint of Italy is developing an eligibility criteria, with a focus on ISO standards.
- CFIA does not limit the types of products that can be labelled.
- At the Conference of the Parties (COP) in Glasgow in 2021, countries such as the United States, New Zealand, and Costa Rica joined the alliance to work cooperatively on addressing common challenges in reporting ex-ante emissions.
- Italy had problems getting its label recognized at first, so it started holding side events at the COP to share experiences and build support.
- COP events are good opportunities to meet experts and learn from others.
- Establishing one official national accreditation body for verifying the labelling system is very important.
- Accreditation bodies of Vietnam are (1) Accreditation Office for Standards Conformity Assessment Capacity (AOSC), (2) National Accreditation Bureau (BoA) and (3) Vietnam Institute of Accreditation (VACI).
- Carbon labels for products usually stay valid for about three years if they are part of an approved program.
- The Carbon Footprint of Italy will soon launch a training course to help people better understand CFIA and carbon footprint labelling aspects.
- CBAM will require a high level of verification.
- Discussions on how CBAM fits into labelling will continue once new regulations are introduced after 2026.

Key Takeaways:

- The Carbon Footprint of Italy will provide capacity building and technical support to emerging programs in other countries.
- Establishing a national accreditation body is essential for implementing a robust and internationally recognized carbon footprint labelling system.
- Assessing the level of competence and readiness within national institutions is crucial for effective implementation.

- Ensuring alignment between carbon labelling initiatives and national policy drivers is key to achieving consistency and long-term effectiveness.

4. Summary from Mr. Michael Mehling – Deputy Director, MIT CEEPR

Stakeholder Name: Mr. Michael Mehling

Designation: Deputy Director, MIT CEEPR,
77 Massachusetts Avenue, E19-411,
Cambridge, MA 02139.

Email ID: mmehling@mit.edu

Date: 07 April 2025

Time: 2 pm to 2.30 pm IST

Brief introduction about the stakeholder: Michael has over 20 years of experience in carbon pricing, carbon markets, and carbon border policies and is involved in climate policy and international trade activities.

Quick note:

The discussion was focused on the practicalities and policy implications of implementing carbon labelling in Vietnam, focusing on insights from previous experience with carbon pricing and border adjustments, highlighting the EU's CBAM and its impact on the competitiveness of goods imported into the EU.

The recent policy shifts, including the deferral of CBAM financial obligations and also of information disclosure requirements under the Corporate Sustainability Reporting Directive (CSRD) and Corporate Sustainability Due Diligence Directive (CSDDD), were also highlighted.

The discussion emphasized the importance of MRV for Paris alignment and the need for prioritized sector selection for carbon labelling, considering capacity and costs.

Summary of Discussion:

- The discussion highlighted recent trends and observations based on his experiences that might be useful for planning of Vietnam's pilot carbon labelling implementation.
- Carbon labelling has become more popular in recent years, especially in countries that export to Europe. This is mainly because of the EU's CBAM.
- CBAM is meant to reduce carbon emissions by charging a carbon price on imported goods, but it also helps protect European industries from competition.
- CBAM was first suggested in 2021 and officially adopted in 2023. Currently, it is in a trial phase.
- Currently, in Europe, industrial output is stagnant and declining in many sectors. The biggest challenge is the Chinese exports, as is also the case in India and many other countries in the world. As a major exporter to the EU, China is among the countries that will be the most affected, particularly export-oriented enterprises in the industries identified for climate action. The introduction of CBAM may stimulate the Chinese government to implement more stringent policies so that industries match EU standards. Nevertheless, the CBAM's short-term impact on China is expected to be limited, as it affects only a small portion of China-EU trade.

