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FINAL REPORT

Impact Assessment of EU's Carbon Border Adjustment Mechanism and Recommendations on Carbon Tax Policies for Vietnam

March 2024

perspectives climate group

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Energy Climate Sustainability

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COLOPHON AND DISCLAIMER

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EXECUTIVE SUMMARY

On May 10, 2023, the European Union (EU) established the world's inaugural Carbon Border Adjustment Mechanism (CBAM) as part of its commitment to hasten greenhouse gas (GHG) emission reduction, targeting carbon neutrality by 2050. CBAM aims to counter carbon leakage, prevent the relocation of industries to countries with lax climate policies, and create a level playing field for EU producers. From 2026 onward, importers must purchase CBAM certificates corresponding to the amount of embedded GHG emissions in certain types of products at a price equivalent to the auctioned price of the allowance in the EU's Emission Trading System (EU ETS). The CBAM initially covers iron and steel, aluminium, fertiliser, cement, electricity, and hydrogen.

Viet Nam and the EU share significant economic ties, as demonstrated by the EU-Viet Nam Free Trade Agreement (EVFTA) since August 1, 2020. Viet Nam is the EU's largest trading partner in the Association of Southeast Asian Nations (ASEAN). While the enactment of CBAM can be an opportunity for Viet Nam to accelerate its climate action, it can also affect Viet Nam's economy, especially the exporting industries. It is important to understand the impacts of CBAM to help the policymakers and the enterprises to proactively prepare for CBAM, minimise its adverse impact and leverage the opportunities it may bring for Viet Nam. In addition, it is also beneficial to deep dive into the potential and suitable design options of carbon pricing instruments, particularly carbon tax, in reducing the payments due under the CBAM and retaining tax revenues in Viet Nam.

The Technical Assistance on "Impact Assessment of EU's Carbon Border Adjustment Mechanism and Carbon Tax Policies for Viet Nam" is implemented by the Southeast Asia Energy Transition Partnership in collaboration with and for the benefit of the Department of Climate Change, Ministry of Natural Resources and Environment. The Assignment was conducted from November 2022 to March 2024, by a Consortium of Green Climate Innovation Company Limited (GreenCIC) (Viet Nam), NHQuang&Associates (Viet Nam), Applied Economic Modelling and Data Analysis (AEMDA) (Australia), and Perspectives Climate Group GmbH (PCG) (Germany). Under the scope of the Technical Assistance, a study on quantitative assessment of CBAM impacts and in-depth policy implications and recommendations and a study on recommendations on carbon tax design and roadmap for Viet Nam were conducted. This Final Report provides key results and recommendations from the two studies.

CBAM Impact Assessment for Viet Nam

The CBAM Impact Assessment for Viet Nam was the first study in the Southeast Asia region to quantitatively analyse the impacts of CBAM and provide in-depth policy implications and recommendations. The study was conducted using a combination of methodologies, such as literature review, survey, economic modelling, and legal and policy assessment to provide a comprehensive CBAM impact assessment and draw implications and recommendations to help decision-makers and enterprises in Viet Nam proactively prepare for CBAM and minimise its impact, raise awareness regarding GHG emission reduction and climate change mitigation actions, thus, supporting the acceleration of energy transition and implementation of climate change commitment in Viet Nam.

The study focused on four sectors: iron and steel, aluminium, cement, and fertiliser. The current CBAM impact on the above sectors is evaluated using a partial equilibrium framework and the currency unit is converted to 2019-USD value. This framework is constructed to fit with the data availability in Vietnam and calibrated to a 10-year evaluation period, from 2026 (when CBAM takes effect) to 2035 when the emission quantity of Vietnam is expected to peak. The impact is estimated by comparing a Business-As-Usual scenario, where current trends are continuing, with alternative scenarios. Considered alternative scenarios include whether or not Vietnam would adopt a carbon price from

2028 as the national ETS officially operates, and whether or not the emission intensity of Vietnam would decline at the rate of 1%-1.5% per year according to Vietnam's Green Growth Strategy.

The study showed that the CBAM's direct impact on Viet Nam at the sectoral level, i.e., production and general export, would not be significant in the current format (see ES Table 1). However, the impacts on exports to the EU, in particular, would be significant, especially in the steel and aluminium sectors. The CBAM can have negative impacts on the steel and aluminium sectors in terms of price competitiveness. Based on available data and information as of March 2023, the estimated average CBAM price rate on Vietnam's steel products could be approximately 15% to 20% of the current average export price, although specific numbers may vary across different product lines or enterprises. In addition, the CBAM can require significant additional costs associated with greenhouse gas accounting and reporting systems.

The study projected a substantial reduction in steel exports to the EU, causing a 1.1 USD billion drop in export value by 2030, affecting the steel market but stimulating non-EU exports. The aluminium sector would face a 72.2% reduction in EU export turnover, influencing global export value and production. The cement sector experiences minor negative impacts, while the impact on the fertiliser sector is negligible. On the other hand, CBAM-induced emission intensity reduction would alleviate economic impacts, emphasising the role of carbon pricing.

CBAM's macroeconomic impact on Viet Nam is modest, with a projected GDP reduction of 0.1 USD billion in 2030 and 0.2 USD billion in 2035. However, impacted exporters face significant reductions accounting for 15-20% and 35-40% of product prices in steel and aluminium, respectively. Domestic carbon pricing can mitigate CBAM impacts, potentially generating 4.2-4.4 USD billion in revenue.

While CBAM alone may not be sufficient for Viet Nam in achieving its 2030 NDC target, it incentivises emission intensity reduction. Combining CBAM with carbon pricing significantly reduces fossil fuel emissions and supports surpassing the NDC 2030 target. CBAM and carbon pricing foster Viet Nam's energy transition, promoting clean energy consumption, economic growth, and environmental sustainability. As a result, Viet Nam may consider adopting carbon pricing instruments in a broader context, including the impending national emission trading system and a supplementary carbon tax, to mitigate CBAM impact and support NDC implementation.

In addition to considering the adoption of carbon pricing, it is also important that the Government of Viet Nam engages in constructive dialogues with the EU, improves the national legal framework for decarbonisation, and strengthens institutional capacity and technical for CBAM.

Viet Nam-based enterprises exporting to the EU should take proactive steps for the EU's CBAM. This includes close monitoring of CBAM development and planning for CBAM compliance. Additionally, all businesses should prepare for mandatory emission reporting and actively engage with the government regarding decarbonisation policies like carbon pricing and increased use of renewable energy. Beyond compliance, enterprises should prioritise low-carbon practices and technologies, collaborate along the supply chain to utilise emission reduction potentials and engage in carbon offsetting to compensate for emissions that are hard to abate due to high cost or technical complexity.

ES Table 1: Estimated impacts of the EU's CBAM on the targeted sectors in Viet Nam in 2030

	Steel		Aluminium		Fertiliser		Cement	
	BAU	Reducing emission intensity	BAU	Reducing emission intensity	BAU	Reducing emission intensity	BAU	Reducing emission intensity
Production output (%)	-0.8 [-1.7, -0.0]	-0.8 [-1.6, -0.0]	-0.4 [-0.8, -0.0]	-0.4 [-0.8, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.1 [-0.2, -0.0]	-0.1 [-0.2, -0.0]
Production output (million tonnes)	-0.4 [-0.8, -0.0]	-0.4 [-0.8, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.1 [-0.3, -0.0]	-0.1 [-0.3, -0.0]
Export values (%)	-3.6 [-5.4, -0.4]	-3.5 [-5.3, -0.4]	-4.3 [-5.7, -0.7]	-4.3 [-5.7, -0.7]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.6 [-0.8, -0.2]	-0.6 [-0.8, -0.2]
Export values (billion USD)	-0.7 [-1.1, -0.1]	-0.7 [-1.1, -0.1]	-0.1 [-0.1, -0.0]	-0.1 [-0.1, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]
Export value to EU (%)	-51.2 [-80.2, -3.7]	-49.5 [-78.3, -3.5]	-72.2 [-96.6, -10.2]	-70.9 [-95.9, -9.7]	-75.5 [-97.3, -13.6]	-74.2 [-96.8, -12.9]	-89.4 [-100.0, -23.2]	-89.0 [-100.0, -22.4]
Export value to EU (billion USD)	-1.1 [-1.7, -0.1]	-1.0 [-1.6, -0.1]	-0.1 [-0.1, -0.0]	-0.1 [-0.1, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]
Emission amount (million tCO_2)	-0.9 [-1.8, -0.0]	-7.5 [-8.4, -6.7]	-0.2 [-0.5, -0.0]	-3.6 [-3.9, -3.5]	-0.0 [-0.0, -0.0]	-1.6 [-1.6, -1.6]	-0.1 [-0.2, -0.0]	-7.4 [-7.5, -7.3]

Notes to Table 1.ES: Estimates of authors; Numbers are rounded to the nearest 1-digit; -0.0 and +0.0 (if any) refer to negative and positive numbers, respectively, with absolute values less than 0.05

Recommendations on Carbon Tax Design and A Roadmap for Viet Nam

Building on the results of the CBAM impact assessment study and implications for Viet Nam, the Recommendations on Carbon Tax Design and A Roadmap for Viet Nam Report aimed to investigate the main options for designing and introducing a carbon tax in Viet Nam in order to mitigate CBAM's impacts and promote energy transition and low carbon economy in Viet Nam. The introduction of a direct tax[1] on GHG emissions (carbon tax) would allow Viet Nam to reduce the payments due under the CBAM. This would enable the retention of monetary resources within Viet Nam, as well as support the implementation of mitigation action at the domestic level.

The study on Carbon Tax provides a comprehensive review and analysis of key design elements and international experience on the carbon tax. The study also analyses Vietnamese existing policies related to carbon tax and explores viable options for the introduction of the carbon tax in Viet Nam. Based on the identified options, combined with the implications from the international experience and the consultation with key stakeholders, recommendations on the main design options for the introduction of the carbon tax and on the roadmap for implementation of carbon tax in Viet Nam are provided.

To inform the design of a Vietnamese carbon tax, five case studies (Colombia, Indonesia, Mexico, Singapore, and South Africa) with similar contexts were reviewed. These studies highlight valuable lessons for Vietnam, including the importance of comprehensive stakeholder engagement during the design and implementation phases to minimise negative impacts. Furthermore, a gradual increase in the tax rate is recommended to allow businesses time to adapt. The case studies also demonstrate the potential benefits of carbon offsets for flexibility but emphasise the need for strict criteria to ensure environmental integrity and tax revenue are not compromised. Vietnam could consider allowing domestic offsets to incentivise local emission reductions and support existing activities facing challenges.

