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TECHNICAL REPORT

Emission Trading System Piloting and Simulation in Vietnam

Energy Environment Climate VNEEC

south pole

Vets Energy and Environment

Technical Report

Emission Trading System Piloting and Simulation in Vietnam

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LIST OF ABBREVIATIONS

BM	Benchmarking
CBAM	EU's Carbon Border Adjustment Mechanism
DCC	Department of Climate Change
ETP	Southeast Asia Energy Transition Partnership
ETS	Emissions Trading System
EU	European Union
FDI	Foreign Direct Investment
GF	Grandfathering
GHG	Greenhouse gas
HCMC	Ho Chi Minh City
ICAP	International Carbon Action Partnership
IETA	International Emissions Trading Association
MOE	Ministry of Environment of Korea
MOF	Ministry of Finance
MONRE	Ministry of Natural Resources and Environment
MRV	Measurement, Reporting, and Verification
NDC	Nationally Determined Contribution
OECD	Organization for Economic Co-operation and Development
OTC	Over the Counter
PMR	Partnership for Market Readiness
TA	Technical Assistance
UNOPS	United Nations Office for Project Services

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EXECUTIVE SUMMARY

Background and Rationale

Vietnam has made bold commitments to reducing greenhouse gas (GHG) emissions and achieving net-zero emissions by 2050. A key instrument in achieving this ambition is the establishment of a domestic Emission Trading System (ETS), as mandated by the 2020 revised "Law on Environmental Protection" and further elaborated in Government Decree No. 06/2022/ND-CP dated 7/1/2022 on mitigation of GHG emissions and protection of the ozone layer and Prime Minister's Decision 01/2022/QD-TTg dated 18/1/2022 issuing a list of GHG emitting sectors and entities subject to the GHG inventory (now replaced by Prime Minister's Decision 13/2024/QD-TTg dated 13/8/2024 updates the sectors, facilities required to conduct GHG inventories). However, the effective implementation of ETS faces significant challenges, particularly a lack of technical expertise, institutional capacity, and stakeholder readiness and engagement.

In response, the Southeast Asia Energy Transition Partnership (ETP) under the United Nations Office for Project Services (UNOPS), in collaboration with the Department of Climate Change (DCC) under the Ministry of Natural Resources and Environment (MONRE), launched the Technical Assistance (TA) "ETS Piloting and Simulation in Vietnam." This initiative represents Vietnam's effort to provide comprehensive ETS training, equipping stakeholders with essential knowledge and practical experience.

Training Program Design and Conceptualization

The central component of this TA was the design and organization of a series of training sessions tailored to engage a broad spectrum of stakeholders, ensuring comprehensive ETS literacy across key sectors. The training courses were conceptualized by integrating a review of global ETS policy developments with an analysis of Vietnam's evolving regulatory framework, informed by a readiness survey of 237 enterprises that identified seven key knowledge gaps.

Leveraging an interactive learning model, the courses featured expert-led discussions, international best practices, and hands-on simulation exercises using the innovative CarbonSim tool. To provide updates on the latest developments in the global ETSs and carbon markets, a distinguished lineup of guest speakers was invited to the training courses. Key policymakers and experts from Canada and the UK shared valuable insights from the UK ETS and the Quebec Cap and Trade, while representatives from the International Emissions Trading Association (IETA) and the Organization for Economic Co-operation and Development (OECD) discussed recent advancements in international carbon markets, including the EU ETS. Additionally, a policymaker from the DCC also provided updates on domestic carbon market developments and GHG mitigation efforts, ensuring that participants gained a balanced view of both international and local challenges and opportunities.

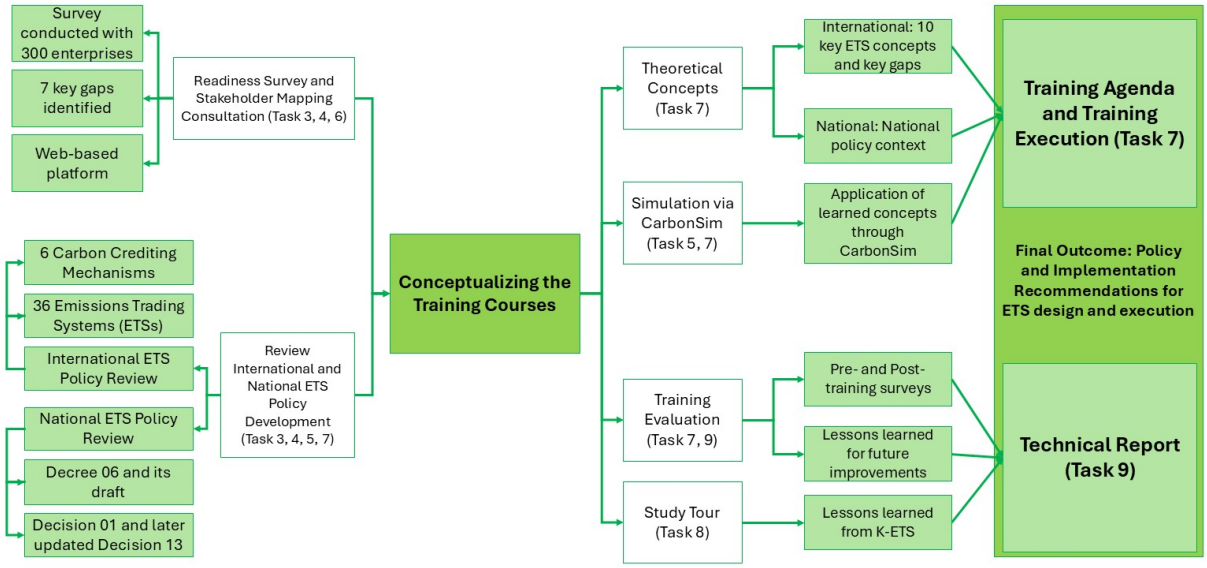

Figure A: Training course design conceptualization

Source: Elaborated by the Consultant

Training Implementation and Participant Engagement

Initially, four training courses were planned and executed, surpassing expectations in their impact. Recognizing their success, the DCC requested an extension of the TA, resulting in two additional sessions. In total, six training courses were conducted in Hanoi and Ho Chi Minh City in 2024, engaging 657 participants, of which 340 were male and 317 female. The courses are summarized in the figure below.

Figure B: Summary of the training courses

Source: Compiled by the Consultant

A diverse range of stakeholders participated, including policymakers shaping the regulatory framework, research institutes and universities providing analytical insights, banks, and financial institutions poised to facilitate carbon trading, and media representatives enhancing public outreach. Notably, industrial emitters account for 59% of the total participants, they will play a critical role and are most directly impacted by the forthcoming ETS. This extensive participation has established a strong foundation for the successful development and implementation of Vietnam's ETS.

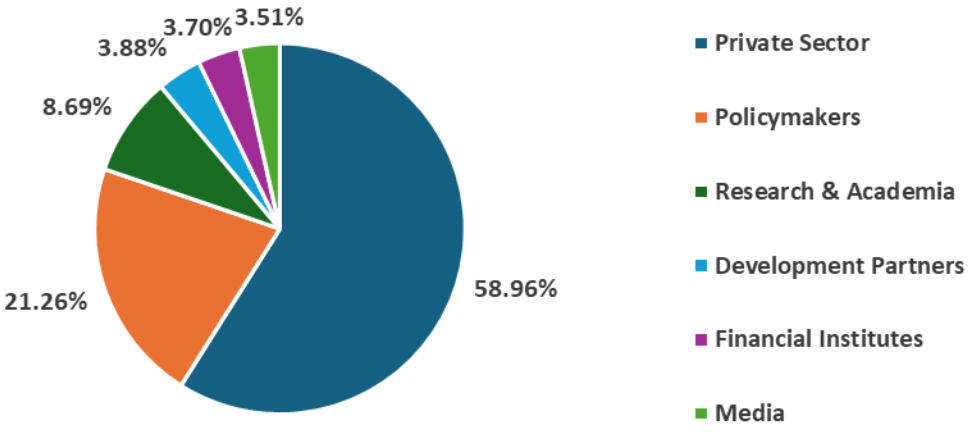

Figure C: Participant distribution by stakeholder groups

Source: Elaborated by the Consultant based on participants' lists

Strengthening ETS Readiness and Capacity-Building

The feedback from pre- and post-training surveys clearly demonstrates that the course greatly enhanced participants' knowledge and skills in ETS and market-based mechanisms, affirming its overall effectiveness. Before training, 14.45% of participants were uncertain about ETS's role in achieving Vietnam's NDCs, and 14.38% doubted its cost-effectiveness. After the training, those viewing ETS as "indispensable" rose from 27.14% to 46.94%, while skepticism about cost-effectiveness dropped to 1.63%, with 73.62% now considering it very cost-effective.

Additionally, technical knowledge of design principles, cost-effectiveness, carbon pricing, trading mechanisms, policy implications and strategic decision-making were markedly enhanced. Confidence in explaining carbon pricing increased from 6.12% to 37.44%, and understanding of market mechanisms improved from 10.43% to 59.18%. Over 80% of respondents rated the training as "Very useful," with interactive sessions and hands-on CarbonSim simulations transforming initial uncertainty into strong confidence. Participants gained the ability to clearly explain complex concepts and effectively engage in strategic decision-making, which is essential for advancing Vietnam's ETS implementation.

Figure D: Participant engagement in the training courses

Beyond knowledge enhancement, the initiative generated significant media coverage, amplifying public awareness of carbon markets and Vietnam's climate policies. Multiple local and international news outlets featured the training events, reinforcing their relevance and impact. The involvement of international partners further strengthened Vietnam's ETS development by fostering knowledge exchange and strategic cooperation.

Key Lessons and Recommendations for ETS Design and Implementation

Based on extensive analysis of the training courses, surveys, and simulation exercises, key lessons and recommendations have been identified to guide the design and execution of Vietnam's ETS. These include the need for clear policy objectives aligned with national GHG targets, defined scope and sectoral coverage with transparent criteria, and robust methodologies for setting emissions caps and allocating allowances. In addition, recommendations emphasize establishing a strong compliance framework with reliable MRV systems, developing market infrastructure, and implementing measures to address competitiveness and leakage risks. The lessons also highlight the importance of regular evaluation and adjustment of ETS design, as well as monitoring international developments, such as the EU's Carbon Border Adjustment Mechanism (CBAM), to ensure that Vietnam's ETS remains effective and globally competitive.

Recommendations for Future Training and Capacity Building

The overwhelming success and demand for these capacity-building activities call for continued and more specialized training initiatives. Future programs should adopt a phased learning approach, starting with foundational concepts and progressing to advanced, sector-specific simulations that mirror real-world ETS dynamics.

The success of this initiative highlights the critical role of capacity-building efforts in shaping Vietnam's carbon market. As the country progresses towards its net-zero ambitions, the insights and recommendations presented in this report will serve as a valuable foundation for the effective implementation of ETS, driving sustainable emissions reductions and fostering a robust carbon trading ecosystem.

Conclusions

Overall, the six training courses have laid a solid foundation for the development and implementation of a robust ETS in Vietnam. The comprehensive curriculum, coupled with the diverse participation and strong gender inclusivity, underscores the TA's success in reaching a wide range of stakeholders and building a collaborative platform for future initiatives.

Based on this successful foundation, this TA provides recommendations for policy design, market readiness, and stakeholder engagement as well as future training activities to support the development of a robust and adaptable ETS framework aligned with Vietnam's long-term climate objectives. The recommendations offer a blueprint for future training initiatives and policy formulations, ensuring that Vietnam continues to build on the foundational ETS knowledge and skills imparted through this TA.

1 INTRODUCTION

The technical assistance “Emission Trading System (ETS) Piloting and Simulation in Vietnam” (the TA) is one of the technical supports of the Southeast Asia Energy Transition Partnership’s (ETP) broader initiative to enhance sustainable energy and carbon market mechanisms in Vietnam. In collaboration with the Department of Climate Change (DCC) under the Ministry of Natural Resources and Environment (MONRE), this TA aims to provide foundational support for the development of a domestic ETS in Vietnam.

Following Vietnam's commitment to reduce greenhouse gas (GHG) emissions and then achieve net-zero emissions by 2050, the government has swiftly enacted a series of decrees, circulars, and policies to foster the development of a domestic carbon market. This initiative is crucial for realizing the nation's ambitious net-zero goal.

In November 2020, Vietnam's revised "Law on Environmental Protection" provided for the first time the organization and development of the domestic carbon market (Article 139).

The Government of Vietnam took a significant step in 2022, by issuing Government’s Decree No. 06/2022/ND-CP on the mitigation of GHG emissions and protection of the ozone layer (Decree No. 06/2022/ND-CP). The issuance of this Decree has set the foundation for a domestic carbon trading system, focusing on the regulations for carbon credit management and trading activities.

Under Decree No. 06/2022/ND-CP, the national carbon market in Vietnam includes two components – ETS and domestic carbon credit mechanism. As a strategic carbon pricing tool, the ETS is envisioned to play a vital role in supporting Vietnam's commitment to reducing GHG emissions, transitioning to a low-carbon economy, and meeting its climate targets.

To effectively develop and operate the carbon market and ETS, Vietnam must overcome several critical challenges, including a significant shortage of human resources, technical expertise, and awareness about the ETS. This deficiency is a primary bottleneck that can be mitigated through comprehensive capacity-building initiatives designed to enhance ETS literacy among key stakeholders, including policymakers and key GHG entities. As of 2024, however, no such training programs or initiatives have been organized by governmental agencies or MONRE itself.

This TA seeks to bridge this gap by offering a series of trainings on ETS principles, complemented by a simulation tool that serves as a practical learning platform for various ETS participants and stakeholders. This initiative, the first of its kind by the DCC, aims to build the capacity of crucial groups, including policymakers, financial institutions, the media, and enterprises, in preparation for the ETS rollout scheduled for 2025.

Initially, four training courses on the ETS and carbon market were approved in the Inception Report and subsequently executed with great success. These events not only surpassed expectations in enhancing ETS literacy and readiness among participants but also generated

significant public interest. Encouraged by this success, the DCC requested ETP to extend the TA to include two additional similar courses, bringing the total to six comprehensive training events held in Hanoi and Ho Chi Minh City (HCMC) in 2024.

These courses collectively drew 657 participants, achieving a balanced gender distribution with 340 males and 317 females from various sectors. These stakeholders included policymakers who have been shaping and/or contributing to implementing the regulatory framework; representatives from research institutes, and universities who have been contributing analytical and technical insights; representatives from banks and financial institutions that are expected to act as intermediaries, facilitating the trading of carbon credits and allowances if allowed; and media representatives who have been playing a key role in public outreach and communication. The most important participant group was industrial emitters, who are expected to be directly involved in and regulated under the future ETS. The engagement of such a wide range of stakeholders laid a solid foundation for the robust development and implementation of the ETS in Vietnam.