- Mr. Mario Draghi, the former Prime Minister of Italy and Head of the European Central Bank, issued a report stating that “Europe needs to make big changes like deregulate and streamline policies to stay competitive”; this recommendation has become a defining mandate of the new European Commission.
- Interestingly, while the EU is using policies like the CSDDD to push sustainability globally and create fairer competition, it is also trying to make the rules easier to follow by deregulation and streamlining or simplification.
- After the European Parliament elections last year, the Commission President was reappointed, and a new plan called the “Clean Industrial Deal” was introduced. This plan still supports decarbonization and sustainability, but the top priority now is to strengthen Europe’s industries.
- Several EU policies other than the CBAM have an extraterritorial dimension that affects Vietnam: CSRD⁴⁷, which applies to companies doing business in Europe and other EU regulations, such as the EU Deforestation Regulation and, more significantly, CSDDD⁴⁸, which means that any large corporation that operates has business in Europe has to go through the entire supply chain. It requires big companies to check their entire supply chain for environmental and human rights risks.
- CBAM officially starts next year, but financial obligations will be deferred for another year. Additionally, over 90% of companies previously covered by CBAM will no longer be impacted due to an increase in the de minimis threshold from what used to be 150 euros per shipment to now 50,000 tons of embedded CO₂e over a year. This reduces pressure on countries like Vietnam, giving them more time to develop domestic policies, MRV systems, and carbon pricing strategies.
- In other parts of the world, carbon border rules are not moving quickly. Europe is pushing ahead, but the United States still doesn’t have a clear policy on carbon markets or border adjustments.
- The United States still doesn’t have a clear policy on carbon markets or border adjustments. Its politics is unpredictable, and unlikely that the country will support climate regulations like CBAM. Its lack of global agreement is slowing down the progress of climate goals.

Importance of continuing with MRV for Paris alignment reasons:

- Vietnam should continue maintaining a robust MRV, even though global support for the Paris Agreement seems uncertain.
- Countries like the U.S., Indonesia, Argentina, and New Zealand have shown signs of slowing down or reconsidering their commitments. However, for Vietnamese companies, especially the ones that are already efficient with low emissions, and having accurate data, will have an edge over others while competing in the export markets like the EU, UK, Australia or Canada, where carbon rules apply.
- CSDDD reinforces the value of proactive carbon labelling by Vietnamese companies. Having clear, credible carbon labels can reassure European clients that their supply chains are clean, thereby easing due diligence burdens and strengthening trade relationships.
- In addition, the CSRD extends beyond narrow emissions reporting under e.g. the CBAM, requiring broader disclosures on lifecycle sustainability, including scope 2 and scope 3

47 CSRD: An EU regulation that mandates companies to report on their Environmental, Social and Governance (ESG) performance, integrating this information with their financial disclosures.

48 CSDDD: It mandates companies to identify, prevent and mitigate adverse human rights and environmental impacts in their operations and value chain requiring them to report on their sustainability efforts.

emissions. It is somewhat similar to the Task Force on Climate-related Financial Disclosures or the Securities and Exchange Commission (SEC) climate rule in the U.S. in the sense that it aims to provide transparency for investors and stakeholders.

- Because of these additional policies, even companies not covered under the EU ETS and the CBAM, such as those in food manufacturing or textiles, must now comply with more rigorous sustainability reporting obligations, which have raised concerns about the readiness of international suppliers to meet these requirements.

Key takeaways:

For Vietnam, this current situation would be a good chance to prepare for the upcoming opportunities. The delay in CBAM rules gives Vietnam more time to build its systems, collect better data, and test carbon labelling in key sectors. Likewise, although temporarily delayed and/or streamlined, the adoption of additional rules such as CSDDD, CSDR and EUDR clearly signals that Europe intends to expand its application of sustainability and emissions-related criteria to goods produced outside its territory. Even though the rules are not final, starting early on labelling can help Vietnam's products stand out in the market, improve transparency, and support the country's climate goals.

5. Summary from Mr. Vivat Khositsakul – Managing Director, Advance Energy Plus (AEP)

Stakeholder Name: Mr. Vivat Khositsakul

Designation: Managing Director,

Organization: ADVANCE ENERGY PLUS CO., LTD.

Forum Tower 28th Fl., 184/177 Rachadaphisek Rd., Huaykwang,
Bangkok 10310.