Given the current context in Viet Nam, where an Emission Trading Scheme (ETS) is already being planned and scheduled for 2028, the report identifies three main options for introducing a carbon tax: 1) the revision of the Environmental Protection Fee regulation on emissions currently prepared by the Ministry of Finance, and due for submission to the Government by the end of 2023, or 2) the revision of the Decree 06/2022/ND-CP or relevant documents that regulate the carbon market in Viet Nam to introduce a floor price for the ETS, which is planned to be revised before 2025, or 3) the revision of the Law on Environmental Protection Tax that is scheduled in 2026. The three options utilise the existing legal framework and are aligned with the current legal development plan. Thus, they can be implemented more smoothly with lower political risks.

Concerning the design elements that are possible for a carbon tax, it is important to ensure consistency with CBAM requirements to allow the rebate of the carbon price paid in Viet Nam for Vietnamese exporters: this means that a direct tax on GHG emissions formulated in a monetary price per ton of CO_2e emissions would be more easily justified. A tax rate range of 3,5 – 11 USD/tCO_2e is suggested, based on the carbon taxes in case studies and the minimum mitigation cost per tCO_2e as provided in the Nationally Determined Contribution (NDC) of Viet Nam (updated in 2022) that has been submitted by Viet Nam to the United Nations Framework on Climate Change (UNFCCC). A lower

[1] The terms used in this report adhere to terminology in environmental economics, which means tax directly imposed on GHG emissions. It is different from terminology in tax policy, where direct taxes are taxes paid directly to the government (e.g. income or capital gains taxes), whereas indirect taxes are collected by intermediaries who forward it to the government (e.g. excise taxes, VAT etc.).

rate could be considered in the initial phase to allow covered entities to familiarise themselves with the tax, and a transparent scale-up schedule for the tax rate should be communicated to the stakeholders to reduce uncertainty and allow planning of mitigation investments, thus increasing the effectiveness of the tax over time and enhancing Viet Nam's mitigation ambition as the carbon price rises. In addition, the use of high-quality emission credits generated by mitigation of emissions in Viet Nam neither covered by the ETS nor the carbon tax should be allowed up to a certain percentage of taxable emissions. It is also important to determine a balance between preserving revenue generation from the tax and stimulating further mitigation activities domestically.

To enable the introduction of the carbon tax by 2026, relevant line ministries should discuss and collaborate closely to reach a consensus on the carbon tax design, assessment of potential impacts of the tax and different tax levels, and engage with industry, associations, and civil society to discuss carbon tax design elements. This would allow the government to proactively address barriers that will materialise along the process, both technical ones related to design elements and procedural steps, as well as in terms of the opposition of the stakeholders to the tax.

Conclusions and next steps

The Technical Assistance is a timely initiative for Viet Nam. It encompasses the impact assessment of the EU's CBAM and recommendations on carbon tax policy for Viet Nam. This is crucial as the EU strengthens its climate policy with CBAM, and Viet Nam elevates its own climate change efforts with its upcoming ETS. To further enhance the study's findings, it is recommended to conduct future research that delves deeper into the broader economic impacts of CBAM and similar mechanisms, explores their non-economic implications, and provides a more detailed analysis of policy options related to these policies and Viet Nam's carbon tax.

ABBREVIATION

AFOLU	Agriculture, Forestry and Other Land Use
ASEAN	Association of Southeast Asian Nations
BAU	Business-As-Usual
CBAM	Carbon Border Adjustment Mechanisms
CDM	Clean Development Mechanism
CIT	Corporate Income Tax
COP	The Conference of the Parties
CPI	Consumer Price Inflation
DCC	Department of Climate Change
EU	European Union
EITE	Emissions-Intensive Trade-Exposed
ETP	Southeast Asia Energy Transition Partnership
ETS	Emission Trading Scheme
EPT	Environmental Protection Tax
EPF	Environmental Protection Fee
EVFTA	EU-Viet Nam Free Trade Agreement
EVN	Viet Nam Electricity
GCC	Global Carbon Council
GDP	Gross Domestic Product
GHG	Greenhouse gas
GWP	Global warming potential
IEA	International Energy Agency
IPG	International Partners Group
JCM	Joint Crediting Mechanism
JETP	Just Energy Transition Partnership
LCOE	Levelised Costs of Electricity
LDC	Least Developed Countries
LPG	Liquefied Petroleum Gas
LULUCF	Land use, Land use-change and Forestry
MOF	Ministry of Finance
MOIT	Ministry of Industry and Trade
MONRE	Ministry of Natural Resources and Environment
MPI	Ministry of Planning and Investment
MRV	Measurement, Reporting, and Verification
NA	The National Assembly of Viet Nam
NDC	Nationally Determined Contribution
NGO	Non-governmental Organization
PIT	Personal Income Tax
R&D	Research and development
TA	Technical Assistance
UK	United Kingdom
UNFCCC	United Nations Framework on Convention and Climate Change
UNDP	United Nations Development Programme

VCCI	Viet Nam Chamber of Commerce and Industry
VCS	Verified Carbon Standard
VEPF	Viet Nam Environment Protection Fund
WEF	World Economic Forum
WTO	World Trade Organization

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1. INTRODUCTION

1.1. Background

On 10 May 2023, the European Union (EU) embraced the world's pioneering Carbon Border Adjustment Mechanism (CBAM) as part of its commitment to hasten greenhouse gas (GHG) emission reduction and achieve carbon neutrality by 2050. CBAM aims to counteract the risk of carbon leakage arising from less ambitious climate policies in non-EU countries. Complementary to the EU's Emission Trading Scheme (ETS), CBAM requires importers to buy certificates based on the GHG emission intensity of products they imported into the EU at a price equal to that of the EU ETS allowance's average auction price.

Viet Nam holds a significant position as the EU's 15th trade partner in goods and the leading trading partner in ASEAN. In addition, the EU and Viet Nam have a robust Free Trade Agreement (EU-Viet Nam Free Trade Agreement or EVFTA), signed on June 30, 2019, which came into effect on August 1, 2020. Hence, the potential impact of CBAM on the country could be substantial, particularly if its scope expands to additional sectors. Understanding CBAM's mechanics, assessing its effects on Vietnamese industries, and aligning national policies on trade negotiations, decarbonisation, and energy transition becomes crucial.

Carbon tax can be considered an effective measure to mitigate the impacts of CBAM. As defined in the CBAM Regulation, the number of CBAM certificates to be surrendered may be deducted if a carbon price has been effectively paid in the exporting country. On one hand, a well-designed carbon tax can help minimise the negative impacts of CBAM on Viet Nam and allow Viet Nam to retain carbon revenues domestically for GHG mitigation purposes instead of paying the EU. On the other hand, CBAM can be considered a catalyst for carbon pricing implementation, which contributes greatly to national efforts in reducing GHG emissions and achieving the net-zero target by 2050. Thus, it is necessary to undertake a comprehensive review of international and national legal frameworks related to carbon tax to explore suitable design options and provide recommendations and an implementation roadmap to introduce carbon tax in Viet Nam.

Understand the urgent need of the policymakers in Viet Nam to have a clear vision of the CBAM impacts to prepare and respond to this mechanism, as well as the desire to get recommendations on the design of a carbon tax system in Viet Nam, the Southeast Energy Transition Partnership (ETP), in collaboration with and for the benefit of the Department of Climate Change (DCC), Ministry of Natural Resources and Environment (MONRE), implement the Technical Assistance (TA or referred to as the Assignment) "Impact Assessment of EU's Carbon Border Adjustment Mechanism and Carbon Tax Policies for Viet Nam".

1.2. Technical Assistance "Impact Assessment of EU's Carbon Border Adjustment Mechanism and Carbon Tax Policies for Viet Nam"

The TA "Impact assessment of EU's Carbon Border Adjustment Mechanism and recommendations on carbon tax policies for Viet Nam" is one of the key activities within the framework of cooperation in energy transition and GHG reduction in Viet Nam with the ETP that has been indicated in the Memorandum of Understanding between the DCC, MONRE and the United Nations Office for Project Services on 21 June 2022.

The Assignment aims to assess and quantify the impacts of CBAM on export products, energy transition, national economy, and implementation of Nationally Determined Contribution (NDC) of Viet Nam, and analyse the implications on the establishment of the domestic carbon market and the design of the carbon tax system in Viet Nam to provide recommendations to minimise the negative impacts, assess the suitability and provide recommendations to design and develop a roadmap for a carbon tax system in Viet Nam.

The Assignment has been implemented from November 2022 to March 2024 by a Consortium of Green Climate Innovation Company Limited (GreenCIC) (Viet Nam), NHQuang&Associates (Viet Nam), Applied Economic Modelling and Data Analysis (Australia), and Perspectives Climate Group GmbH (Germany).

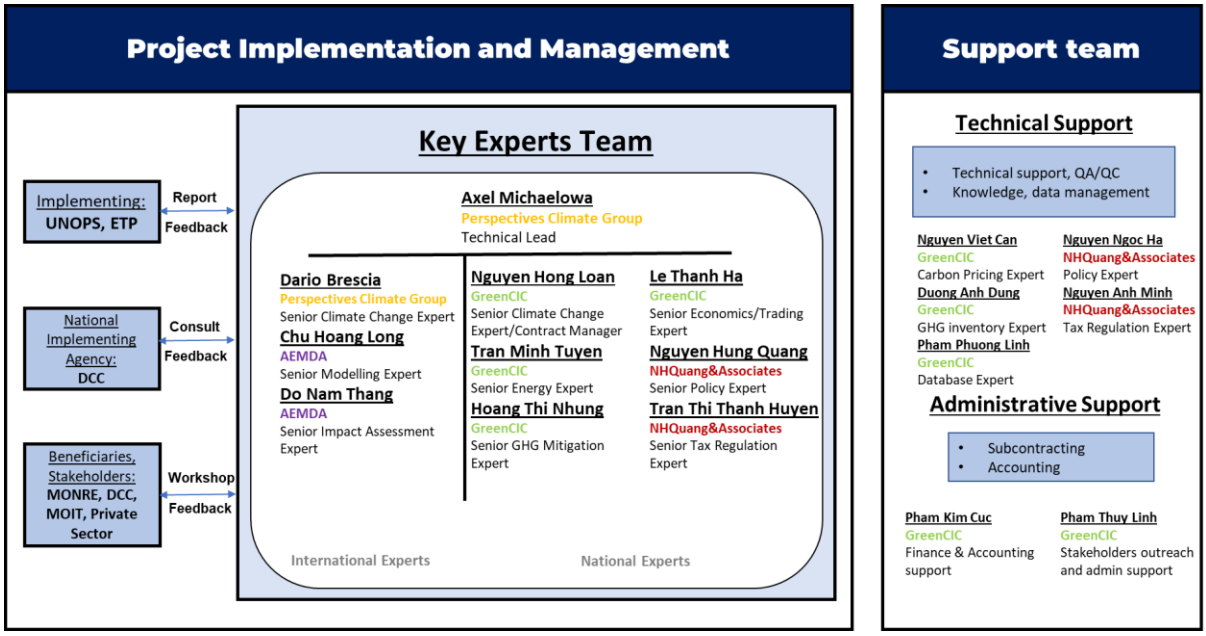

Figure 1: Team composition for the implementation of the Assignment

The main outputs of the TA include the following:

1) A comprehensive study assessing and quantifying the impacts of CBAM on export products (especially energy-intensive industries), energy transition, national economy, and implementation of the NDC of Viet Nam; and providing recommendations to minimise the negative impacts and contribute to the development of the sectoral mitigation plan and carbon market.