The training series featured a well-structured program enhanced by the engaging CarbonSim simulation, which not only improved ETS literacy but also fostered collaboration between government authorities and the private sector, vital for ETS's future success. Media coverage further amplified public awareness and interest in ETS and carbon market issues in particular and governmental policies responding to climate change in general.

This Technical Report, part of Task 9 of the TA, consolidates key findings from the training courses, including simulations and assessments. It highlights the interests and concerns expressed during the training sessions, then provides valuable insights into ETS's potential performance and outlines both challenges and opportunities for its design and implementation. By integrating these findings with the best international practices and insights from ETS implementations in other countries, the report offers specific recommendations on policy design, market readiness, stakeholder engagement, and future capacity-building events in Vietnam.

The exceptional outcomes of the six training sessions, coupled with the strategic recommendations presented in this report, will contribute directly to supporting the forthcoming ETS rollout and advancing Vietnam's commitment to achieving its Net Zero objectives.

2 THE DESIGN OF TRAINING COURSES

2.1 Approach for training course design

The training course was designed to provide a comprehensive understanding of ETSs and the carbon market by integrating international and national policy insights, enterprise readiness assessments, and interactive learning methods.

The course conceptualization began with a review of international ETS policy development, covering 36 ETSs and 6 carbon crediting mechanisms, alongside an analysis of relevant Vietnam's ETS regulatory framework, including Decree No. 06/2022/ND-CP and Prime Minister's Decision 01/2022/QD-TTg dated 18 March 2022 issues a list of GHG emitting sectors and entities subject to the GHG inventory (now replaced by Prime Minister's Decision 13/2024/QD-TTg dated 13 August 2024 updates the sectors and facilities required to conduct GHG inventories).

A readiness survey conducted with 237 enterprises identified seven key knowledge gaps that also served as the key inputs to shape the course content.

Based on these sources, the training structure and concept include theoretical sessions on ETS concepts and discussions on national policies, then a hands-on simulation using CarbonSim to reinforce practical application. The Agenda for each training session was elaborated in detail in the Training Reports. Finally, pre- and post-training assessments will evaluate learning outcomes, with lessons learned informing policy and implementation recommendations for ETS development in Vietnam. The summary of the training course design conceptualization is illustrated in the figure below.

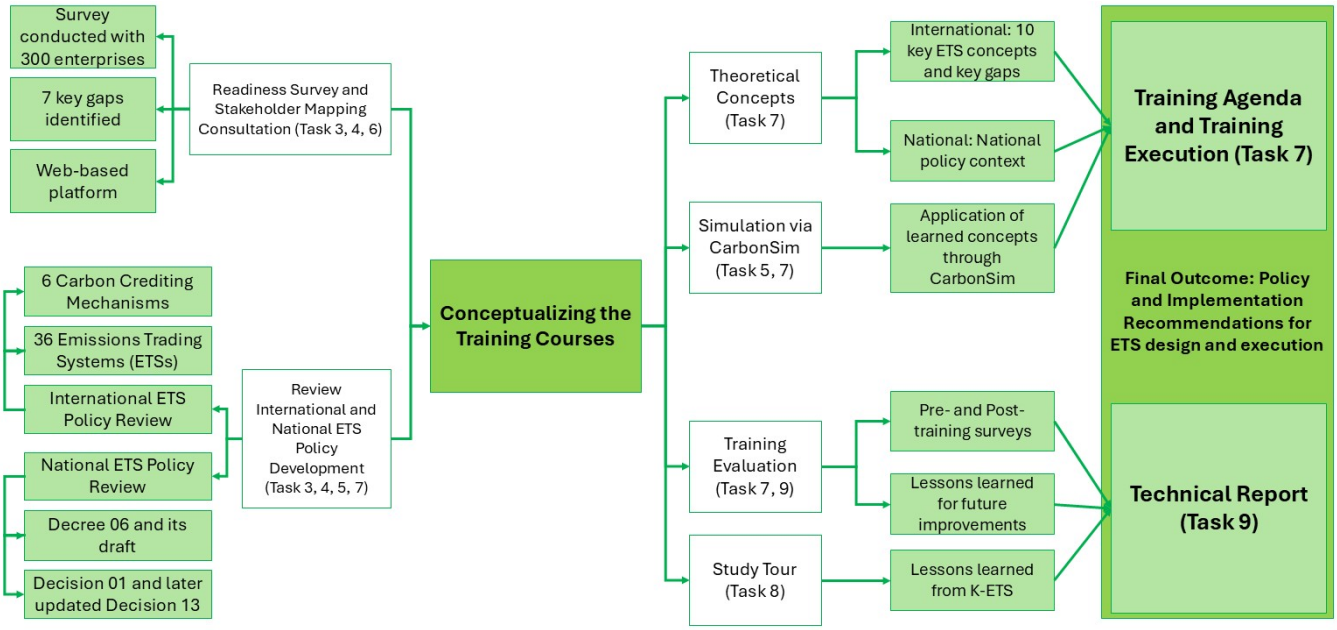

Figure 1: Training course design conceptualization

Source: Elaborated by the Consultant

2.1.1 Review of the international climate policies and national climate change policy landscape

To form the structure and content of ETS training in Vietnam, ensuring that stakeholders acquire practical knowledge and competencies relevant to ETS implementation, a comprehensive study and review was conducted under this TA. The study focused on international climate policies, carbon pricing instruments theory and practices, and the national climate change legislative and policy landscape, especially emphasizing the development of the domestic carbon market. The intensive desk review conducted encapsulates the core elements of international and national policies as they relate to the development of an ETS in Vietnam and have direct implications for the design and execution of ETS training that are aligned with national objectives and international practices.

Theoretical approach to ETS design and implementation, and worldwide experiences

Specifically, the training design incorporates the theoretical step approach to ETS design and implementation studied and published by the World Bank's Partnership for Market Readiness (PMR) and International Carbon Action Partnership (ICAP)[1]. This approach provides comprehensive methodologies and step-by-step guidelines that have shaped the policies and designs of ETS in various jurisdictions and also structured a number of international ETS trainings so far. Then it is combined with the best international practices obtained via a comprehensive overview of overseas ETSs in operation or under development to provide practical insights and actual experience for ETS development in Vietnam. For instance, the European Union, California, Canada, China, and the UK have implemented ETSs that reflect their unique economic and environmental contexts but adhere to common principles of cap-and-trade systems. These international models offer valuable lessons on the flexibility and adaptability of ETS frameworks, providing Vietnam with tested approaches to customize its carbon market mechanisms effectively.

Vietnam's legislative and policy landscape

Vietnam has taken decisive steps towards establishing its domestic carbon market as part of its broader strategy to meet its climate targets, including a commitment to achieving net-zero emissions by 2050. This commitment was legislatively supported by the "Law on Environmental Protection" revised in 2020, which for the first time provided for the organization and development of a domestic carbon market. Building on this, Decree No. 06/2022/ND-CP detailed the mechanisms for GHG emissions reduction and protection of the ozone layer, setting the structural basis for the ETS and domestic carbon credit mechanisms in Vietnam. This legal foundation is crucial as it delineates the governance, scope, and

[1] ICAP and WB. Emissions Trading in Practice: A Handbook on Design and Implementation (2nd Edition). Apr 2021.https://icapcarbonaction.com/en/publications/emissions-trading-practice-handbook-design-and-implementation-2nd-edition

operation of the ETS, ensuring alignment with international practices while catering to local needs.

Strategic policy objectives and implementation phases

Vietnam's ETS strategy is characterized by a phased implementation, focusing initially on high-emission sectors such as power generation, cement production, and steel manufacturing. The choice of these sectors is strategic, aiming to maximize the impact of emissions reductions where it is most needed. The government's approach includes detailed regulations on cap setting, allowance allocation, and compliance mechanisms that are critical for the effective functioning of the ETS. Each phase of implementation is designed to build upon the lessons learned from previous stages, ensuring a gradual and steady enhancement of the ETS's efficiency and coverage.

2.1.2 Survey to evaluate the knowledge gaps of targeted participants

To evaluate the knowledge gaps concerning GHG emissions, mitigation strategies, and carbon markets as well as climate policies of the potential targeted participants, a survey was conducted in December 2023 under Task 3 of this TA. The survey aimed to collect information to support the comprehensive understanding of the readiness and awareness levels of enterprises and facilities and prepare for the execution of training courses.

The survey assessed the readiness of enterprises across key sectors for ETS implementation, with 237 companies participating. The majority belonged to the industry and trade sector (202 companies), followed by construction (22), natural resources and environment (9), and transport (4). Nearly half (47%) were foreign direct investment (FDI) enterprises, while 20% were publicly listed companies. The following figure shows the distribution of companies that participated in the survey by sector.

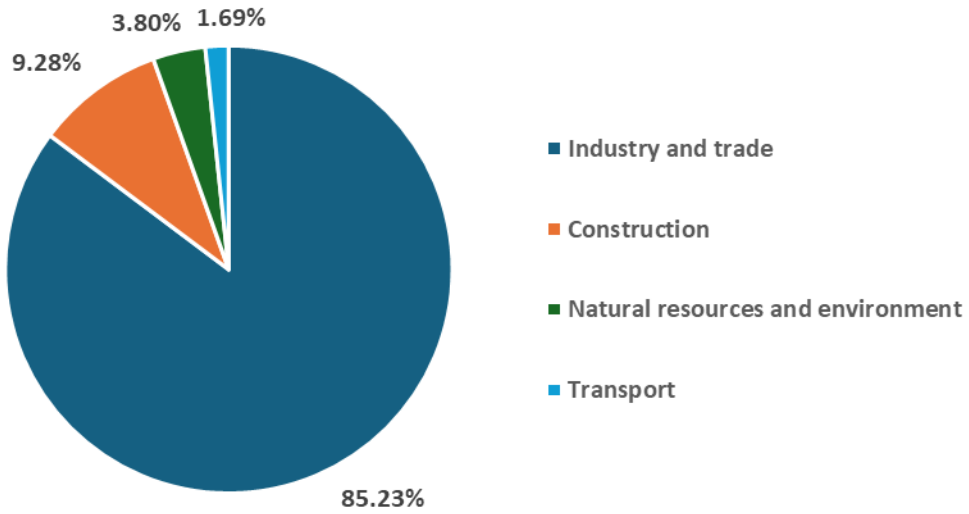

Figure 2: Companies participated in the survey by sector

Source: Elaborated by the Consultant based on Survey's result

In terms of emission profiles, 68% of the surveyed companies reported emissions below 100,000 tCO_2e, whereas entities emitting over one million tCO_2e accounted for 73% of the total emissions reported under the survey. Geographically, most respondents were from the Northern region (98), followed by the Southern (106) and Central regions (33) as presented in the figure below.

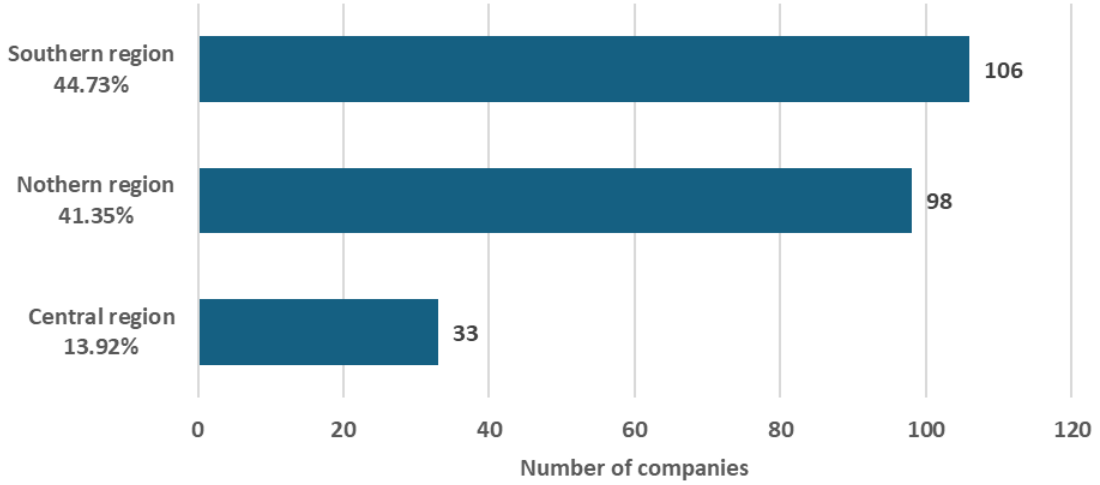

Figure 3: Companies participated in the survey by region

Source: Elaborated by the Consultant based on Survey's result

Readiness indicators revealed gaps in Measurement, Reporting, and Verification (MRV) capacity, with only 32% of companies having conducted a GHG inventory and less than 11% having verified reports. While 75% of respondents were aware of Vietnam's carbon market development roadmap, only 13% had publicly disclosed their emissions. Regarding ETS participation, 42% expressed interest in capacity-building support across all relevant areas.

This survey showed significant disparities in participants' knowledge of ETS concepts and mechanisms, with many respondents exhibiting limited familiarity. To enhance the capacity building activities for companies as well as the key stakeholder groups, the training must focus on awareness of the carbon market and ETS policy, emission reduction activities, MRV capacity, interaction with carbon credits, and further expand to the topics of:

- ETS operation and principles
- ETS compliance and international experience of corporate compliance strategies
- ETS-related legislation, regulations, and policies
- GHG inventory preparation - identification of emission sources
- GHG emissions quantification approaches - identification of measurement methods for activity data and emission factors, approaches for significant and minor emission sources
- Quality Control/Quality Assurance (QC/QA) practices - development of internal quality frameworks
- GHG emissions inventory compilation - implementing QC/QA practices and handling external verification

These gaps underscored the urgent need for targeted capacity-building efforts, particularly for sectors with high emissions and a limited understanding of carbon market dynamics. The survey findings also highlighted differences in the technical and operational capacities of enterprises, shaping the identification of priority groups for training. The detailed description of the survey is elaborated in the Report of Task 3.

These gaps were then further consulted and verified via the stakeholder consultations in Task 3, which highlighted the specific areas where further expertise and understanding are needed for the successful adoption and functioning of an ETS.

2.1.3 The training concept

Based on a thorough analysis of the readiness levels and stakeholder needs, coupled with the comprehensive review of international climate policies and national climate change policy landscape supported by the ICAP's 10 theoretical steps for ETS Design, the concept for training courses was carefully tailored to address critical knowledge gaps and build capacity in the most important areas necessary for effective ETS implementation. The contents of the training courses were designed as a combination of expert-led sessions, case studies, and practical exercises and simulations in order to enhance the capacity of key stakeholders involved in ETS design and implementation, providing them with the knowledge and skills to make informed decisions and effectively manage and participate in the ETS in the future.