Email ID: vivat_k@aep.co.th

Date: 16 April 2025

Time: 9 am to 9.30 am IST

Brief introduction about the stakeholder: He is the Managing Director of [AEP](#). AEP focuses on sustainability and climate change, and it has a significant market share in carbon credit services in Thailand.

AEP covers a significant share of advisory services about CFO in Thailand. Its customer base includes over 130 companies, mainly listed companies in the stock market. It also has developed carbon labels for **15 products**. For each product, the PCF guidance for Products by TGO and the ISO 14067 standard are applied. These products mainly include electricity/steam generated and products under CBAM.

Quick note:

The meeting discussed the Vietnam Carbon Labelling project, focusing on the PCF initiatives. Thailand's experience was shared, where currently 70% of the listed companies report CFO, driven

by SEC’s guidance and new laws. Thailand has PCF published for above 11,000⁴⁹ products so far. From carbon market perspective, there are around 500⁵⁰ registered projects under the T-VER Program.

Summary of discussion:

- In Thailand, the new Climate Change Act⁵¹ 2022 now requires all public listed entities to report to their CFO. Over the past two to three years, about 70% of listed companies have already reported their CFO. To complete the CFO report, companies must include data for Scopes 1, 2 and 3 emissions. Scope 3 reporting requires details from the supply chain, especially from the upstream side. When raw materials were purchased—whether from a distributor or directly from the supplier—it was necessary to request the PCF from the upstream source. As a result, manufacturers are now expected to provide PCF data to their customers, which has significantly increased the demand for PCFs. Currently, Thailand’s database includes above 11,000 products with registered PCFs over 1,200⁵² company types that have been labeled. This information is available on the TGO website⁵³.
- In AEP’s opinion, calculating the PCF is more difficult than calculating the CFO. For CFO audits, only firms certified by TGO can conduct them.
- However, for PCF, individuals can become auditors. There are now more than 100 people in Thailand who can audit PCFs. One can become PCF auditor by attending a short training course offered by TGO. Training programs offered by the TGO are more popular, which certify individuals as consultants or auditors. These programs are in high demand. However, many of the PCF auditors need more experience. Hence, many companies in the private sector are now trying to follow international standards to ensure better accuracy and credibility.
- Thailand’s carbon labelling program initially relied on government subsidies and academic networks. University professors were engaged to build a network of consultants and auditors in the early stages. While early PCF development was subsidized, subsequent implementation required companies to self-fund. Increasingly, customers—particularly international buyers—are requesting PCF data, prompting suppliers to adopt ISO-aligned methodologies.
- The same situation applies to power plants, especially those located in industrial estates and run by private companies. These plants need to develop a PCF for the electricity/steam they produce because their customers also have to develop a CFO. So, the CFO from the customer side pushes the supplier to provide the PCF.
- For companies listed on the stock market, the CFO must be included in their annual reports. That’s why CFO reporting is becoming mandatory. On the other hand, PCF is still voluntary. But to become a CFO, knowledge of PCF of products consumed is required.

⁴⁹ <https://thaicarbonlabel.tgo.or.th/index.php?lang=TH&mod=Y0hKdIpIVmpkSE5mWVhCd2NtOTJZV3c9>

⁵⁰ <https://ghgreduction.tgo.or.th/en/database-and-statistics/statistics-of-project-registration.html>

⁵¹ <https://www.tilleke.com/insights/thailands-draft-climate-change-act-key-business-considerations/> & <https://insightplus.bakermckenzie.com/bm/tax/thailand-thai-cabinet-approves-carbon-tax-on-oil-and-oil-products>

⁵² <https://thaicarbonlabel.tgo.or.th/index.php?lang=TH&mod=Y0hKdIpIVmpkSE5mWVhCd2NtOTJZV3c9>

⁵³ <https://thaicarbonlabel.tgo.or.th/>

- Currently, the largest share of carbon credit issuance in Thailand belongs to T-VER. As of now, there are nearly 500 registered projects under T-VER, and the program has issued approximately 13 million tons of carbon credits⁵⁴.
- The limitation of the T-VER carbon credits is that they can only be used in the domestic market. However, TGO (the regulator) recognizes this issue, and now there are two levels of carbon credits: standard and premium.
- The premium credits have only four projects, which is a small number because the premium credits are based on the Clean Development Mechanism (CDM) regulations. The process of getting approval to use these credits is more difficult because it follows stricter rules for the international market.