2) An in-depth study analysing the implications and providing recommendations on the roadmap and the design of the carbon tax system in Viet Nam

During the implementation of the Assignment, three consultation workshops and two bilateral consultation missions were organised to introduce and consult the findings/recommendations of the Assignment's main outputs with relevant ministries, local government, public and private enterprises, associations, and non-governmental organisations.

1.3. Objective and Structure of the Report

The aim of the Report is to compile and present the key findings and recommendations from the two main outputs of the TA as follows:

- A quantitative evaluation of CBAM's impacts on targeted sectors and economy-wide of Viet Nam, the potential influence of CBAM on Viet Nam's progress toward achieving its NDC

targets and the broader transition to a low-carbon economy, as well as its implications and recommendations for both enterprises and policymakers in Viet Nam to prepare and respond to CBAM.

- A study on recommendations for carbon tax design and a roadmap for Viet Nam, which includes an analysis of carbon tax design elements, an assessment of international policies and legal framework related to carbon tax design in selected countries, an assessment of national policies and legal framework related to carbon tax in Viet Nam, and lastly, recommendations on suitable design options for a carbon tax Viet Nam and a roadmap for implementation.

In Chapter 1, the report begins with an introduction, providing a foundation overview and context for the subsequent analyses. This chapter sets the stage, outlining the objectives and scope of the research, and establishing a framework for the exploration of CBAM impacts on Viet Nam, recommendations on carbon tax design and a roadmap for Viet Nam. Moving on to Chapter 2, the focus is directed towards a comprehensive CBAM Impact Assessment tailored specifically for Viet Nam. Chapter 3 provides insightful recommendations on carbon tax design and a detailed roadmap for Viet Nam. In Chapter 4, the study synthesises key findings, drawing together the threads of analysis from the CBAM impact assessment and the carbon tax recommendations. This chapter not only serves to summarise the study's outcomes but also points towards the future with a strategic vision.

2. CARBON BORDER ADJUSTMENT MECHANISM IMPACT ASSESSMENT FOR VIET NAM

2.1. Objectives of the CBAM Impact Assessment component

This component is designed to address several key objectives. Firstly, it aims to provide a comprehensive overview of the CBAM regulations, emphasising their implications for countries outside the EU, with a specific focus on Viet Nam. By doing so, it seeks to establish a foundational understanding of the regulatory framework and its potential impact on the Vietnamese context. The section endeavours to distil and present a concise summary of the main findings derived from the CBAM impact assessment for Viet Nam. The summary will prioritise critical insights related to targeted sectors, the economy, and regulations, offering a nuanced perspective on the multifaceted consequences of CBAM implementation in the Vietnamese context. It seeks to translate these impacts into actionable insights, providing policymakers with the necessary information to make informed decisions that support and navigate the challenges faced by affected sectors.

Moreover, a central objective is to conduct a comprehensive analysis of the policy implications arising from the CBAM impact assessment. This involves outlining specific recommendations tailored for policymakers in Viet Nam. These recommendations span potential adjustments to existing policies and strategic initiatives aimed at aligning Viet Nam with international climate goals.

Ultimately, the section strives to formulate clear and actionable policy recommendations based on the findings of the impact assessment. It seeks to provide a roadmap for policymakers, offering guidance on policy adjustments, regulatory frameworks, and strategic initiatives to effectively align Viet Nam with the EU's CBAM requirements. In doing so, the section addresses multiple interconnected goals, ranging from knowledge dissemination and impact assessment to policy formulation and strategic planning for sustainable development.

2.2. Updates on the EU's CBAM regulations

2.2.1. CBAM key milestones

On 14 July 2021, the European Commission (2021d) adopted its proposal for a CBAM as an essential toolbox to address the risk of carbon leakage and prevent increases in global emissions. The CBAM Regulation was signed on 10 May 2023. The initial targeted sectors by CBAM include cement, iron and steel, aluminium, fertilisers, hydrogen, and electricity. The CBAM would oblige importers to buy CBAM certificates at the same cost as the average auction price of the EU ETS allowances based on actual verified embedded GHG emissions of the CBAM imported goods in question. CBAM seeks to level the carbon price paid between goods produced domestically and abroad. Theoretically, CBAM would tackle carbon leakage by symmetrically charging importers and rebates exporters, ensuring that carbon prices paid in domestic production would not be undercut by producers elsewhere, avoiding these costs. This would render obsolete the rationale for the free allocation of emissions permits to products that are sold to the domestic market, enabling full auctioning, and this full carbon price would be passed through, offering incentives for all mitigation options (Grubb et al., 2022).

After the proposal of CBAM by the European Commission, CBAM was adopted by the EU Council (2022b) on 15 March 2022 and the European Parliament (2022a) on 22 June 2022. The Commission, the Council and the Parliament began their negotiations on the final text of CBAM on 11 July 2022 before reaching a provisional agreement on 13 December 2022 (European Parliament, 2022c). On 8

February 2023, the European Parliament's Committee on the Environment, Public Health and Food Safety released a provisional agreement resulting from interinstitutional negotiations on CBAM regulation (European Parliament, 2023). On April 18, 2023, the European Parliament formally approved the CBAM. The European Council approved it on April 25, 2023. The final CBAM Regulation (EU) 2023/956 was signed on May 10, 2023, and entered into force the day after it was published in the Official Journal of the EU on May 16, 2023 (European Parliament, 2023). The Implementation Regulation (EU) 2023/1773 laying out reporting rules during the transitional period was enacted on 18 August 2023 to lay out a set of rules and requirements for the reporting of emissions under CBAM. The process of developing CBAM over time is shown in the figure below.

Figure 2: CBAM key milestones

Source: (European Commission, 2021d), (European Parliament, 2022b), and (European Parliament, 2022c)

2.2.2. CBAM implementation timeline

According to the CBAM Regulation, CBAM has started operation from 1 October 2023 with a three-year transitional phase (European Commission, 2022b). After the transition phase, the permanent system will enter into force on 1 January 2026 and become fully operational in 2034 (see Figure 3). During this period, CBAM will be gradually phased-in in parallel with the phasing-out of the free allowances under the EU's ETS. Accordingly, CBAM will only apply to the proportion of emissions not benefitting from free allowances under the ETS between 2026 and 2034 (see Table 1) (European Parliament, 2022b).

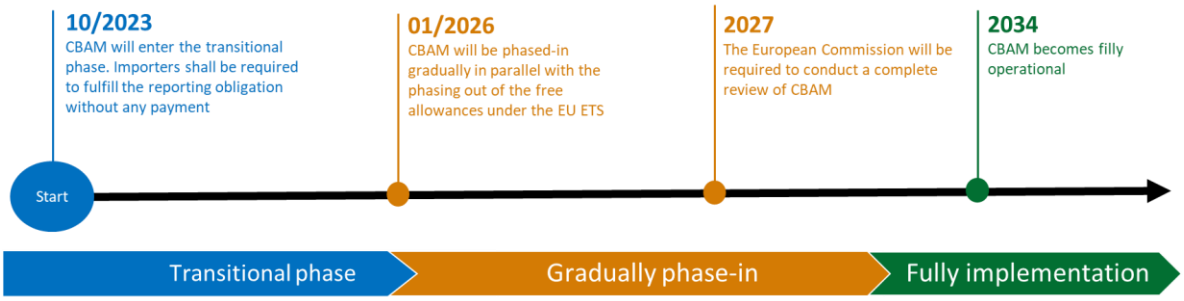

Figure 3: CBAM phase-in over time

Source: European Commission (2021d), European Parliament (2022b), and European Parliament (2022c)

Table 1: Phasing out of the EU ETS free allowances

	2026	2027	2028	2029	2030	2031	2032	2033	2034
ETS Free Allowance (%)	97.5	95	90	77.5	51.5	39	26.5	14	0
CBAM (%)	2.5	5	10	22.5	48.5	61	73.5	86	100

Source: European Parliament (2022b)

The operation of CBAM during its transitional phase will be subject to review before the definitive system takes effect in 2026 (European Parliament, 2022c). The Commission will be required to assess whether to broaden the scope to other goods identified during the negotiations, including certain downstream products and other sectors such as organic chemicals and polymers, as previously proposed by the Parliament. It is planned to include all goods covered by the EU ETS by 2030 and the methodology to calculate indirect emissions shall be assessed at the same time.

The Commission plans to conduct a thorough examination of CBAM by the conclusion of 2027 (European Parliament, 2022c). This will involve evaluating the progress made in international negotiations on climate change, as well as the impact on imports from developing countries, particularly the least developed countries (LDCs).

2.2.3. CBAM scope

The CBAM applies to imports of commodities under specific CN codes, which can be categorised into 6 groups: aluminium, cement, electricity, fertiliser, hydrogen, and iron and steel. These sectors were selected due to their high risk of carbon leakage and high emission intensity. They are estimated to represent more than 50% of the emissions of the industry sectors covered by the ETS when CBAM is fully phased in (Taxation and Customs Union, 2022). The specific custom commodity codes of these groups are provided in Appendix 1. The GHGs included in CBAM are carbon dioxide (CO_2), nitrous oxide (N_2O), and perfluorocarbons (PFCs).