The training course was developed and implemented to target two major groups, namely (i) policymakers, financial agencies, and media representatives and (ii) GHG emitters and businesses with priorities given to the local and big emitters.

The training courses effectively tailored their content to meet the needs of different stakeholder groups. For policymakers, financial institutions, and media representatives, the training included sessions on "Managing the carbon price" and "Preparation for pilot and official operation of the domestic carbon market in Vietnam," while the training focused on GHG emitters and businesses focusing on practical aspects such as "What enterprises should prepare to participate in the carbon market" and "Carbon pricing and roadmap for the development of the domestic carbon market." These targeted sessions ensure relevance to the specific challenges and responsibilities faced by each group.

For the speakers and instructors of the trainings, the international guest speakers from countries with good experiences and lessons learned were invited to give the latest updates and share practical and valuable experiences for the design and implementation of Vietnam's ETS.

ETS fundamentals and market-based mechanisms

Given that the development of Vietnam's ETS is still in its early stages, training focused on the critical design elements of an ETS and how international best practices could be adapted to Vietnam's specific context. To ensure a comprehensive approach, the training framework was

based on the 10-step approach for ETS design as outlined in the PMR and ICAP handbook and was then refined and tailored to the country's needs, finally resulting in the concepts for the two-day training as follows:

(1) Defining Policy Objectives – The training course should help participants clarify Vietnam's long-term objectives for ETS implementation, such as cost-effective emissions reduction, market integration, and industrial competitiveness along with the national GHG mitigation targets.
(2) Deciding Scope and Coverage – Participants should learn how to determine which sectors and emissions sources will be included, ensuring a balance between environmental effectiveness and economic feasibility.
(3) Setting the Cap – Training should cover methodologies for determining the overall cap on emissions and how to adjust it over time in line with national and sectoral decarbonization goals.
(4) Allocating Allowances – The training should explore different allocation methods, including free allocation based on historical emissions (grandfathering), benchmarking, and auctioning.
(5) Establishing Offset Rules – A session should focus on how offsets can be integrated into ETS compliance, particularly the role of domestic and international carbon credits.
(6) Setting the Compliance Framework – Training should emphasize MRV requirements and how enforcement mechanisms ensure market integrity.
(7) Ensuring Market Stability – A key component of training should be understanding market stability mechanisms, such as price floors, ceilings, and allowance reserves.
(8) Developing Market Infrastructure – Training must cover the role of registries, trading platforms, and financial market intermediaries in ensuring a functioning ETS.
(9) Addressing Competitiveness and Leakage Risks – Participants should learn how to mitigate risks for industries while maintaining integrity.
(10) Implement, evaluate, and improve – Training must provide a simulation to allow stakeholders to participate in a simulated process of designing or participating in a virtual ETS. The simulation tool should serve to increase ETS literacy, help build support for ETS as a policy option, and illustrate how policy outcomes are a function of design.

Each of these steps carries specific implications for Vietnam's ETS training agenda, shaping the knowledge and skill sets that different stakeholder groups must acquire to support ETS development and operation.

Furthermore, the option of using carbon credits for compliance is also available in several ETSs and allowed in the future ETS of Vietnam. Carbon credits provide compliance entities with options to reduce their compliance costs in comparison to paying the domestic carbon price under the ETS. In this context, the training courses examine the relationship between ETS and carbon crediting/offsetting mechanisms, a critical element that enables compliance by allowing the surrender of carbon credits. Consequently, the courses also addressed the following aspects related to carbon credits:

- Principles of carbon credits and interaction with an ETS;
- Types of carbon credits and how they are generated;
- Certification (validation, verification, issuance) and quality assurance;
- Future development and evolving uses in achieving net zero goals.

Key ETS and climate change policies, and way forward of Vietnam

An equally important component of the training is to understand and acquire the latest updates on the regulatory framework governing ETS as well as the trend of development of the regulatory landscape in Vietnam. The training agendas cover the key aspects of the national/sectoral legal and institutional framework, including:

- National climate change policies and net zero targets;
- Institutional setup and national roadmap for developing the domestic carbon market
- Roles and responsibilities of GHG emitters, including strategies for compliance with new regulations pertaining to GHG emissions and participation in the carbon market.

The main focus is on the key issues in Vietnam's ETS design and regulations, including:

- **ETS scope and coverage:**

The trainings also updated the latest development of the regulations on the ETS, including the revision of Decree 06/2022/ND-CP[2], and discussed the key sectors that are targeted to participate in the first ETS phase encompassing three energy-intensive sectors, i.e. power generation, cement production, and steel manufacturing.

Collectively, these sectors contribute about 70.59% of the total GHG emissions generated by 2,166 enterprises across various industries in Vietnam, as listed in Decision 13/2024/QD-TTg issued by the Prime Minister. The below CO_2 emissions data for three proposed ETS pilot sectors in terms of CO_2e was introduced in the trainings.

Table 1: CO_2 emissions data for ETS pilot sectors

No.	Sectors	Number of enterprises	Scope 1 + Scope 2 (CO_2e)	Percentage of covered emissions
1	Coal thermal power plants	33	97,756,155.17	30.50%
2	Iron and steel production	145	53,368,529.33	16.65%
3	Cement production	86	75,133,091.47	23.44%
Total		**264**	**226,257,775.97**	**70.59%**

Source: Compiled based on Decision No. 13/2024/QD-TTg

[2] In March 2024, the MONRE published *Draft Decree Amending and Supplementing the Decree No. 06/2022/ND-CP* soliciting public comment

- **Cap setting and adjustments:** The ETS framework in Vietnam involves setting a cap on GHG emissions that will be progressively lowered over time, in line with national decarbonization goals.
- **Allocation mechanisms:** Various methods for the allocation of allowances are being considered to ensure fairness and economic efficiency. These include grandfathering based on historical emissions, benchmarking against sectoral standards, and auctions to distribute allowances transparently.
- **Market infrastructure and compliance:** Robust market infrastructure including registries and trading platforms are essential components of Vietnam's ETS. These systems support the transparent trading of allowances and credits, while comprehensive MRV systems ensure adherence to the market rules and facilitate enforcement.
- **Integration with international markets:** The potential linkage of Vietnam's ETS with international carbon markets is a strategic consideration that could enhance market liquidity and align the national system with global carbon reduction efforts. This integration would allow for the transfer and trading of carbon credits across borders, supporting a broader, more effective global response to climate change.
- **Future directions:** As Vietnam's ETS evolves, continuous updates to the regulatory framework are anticipated to incorporate feedback from stakeholders and adapt to emerging economic and environmental challenges. The ongoing revision of Decree 06/2022/ND-CP, for example, reflects a responsive and adaptive policy environment that seeks to refine and optimize the ETS design based on practical experiences and stakeholder input.

Overall, the training sessions emphasized that the long-term success of the pilot program is essential for assessing the feasibility of expanding the ETS to additional sectors. Crucial to this success is the active engagement and readiness of major stakeholders. Adequate preparation, such as participation in these training sessions, is vital to ensure the necessary capacity and resources are in place. Meanwhile pro-active engagement in the early stage of the ETS will allow enterprises and businesses to be aware of the new responsibilities and opportunities. It is therefore advisable for enterprises to actively participate in these consultations. Early engagement will not only ensure they are well-prepared but also allow them to comment on and promptly adapt to new regulations, positioning them advantageously within the carbon market.

2.2 Description of speakers

The contents of the training agendas were delivered by a distinguished team of experts of the Consortium, each contributing valuable insights from their respective fields and extensive experiences. Their collective knowledge provided a comprehensive foundation for capacity

building and stakeholder engagement, tailored to the specific needs of Vietnam's evolving carbon market landscape.

On-site support was provided by the Consulting Consortium, including representatives from VNEEC and VETS, who played a crucial role in guiding participants through the CarbonSim simulation. Their involvement was key in bridging theory and practice, ensuring participants could effectively navigate during ETS simulations.

To provide updates on the latest developments in global ETS and the carbon market, a distinguished lineup of guest speakers was invited to the trainings. They offered insights into the practical application of ETS, bridging theoretical knowledge with real-world strategies:

- Key policymakers and experts from Canada and the UK shared valuable insights from the UK ETS and the Quebec Cap and Trade program.
- Representatives from the IETA and the OECD discussed recent advancements and policies in the international carbon market, including the EU ETS.
- A policymaker from the DCC under Vietnam's MONRE provided updates on domestic carbon market developments, GHG mitigation efforts as well as obligations of GHG emitters.

Their collective expertise in the design, implementation, and regulation of ETS provides valuable international perspectives and local case studies. This blend furnishes participants with a deep understanding of both the challenges and opportunities within ETS, alongside practical strategies for effective implementation. The Consulting Consortium’s integration of both speakers and guest speakers, combining international examples with local insights, ensures that participants develop a robust understanding of how ETS and carbon markets operate. Supported by a comprehensive overview of the national domestic carbon market and climate change policies, this approach prepares participants to actively engage in the forthcoming ETS and to contribute to the transition towards a low-carbon economy in Vietnam and beyond.

2.3 Participant identification and selection process

The participant selection for ETS training combined empirical data, stakeholder consultations, and equity considerations. A December 2023 survey revealed varying capacities among enterprises, guiding a focus on key groups, especially large emitters in energy-intensive sectors like thermal power, cement, and steel. Consultation events with government, industry, financial institutions, academia, and NGOs further refined the process, ensuring that both major and smaller enterprises (including non-FDI companies) were represented. Sessions were held in Hanoi and HCMC to achieve geographical balance.

Furthermore, to improve the trainings, lessons on the content and organization as well as logistic supply, and suggestions for improvements for the coming trainings were made after

each training to incorporate to tailor best to the content to participants' technical and practical needs.

The selected participants represented a diverse and strategically significant cross-section of stakeholders, each playing a crucial role in ensuring the success and sustainability of Vietnam's ETS framework. These stakeholder groups represent the key players in various aspects of ETS implementation, covering a diverse, strategic cross-section of stakeholders essential to Vietnam's ETS framework:

- Policymakers: Government and regulatory representatives ensured training alignment with national climate strategies and shared insights on policy directions and compliance. By providing insights into policy directions and regulatory compliance requirements, policymakers facilitated a coherent integration of ETS principles into Vietnam's broader climate goals.
- Large GHG emitters: This group primarily comprised representatives from industries with significant GHG emissions, especially those included in Decision No. 01/2022/QD-TTg and later Decision No. 13/2024/QD-TTg on the List GHG emission facilities subject to GHG inventory. This important group – the main targeted one under the TA– received training on MRV, allowance allocation, and market strategies to ensure compliance readiness.
- Financial institutions: Banks, investment firms, and carbon market intermediaries addressed market dynamics, innovative financing, and risk management to support ETS compliance. Their engagement focused on understanding market dynamics, offering innovative financing mechanisms, and fostering investments in emissions reductions.
- Media representatives: Media professionals raised public awareness, enhanced transparency, and built societal support for ETS initiatives by effectively communicating the benefits and responsibilities associated with the ETS.
- Other stakeholders: Academia, NGOs, smaller enterprises, and non-FDI companies contributed diverse perspectives to promote equitable participation and boost market liquidity, address regional disparities, and ensure that the benefits of ETS implementation were distributed across a wide range of stakeholders.

The participation of these representative groups underscored the holistic and inclusive approach taken to design and implement the training program. By fostering collaboration among various stakeholders, the training courses not only addressed immediate capacity-building needs but also fostered mutual understanding and collaboration which are important for the long-term success and resilience of Vietnam's ETS framework.

2.4 Description of the simulation tool

2.4.1 CarbonSim simulation

For this Assignment, CarbonSim was selected as the primary tool for conducting training and simulation activities. CarbonSim is an advanced platform that effectively demonstrates the key mechanisms of an ETS, including how it can cap and reduce GHG emissions, utilize market forces to achieve cost-effective reductions and drive investment in clean technologies.

CarbonSim is not only renowned for its dynamic design and functionality but also for its ability to support extensive capacity-building initiatives. CarbonSim features a number of attributes that are ideally suited for training stakeholders and simulating a real-time compliance market within an ETS framework.

To ensure CarbonSim was fully aligned with the objectives of this Assignment, the Consultant implemented several strategic modifications to enhance the tool's effectiveness and relevance with ongoing adjustments being made to the simulation parameters:

- **Localization:** Tailored the content to cultural norms, and removed language barriers so participants could fully immerse themselves in the ETS simulation and gain a clearer understanding of its mechanisms.
- **Currency adjustment:** Set the simulation's currency to Vietnamese Dong (VND) to mirror local economic conditions. This realistic change helped participants to better evaluate financial decisions, relate the outcomes to real-world contexts, and discuss cost management strategies in Vietnam's carbon market.
- **Ongoing refinement:** Continuously updated the simulation parameters based on participant feedback. Fine-tuned market conditions, auction settings, and scenarios kept the simulation current, allowing participants to grasp evolving ETS trends and make more informed decisions.
- **Enhanced participant engagement:** Integrated real-time feedback, scenario challenges, and debriefings to promote active learning and collaboration. These interactive elements enabled participants to apply theoretical knowledge practically, deepening their overall comprehension.
- **Comprehensive support materials:** Provided tailored user guides, walkthroughs, and case studies to complement simulation exercises. These resources offered practical assistance, increased participant confidence, and reinforced key concepts for more effective learning.

By leveraging CarbonSim with these tailored modifications, the Consultant offered a highly effective, adaptable, and contextually relevant solution for this Assignment. The tool's advanced capabilities, coupled with its localized and customized features, provided participants with a comprehensive and immersive training experience.

The use of CarbonSim has helped prepare participants to engage effectively with Vietnam's ETS development efforts and equip them with the practical skills and strategic insights necessary to navigate the complexities of carbon markets and emissions trading.

2.4.2 Tutor training for CarbonSim simulation

Tutors were critical to the success of CarbonSim simulation as they provide on-site and on-time support to ensure smooth simulations. The selected tutors went through a structured training process that included reviewing documents, brochures, and videos, along with internal training sessions led by Mr. Margolis. These sessions covered the simulation's core functions, participation strategies, and trainee guidance, with hands-on practice to fully prepare them for the tutoring tasks. Tutors also enhanced market liquidity by facilitating transactions and improving efficiency. Before each session, tutors and CarbonSim's operator strategized around participant needs and scenarios, while post-session debriefs helped to review the outcomes, identify areas for improvement, and collaboratively devise solutions to make subsequent training sessions more effective. This process ensured continuous refinement and optimization of the training course.