Key Takeaways:

Based on the meeting discussion, here are the key insights for applying Thailand's carbon labelling experience to Vietnam:

- Start with voluntary carbon footprint reporting, similar to Thailand's initial approach
- Focus on energy-intensive sectors and industries with international carbon market exposure
- Develop a robust training and certification program for carbon footprint auditors
- Encourage listed companies to include carbon footprint reporting in annual reports
- Prioritize international standards (like ISO) to ensure credibility and acceptance

6. Summary from Dr. Hubert Fallmann – Senior Expert on EU ETS and CBAM

Stakeholder Name: Dr. Hubert Fallmann

Designation: Senior expert for EU ETS and CBAM

Organization: Industrie & Energie Aufbringung (Industry & Energy Generation)

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Firmenbuchgericht: Handelsgericht Wien

Email ID: hubert.fallmann@umweltbundesamt.at

Date: 28 April 2025

Time: 4.30 pm to 5.00 pm IST

Brief introduction about the stakeholder: He is a senior expert for EU ETS and CBAM with over 20 years of experience in EU ETS especially related to policy and MRV.

Quick note:

⁵⁴ <https://ghgreduction.tgo.or.th/en/database-and-statistics/statistics-of-project-registration.html>

The discussion was about the carbon labelling project in Vietnam by the UNOPS⁵⁵ and the government of Vietnam, focusing on specific sectors for piloting carbon footprint studies. The need for accurate data collection, competent verifiers, and robust legislation to avoid corruption was emphasized and insights were shared on the importance of direct emissions (scope 1) for clear responsibility and effective carbon pricing.

Summary of discussion:

- A carbon footprint is mainly interesting for consumers who want to buy environmentally friendly products. In case, if a government wants to lead by example, rules will be laid to purchase products like notebooks, pens, or computers having a low carbon footprint.
- But when it comes to reducing emissions across a whole country or meeting the Paris Agreement, what matters is the direct emissions contributed by each industry.
- The problem with CFP is double counting. Every Scope 2 or Scope 3 emission is someone else's Scope 1 emission. That's why carbon taxes focus only on Scope 1 emissions, while CBAM, carbon pricing, or ETS cover all scopes and system boundaries—because it's clear who is responsible, who pays, and who can reduce the emissions.
- The EU's CBAM works the same way as the EU ETS. The importer has to pay for the emissions that occurred during the actual production of the product, using the same rules as the EU ETS.
- CBAM is similar to a carbon footprint because it includes some emissions from making the materials used in the product, but only selected ones. It does not include emissions from transport, mining, or what happens after the product is used.
- The most important rule is to have one clear person or company responsible for the emissions, and avoid double counting of emissions that might belong to someone else.
- The point about transport emissions and buildings is not clear yet; it might change in the future. Because it is often difficult to determine who should be accountable, such as whether in transport, emissions from a delivery truck belong to the manufacturer or the customer. Similarly, in shared buildings, emissions from heating, cooling, or electricity may be spread across multiple tenants, making it unclear how to fairly assign responsibility. Standards for these cases are still evolving.
- The important thing is that CBAM has clear rules. Only specific emissions are included—those where it's clear who is responsible.
- In contrast, carbon labelling or carbon footprints rely on many assumptions and default values.
- The purpose of a carbon footprint is to inform people and allow them to compare very different things. For example, comparing a single-use plastic bottle against a recyclable glass bottle. A single-use plastic bottle may have lower production emissions but higher waste-related impacts. A glass bottle may have higher emissions from production due to energy-intensive glass manufacturing, but lower long-term emissions if reused multiple times. Because of this, comparing different things, CFP need many rules and assumptions.
- In systems like carbon pricing, assumptions should be avoided and one clear number is needed to show the exact amount of emissions, similar to a tax declaration where a single exact figure is required to determine what needs to be paid.