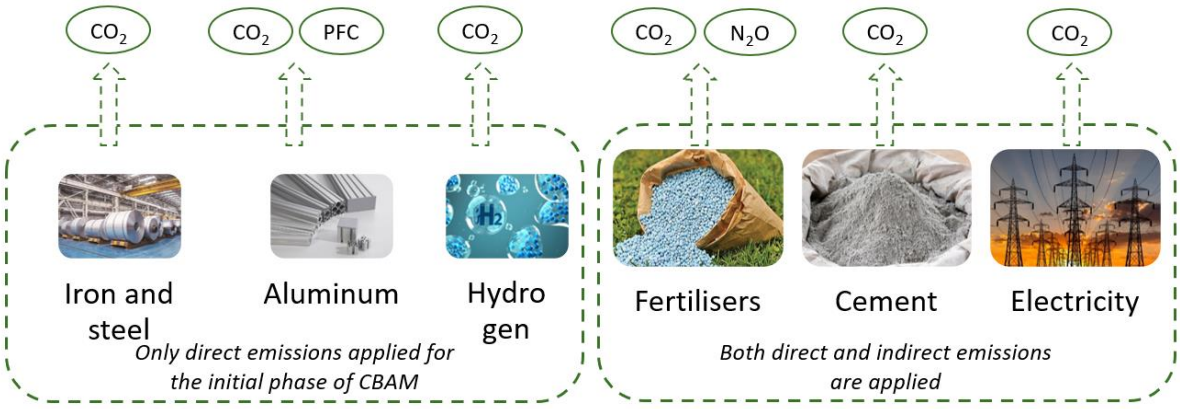

Figure 4: The scope of the CBAM

The embedded emissions of CBAM goods cover both direct and indirect emissions (Taxation and Customs Union, 2022). Direct emissions include all those released during their production, even the emissions from heating and cooling the facilities, regardless of where that heating or cooling comes from. Indirect emissions, defined as GHG emissions from electricity production processes consumed during the production of goods, would also be included. More details on the calculation of CBAM-embedded emissions will be presented in the next section.

There are exemptions for the covered goods from certain countries/territories subject to specific conditions (European Commission, 2021d). The general exemption will be granted to countries implementing the EU ETS or having domestic ETS that are fully linked with the EU ETS, and the carbon price paid in the originating country is charged without any rebate beyond those applied in the EU ETS. In some cases, particularly if the third country has an integrated electricity market with the Union internal market, and it is technically impossible to apply CBAM, the importation of the electricity will be exempt under other specific conditions. These conditions include the third countries' obligations to apply the Union law in the field of electricity, implement the main provisions of the Union electricity market legislation, commit to climate neutrality by 2050, demonstrate progress in aligning the domestic legislation with Union law in the field of climate action, and implement effective measures to prevent the indirect import from non-compliant third countries.

2.2.4. Calculation of embedded emissions in goods

The calculations of embedded emissions must follow the methods indicated in Annex IV of the CBAM Regulation and the Implementation Regulation based on actual emissions or default values provided by the Commission. Initially, indirect emissions from iron, steel, and aluminium production are not included in the calculations due to the ongoing application of financial measures, such as the subsidy scheme for heavy industry in the EU, which compensates for the costs of indirect emissions passed on through electricity prices. However, during the transitional period, data on indirect emissions from those goods are still collected for the purpose of defining the methodology for the calculation of indirect emissions. If actual emissions values are used, they must be independently verified by an accredited verifier based on the verification principles set out in Annex VI of the CBAM Regulation.

Actual emissions are prioritised when accounting for embedded emissions of CBAM imported goods. Where actual emissions cannot be adequately determined, as well as in the case of indirect emissions, the embedded emissions will be determined by reference to default values. Default values of the average emission intensity of each exporting country and for each of the goods shall be calculated, published, and updated by the European Commission based on the most up-to-date and reliable

information, including on the basis of information gathered during the transitional period, increased by a proportionately designed mark-up. This markup is determined in the next implementing acts adopted and set at an appropriate level to ensure the environmental integrity of the mechanism. This default value shall be based on the average emission intensity of the X percent worst-performing EU ETS installations for that type of goods. The value of X is specified in Annex III of the Implementation Regulation.

The actual emissions of the goods are calculated according to the following formulas:

- 'Simple goods' means goods produced in a production process requiring exclusively input materials and fuels having zero embedded emissions.

$$SEE_g = \frac{AttrEm_g}{AL_g}$$

SEE_g: The specific embedded emissions of goods g, in terms of CO_2e per tonne
$AttrEm_g$: The attributed emissions of goods g
AL_g: The quantity of the goods produced in the reporting period in that installation

- 'Complex goods' means goods other than simple goods.

$$SEE_g = \frac{AttrEm_g + EE_{InpMat}}{AL_g}$$

SEE_g: The specific embedded emissions of goods g, in terms of CO_2e per tonne.
$AttrEm_g$: The attributed emissions of goods g
EE_{InpMat}: the embedded emissions of the input materials (precursors) consumed relevant to the system boundaries in the production process
AL_g: The quantity of the goods produced in the reporting period in that installation.

2.2.5. Reporting obligation during transitional phase

The CBAM has been applied as a reporting obligation from October 2023 and will be phased in gradually starting in 2026, complementing the EU ETS. During the transition period from October 2023 to December 2025, importers of the goods covered by CBAM only have reporting obligations without any financial adjustment required. Every one month after the end of each quarter of a calendar year, importers will need to submit a report containing information about the total quantity of each type of goods (in MWh for electricity and tonnes for other goods), total embedded (direct and indirect) emissions in the imported goods (in tonnes of CO_2e per MWh for electricity or tonnes of CO_2e per tonne of each type of goods other than electricity), and the carbon prices paid in the country of origin (without any form of compensation on exportation). The first report covering the reporting period 1 October 2023 – 31 December 2023 is thus due on 31 January 2024.

The Commission sets up a CBAM registry to execute processes relating to CBAM certificates and to facilitate and ensure the proper functioning of the CBAM. Besides the information about each authorised CBAM declarant, the CBAM registry also contains, in a separate section of the registry, the registered information of the operators and installations in third countries on their disclosure of verified embedded GHG emissions from the production of goods. Authorised CBAM declarants could choose to use the disclosed information to fulfil the verification obligation.

Starting from September 2025, importers of CBAM goods are required to register as authorised CBAM declarants before importing CBAM goods. Once the definitive system takes effect on 1 January 2026, declarants will need to submit an annual CBAM declaration (by 31 May of each year) for the preceding year. The minimum data required in the declaration includes information on the type and quantity of the imported goods, the total embedded emissions, and the corresponding number of CBAM

certificates to be surrendered after adjusting for the reduction due to the carbon price paid in the country of origin.

2.2.6. Penalties

The penalties may be imposed on the reporting declarants for non-compliance on reporting obligation during the transitional period and surrender obligation during the definitive period.

During the transition period, penalties may be applied in two cases: (i) the reporting declarant has not taken the necessary steps to comply with the obligation to submit a CBAM report and (ii) the CBAM report is incorrect or incomplete, and the reporting declarant has not taken the necessary steps to correct the CBAM report after the National Competent Authority initiated the correction procedure. The penalties that the reporting declarants may face for this compliance range between 10 EUR and 50 EUR per tonne of unreported emissions and could be higher considering the European index of consumer prices or the increasing sequence of incomplete or incorrect reports. However, no penalties will be imposed on reporting declarants who have experienced difficulties in submitting their first CBAM report.

During the definitive period, if the CBAM declarant, whether authorised or non-authorised, fails to surrender the number of CBAM certificates corresponding to the emissions embedded in imported goods by 31 May of each year, will be held liable for the payment of penalty. The penalty shall apply for each CBAM certificate that the authorised CBAM declarant has not surrendered and increase three to five times the initial amount depending on the severity of repeated non-compliance. The amount of penalty shall be equivalent to the excess emissions penalty in the EU ETS, set out in Directive 2003/87/EC. Even when the CBAM declarant pays for the penalty, they still have the obligation to surrender the outstanding number of CBAM certificates in a given year.

2.3. CBAM impacts on targeted sectors

Among the sectors that CBAM currently covers, Viet Nam does not export electricity to the EU and the export of hydrogen to the EU is negligible. Therefore, the CBAM impact assessment for Viet Nam focuses on the four sectors: iron and steel, aluminium, cement, and fertiliser.

The current CBAM impact on the above sectors is evaluated using a partial equilibrium framework and the currency unit is converted to 2019-USD value. This framework is constructed to fit with the data availability in Viet Nam and calibrated to a 10-year evaluation period, from 2026 (when CBAM takes effect) to 2035 when the emission quantity of Viet Nam is expected to peak. The data for quantitative analysis is collected from multiple sources. A large-scale enterprise questionnaire was developed to collect primary data from firms currently operating in the CBAM-target sectors, focusing on the consumption of raw materials and energy used in the production of CBAM goods. The secondary data, including import and export trade data of the CBAM-target products, updated Input-Output table of Viet Nam, macroeconomic indicators, and GHG emissions data, is obtained from official sources such as the General Statistics Office of Viet Nam, Centre of Industrial and Trade Information, the Central Institute for Economic Management, UNCOMTRADE database, and WDI database of the World Bank.

The impact is estimated by comparing a Business-As-Usual (BAU) scenario, where current trends are continuing, with alternative scenarios. Considered alternative scenarios include whether Viet Nam would adopt a carbon price at 11 USD/tCO_2e[2] from 2028 as expected, and whether or not the emission

[2] The value used for the carbon price in the carbon pricing scenario of the modelling, 11 USD/tCO_2e, is the minimum mitigation cost calculated based on the estimated cost for emission reductions in the updated NDC of Vietnam (Government of Viet Nam, 2022).

intensity of Viet Nam would decline at the rate of 1%-1.5% per year according to Viet Nam's Green Growth Strategy.

The key modelling results of CBAM's impact on the selected sectors, concerning the production output, export value, emission amount and potential carbon pricing revenue, are presented in Table 2 and the detailed quantitative impact of CBAM under all scenarios is provided in Appendix 2. Based on the modelling results, the study shows that the CBAM's direct impacts on Viet Nam at the sectoral level, i.e., production and general export, would not be significant in the current format. However, the impacts on exports to the EU would be significant, especially in the steel and aluminium sectors.