3 THE ACHIEVEMENTS OF TRAINING COURSES

3.1 Organization of the training courses

3.1.1 Key figures and achievements

From February to December 2024, six training courses were successfully held, engaging a broad spectrum of stakeholders from diverse sectors and regions. This comprehensive series not only delivered critical insights into ETS development and implementation but also demonstrated its wide appeal and relevance across various audiences.

Training Sessions Overview[3]

The initiative commenced with two first sessions in Hanoi with the first training conducted from 26–27 February. This session was specifically designed for policymakers, financial institutions, and media representatives. It focused on equipping participants with critical insights and strategies necessary for effective ETS development and implementation. The second session, held from 29 February to 1 March, shifted its focus toward large emitters, providing guidance on addressing operational challenges within the context of the ETS framework.

Following these successful Hanoi sessions, the next two courses took place in HCMC in May 2024 (6-7 May and 8-9 May). These sessions were tailored to address the needs of large emitters in regions with high concentrations of industrial activities.

[3] The detailed descriptions of each training session are provided in the Training Reports submitted separately.

Building on the momentum of the earlier training sessions and the request of DCC (MONRE), in December 2024, two additional training courses were conducted, focusing on three sectors of thermal power generation, iron and steel production, and cement production. The first course was held in Hanoi on 9-10 December, while the second was conducted in HCMC on 12-13 December. These sector-specific training sessions focused on the emissions profiles and operational characteristics of each industry, offering tailored guidance on integrating ETS mechanisms effectively.

To summarize the results of each training session, three full training reports (one for every two training sessions) were developed and submitted. Further details on each course can be found in these training reports (The content of the training reports is attached in the Annex of this Report for information).

Diverse Stakeholder Engagement

All six courses attracted a diverse group of participants, including high-level representatives from key government ministries, provincial departments, banks, occupational associations, universities, and international organizations. The key information of each training session is summarized in the following table.

Table 2: Summary of the training courses

Session	Date	Location	Key target group	Participants
Training 1	26-27 Feb 2024	Hanoi	Policymakers, media, and financial institutions	138
Training 2	29 Feb - 01 Mar 2024	Hanoi	Large emitters	125
Training 3	06-07 May 2024	HCMC	Large emitters	117
Training 4	08-09 May 2024	HCMC	Large emitters	130
Training 5	09-10 Dec 2024	Hanoi	ETS piloting sectors	68
Training 6	12-13 Dec 2024	HCMC	ETS piloting sectors	79

Source: Elaborated by the Consultant

Across all six sessions, a total of 657 participants[4] engaged in discussions and practical exercises, representing a dynamic mix of high-level government officials, provincial department representatives, banking professionals, industry association members, academic experts, and representatives from international organizations. The following table summarizes the quantity of each stakeholder group and the key representatives.

[4] For full lists of training session participants, please refer to the Annexes of the Training Reports.

Table 3: Summary of stakeholder groups and the key representatives

Stakeholder group	Quantity	Key representatives
Private Sector	319	Vingroup, Vinamilk, Petrolimex, PV Power, Hoa Phat Group, TH Group, Huong Sen Group JSC, Nui Tien Pure Water Co., Ltd, Song Gianh Cement JSC, Vicem, Hoa Phat Dung Quat Steel JSC, Vinfast Trading and Production JSC, C.P.Vietnam Livestock Joint Stock Company, AES Mong Duong Power Company Limited, Hai Phong Thermal Power JSC, Nghi Son 2 Power LLC, Cao Son Coal JSC – TKV, VietJet Air, Tay Nam Steel Production & Trading Company Limited, Vietnam Steel Corporation JSC, Samsung Electronics Vietnam, Suntory PepsiCo Vietnam, Honda Vietnam, Unilever, Adidas, Daikin Vietnam, SCG Cement, Posco Vietnam Co., Ltd, etc.
Policymakers	115	MONRE (DCC, Institute of Strategy and Policy on Natural Resources and Environment, Vietnam Institute of Meteorology, Hydrology and Climate Change, Vietnam Environment Protection Fund), Ministry of Finance - MOF (State Securities Commission, Vietnam Exchange, Hanoi Stock Exchange, Ho Chi Minh Stock Exchange), Ministry of Industry and Trade, Ministry of Transport, Ministry of Construction, Ministry of Science and Technology, Provincial departments of HCMC, Ninh Binh province, Dong Nai province, Binh Duong province, Tuyen Quang province, Hai Phong city, etc.
Research & Academia	47	Electric Power University, National Economics University, Hanoi University of Science and Technology, Hanoi University of Natural Resources & Environment, Ho Chi Minh City University of Natural Resources and Environment, etc.
Development Partners	21	AFD, SNV, Embassy of Canada to Vietnam, British Embassy, IETA, IFC/WB, WWF-Vietnam, Consulate General of Canada, GIZ, JICA, UNDP, etc.
Financial Institutes	20	VP Bank, TechCombank, BIDV, EVN Finance, VinFuture, VietinBank, HDBank, Dragon Capital Vietfund Management, etc.
Media	19	Forbes Vietnam, VTV24 - Vietnam Television, VnExpress, Vietnamnews, Hanoi Times, Natural Resources and Environment News, VnEconomy, Vietnam Economic News, Vietnam Investment Review, Vietnam Business Magazine, Tuoi Tre Newspaper, Dan Viet Newspaper.

Source: Elaborated by the Consultant

The participant composition is illustrated in Figure 1, highlighting that nearly 59% of participants came from the private sector, followed by policymakers, research and academia, development partners, financial institutions, and media.

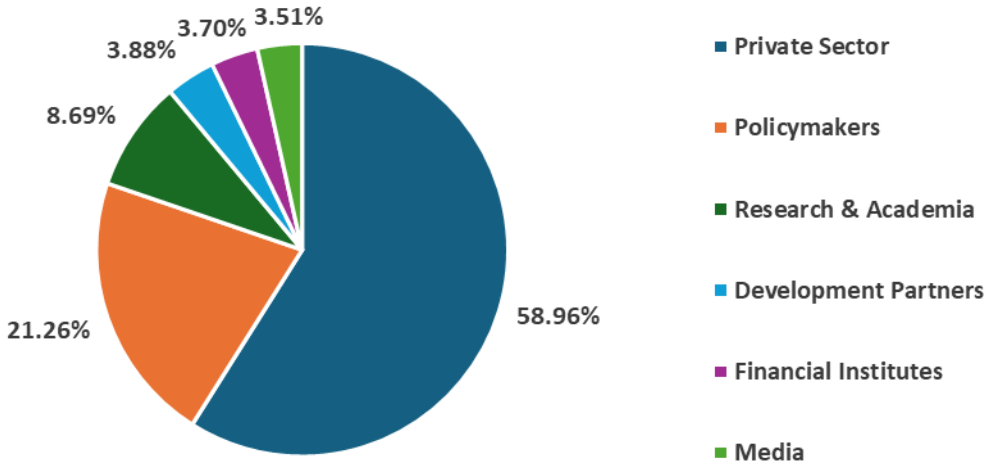

Figure 4: Participant distribution by stakeholder group

Source: Elaborated by the Consultant

This diversity not only enriched the dialogue but also fostered a holistic understanding of the challenges and opportunities associated with ETS implementation.

Commitment to Gender Inclusivity

A particularly noteworthy aspect of the training sessions was the strong commitment to gender balance. With 340 male and 317 female participants, the courses achieved near parity, reflecting an inclusive approach to capacity building. This balanced representation across genders contributed significantly to a richer exchange of ideas, ensuring that the perspectives and experiences of all participants were considered in shaping strategies for Vietnam's emerging carbon market.

Overall, the six training courses have laid a solid foundation for the development and implementation of a robust ETS in Vietnam. The comprehensive curriculum, coupled with the diverse participation and strong gender inclusivity, underscores the TA's success in reaching a wide range of stakeholders and building a collaborative platform for future initiatives.

Detailed descriptions of each course, along with the lists of speakers and participants, are provided in the Training Reports for further reference.

3.1.2 The use of CarbonSim for ETS Simulation

The training program integrated a transformative simulation experience through CarbonSim, an interactive tool that replicates real-world ETS scenarios, to bridge the gap between theory and practice. In each session, the second half of the day shifted from theoretical instruction

to a hands-on simulation, allowing participants to engage with practical market dynamics under expert guidance from the CarbonSim team.

Participants, grouped into smaller teams for peer collaboration, were introduced to key ETS terminologies and the system's interface. The two-day simulation was designed with distinct objectives: **Day 1 focused on practice and familiarization**, while **Day 2 simulated a competitive market environment where participants applied their learning to optimize carbon portfolio management**.

On the first day, participants engaged in a practice simulation to navigate the CarbonSim platform and understand ETS fundamentals. The session included introductory lectures, strategic guidance, and troubleshooting support to ensure full participation. The simulated first-year ETS cycle involved key activities such as abatement, allowance auctions, trading on exchanges and over the counter (OTC) markets, and responding to market fluctuations. This initial phase allowed participants to experiment with and reflect on their performance and adapt to system-wide changes, such as altered allocation levels, price shifts, and compliance adjustments. These insights solidified their understanding of ETS operations and prepared them for the next day's competitive phase.

Figure 5: Participant engagement in the training courses

The second day elevated the experience by introducing a competitive simulation where participants were tasked with developing and refining their ETS strategies in real time. This phase mimicked a dynamic, multi-year market environment, challenging participants to make strategic decisions in response to policy changes and evolving market conditions. Performance metrics were tracked, and top performers were recognized for achieving compliance at the lowest cost, highlighting the practical application of their newly acquired skills.

The integration of CarbonSim significantly enhanced the training program by providing a realistic, interactive platform for understanding and managing ETS mechanisms. The hands-on experience not only deepened participants' theoretical knowledge but also demonstrated the tool's crucial role in preparing stakeholders to effectively navigate and optimize carbon market operations in a real-world context.

3.2 Achievements and impact assessments of the training courses

3.2.1 Assessment of direct impacts on participants

Summary of pre- and post-training survey results: demonstrating training effectiveness

Pre- and post-training surveys were administered for each course to assess participants' progress and understanding of key ETS concepts, operational mechanisms, and market dynamics. These surveys provided a clear measure of the training's effectiveness. The results not only evaluated overall learning outcomes but also pinpointed areas for improvement. Analysis of the survey results yielded valuable insights, highlighting increased awareness and identifying critical areas for future refinement.

3.2.1.1 Improved Perception of ETS as a Tool for Achieving Vietnam's NDCs

ETSs use market-based mechanisms by capping emissions and enabling allowance trading. In the context of the Paris Agreement, ETSs are seen as crucial tools for achieving NDCs by providing a flexible yet effective framework to meet ambitious climate targets. The first survey question, "How useful do you think an ETS will be for Vietnam to meet its NDC?" is thus designed to assess participant perceptions of ETS not only as a regulatory tool but also as an economically efficient instrument that can catalyze the transition to a low-carbon economy.

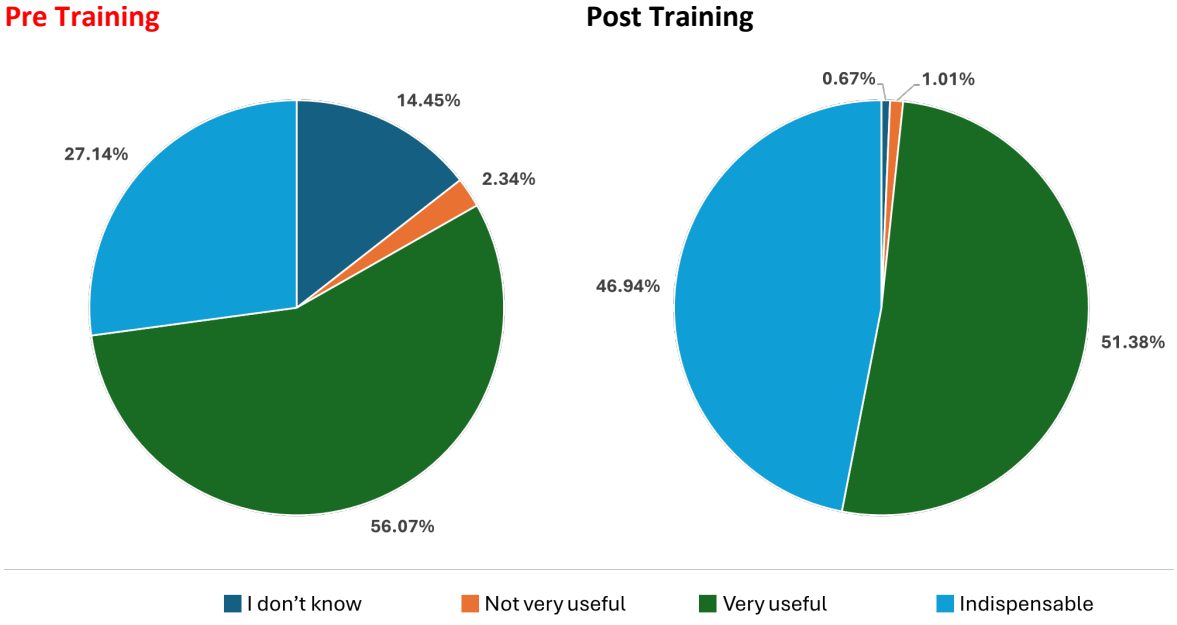

Figure 6. Q1: How useful do you think an ETS will be for Vietnam to meet its NDC?

Source: Elaborated by the Consultant based on pre- and post- training survey results

Before the training, participants expressed considerable uncertainty about the usefulness of an ETS in helping Vietnam meet its NDC. Approximately 14.45% were unsure about ETS benefits, and a small percentage (2.34%) viewed it as "[n]ot very useful." These initial perceptions reflected a limited understanding of both the operational ETS principles and their potential role in climate policy.

Post-training, however, there was a marked shift in perception. The percentage of participants who considered ETS as "[v]ery useful" had a slight change of mind from 56.07% to 51.38%, emphasizing those who upgraded their view to "[i]ndispensable" with an increase from 27.14% to 46.94%. This change indicates that the training effectively enhanced participants' understanding of the fundamental principles and practical benefits of ETS. By clarifying how ETS can drive cost-effective emission reductions and support national climate objectives, the training bolstered the perception of ETS as a critical tool for achieving Vietnam's NDCs.

3.2.1.2 Strengthened understanding of ETS cost-effectiveness

The core idea is that by putting a price on carbon emissions, an ETS creates financial incentives for firms to reduce emissions in the most economically efficient manner. An ETS ensures that overall emissions reductions are achieved at the lowest possible cost. The theory of marginal abatement cost, supports the notion that ETSs can drive innovation and cost efficiency by aligning economic incentives with environmental objectives.