Offsets:

⁵⁵ United Nations Office for Project Services

- Offsets are no longer allowed in the EU system. They were originally used to help companies lower their costs since offsets are often cheaper than allowances.
- But in a cap-and-trade system, allowing offsets makes the actual emissions cap higher, which means fewer real reductions.
- The EU now focuses only on domestic emission reductions, so offsets from other countries are not accepted.

Benchmark:

- For benchmarks, data is collected by the EU from all installations that produce similar products, and emissions per ton of product are analyzed.
- A curve is then created by sorting these emissions per ton, and the average of the top 10% most efficient installations is taken to form the basis of the benchmark.
- Every five years, the benchmark is recalculated by measuring how much emissions have improved.
- If a sector is found to have improved faster or slower than certain limits, a minimum or maximum improvement rate is applied. As a result, the benchmark may not exactly match the top 10% average, but it still reflects real data from installations.
- These benchmark rules are considered complex but are also applied to the CBAM, where emissions per ton of product must also be calculated.

Getting emission values from every unit/industry:

- The most important step is considered to be the establishment of a law requiring all installations to have their emissions data reported.
- In the EU, penalties are faced and the right to receive free allowances is lost if data is not reported by a company—this serves as strong motivation for reporting.
- Next, the data is checked by a trained and competent verifier.
- Proper training and a curriculum are required by verifiers to ensure that rules are understood and applied correctly.
- Once verified, the data is submitted to the competent authority in each country, where it is checked again and mistakes are often found.
- Then, the data is forwarded to the European Commission, where it is checked once more by consultants and questions are asked if necessary.
- These questions are sent back to the national authorities, who are then contacted by the companies.
- A mistake might be admitted by companies, or the data may be defended with legal support.
- After about two years (which include initial data collection and reporting, third-party verification, review by competent authorities and EU consultants, dispute resolution, corrections), the data is thoroughly checked and finalized.
- Finally, the data is used by the European Commission to calculate benchmarks.

Defining a carbon pricing system

- The first step in creating a carbon pricing system is to define the scope—many countries include only installations emitting more than 25,000 tCO₂ per year, excluding very small ones.
- A solid legal system is essential.
- If a country struggles with weak legislation or corruption, where people can pay to avoid reporting, then the real emissions trading system cannot work.
- A strong legal framework, fair courts, and proper enforcement are necessary to ensure fairness—everyone should be treated equally.

- All key rules for monitoring, reporting, and verification must be written into law—not just in guidelines or explanatory documents.
- One effective enforcement tool is to deny free allowances to those who don't report data.
- Another is to set high penalties for not reporting annual emissions, which motivates companies to submit their data.
- There must also be safeguards for confidentiality—authorities must keep emissions data secure and respect professional secrecy.
- But again, tackling corruption is critical—if some can avoid rules through bribes, the whole system becomes unfair and ineffective.

Key Takeaways:

Key lessons from the EU ETS for Vietnam include:

1. Focus on Scope 1 (direct) emissions for clear responsibility and accountability. i.e., carbon taxes target only Scope 1 emissions, while mechanisms like CBAM, carbon pricing, and ETS cover all emission scopes and system boundaries.
2. Start with a simple system that can be gradually refined, and try to apply same rules for all different industries
3. Develop robust legislation with strong enforcement mechanisms
4. Implement a comprehensive MRV process
5. Exclude very small emitters initially to simplify data collection
6. Create incentives for reporting (like withholding free allocations for non-compliance)
7. Establish a competent verification system with trained professionals
8. Prioritize domestic emission reductions over international offsets
9. Develop benchmarking methods based on actual industry performance data
10. Ensure a fair system that treats all participants equally



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