It is estimated that the steel export to the EU market will be hit the hardest and reduced by 1.1 billion USD (CI = [0.1,1.7 billion]) in export value, or about half of the export value in 2030. The steel export market in general would suffer less with a reduction of around 0.7 billion USD (CI = [0.1,1.1 billion]) or approximately 3.6% (CI = [0.4%,5.4%]) of the total export value in 2030, as Viet Nam would export more steel to non-EU markets to partly compensate for the impact of CBAM on the EU markets. CBAM would also lead to a slight decline in production output (around 0.8% (CI = [-1.7, -0.0]) in 2030).

The aluminium sector is the second most affected sector by CBAM, with an estimated reduction in the export turnover to the EU by 0.1 billion USD (CI= [0.0,0.1 billion]) or about 72.2% (CI = [10.2%,96.6%]) in 2030. Given that the EU accounts for from 3% to 12% of Viet Nam's aluminium export markets, the global export value and production would decline by approximately 4.3% (CI = [0.7%,5.7%]) and 0.4% (CI = [0%, 0.8%]) in 2030, respectively. However, it is also worth noting that due to the lack of data, the evaluation process assumes the emission intensity of Viet Nam's aluminium production at the global average, which may be an overestimation because Viet Nam does not have many high-emission aluminium smelting manufacturers. Thus, this estimate can be considered as an upper bound of the impact estimates.

For the cement sector, given that the EU accounts for around 1% of Viet Nam's cement export markets, the application of CBAM in the EU would have only slightly negative impacts. The estimated reduction in production is around 0.1% (CI= [0,0.2%]) and the estimated reduction in exports is around 0.6% (CI= [0.2%,0.8%]) in 2030. On the other hand, the estimated economic impact of carbon pricing on the cement sector is substantial, with an estimated reduction in output of 24.7% (CI= [3.4%,43.6%]). However, carbon pricing would drive significant carbon revenue generation and emission reduction.

The quantity of fertiliser exported from Viet Nam to the EU is minimal so the application of CBAM in the EU would have a neglectable impact on key economic performance indicators of the fertiliser sector.

In all four sectors, carbon pricing has both negative and positive impacts. Carbon pricing would increase the cost of production and reduce the price competitiveness of products. As a result, production output and exports would decline with carbon pricing. On the other hand, the application of carbon pricing would accelerate emission reduction while creating additional revenue to soften the negative impact of CBAM.

Table 2: Estimated impacts of CBAM in the EU on the targeted sectors in 2030

	Steel		Aluminium		Fertiliser		Cement	
	BAU	Carbon pricing, Reducing emission intensity	BAU	Carbon pricing, Reducing emission intensity	BAU	Carbon pricing, Reducing emission intensity	BAU	Carbon pricing, Reducing emission intensity
Production output (%)	-0.8 [-1.7, -0.0]	-4.2 [-7.9, -0.3]	-0.4 [-0.8, -0.0]	-8.2 [-15.0, -0.9]	-0.0 [-0.0, -0.0]	-7.3 [-12.5, -1.0]	-0.1 [-0.2, -0.0]	-23.5 [-41.6, -3.2]
Production output (million tonnes)	-0.4 [-0.8, -0.0]	-2.2 [-4.0, -0.2]	-0.0 [-0.0, -0.0]	-0.3 [-0.5, -0.0]	-0.0 [-0.0, -0.0]	-0.9 [-1.5, -0.1]	-0.1 [-0.3, -0.0]	-32.7 [-57.9, -4.5]
Export values (%)	-3.6 [-5.4, -0.4]	-6.1 [-12.6, +0.7]	-4.3 [-5.7, -0.7]	-11.4 [-26.2, +1.1]	-0.0 [-0.0, -0.0]	-9.4 [-24.9, +1.7]	-0.6 [-0.8, -0.2]	-26.3 [-63.6, -10.2]
Export values (billion USD)	-0.7 [-1.1, -0.1]	-1.3 [-2.6, +0.2]	-0.1 [-0.1, -0.0]	-0.2 [-0.5, +0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.1, +0.0]	-0.0 [-0.0, -0.0]	-0.4 [-1.1, -0.2]
Export value to EU (%)	-51.2 [-80.2, -3.7]	-46.1 [-74.8, -2.1]	-72.2 [-96.6, -10.2]	-68.0 [-94.6, -7.0]	-75.5 [-97.3, -13.6]	-71.5 [-95.8, -9.2]	-89.4 [-100.0, -23.2]	-87.0 [-100.0, -11.5]
Export value to EU (billion USD)	-1.1 [-1.7, -0.1]	-1.0 [-1.6, -0.0]	-0.1 [-0.1, -0.0]	-0.1 [-0.1, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]
Carbon pricing revenue (billion USD)	N/A	+1.1 [+1.0, +1.1]	N/A	+0.5 [+0.5, +0.6]	N/A	+0.3 [+0.2, +0.3]	N/A	+0.9 [+0.7, +1.2]
Emission amount (million tCO_2)	-0.9 [-1.8, -0.0]	-11.1 [-14.9, -7.0]	-0.2 [-0.5, -0.0]	-7.8 [-11.5, -3.9]	-0.0 [-0.0, -0.0]	-3.5 [-4.8, -1.9]	-0.1 [-0.2, -0.0]	-33.6 [-53.8, -10.9]

Notes to Table 2:

- *Positive numbers represent increases from the BAU scenario, and negative numbers represent decreases.*
- *Numbers are rounded to the nearest 1-digit; -0.0 and +0.0 (if any) refer to negative and positive numbers, respectively, with absolute values less than 0.05.*
- *The estimated means are outside the brackets, and the 95% confidence intervals are inside the brackets.*

2.4. Economy-wide impacts

2.4.1. Macroeconomic indicators

For the evaluation of economy-wide impact, general equilibrium modelling, particularly computable general equilibrium (CGE) is used. The general equilibrium framework is constructed to match Viet Nam's most-disaggregated Input/Output table, which covers 164 sectors in 2019. Each sector uses capital, labour, and the output of other sectors as inputs to produce its own output. Imports also serve as a source of supply in the domestic market. The output of each production sector can be used domestically or exported, and the export is subject to international trade policies, such as CBAM. The economy-wide impact was also assessed under the BAU scenario, the application of carbon pricing combined with or without reduced emission intensity.

Table 3 summarises the estimated impacts of CBAM and some possible related factors on key macroeconomic indicators. If CBAM is applied only by EU countries, the estimated impact on GDP would be a reduction of approximately 0.1 billion 2019-value USD in 2030 (CI= [0,0.2 billion]) and 0.2 billion 2019-value USD in 2035 (CI = [0.1,0.4 billion]). While enterprises that export CBAM-targeted commodities to the EU would be most impacted by these hundred-million-dollar reductions, the impacts are insignificant compared to the size of Viet Nam's economy because of the small share of CBAM sectors in the economy. For example, in 2019, the contribution of all four CBAM-target sectors to Viet Nam's GDP was only 3.2%; only around 12.6% of the total output of these sectors was exported, and the EU also accounted for a small share of Viet Nam's total export of CBAM-target commodities (8% for iron-steel, 2% for aluminium, ~0% for fertiliser, and 1% for cement). Furthermore, the economy may respond to CBAM by reallocating resources away from impacted sectors to reduce the negative impacts.

If carbon pricing is implemented in addition to CBAM in the EU, and if the emission intensity in all sectors remains unchanged, the estimated reduction in GDP would be 6.4 billion 2019-value USD in 2030 (CI= [3.6,9.3 billion]) and 11.1 billion 2019-value USD in 2035 (CI= [6.6,16.1 billion]). In percentage terms, the estimated reduction in GDP would be around 1% in 2030 (CI= [0.5%,1.5%]) and 1.2% in 2035 (CI=0.7%, 1.9%]). The fossil fuel price index would increase by 5.2% in 2030 (CI= [4.8%,5.6%]) and 5.3% in 2035 (CI= [4.9% 5.9%]). Employment would decline by 0.5% in 2030 (CI= [0,1%]) and 0.6% in 2035 (CI= [0, 1.2%]). Net exports would worsen, but as GDP would also decline, the ratio of net exports to GDP would remain stable. The estimated revenue from the carbon pricing would be 4.4 billion 2019-value USD in 2030 (CI= [3.9,4.9 billion]) and 6.0 billion 2019-value USD in 2035 (CI= [5.5,6.6 billion]).

If CBAM and carbon pricing can promote energy transition, their negative impacts on GDP will be lessened. If CBAM and carbon pricing could successfully reduce emission intensity as planned, the estimated impact on GDP would be lowered from a reduction of 6.4 billion 2019-value USD (CI= [3.6,9.3 billion]) to a reduction of 5.0 billion 2019-value USD in 2030 (CI= [2.4,7.8 billion]), and from a reduction of 11.1 billion 2019-value USD (CI= [6.6,16.1 billion]) to a reduction of 7.5 billion 2019-value USD in 2035 (CI= [3.4,12.0 billion]). In a percentage term, if CBAM and carbon pricing can promote energy transition, the estimated reduction in GDP would be lowered from a reduction of 1% (CI= [0.5%,1.5%]) to a reduction of 0.8% (CI= [0.3%,1.3%]) in 2030, and from a reduction of 1.2% (CI= [0.7%,1.9%]) to a reduction of 0.9% (CI= [0.4%,1.4%]) in 2035. It shows the necessity to consider the adoption of carbon pricing in a broader context of energy transition, low carbon development of Viet Nam and other associated co-benefits (environment, health, etc.).