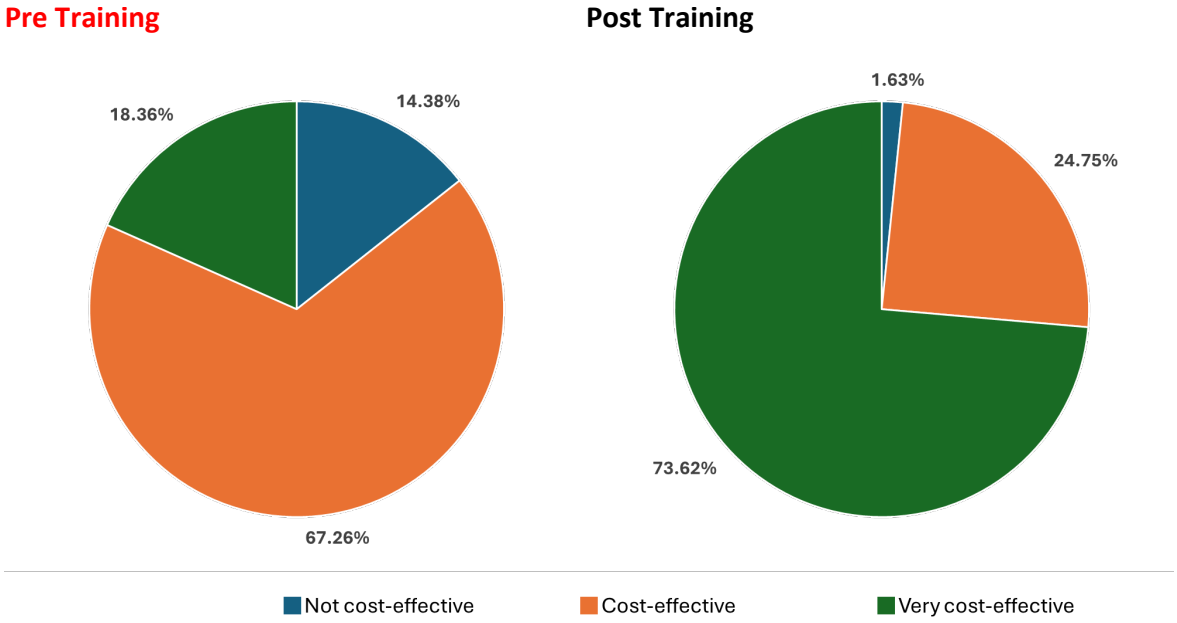

Figure 7. Q2: How cost-effective might an ETS be to reduce Vietnam´s emissions?

Source: Elaborated by the Consultant based on pre- and post- training survey results

Prior to the training, there was some skepticism about the cost-effectiveness of ETS as an emissions reduction tool. A minority (14.38%) deemed ETS "[n]ot cost-effective," while only 18.36% considered it "[v]ery cost-effective". This initial perception likely stemmed from

limited exposure to the underlying economic rationale and practical benefits of market-based approaches compared to traditional regulatory methods.

Following the training, the proportion of participants who viewed ETS as "[n]ot cost-effective" declined sharply to 1.63%, while those considering it "[v]ery cost-effective" increased to 73.62%. This significant shift suggests that the training successfully conveyed the theoretical foundations and practical advantages of ETS. Participants came to recognize that, by internalizing the cost of carbon emissions, ETS offers a more flexible and economically efficient pathway for achieving emissions reductions than command-and-control regulations. By integrating theory with practical insights, the training enabled stakeholders to appreciate how ETS not only meets environmental objectives but does so in a cost-efficient manner, thereby reinforcing its role as a key instrument in reducing Vietnam's emissions.

3.2.1.3 Greater Knowledge of Carbon Pricing and Market Mechanisms

A key focus of the training was carbon pricing mechanisms, including the distinction between ETS, carbon taxes, and voluntary/compliance carbon markets. Each mechanism operates under different regulatory and market conditions: ETSs offer flexibility through allowance trading, carbon taxes impose a fixed cost per emission unit, and voluntary/compliance markets serve distinct roles in achieving environmental and policy objectives. The survey questions in this section are designed to assess participants' understanding of carbon pricing and carbon markets, thereby measuring their readiness to advance market-based approaches in a low-carbon economy.

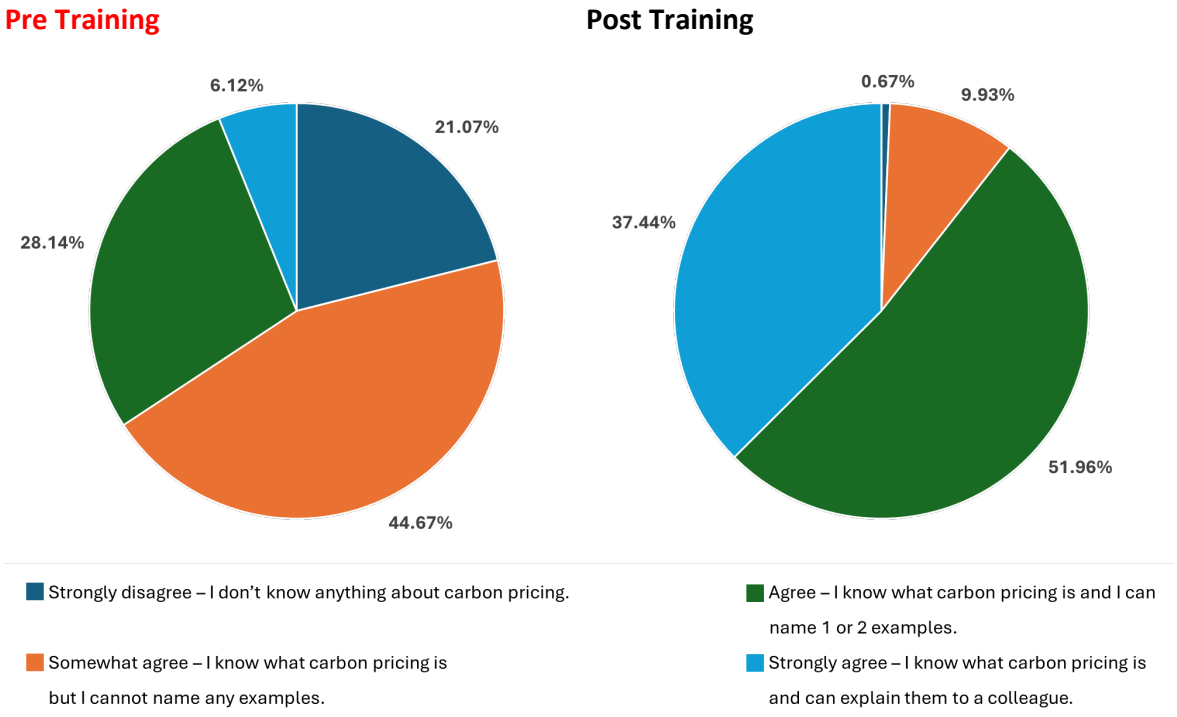

Figure 8. Q3: To what degree do you agree with the following statement? I know what "carbon pricing" is and can name one or more regions with existing carbon pricing systems

Source: Elaborated by the Consultant based on pre- and post- training survey results

Before the training, 21.07% of participants admitted to having no knowledge of carbon pricing, and only 6.12% felt confident in explaining the concept. These figures indicate a significant gap in understanding the foundational principles of carbon pricing, including its role in correcting market failures by internalizing environmental costs.

Post-training, there was a remarkable transformation. The percentage of participants with no knowledge dropped to nearly 0, while those who could confidently explain carbon pricing increased to 37.44%. This notable shift demonstrates that the training effectively conveyed both the theoretical basis and practical examples of carbon pricing systems implemented around the world.

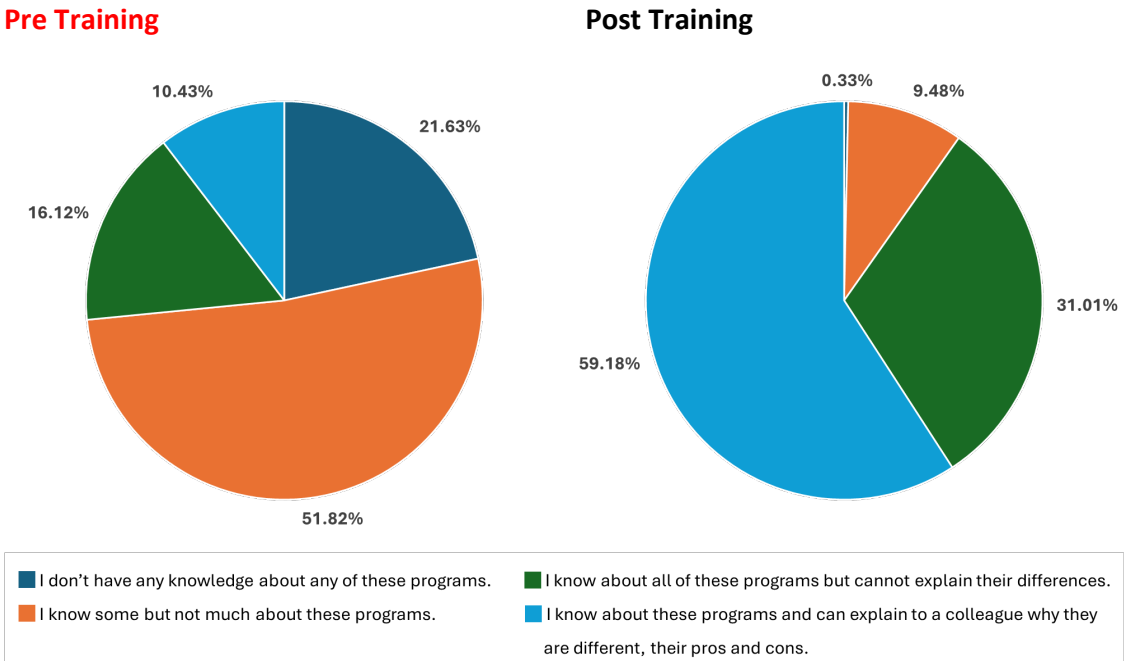

Figure 9. Q4: Can you explain the fundamental differences between an ETS, the voluntary carbon market, the compliance carbon market, and a carbon tax?

Source: Elaborated by the Consultant based on pre- and post- training survey results

Similarly, understanding the differences among ETS, voluntary carbon markets, compliance carbon markets, and carbon taxes saw significant improvement. Prior to the training, 21.63% of participants had no knowledge of these differences, while only 10.43% felt confident explaining them. Post-training, 59.18% of participants could confidently articulate these distinctions, demonstrating the training's success in improving market literacy. This enhanced understanding is critical for informed decision-making in carbon market policy and implementation.

(1) Enhanced Comprehension of Offsets, Emission Allowances, and Abatements

Offsets, emission allowances, and abatements are fundamental components of ETS, designed to reduce GHG emissions efficiently.

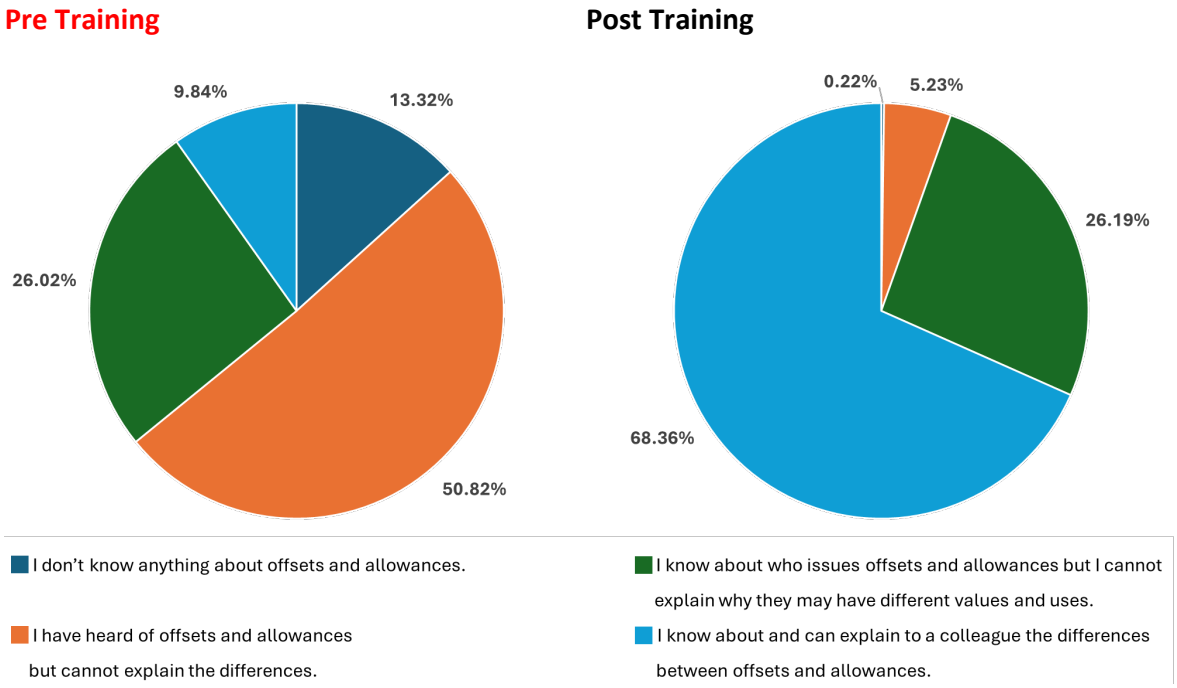

Figure 10. Q5: Describe your understanding of offsets and emission allowances

Source: Elaborated by the Consultant based on pre- and post- training survey results

Initially, 13.32% of participants had no knowledge of these concepts, and only 9.84% could confidently explain them. After the training, the proportion of participants with no knowledge dropped to 0.22%, while 68.36% felt confident in explaining offsets and allowances. This substantial improvement highlights the training's effectiveness in enhancing participants' theoretical understanding and practical application of these critical components in ETS mechanisms.

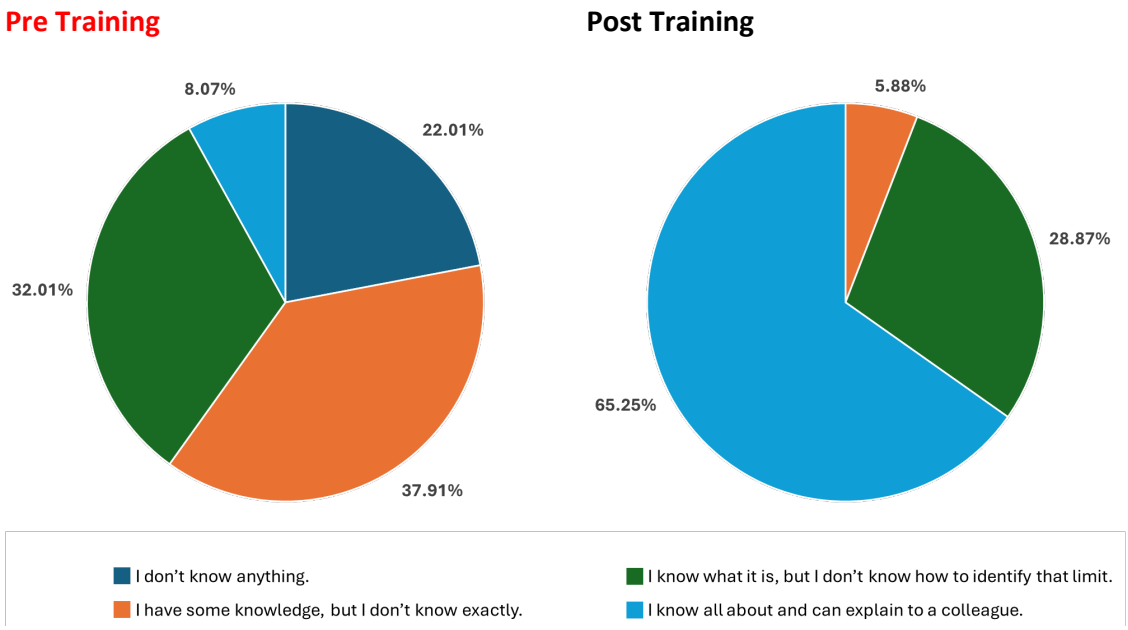

Figure 11. Q6: Do you know what offset limit is?

Source: Elaborated by the Consultant based on pre- and post- training survey results

Similarly, awareness of offset limits, a critical component of ETS compliance, rose significantly. Before the training, 22.01% of participants had no knowledge of offset limits, while only 8.07% could confidently explain them. Post-training, no respondents lacked knowledge, and 65.25% reported confidence in explaining offset limits, demonstrating the training's effectiveness in preparing participants for ETS implementation.

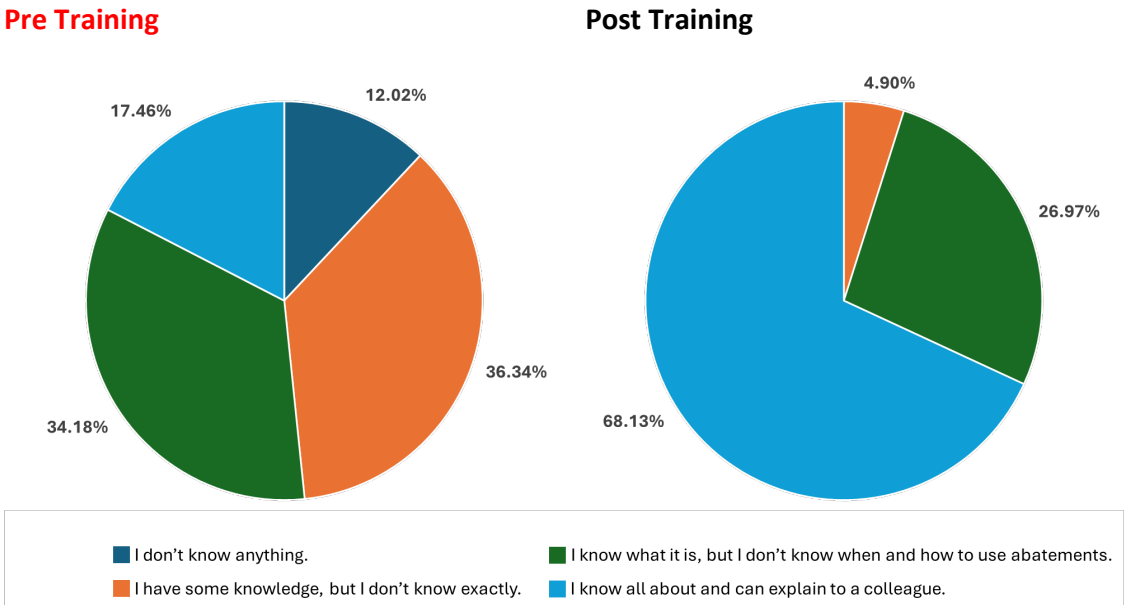

Figure 12. Q7: Do you know what abatements are and when we should use abatement to reduce emissions?

Source: Elaborated by the Consultant based on pre- and post- training survey results

Knowledge of abatements and their role in emission reductions also improved. Before the training, only 17.46% of respondents felt confident explaining abatements, but post-training, this figure rose to 68.13%, reflecting a deepened comprehension of emissions reduction strategies.

(2) Increased Understanding of ETS Trading Mechanisms

The survey question, "Do you know the difference in trading in Auction, OTC, and exchange markets?" is designed to assess participants' understanding of the various trading platforms under ETS operation.

Prior to the training, more than half of the participants lacked a clear understanding of these trading platforms, and only a small percentage could explain their differences.

Following the training, 61.52% of participants reported confidence in explaining ETS trading mechanisms, demonstrating a substantial improvement in their grasp of market-based compliance strategies. This enhanced understanding highlights the training's success in bridging theoretical concepts with practical applications, equipping participants with the tools necessary to effectively navigate and operate within diverse carbon markets.

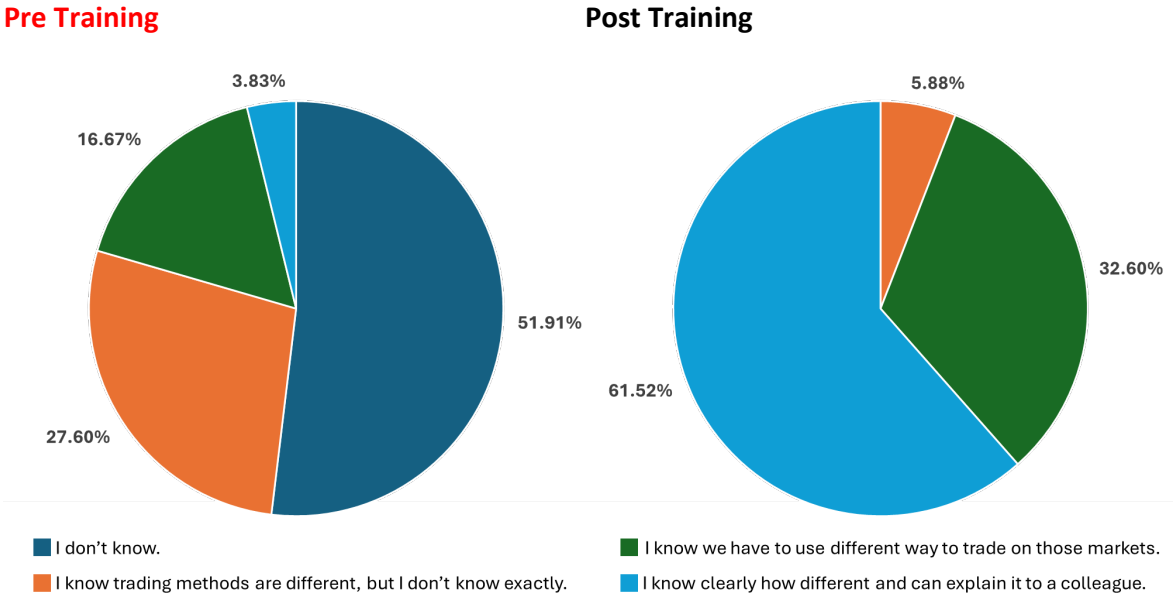

Figure 13. Q8: Do you know the difference in trading in Auction, OTC, and exchange markets?

Source: Elaborated by the Consultant based on pre- and post- training survey results

(3) Broader Awareness of ETS Design and Climate Objectives

An effectively designed ETS not only delivers immediate environmental benefits but also supports long-term climate goals by maintaining flexibility and stability in response to evolving policy landscapes.

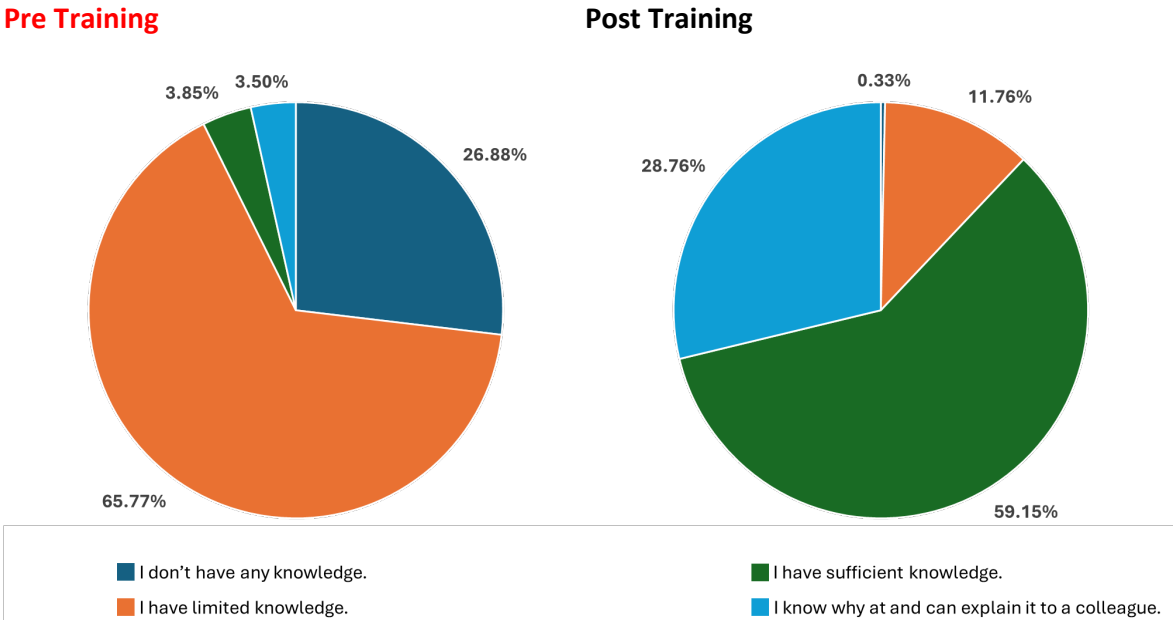

Figure 14. Q9: Do you understand why and how the design of an ETS can affect a region's ability to reduce emissions, do so in a cost-effective fashion, while also supporting near- and long-term climate objectives?

Source: Elaborated by the Consultant based on pre- and post- training survey results

Initially, 26.88% of participants admitted to having no knowledge of these complex interrelationships, and only 3.50% could confidently explain them.

After the training, however, a majority of participants developed a strong understanding of ETS design considerations, confirming that the training successfully equipped them with the skills to assess policy trade-offs and market mechanisms in ETS implementation that align with both near- and long-term climate objectives.

(4) High Participant Satisfaction and Endorsement of the Training

The final survey question evaluates the overall effectiveness of the training course, reflecting the notion that high satisfaction levels indicate a well-structured program that meets learners' needs through practical, real-world applications. Consistently high participant satisfaction rates further validate the success of the training.

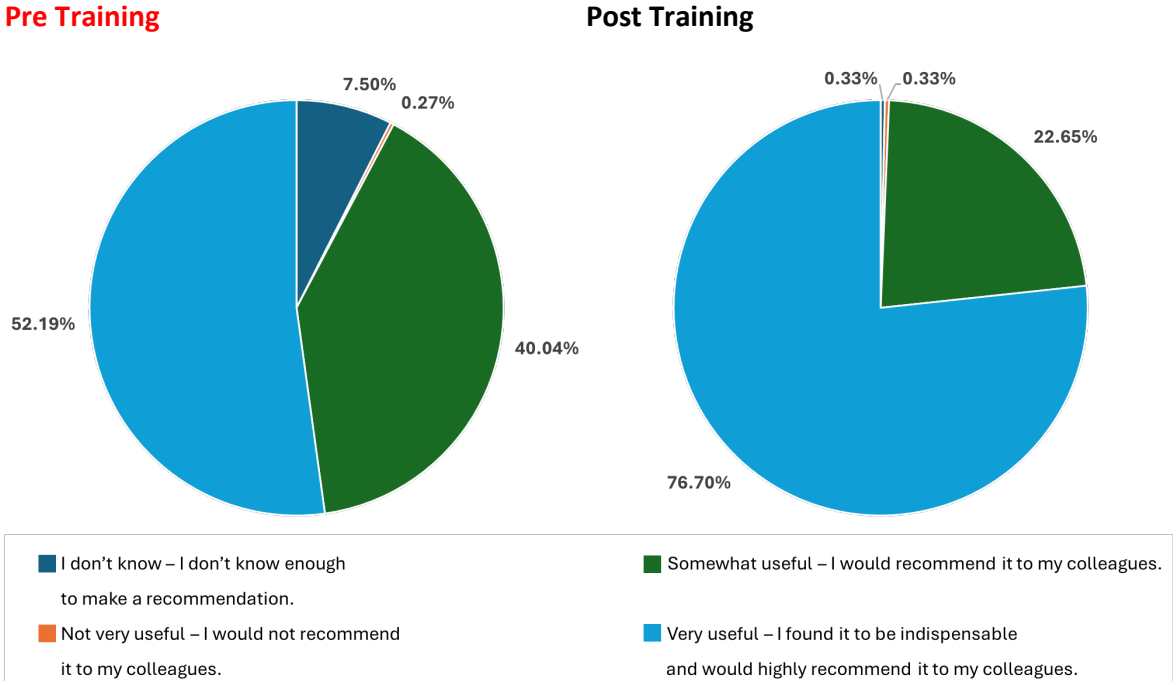

Figure 15. Q10: Do you think this simulation and training will be/was helpful and a good use of your time?

Source: Elaborated by the Consultant based on pre- and post- training survey results

Pre-training perceptions about the course's value were mixed, with some participants uncertain about its relevance. However, post-training surveys revealed that 76.70% of participants found the courses "[v]ery useful" and indispensable for their professional development. Many participants expressed a strong willingness to recommend the training to colleagues, confirming the practical and informative nature of the program.

The feedback from pre- and post-training surveys clearly demonstrates that the course greatly enhanced participants' knowledge and skills in ETS and market-based mechanisms, affirming its overall effectiveness. High satisfaction levels and positive feedback further underscore the training's impact, demonstrating that it not only addressed critical knowledge gaps but also

prepared stakeholders to actively support and drive the pilot phase of Vietnam's low-carbon transition.

3.2.2 Impacts on improving public awareness

The TA program was initially approved to deliver four training courses in total, with two in Hanoi and two in HCMC. The positive responses from the initial four courses far exceeded expectations, and there were expectations from stakeholders of having more similar courses.

Given the overwhelming demand and the outstanding results and impacts of the four sessions, DCC requested that ETP broaden the initiative to include additional courses focused on the key sectors, such as steel, cement, and thermal power. In response, the TA incorporated two extra training sessions, one in Hanoi and one in HCMC, specifically tailored to address the unique challenges and needs of large emitters in both northern and southern regions.