Table 3: Estimated impacts of CBAM in the EU on macroeconomic indicators

Indicators	No carbon pricing, No change in emission intensity		Carbon pricing, No change in emission intensity		Carbon pricing, Reduced emission intensity	
	2030	2035	2030	2035	2030	2035
GDP (billion USD)	-0.1 [-0.2, -0.0]	-0.2 [-0.4, -0.1]	-6.4 [-9.3, -3.6]	-11.1 [-16.1, -6.6]	-5.0 [-7.8, -2.4]	-7.5 [-12.0, -3.4]
GDP (%)	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-1.0 [-1.5, -0.5]	-1.2 [-1.9, -0.7]	-0.8 [-1.3, -0.3]	-0.9 [-1.4 ,-0.4]
Domestic fossil fuel price (%)	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	+5.2 [+4.8, +5.6]	+5.3 [+4.9, +5.9]	+5.2 [+4.8, +5.6]	+5.3 [+4.8, +5.9]
Employment (%)	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.5 [-1.0, -0.0]	-0.6 [-1.2, -0.0]	-0.5 [-0.9, -0.0]	-0.5 [-0.9, -0.0]
Share of net export in GDP (%)	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	+0.0 [+0.0, +0.0]	+0.0 [+0.0, +0.0]	+0.0 [+0.0, +0.0]	+0.0 [+0.0, +0.0]
Carbon pricing revenue (billion USD)			+4.4 [+3.9, +4.9]	+6.0 [+5.5, +6.6]	+4.2 [+3.7, +4.7]	+5.5 [+4.9, +6.0]

Notes to Table 3:

- *Positive numbers represent increases if CBAM is added from 2026 and/or carbon pricing is added from 2028 (other conditions remain), and negative numbers represent decreases.*
- *Numbers are rounded to the nearest 1-digit; -0.0 and +0.0 (if any) refer to negative and positive numbers, respectively, with absolute values less than 0.05.*
- *Outside brackets are the estimated means, and inside brackets are the 95% confidence intervals.*

2.4.2. Impacts on NDC implementation

The quantity of fossil fuel emissions would decline with the application of CBAM, but the impacts would be insignificant if CBAM is applied in the EU only and there were no other changes, such as carbon pricing or reductions in emission intensity. The main reason is the small share of CBAM-subject sectors in Viet Nam's economy (3.2% of GDP in 2019), and only a fraction of the total output of these sectors was exported.

The estimated mean of fossil fuel emissions in the BAU scenario would be 538 million t CO_2 e in 2030, and the 95% confidence interval is [502, 577 million]. This quantity of emissions exceeds the 2030 NDC milestone for the energy sector of 457 million tCO_2e specified in the National Strategy for Climate Change (Prime Minister of Vietnam, 2022, p. 5). In other words, if current trends continue, Viet Nam is unlikely to achieve the 2030 NDC target, even with the lower confidence interval bound. Thus, if CBAM were to be applied to only current target sectors, its direct support of Viet Nam's NDC implementation would be minimal.

However, CBAM can provide an incentive for producers to reduce emission intensity. Producers in CBAM sectors would benefit by reducing their emission intensity because that would reduce the payment that need to make for purchasing the CBAM certificates to compensate for their emissions. If this impact could spread out to other sectors, the emission intensity of the entire economy would be lowered. We estimated that if the emission intensity of the economy could be lowered by 1-1.5% per year as specified in Viet Nam's national strategy on climate change (Prime Minister of Vietnam, 2021, p. 2), the estimated fossil emissions in 2030 would be 517 million tCO_2 (CI = [482,553 million]) – relatively lower than the BAU scenario. The lower bound of the 95% confidence interval is slightly

higher than the 2030 NDC target, implying that there would be a very significant probability of not reaching the milestone.

CBAM can also provide an additional justification for carbon pricing, though needs to be considered in a broader context of energy transition and low carbon development, from a revenue-generation perspective. Without carbon pricing, some emissions in Viet Nam would be charged at the EU's ETS price and all pricing revenue would be collected by the EU. With carbon pricing, part of that revenue would be retained in Viet Nam. The negative economic impacts of carbon pricing would arise mostly when it impacted all commodities (that use fossil fuel directly or indirectly), not limited to CBAM commodities and not limited to export to the EU.

With emission intensity remaining unchanged, the estimated mean of fossil fuel emissions under carbon pricing would be 396 million tCO_2 (CI = [357, 449 million]). In this case, carbon pricing would help reduce fossil fuel emissions by providing a price signal for resource relocation toward sectors with lower emission intensity in the economy. If carbon pricing can promote the reduction in emission intensity, the estimated mean of fossil fuel emissions would be lowered to 379 million tCO_2 (CI= [339,n430 million]) in 2023. Thus, while CBAM's direct support of Viet Nam's NDC implementation is likely not large, it may provide incentives for reforms that can generate substantially higher impacts on NDC implementation.

Table 4: Estimated fossil fuel emissions in Viet Nam 2030 and 2035 (million tCO_2)

Scenarios	2030	2035
BAU (continuing trends)	+538 [+502, +577]	+736 [+649, +831]
No carbon pricing, emission intensity remains	+538 [+502, +577]	+735 [+648, +832]
No carbon pricing, reduced emission intensity	+517 [+482, +553]	+673 [+595, +762]
Carbon pricing, emission intensity remains	+396 [+357, +449]	+548 [+496, +603]
Carbon pricing, reduced emission intensity	+379 [+339, +430]	+496 [+449, +547]

2.4.3. The benefits of the energy transition in Viet Nam's electricity sector under carbon pricing and CBAM

The energy transition is expected to generate economic benefits under CBAM and carbon pricing. While available data and information do not allow an assessment of possible energy transitions in all 164 sectors of the economy, we attempted to evaluate the economic incentives of energy transition in Viet Nam's electricity sector. In particular, we evaluated the gain (or loss) in GDP generated by the energy transition under CBAM and carbon pricing. In other words, we compare GDP - the most common measure of the value of an economy – between with- and without-energy-transition process if CBAM and carbon pricing are implemented.

To quantify the impact of energy transition in the electricity sector, we draw from Viet Nam's legal documents (MOIT, 2022; Politburo, 2020) for the scheduled composition of the total electricity output in 2030 (i.e., hydroelectric, coal-fired, fuel oil-fired, diesel gas fired, renewable). Comparing what has been scheduled for 2030 and what happened in 2019 implies a rough estimate of a 13% reduction in the emission intensity over eleven years. We use this estimate to calibrate the energy transition

process for the electricity sector. To quantify the impact of the scheduled energy transition in the electricity sector on CBAM-target sectors, we scaled down the emissions from electricity input in each sector by 13% over eleven years and used the share of electricity emissions in the total emissions to calculate the reduction in the emission intensity in each CBAM-target sector.

Without carbon pricing (e.g., before 2028), the energy transition would not generate benefits due to a small cost due to the relocation of resources, away from fossil fuel sectors. However, from 2028 when carbon pricing is added, there will be gains in GDP, and the gains will increase over time. This is because energy transition would shift economic resources away from fossil fuel which has become more expensive. Over the 10-year period from 2026 to 2035 inclusively, energy transition in the electricity sector would generate an estimated gain of 209 million 2019-value USD (CI = [143, 283 million]) under carbon pricing only and 248 million 2019-value USD (CI=173, 336 million]) under both carbon pricing and CBAM.

Table 5: GDP gains/losses generated by energy transition in Viet Nam's electricity sector (million USD)

Year	Carbon pricing, no CBAM	Carbon pricing and CBAM
2026	-2 CI [-2, -1]	-1 CI [-2, -1]
2027	-3 CI [-5, -2]	-3 CI [-4, -1]
2028	+7 CI [+5, +10]	+8 CI [+6, +12]
2029	+11 CI [+7, +15]	+13 CI [+9, +18]
2030	+15 CI [+10, +21]	+18 CI [+12, +25]
2031	+21 CI [+14, +28]	+24 CI [+17, +33]
2032	+27 CI [+19, +37]	+32 CI [+22, +43]
2033	+35 CI [+24, +47]	+41 CI [+29, +55]
2034	+43 CI [+30, +59]	+51 CI [+36, +70]
2035	+54 CI [+37, +72]	+64 CI [+45, +86]
Total 2026-2035 period	+209 CI [+143, +283]	+248 CI [+173, +336]

Notes to Table 5:

- *Positive numbers mean the energy transition generates gains in GDP, and negative numbers mean losses.*
- *Outside brackets are the estimated means, and inside brackets are the 95% confidence intervals.*

2.5. Impacts on policy and regulations

2.5.1. CBAM legal impact assessment

In order to fight climate change, reduce GHG emissions and achieve green growth, Viet Nam has made several international commitments as well as promulgated a wide range of domestic policies and related regulations, notably the ratification of Paris Agreement in 2016, the pledge of achieving "net-zero emissions" by 2050 at COP26 in 2021, the enactment of Environmental Protection Law in 2020 which mandates GHG inventory mitigation at facility- and sectoral level and enables the development and establishment of a domestic carbon market.

However, at the moment, there have not been any specific policy measures to address CBAM, nor studies on how existing related policies and legal frameworks interact with CBAM.

In general, the CBAM may provide an incentive for Vietnamese companies to adopt more sustainable production methods, and to transition to lower carbon-intensive production processes to avoid paying the carbon price imposed by the CBAM. Additionally, the development of low-carbon production

methods could also spur the growth of a domestic carbon market in Viet Nam, as companies may look to generate and sell carbon credits. Such credits could be used against a domestic ETS or carbon tax or be sold under the international carbon market under Article 6 of the Paris Agreement. This could support Viet Nam's energy transition strategy by encouraging the adoption of renewable energy and energy efficiency measures and reducing the carbon footprint of Vietnamese exports as well as to drive the transition towards a low-carbon economy in Viet Nam and support the country's NDC and Paris Agreement goals. Another positive impact is to support the improvement of the country's competitiveness in the long term and position it as a leader in the global shift towards a low-carbon economy.

Besides, the economic impact assessment of CBAM suggests that CBAM may induce the adoption of carbon pricing, which may soften the negative impact of CBAM. In addition, Article 9.1 of the CBAM regulation specifies that carbon pricing in a host country, such as Viet Nam, if effectively implemented, may result in a deduction to the CBAM certificates to be surrendered to the EU. This reduction can be up to 100% if the carbon price paid in the country of origin matches or exceeds the Union carbon price. To avoid the need for Vietnamese exporters to purchase CBAM certificates, Viet Nam may adopt carbon pricing policies to ensure that the carbon price in Viet Nam is effectively implemented and compatible with the EU carbon pricing system. While Viet Nam's Law on Environmental Protection 2020 contains some specific regulations for the domestic carbon market, including ETS, further development of the carbon market in Viet Nam is necessary. The country's legal framework for carbon pricing, particularly the ETS, is still under development and there has been no plan for the introduction of a direct carbon tax in the near future. It is unclear if other forms of taxes and fees relevant to the carbon tax, such as Environmental Protection Tax, and Environmental Protection Fee can be accounted for CBAM partial exemptions. Thus, further study on carbon pricing, especially carbon tax is recommended, posing the rationale for the implementation of the study to recommend carbon tax design for Viet Nam to be conducted under this TA.