The high demand for the training was evident even before the courses commenced, with numerous organizations and individuals expressing a keen desire to participate in this training course. Priority was given to sectors and stakeholders that are proposed to be directly involved in the ETS pilot phase. However, the volume of inquiries both before and after each session vividly demonstrated the training's practical relevance and effectiveness in addressing critical knowledge gaps. Moreover, it highlighted the widespread appeal and positive reception of the ETS and carbon market topics among various groups and the public.

Beyond direct engagement in the trainings, the success of the training courses was further amplified by consistently positive media coverage. This widespread acclaim from the media reinforced the training contributions in advancing the carbon market and GHG mitigation in Vietnam. Headlines and reports from leading outlets encapsulated the training positive impacts with phrases such as:

- **"Understanding Emission Trading System: Navigating Its Impacts on Businesses"** – highlighting the workshop's role in clarifying complex market mechanisms. (Viet Nam News)
- **"The Need for Operating Emission Trading Scheme Pilot"** – underlining the urgency and strategic relevance of implementing ETS. (VietnamPlus)
- **"Businesses Understand Too Little About ETS and the Carbon Market"** – pointing to the critical knowledge gap that the training effectively addressed. (VnEconomy)
- **"More than 100 Businesses Participate in Carbon Market Training and ETS"** and **"Hundreds Participate in ETS and Carbon Market Training"** – emphasizing the high level of interest and participation from the business community. (Vietnam Economic News; Vietnam Investment Review)
- **"Helps localities and businesses understand carbon credits"** – demonstrating the tangible impact on regional stakeholders. (Resources & Environment Newspaper)

The evolution of the TA from four to six training courses is a testament to its success and the ever-growing demand for capacity-building initiatives in ETS design and implementation.

3.2.3 Contribution on strengthening the ETS regulation framework

The training courses are timely organized to strengthen Vietnam's ETS regulatory framework by enhancing the capacity of officials responsible for its development. Since early 2024, DCC has been leading the process to revise the Decree 06/2022/ND-TTg aiming to address gaps in the design and governance of both national and international carbon of the existing Decree.

The training sessions offered participants in-depth insights into international best practices in ETS and carbon markets. This deepened understanding enabled policymakers to assess, refine, and modernize their regulatory approaches, crafting suitable and effective regulations to govern and operate the pilot ETS.

Furthermore, an important aspect of the TA included the active participation of expert speakers in the revision of Decree 06/2022/ND-TTg. Invited by the DCC, these experts provided practical advice and technical recommendations on revising sections related to the establishment and governance of the carbon market, with a particular focus on managing the ETS. The experts shared their extensive experience and specific technical suggestions on the integration of state-of-the-art ETS design principles in the discussion with DCC.

Figure 16: Consulting Consortium shares ETS design insights with DCC

Overall, the training courses significantly bolstered the regulatory capacity of officials, laying a strong foundation for the successful implementation of a dynamic and effective ETS in Vietnam.

3.2.4 Strengthening ETS readiness and capacity-building in Vietnam

The ETS and carbon market training courses received overwhelmingly positive feedback and are successful in strengthening ETS readiness and capacity-building in Vietnam.

Pre- and post-training surveys revealed significant improvements in understanding ETS design, cost-effectiveness, carbon pricing, trading mechanisms, and policy implications. Initially, perceptions were mixed, but afterward, 80.07% of participants rated the courses as "Very useful", with most recommending them to colleagues.

Participants moved from uncertainty to strong confidence, gaining the ability to clearly explain complex concepts like carbon pricing, offsets, abatements, and various trading systems, while also distinguishing between ETS, voluntary, and compliance markets. The training transformed initial skepticism into advocacy, positioning ETS as an indispensable tool for achieving Vietnam's climate targets.

The ETS simulation exercises conducted in all six training courses in Hanoi and HCMC provided participants with a hands-on learning experience that reinforced their understanding of ETS principles and the theoretical-step approach to ETS design and implementation. Through structured simulations using CarbonSim, participants engaged in real-time decision-making, developing strategies to comply with carbon pricing mechanisms and market-based compliance obligations.

The simulation offers stakeholders a secure, risk-free environment to explore new concepts, commit errors, and gain insights, thereby accelerating the adoption of an effective ETS. Through experiential learning facilitated by this tool, participants enhance their understanding of ETS, fostering support for it as a policy choice and demonstrating that policy outcomes depend on its design. This approach is a cost-effective and low-risk method for developing the capabilities of policymakers and regulated firms. Furthermore, CarbonSim facilitates the building of relationships, mutual understanding, and trust among stakeholders, essential elements for collaborative policy design and implementation.

Overall, the courses bridged key knowledge gaps and provided actionable insights that prepared stakeholders for active participation in Vietnam’s emerging carbon market. However, as indicated by stakeholders during the trainings, more and in-depth trainings to prepare for the commencement of the ETS in 2025 are needed. Such trainings will lay a strong foundation for the success of the pilot phase and also for advancing the country's carbon reduction efforts, energy transition and long-term climate resilience.

4 KEY LESSONS AND RECOMMENDATIONS FOR THE FUTURE DESIGN AND IMPLEMENTATION OF VIETNAM'S ETS

The following sources have been drawn on to provide insights and findings that constitute the lessons learned and recommendations for the future design and implementation of Vietnam’s ETS:

- International review conducted: carbon market status and trend, ETS design, carbon credits for offsetting;
- A national survey conducted in December 2023;
- Korean Emission Trading System (K-ETS) study tour in 2023;
- Insights accumulated from the training sessions, including the pre- and post-training course surveys:
    - Lessons learned and improvement for each training;

- Design and organize the ETS training courses;
- Interests, concerns, and feedback expressed at the training sessions;
- Experiences and lessons gained over the simulations.

Based on these sources, the consultant has analyzed and provided the following recommendations for ETS design and appropriate policies for ETS operations to the government of Vietnam.

4.1 Lessons and recommendations from training courses

Based on the insights and findings accumulated and analyzed from the studies, surveys, and training sessions conducted under this TA, the following lessons learned and recommendations for the design and execution of the ETS in Vietnam are provided in Table 3.

The analysis is structured according to the 10 topics of the training course and captured the key concerns, interests, and questions raised by participants during the training sessions.

Table 3: Lessons learned and recommendations for the design and execution of the ETS in Vietnam

Key issues	Lessons learned	Recommendations for design and execution of the ETS in Vietnam
Defining policy objectives	**Policymakers** emphasized that Vietnam's long-term objectives for the ETS should be clarified, such as whether the focus is on cost-effective emissions reduction, market integration, or enhancing industrial competitiveness. They need to align these objectives with the national GHG mitigation targets to ensure coherent policy development. **Emitters** need to understand how these policy objectives affect their operations and compliance strategies, particularly in terms of investment in clean technologies and shifts in operational practices to meet evolving regulatory requirements.	Set up an institutionalized stakeholder group consisting of policymakers, industrial emitters and their trade associations, NGO representatives, and academics, and use ongoing meetings to refine understanding and increase awareness of ETS policy objectives. Conduct regular media campaigns on the domestic carbon market including the rationales for selecting the ETS and the related roadmap.
Deciding Scope and Coverage	**Policymakers** expressed that the regulation must determine which sectors and sources of emissions are included in the ETS. This involves balancing environmental effectiveness with economic feasibility and considering sector-specific challenges and opportunities.	Identify the contribution of each candidate sector to overall emissions, as well as average abatement cost and decarbonization technology pathways in each sector, focusing on the sectors most likely to see inclusion in the ETS, notably heavy industry and power generation.

	Emitters are concerned with the preparation to adapt to the obligations under the new decisions/policies, such as potential inclusion or exclusion in the initial phases of the ETS, and how this scope affects their compliance obligations. Stakeholders emphasized the need for clear criteria to determine which emitters are included in the ETS during each phase. They sought transparency regarding the benchmarks and readiness levels required for industries to be incorporated, ensuring a manageable and gradual transition into the system and details elaboration on the eligible participants in the market: (i) entities generating carbon credit; (ii) emitters receiving allowances; (iii) traders/intermediaries? What are the benefits and risks of intermediaries?	Conduct quantitative assessments of the mitigation potential and cost in each sector and the implications of coverage for demand/supply and allowance prices in the ETS as well as for reduction of overall mitigation cost. Conduct quantitative assessment based on available emissions and production data to determine the overall emissions coverage and number of covered entities with different sectoral scopes and thresholds for inclusion in each sector. Assess the number of included entities with different coverage thresholds, setting thresholds to include e.g. 70%, 80%, and 90% of all emissions in relevant sectors, and determine the optimal threshold to maximize coverage with a limited number of entities (e.g. based on Pareto principle).
Setting the cap	**Policymakers** emphasize the necessity to develop methodologies for setting and adjusting the cap on emissions to align with national and sectoral decarbonization goals. This includes establishing procedures for data collection, verification, and cap adjustment mechanisms. **Emitters** need guidance on how these caps will be implemented and adjusted, and what role they will play in shaping these caps through industry feedback and data provision.	Conduct top down and bottom up assessments of emissions data and medium to long term emission trends in relevant sectors; reflect existing national and sectoral mitigation goals as well as mitigation potential across sectors and activities to identify a balanced and efficient cap for ETS-covered sectors. Consider the need for future cap adjustments and predetermined opportunities for adjustment of the cap in light of evolving circumstances.
Allocating allowances	Concerns were raised about how allowances are distributed among participants, particularly the balance between free allocations and auctioned permits. The allocation process	Conduct studies to ascertain the economic impacts of different allocation methods, including competitiveness impacts, likelihood of windfall

	requires careful consideration to balance fairness, accuracy, and transparency. Attendees called for equitable and transparent methodologies that align with both environmental goals and economic viability, ensuring that no stakeholder is unduly advantaged or disadvantaged. **Policymakers** expect to have in-depth studies to explore various allocation methods, such as grandfathering, benchmarking, and auctioning, each with its pros and cons. The chosen method should promote fairness and incentivize reductions. **Emitters** expect to understand the implications of different allocation strategies on their operations, especially how they can influence allowance costs and strategic planning for emissions management.	profits, and fiscal implications. Consider international factors such as recognition towards EU's Carbon Border Adjustment Mechanism (CBAM)compliance, as well as possible uses of auctioning revenue to address competitiveness impacts and other economic disadvantages. Consider phased approaches to help build gradual capacity and secure required information for robust benchmark-setting but ensure long-term trajectory towards the economically and environmentally most efficient approach, auctioning. Assume strong political economic pressure to adopt grandfathering or generous benchmarks but observe lessons from international experience to better understand the disadvantages of an excessively long transition to auctioning.
Establishing offset rules	**Policymakers** expect that there should be clear rules for the integration of offsets in the ETS, considering both domestic and international carbon credits and their role in meeting compliance. **Emitters** need to comprehend how they can use offsets to comply with their obligations, the eligibility criteria for such offsets, and the impact on their overall carbon footprint and compliance costs. Clarify the boundaries for ETS and carbon credit mechanisms in one installation that is under the ETS. *For instance, if the solar rooftop project at the physical site within the ETS boundary generates electricity merely to the grid, then is it eligible to generate carbon credits?*	Conduct a detailed study of other jurisdictions' ETS and the rationale and design of including (or opting against inclusion) credits as an eligible compliance alternative. Consider fiscal implications and impact on demand and supply for allowances in the ETS, including price dynamics. Consider qualitative and quantitative limits or criteria for offset credit use, as well as potential international implications (e.g. eligibility towards CBAM compliance). Ensure alignment with existing or emerging international crediting schemes, notably methodologies expected from the Supervisory Body of Article 6.4 of the Paris Agreement.

Setting the compliance framework	**Policymakers** require robust MRV systems and enforcement mechanisms to ensure market integrity and compliance. **Emitters** should prepare for compliance with MRV requirements, understanding what data needs to be reported, how emissions are verified, and the consequences of non-compliance.	Build on existing domestic emissions transparency frameworks and ensure alignment with international MRV standards to minimize duplication of effort for compliance entities (e.g. towards CBAM, CSRD/CSDDD, ISO 14064, etc.) Provide transparent guidance to compliance entities and offer support or a helpdesk to ensure timely assistance as entities build necessary capacity. Draw on international knowledge products and software. Create necessary institutional and governance frameworks for verification and secure an adequate supply of qualified verifiers through education and training measures.
Ensuring market stability	**Policymakers** hope to understand better market stability mechanisms like price floors, ceilings, and strategic allowance reserves to prevent market manipulation and extreme price volatility. **Emitters** will benefit from understanding how these mechanisms protect them from unpredictable economic burdens and facilitate smoother transitions to compliance. The flexibility of banking and borrowing provisions within the ETS captured significant attention. Participants expressed interest in clear policies that would allow them to strategically manage allowances over time, while also safeguarding market stability and ensuring that these mechanisms do not compromise the system's overall integrity.	Conduct domestic debate on the importance of certain price levels vs. market efficiency for the achievement of the policy objectives identified previously (see above). Study price and supply management provisions in existing ETS of other jurisdictions, along with design options, best practices, and tradeoffs. Consider the suitability of alternative options for the domestic context and circumstances. Seek an appropriate balance between price predictability and the degree of government interference in efficient market-led resource allocation.

	Stakeholders expected stringent monitoring and oversight measures to prevent market manipulation and ensure that investment activities contribute to genuine emissions reductions rather than undermining the market's credibility.	
Developing market infrastructure	**Policymakers** focus on the roadmap and plan to develop necessary market infrastructure such as registries, trading platforms, and the role of financial market intermediaries. **Emitters** need to engage with this infrastructure, understanding how to access and use it for compliance and trading purposes.	Survey existing market infrastructure elements deployed in other jurisdictions' ETS, and study software solutions and available suppliers. Invest in and develop the crucial infrastructure for ETS operation such as registries and trading platforms. Consider interoperability with international infrastructure, such as the registry infrastructure of Article 6 of the Paris Agreement. Deliver training for key stakeholders on the use of infrastructure for ETS operation in the early stage (even in the testing phase of the infrastructure).
Addressing competitiveness and leakage risks	**Policymakers** need strategies to mitigate risks of carbon leakage and maintain the competitiveness of industries under ETS, ensuring that regulations do not unduly penalize domestic industries. **Emitters** should be aware of measures to mitigate leakage risks and the supports available to maintain competitiveness in a regulated environment.	Survey other jurisdictions' existing approaches to addressing competitiveness and leakage risk in an ETS, including lessons learned and best practices developed over time. Define and apply criteria for the identification of energy-intensive and trade-exposed industries and estimate fiscal implications and environmental impacts of alternative leakage safeguards. Reflect recent international trends, e.g. adoption of border carbon measures in trade partner countries and degree of convergence (or lack thereof) of climate efforts across the world.