2.5.2. Should Viet Nam join a WTO case against the EU about the EU CBAM?

Whether or not Viet Nam should join a WTO case against the EU over the CBAM is a complicated and nuanced question depending on the interests and priorities of the Vietnamese government, and the broader implications for the country's trade relationship with the EU. While Viet Nam is entitled to apply for the WTO’s dispute settlement system, the proceedings take time and substantial costs, not to mention political and economic pressures. Thus, under the current CBAM coverage, taking legal action against the EU would do more harm than good, and make it more difficult to negotiate mutually beneficial trade agreements in the future.

The generation of carbon credit in Viet Nam under current laws will not start before 2028. The government can thus put pressure on the EU to allow offset submission instead of paying the CBAM charge in the next five years; however, it needs to be able to show a credible threat potential.

Ultimately, the decision of whether to join a WTO case would need to be made based on a careful assessment of the potential benefits and risks, and in light of the broader interests of the Vietnamese government and the country as a whole. It may also be useful to consider alternative approaches, such as engaging in constructive dialogue with the EU, seeking specific exemptions or compensation arrangements, or pursuing alternative low-carbon production methods.

2.6. Policy implications and recommendations for negotiation policies and strategies

2.6.1. Policy implications of findings

Our analysis indicates that the estimated impacts depend on various assumptions and parameters, and the uncertainties remain significant as one moves towards the future. Although specific numerical results may differ across scenarios, they provide several direct policy implications that decision-makers should consider.

First, CBAM in the currently proposed format directly impacts only a small part of Viet Nam's entire economy. However, for directly impacted exporters to the EU, the impact can be significant. In the future, the scope of CBAM may expand (e.g., to ceramics, pulp, and paper which are in the EU's ETS) and thus become more relevant for Viet Nam. Moreover, significant indirect costs may arise in relation to GHG accounting and reporting systems across the value chain of a product. But the CBAM may also drive exporters in other Asian countries to redirect exports to Viet Nam, maybe even at lower prices than before. Therefore, it is important to watch the CBAM evolvement closely. Viet Nam's government and development partners may consider supporting further research and comprehensive data collection on the list of commodities in the EU's ETS in the near future (2-3 years). It is also crucial for Viet Nam to engage in negotiations with its key trading partners.

Second, CBAM can provide benefits for producers that would like to reduce emission intensity. They would increase their competitiveness in the EU market by the reduced payment having to make for purchasing the CBAM certificates to compensate for their emissions. If this impact could spread out to other sectors, the emission intensity of the entire economy would be lowered. We estimated that if the emission intensity of the economy could be lowered by 1%-1.5% per year as specified in Viet Nam's green growth strategy, the estimated fossil emissions would be significant, but there would be a non-trivial probability of not reaching the milestone of Viet Nam's NDC. Government and department partners should provide support to studies that can provide further insight into the potential of energy transition to reduce the emission intensity of high-emission commodities, including commodities that Vietnam does not export.

Third, it is technically possible to reduce emission intensity in CBAM-targeted sectors. The results from our enterprise survey reveal a significant difference in emission intensity between Viet Nam's and the global average as well as across enterprises within each individual sector. This result indicates room for improvement in energy efficiency, where high-emission-intensity enterprises can catch up with their peers. It highlights the importance of research and development (R&D) activities to promote technological progress for overall efficiency, i.e., more output produced with less input, and also emphasises the role of economic tools to further promote emission intensity reduction by substituting fossil fuels with renewable inputs. Investing in R&D and implementing economic policies that encourage the adoption of cleaner technologies could lead to significant emission reductions and enhance the competitiveness of CBAM-targeted sectors.

Fourth, carbon pricing is essential to reduce fossil fuel emissions across Viet Nam's economy. By putting a price on carbon, the cost of emissions would increase, providing direct incentives for private economic agents to substitute high-emission inputs or consumption goods with alternatives. In addition to this substitution effect, our findings suggest that carbon pricing may generate billions of dollars in revenue every year, which can be used to support technological changes and promote further the energy transition process. Therefore, if effectively implemented, carbon pricing would provide a framework for decision-makers in both the private and public sectors to reduce emissions.

Fifth, carbon pricing is a priority in Viet Nam's NDC implementation. In addition to being part of NDC commitments, carbon pricing is crucial for Viet Nam to achieve committed targets. Our results suggest that Viet Nam would not be able to achieve its 2030 target of fossil fuel emissions if current trends continued. Even when Viet Nam could, without carbon pricing, devote resources to promote energy transition as expected, achieving the 2030 target would not be guaranteed. Thus, incorporating a carbon pricing mechanism is key for Viet Nam to meet its NDC targets, though there are other non-carbon pricing instruments such as subsidies for renewables may help achieve the NDC as well.

Finally, acceleration of actions and policies toward Viet Nam's emission targets should be considered whenever appropriate. According to the data of the International Energy Agency (IEA), the emissions from using fossil energy (oil, coal, and gas) in Viet Nam increased from 148 million tCO_2 in 2014 to 296 million tCO_2 in 2020, i.e., an annual rate of 12%, far higher than the economic and demographic growth rates. As a result, the fossil emissions per capita have increased, and Viet Nam has required more fossil emissions, instead of less, to produce one dollar of economic value-add. If the trend continues, it will become increasingly difficult for the country to achieve its emissions reduction targets. Therefore, it is crucial to reverse or slow down this trend as soon as possible. Otherwise, Viet Nam will have very limited time to achieve its committed emission targets, even with 'hard braking' measures which usually incur substantial costs in terms of economic and social conditions.

2.6.2. Recommendations for negotiation policies and strategies

a. Response options

Response options for CBAM can generally be classified into two broad groups: oppose or accept CBAM while seeking to reduce its negative impacts.

Oppose CBAM

One option for Viet Nam is to join a case against CBAM at the WTO led by some other countries.

Pros

It is legally possible and would protect the interest of Viet Nam-based enterprises. This may also help to put pressure on the EU to negotiate a solution that is more favourable to Viet Nam, or to reconsider the CBAM altogether.

Cons

The legal process could be lengthy and costly, and there is no guarantee that Viet Nam would be successful. Additionally, taking legal action against the EU could harm the relationship with the EU, and make it more difficult to negotiate mutually beneficial trade agreements in the future.

Whether or not Viet Nam should join a WTO case against the EU over the CBAM is a complex question. The answer depends not only on the interests and priorities of the Vietnamese government but also on external factors such as how CBAM's detailed mechanism evolves and how other countries react to CBAM.

Accept CBAM while seeking to reduce its negative impacts

This would involve several measures which can be taken concurrently.

First, the government can issue detailed guidelines for emission reporting that are compatible with CBAM requirements and provide training for enterprises. Enterprises would build their capacity and plan to comply with CBAM, including adjusting business strategy to reduce any potential impacts from CBAM.

Second, the government may negotiate with the EU for favourable treatment. The treatment can include considerations of differences in socioeconomic development stages when determining CBAM payments. The discussion can also aim at the acceptance of carbon credits in addition to the accounting of the domestic carbon price towards CBAM payments. It is worth noting that the negotiations may be fruitful only after Viet Nam has introduced an explicit carbon price. Viet Nam may benefit from joining other like-minded countries and lobbying interest groups within the EU that can influence the design of the CBAM.

Third, the government can consider the adoption of carbon pricing in the broad context of achieving energy transition, NDC and Net- zero targets, which will minimise the impacts of CBAM while obtaining other significant co-benefits.

With the significant potential impacts of carbon pricing shown by the modelling results, the carbon price at around 11 USD/tCO_2 based on the lowest marginal abatement cost to achieve the mitigation target in the NDC, may not be advisable for the initial phase of carbon pricing. Experiences from other countries show that a low start and gradual increase of the carbon price will be more effective in getting stakeholder buy-in and avoiding their strong reaction as well as reducing the negative impacts (International Renewable Energy Agency, 2021). The carbon price can be designed to be initially applied in some carbon-intensive sectors, for example, the most impacted sectors of CBAM and electricity generation. A trial error may be needed to determine the desirable carbon price. In any case, the carbon price would need to increase over time to approach the EU ETS allowance price.

Fourth, the government would strengthen non-carbon-price decarbonisation policies and incentives. Priority can be given to phasing out unabated coal power and promoting renewable energy as well as the encouragement of energy efficiency measures, that will be implemented in line with the country's energy transition and low-carbon pathway.

This approach presents a proactive way for Viet Nam to prepare for CBAM. Importantly, it would contribute to Viet Nam’s achievement of NDC targets, facilitate the greening of its economy, and elevate the country’s position in the international arena. Consequently, Viet Nam may receive more international financial and technical support. Vietnamese products can become more competitive in markets where consumers demand green products.

On the other side, this approach may increase production costs initially, and domestic consumers may resist potentially increased energy prices. Improving technical and institutional capacity would also require resources.

b. Recommendations

Accepting CBAM while seeking to reduce its negative impacts has emerged as a preferred option for Viet Nam. This approach would help Viet Nam prepare for the potential effects of CBAM while also achieving its sustainability goals.

It is recommended that the government:

- **Engage in constructive dialogues with the EU**: This aims to seek clarification on the details of the CBAM and to negotiate a fair CBAM that considers Viet Nam’s concerns and efforts. This may involve seeking specific exemptions or compensation arrangements to mitigate the impacts of the CBAM on Vietnamese exporters. A reasonable request would be the use of emissions credits instead of having to buy CBAM certificates.

  Based on the CBAM, the EU is committed to continuing dialogue with third countries and finding solutions for cooperation that can inform specific choices made during the implementation of the measure, particularly during the transitional period. The Commission

aims to engage with affected third countries in an impartial manner, and in compliance with the EU's international obligations, to explore possibilities for dialogue and cooperation in implementing specific elements of the Mechanism outlined in this Regulation and related implementing acts. The EU will also explore the potential to enter into agreements that consider their carbon pricing mechanisms. Given that the CBAM is intended to promote cleaner production processes, the EU is willing to work with low- and middle-income countries to support their efforts towards decarbonising their manufacturing industries. Additionally, the EU intends to provide technical assistance to less developed countries to help them adapt to the new obligations introduced by this regulation[3].