Implement, evaluate, and improve	The simulation highlighted several key learnings that aligned with the theoretical-step ETS design approach and should be focused on the following: 1. Understanding Policy Objectives and Scope – Participants grasped the importance of defining ETS coverage, including sectoral participation and emissions thresholds. 2. Cap-Setting and Allowance Allocation – Teams experienced the impact of emissions caps and how allocation mechanisms influence market behavior. 3. Trading and Market Stability Mechanisms – Market fluctuations in allowance prices demonstrated the importance of risk mitigation strategies and financial hedging. 4. Compliance and Regulatory Adjustments – Announcements from the virtual regulator about cap adjustments and price floors influenced market trends, reinforcing the need for ongoing policy monitoring. 5. Marginal Abatement Cost Management – Highlight the importance of diversifying carbon management strategies, such as combining on-site abatement with market trades. Show how strategic flexibility can lead to better outcomes in ETS participation. The price dynamics and market behavior observed during the simulation closely resembled real-world ETS markets. Auction prices influenced secondary market trends, and regulatory interventions, such as cap reductions, had immediate effects on price volatility. Participants who actively monitored regulatory changes and adapted their strategies accordingly	Ensure that the ETS design has predetermined entry points for evaluation and review (e.g. at the end of a 3-, 5- or 7-year trading period), and draw on established best practices for the assessment of ETS performance to identify possible improvements to design and implementation of the ETS. Balancing interest in long-term certainty with the importance of intervention points to ensure flaws or an evolved context can be addressed by adjustments to the ETS design. Conduct the evaluation and propose improvements after each period.

	performed better, reinforcing the need for businesses to develop flexible and proactive compliance strategies. Market participants expected transparent and predictable policies from the government in order to make decisions and comply with the most cost-effective for their business.	
Interaction with CBAM	**Emitters** are concerned with the recent CBAM requirement and how they can prepare for additional compliance challenges, especially if their products are exported to markets with CBAM regulations like the EU. They expect that there would be assessment and information on how ETS implementation interacts with CBAM requirements, focusing on emission calculation standards, verification processes, and potential cost implications on exports.	Carefully monitor operational decisions in the EU CBAM regarding the eligibility of foreign carbon prices paid to be accounted towards CBAM compliance, notably the implementing act on Art. 9 of the CBAM Regulation expected in the second half of 2025. Also, track political developments in the EU and other jurisdictions regarding border carbon measures to understand political pressures that might affect relevant design choices and how a Vietnamese ETS will be considered in the context of such measures.

Source: Compiled by the Consultant

4.2 Lessons learned from the Korean Emission Trading System study tour

The K-ETS offers valuable insights for Vietnam in establishing and managing its national carbon market, covering various aspects such as institutions, regulations, research, and operations tailored to Vietnam's context. Consequently, a study tour on the K-ETS was organized in Seoul, Korea, from November 19 to 25, 2023, for delegates from the MOF.

The key findings from the study tour provide valuable guidance for Vietnam in designing and managing a successful ETS and are summarized in the following Table.

Table 4. Lesson learned as the result of the K-ETS study tour

Korean experience	Lesson learned for Vietnam
Phase 1 and 2 were considered as the pilot for facilities to get used to the ETS.	Vietnam should dedicate an appropriate timeline to design, pilot, and fully operate the ETS.
Phase 1 applied GF then gradually applied BM (66% in Phase 3). Three years of historical data for GF is long enough to allocate the allowances, but clear policies and regulations are required.	The pilot phase can rely on GF with 03-year GHG inventory data while developing the BMs to gradually replace GF. The free allocation is the most suitable in the pilot phase, the auction should be gradually applied in phases.
Should consider most potential conflicts and propose intervention policies during the design phase. In K-ETS, the Ministry of Environment of Korea (MOE) always wants to reduce the total cap while the Ministry of Trade, Industry and Energy wants to increase it due to pressure from industries.	Having consensus between the key line ministries will determine the success or failure of the ETS.
The ETS helps businesses/industries calculate their own costs and be proactive in achieving their emission reduction targets, with carbon pricing being a crucial indicator in making decisions.	Continuous and intensive training, capacity building, and public awareness are important to different groups of stakeholders, but the businesses and industries should be the high priority.
The K-ETS imposes restrictions on the banking of unused allowances in order to stimulate the trading market.	Banking is an important tool for the stabilization and scale of the ETS. It should be considered in the early stages of designing an ETS.

South Korea has ambitious GHG reduction targets, but the demand and prices for allowances are both declining. The stabilization and GHG control policies need to be improved in Phase 4 (beginning in 2026).	The management policies should be flexible and revised regularly to operate an ETS successfully.
A stabilization system should be included in the early stage and auction is the tool for stabilization.	The consideration of the possibility of market shocks and interventions should be made when establishing the ETS.
The MOE manages the ETS and makes decisions on the amount of allocation, system management, and management of participating enterprises based on the decisions of the Allowance Allocation Committee.	The decision on the total allowance and the methodologies for allocation of allowances are very important and should be in charge by a high-level body (i.e. Prime Minister level) who can assign and coordinate line ministries.
Korea set up the Climate Change Response Fund using auctions' revenues and other sources while the Market Stabilization Fund has allowances (no money). The Market Stabilization Fund is managed by the Allowance Allocation Committee.	The Funds for using the revenues from the ETS and to stabilize the operation of the ETS should be decided when establishing the ETS.
The participation of market makers is important to build confidence among market participants. Market makers help to stabilize the market functions and remain resilient even during times of market turbulence/shocks.	The consideration of the Market makers should be made when establishing the ETS.
Korea has used international experts from the EU to support the design and operation of K-ETS.	Vietnam should consider engaging and using international experience and technical support in the early stage of the ETS design.
Korea has been facing many difficulties in implementation.	Korean partners, especially the representatives from MOE expressed the hope that Vietnam will speed up progress when it gains more experience from Korea.

Source: Compiled by the Consultant

4.3 Recommendations for future training, capacity building activities

4.3.1 Structure for future training, capacity building activities

The positive post-training feedback and strong interest in further training underscore a robust demand for similar initiatives, especially for more technical, sector-specific sessions on ETS and the broader carbon market. This series represents the first of its kind organized by DCC. It is imperative to conduct follow-up training tailored to different stakeholder groups to foster robust engagement and consensus, which are crucial for the successful implementation of the policies and regulations governing ETS and the domestic carbon market in Vietnam.

To optimize future training courses and cover the gaps that are not yet delivered under this TA, the following recommendations are proposed based on the structure and success of the training sessions:

- Strong foundations for conceptualizing the training: Develop training concepts and agendas that blend international best practices with specific national needs, based on thorough pre-training research and feedback from participants. This ensures that training remains relevant and impactful. The trainings should include at least two parts:
    - Phased learning approach: Start with an introductory phase covering fundamental concepts of carbon pricing instruments such as allowances, offsets, auctions, trading platforms, and compliance obligations. Include frequent pauses and interactive discussions to help participants internalize key concepts before advancing to more complex scenarios. Future training should focus on delving deeper into each concept, tailored more technically by sectors.
    - Interactive elements: progress to more advanced topics and include simulations that mimic real-world ETS dynamics, fostering strategic thinking and participant engagement.
- Real-world simulation: It is crucial to provide participants with simulations that mirror real-world ETS dynamics. Utilize tools like CarbonSim to reflect actual dynamics, encouraging participants to analyze marginal abatement costs, market trends, and potential regulatory changes. This practical application highlights the impact of strategic decisions in a controlled environment. Future training should include simulation modules that also focus on the governmental decision-making process (e.g., allocation methodologies, rates of free allocation, use of revenues), to demonstrate how different decisions can impact both supply and demand sides, as well as market trading.
- Strategic flexibility training: Emphasize the importance of making adjustments during the training process, which has proven essential for the success of the sessions. These improvements should continue through a cycle of pre- and post-training activities (see below section for further details).

- Follow-up and advanced training: After initial training, provide follow-up sessions to review concepts, discuss real-world applications, and introduce more complex scenarios. This ensures continuous learning and adaptation to evolving market conditions and regulatory frameworks.
- Close collaboration with key parties involved: the training courses are designed and conducted in close consultation and collaboration with ETP/UNOPS and DCC. They are kept well-informed about the events and support requirements, enabling them to provide timely guidance and decisions critical for the design and implementation of the courses. This includes facilitating guest speaker invitations, participating in and presenting at events, and approving necessary adjustments.

Implementing these structured elements in future trainings will not only enhance learning outcomes but also prepare participants more effectively for active and informed participation in the ETS and the domestic carbon market in Vietnam.

4.3.2 Training course adjustments

The training series under the TA was structured with a foundation in both international best practices and a national needs assessment, ensuring relevance and high standards. Initial planning involved a comprehensive desk review combined with a nationwide survey to pinpoint specific training needs, which informed the detailed agendas and content tailored to the country's requirements.

Adjustments made during the training process played a crucial role in its success. The implementation involved a continuous cycle of pre- and post-training activities, alongside real-time modifications based on participant feedback, in-session observations, and emerging needs. To enhance the effectiveness of future training sessions, key recommendations include:

- Responsive training design: Adapt the training structure actively throughout the series based on observations and participant feedback to address any emerging challenges or learning gaps. This might involve adjusting the complexity of simulations or the pace of sessions to better match participant engagement levels and learning speeds.
  The content was continuously refined to address specific participant needs, particularly focusing on the national context rather than detailed MRV topics, which were more relevant to the participants at the current stage of ETS in Vietnam. Recap sessions and theoretical presentations were also customized after each training round based on feedback, ensuring the material remained relevant and engaging.
- Enhanced tutor support: Before the initial sessions, the team conducted multiple preparatory tutor sessions, developing a cadre of skilled tutors fluent in both Vietnamese and English. This effort was critical in minimizing language barriers, enhancing communication, and providing targeted support, which significantly improved the learning environment.

- Optimized simulation tools: The introduction of an upgraded CarbonSim tool, which initially allowed parallel group simulations, increased hands-on engagement. However, recognizing the challenges this posed in terms of fragmented learning experiences, the team reverted to a single simulation format in later sessions to enhance delivery consistency and reduce logistical complexities.
- Refined simulation structure: Adjustments to the simulation's pacing and structure were critical. For example, after observing confusion due to limited simulation years, subsequent sessions were adjusted to allow a smoother transition between years. The team also streamlined explanations and increased tutor support to bolster understanding and engagement.
- Innovative engagement techniques: In later sessions, the team introduced new methods to stimulate active participation, such as encouraging the use of the OTC market during simulations, which created a more collaborative and energetic learning atmosphere.

These thoughtful and responsive adjustments ensured that the training not only met the immediate learning objectives but also adapted to the evolving understanding and interests of the participants. This approach led to high levels of participant satisfaction and a deeper understanding of ETS concepts, underscoring the effectiveness of the training and the value of a flexible, participant-centered approach.

5 CONCLUSIONS

The main objective of the TA was significantly exceeded, as evidenced by the execution of six highly effective training courses, surpassing the original target of just four benefiting over 600 participants. The courses were instrumental in enhancing participants' understanding and practical skills related to ETS and market-based mechanisms, as confirmed by pre- and post-training surveys. The overwhelmingly positive feedback from attendees highlighted the sessions' success in boosting both institutional and individual capabilities in ETS operations across various sectors.

This TA initiative not only improved ETS literacy among key stakeholders but equipped them with essential tools to adeptly navigate the complexities of the carbon market and also strengthened the collaboration between governmental authorities and the private sector. By engaging a broad array of participants, from policymakers to significant emitters, the training ensured a well-rounded approach to capacity building. This strategic enrichment prepares Vietnam with the crucial knowledge and skills needed for robust ETS implementation, marking a substantial success in achieving the TA's goals.

The positive impacts of these trainings are reflected not only in the initial conceptualization of the training but also in the dynamic adjustments and continuous improvements made throughout the sessions. These adjustments, based on real-time feedback and evolving needs, include optimizing simulation tools, refining training content, and enhancing support systems.

They both contributed to the success of the training series, ensuring that the content remains relevant, engaging, and practically applicable.

The training courses not only excelled in direct engagement but also captured significant media and public attention, magnifying their impact. Consistently positive media coverage highlighted the training sessions, carbon market knowledge, and GHG mitigation strategies in Vietnam that helped to raise public awareness and interest on these issues and national climate change policies in general.

Based on this successful foundation, this report compiles and synthesizes key findings from the ETS trainings, including detailed simulations, analysis, and assessments conducted throughout the TA. These activities have provided critical insights into the operational dynamics and potential efficacy of an ETS in Vietnam, identifying both challenges and opportunities in its design and execution. Based on these insights, the report outlines recommendations for policy design, market readiness, and stakeholder engagement. These recommendations are specifically tailored to enhance future training modules and are designed to support the development of a robust and adaptable ETS framework aligned with Vietnam's long-term climate objectives.

In conclusion, the recommendations presented in this report offer a blueprint for future training initiatives and policy formulations, ensuring that Vietnam continues to build on the foundational ETS knowledge and skills imparted through this TA. This strategic focus on continuous improvement and adaptation is vital for the successful implementation and evolution of ETS in Vietnam, contributing significantly to the nation's long-term climate objectives.

6 ANNEX

Training Reports

As part of the deliverables under Task 7, three training reports were developed and submitted to ETP that covered the six training sessions conducted in Hanoi, HCMC. These reports serve as a structured documentation of the training program, capturing its design, implementation, and key takeaways.

The primary objective of these reports is to provide a detailed account of the training courses, including:

- Course Design and Structure: Outlining the development process, thematic focus, and methodology applied in each training session.
- Session Summaries: Providing a comprehensive breakdown of each training section, including key topics covered, presentations delivered, and interactive discussions.
- Lessons Learned: Highlighting insights gained from participant engagement, feedback, and areas for improvement to enhance future capacity-building efforts.

Each report is structured to ensure a systematic evaluation of the training program, facilitating knowledge-sharing and informing the design of future training initiatives. The standardized outline for the Training Reports series is presented in the box below:

1 INTRODUCTION

2 DESIGN AND PREPERATION OF THE TRAINING COURSES

2.1 Description of the training courses

2.1.1 Training course design

2.1.2 Pre and post survey design

2.2 Description of speakers

2.3 Description of the simulation tool

2.3.1 CarbonSim simulation

2.3.2 Tutor training for CarbonSim simulation

3 DESCRIPTION OF THE PARTICIPANTS

3.1 Participant identification and selection process

3.2 Training 1 for policymakers, financial institutions and media

3.3 Training 2 for big emitters

4 SUMMARY OF THE TRAINING COURSES

4.1 Training course day 1

4.1.1 Opening section