- **Strengthen institutional and technical capacity for adapting CBAM:** This involves appointing a coordinating agency on CBAM, providing detailed guidelines for emission reporting that are compatible with the CBAM requirements, training for enterprises, and raising public awareness of CBAM.
- **Consider the adoption of carbon pricing in a broader context:** The adoption of carbon pricing supports energy transition and low-carbon development and generates other co-benefits (including environment and health). Carbon pricing will re-direct the development of carbon-intensive sectors in a more sustainable way and the revenue from carbon price can be used to incentivise the green transformation process and to mitigate the negative impacts on vulnerable groups. Moreover, carbon pricing, such as ETS and carbon tax, can be used to deduct a part of the CBAM obligation and help the government of Viet Nam keep the revenue instead of paying the EU. If appropriately designed, carbon pricing can be an effective instrument for Viet Nam to accelerate the decarbonisation process toward the net-zero by 2050 target.
- **Improve national legal frameworks for decarbonisation**: The Vietnamese government could also consider updating its national legal frameworks to address the impacts of the CBAM. This could include the development of domestic carbon pricing mechanisms or the implementation of other measures to support low-carbon production methods and reduce emissions in the country.

  This could include measures to increase energy efficiency, transition to cleaner forms of energy, and promote sustainable production methods, such as:

  (a) Develop domestic climate policies and measures to reduce carbon emissions and mitigate the impact of the CBAM.

  (b) Promote the development of a domestic carbon market to provide companies with a mechanism for generating emissions credits and reducing the impact of the CBAM.

  (c) Develop and implement domestic policies and programs to support the transition to low-carbon production processes, to promote sustainable production and consumption, including investment in renewable energy and energy efficiency measures.

  (d) Develop a sectoral mitigation plan that sets specific goals and targets for reducing emissions, and that outlines the policies, programs, and measures that will be implemented to achieve these goals.

  (f) Encourage investment in research and development of new technologies and processes. Invest in clean technologies and research and development may reduce the carbon footprint of exports and increase competitiveness in the EU market.
- **Enhance international cooperation:** This involves 1) strengthening cooperation with the EU in other socioeconomic areas to consolidate mutual goodwill; 2) fostering cooperation with

[3], Recital (53) (54) (55)

other countries that may be impacted by the CBAM to increase bargaining power with the EU, and 3) joining climate clubs similar to the JETP to further gain international support.

It is recommended that Viet Nam-based enterprises exporting to the EU:

- **Start to plan for CBAM**, including considering the costs of purchasing CBAM certificates as well as mitigation strategies, if active in sectors currently covered by CBAM. Among mitigation strategies, improving energy efficiency and employing good housekeeping practices to reduce material inputs should receive priority, given their relatively low costs. Other measures include process optimisation and green and sustainable sourcing.
- **Adopt cleaner technologies and practices**: Invest in cleaner technologies, such as low-carbon or carbon-neutral production processes and adopt sustainable practices. This can involve increasing efficiency and reducing energy consumption, upgrading machinery, phasing out carbon-intensive fuels, implementing waste reduction strategies, and promoting circular economy principles.
- **Watch for CBAM developments** if active in a sector not yet covered by CBAM but by the EU ETS: Updates on CBAM can be found on the European Parliament webpage.
- **Prepare for emission reporting requirements**. Sharing emission-related data with government agencies would contribute to the development of a national emission database system that is needed to negotiate with the EU for favourable CBAM conditions.
- **Engage with the government in the context of decarbonisation policies** such as carbon pricing and boosting renewable energy uptake. Enterprises can consider developing roof-top solar PV for their own consumption. They can also buy solar and wind power directly from renewable producers once the under-consideration direct-power-purchase agreement policy takes effect.
- **Engage in carbon offsetting**: Along with the reduction of own emissions, companies should consider participating in carbon offset projects to compensate for emissions that are hard to abate due to high cost or technical complexity. Invest in verified projects that reduce GHG emissions, aiming at purchasing high-quality credits that deliver real, measurable, and long-term benefits to climate change.
- **Invest in innovation and research**: Allocate resources to research and development efforts focused on low-carbon solutions and innovations.
- **Collaborate along the supply chain**: Work closely with suppliers and partners to encourage them to adopt sustainable practices and reduce emissions throughout the entire chain. A coordinated approach throughout the supply chain can help reduce overall emissions and enhance competitiveness.

Given that CBAM can be extended to other sectors and also be adopted by other countries, diversification of markets and products to avoid CBAM impacts can be an option but not the most recommended. Enterprises should devise a GHG mitigation strategy to improve their competitiveness in the EU market and the markets of other countries that have high environmental/climate requirements, both for their current products and the future ones in order to be pro-active in their production and trading activities.

Specific recommendations for steel, aluminium, and cement sectors

- Invest in the development and deployment of low-carbon technologies. This can include the use of:
    - electric arc furnaces instead of traditional blast furnaces in steel manufacturing processes;
    - advanced smelting technologies such as inert anode technology or electrolysis with higher current efficiency for aluminium production;
    - innovative cement kilns, like those utilising calcined clay or other supplementary cementitious materials for cement manufacturing. Reduce the clinker content in

cement by increasing the use of supplementary cementitious materials and other innovative additives.

- Increase energy efficiency through:
    - waste heat recovery, optimising furnace operations, and improving insulation for steel manufacturing;
    - waste heat recovery for aluminium production;
    - optimising grinding and milling processes and improving insulation in kilns for cement manufacturing;
    - other common energy efficiency and GHG mitigation measures: low GWP- cooling equipment, energy-saving lights, motors, apply inverter technology, etc.
- Utilise renewable energy sources: Transition to renewable electricity sources such as solar or wind power to cover the electricity demand).
- Promote circular economy principles: Implement measures to increase the use of recycled materials. Recycling scrap metal reduces the need for energy-intensive primary steel and aluminium production, resulting in lower emissions. Additionally, explore opportunities for reusing and repurposing steel and aluminium products to minimise waste generation. This also includes optimisation of the use of raw materials by reducing waste and optimising the efficiency of material inputs. This can involve implementing better inventory management practices, enhancing material handling processes, and optimising resource consumption.

3. RECOMMENDATIONS ON CARBON TAX DESIGN AND A ROADMAP FOR VIET NAM

3.1. Objectives of the Recommendation for carbon tax policy component

Building on the results of the CBAM impact assessment study and implications for Viet Nam, the Recommendations on Carbon Tax Design and A Roadmap for Viet Nam Report aimed to investigate the main options for designing and introducing a carbon tax in Viet Nam in order to mitigate CBAM's impacts and promote energy transition and low carbon economy in Viet Nam. The introduction of a direct tax on GHG emissions (carbon tax) would provide an option for Viet Nam to reduce the payments due under the CBAM. This would enable to retain monetary resources within Viet Nam, as well as to support the implementation of mitigation action at the domestic level.

This chapter aims to offer a comprehensive exploration of the current landscape of carbon taxes in countries with characteristics akin to Viet Nam. It will delve into an analysis of the policies and legal framework that Viet Nam has established concerning the design of carbon taxes. By examining the experiences and structures of carbon taxation in comparable nations, the chapter seeks to draw insights that can be applied to enhance the effectiveness of Viet Nam's own carbon tax framework.

Furthermore, the chapter will illuminate various carbon tax design options that align with the specific socio-economic and environmental context of Viet Nam. It will present a nuanced discussion on the suitability of different approaches, taking into consideration factors such as country climate policies, international experiences, and the existing landscape of the taxation system. This evaluative process aims to provide a foundation for making informed decisions in crafting a carbon tax system that not only aligns with global best practices but is also tailored to the unique circumstances of Viet Nam.

3.2. Key findings from selected case studies on international carbon tax design

The implementation in different countries also leads to different challenges and success factors that allowed (or slowed down) the introduction of the carbon tax. Clearly, there are differences amongst countries, for instance in terms of tax level, coverage of the tax, allocation of the revenues and so on. However, it is possible to identify lessons learned that can be of use for Viet Nam in the introduction of its carbon tax. Learning from other countries, the carbon tax can allow a smoother implementation of the tax building on existing experiences and can serve to identify options for overcoming opposition from stakeholders, as often experienced before the introduction of a new tax, and enhance communication towards the public to communicate the rationale for the introduction and the real impacts (both environmental and economic) of the tax.

A set of five countries has been selected: Colombia, Indonesia, Mexico, Singapore, and South Africa. The underlying rationale is to identify those countries that have certain characteristics (geographical or economic) that can make the learning process more valuable for Viet Nam. Table 6 provides a summary of the key findings of the selected case studies.

Table 6: Main features of the carbon pricing mechanisms in selected countries

Item/Country	Colombia	Indonesia	Mexico	Singapore	South Africa
Year of introduction	2016	Not yet implemented, implementation date postponed to 2025	2014	2019	2019
Tax base (sectors, of fossil fuels, or facility emitting x tCO_2)	Applies to the CO_2 content of fossil fuels sold or imported into the national territory. The tax is levied on producers or importers.	This will initially apply to coal-fired power plants, with facilities that do not meet their obligations in the ETS, subject to the carbon tax. Further expansions to other sectors/industries are to be elaborated by the Government	Applies to the production, import and sale of fossil fuels for combustion processes, apart from natural gas. The carbon tax is levied on the producer or importer of fossil fuels	Facilities from all sectors emitting more than 25,000 tCO_2e annually.	Fossil fuel combustion and electricity generation; fugitive emissions such as methane emissions from mining and industrial processes e.g., cement, iron, steel
Share of national emissions covered	23%	N/A	44%	80%	80% formally, much lower in phase 1 due to the exemption of Eskom
Exemptions (e.g., size, specific actors, etc.)	Metallurgical coal is exempted, while thermal coal will not be taxed until 2024. Additionally, for LPG, the tax is only levied on sales to industrial consumers. As for natural gas, the tax is only levied on sales to hydrocarbon refining and petrochemical industries. Furthermore, diesel and gasoline are exempted from the tax in various states and municipalities.	Accompanying regulations on the revenue allocation are yet to be released.	Natural gas is exempted. Since March 2022 gasoline, and diesel are also exempted.	No sector exemptions.	Electricity producers to 100% in phase 1, other industries 60-100%, Waste and AFOLU sectors
Tax rate (USD/tCO_2)	4.4 USD/tCO_2e	Approx. 2 USD/tCO_2e	The base rate for the national tax is 3.5	3.7 USD/tCO_2e	Approx. 8 USD/tCO_2e

Item/Country	Colombia	Indonesia	Mexico	Singapore	South Africa
			USD/tCO_2e. State-level taxes range from 2.4 USD/tCO_2e to 32 USD/tCO_2e.		
Tax calculation method (and how the tax has been set e.g., carbon market average price, social cost of carbon, etc.)	The CO_2e of each fossil fuel is multiplied by the tax rate. The tax rate is yearly adjusted for inflation.	The carbon tax regulations set the minimum price and are expected to reflect the prices traded in Indonesia's domestic carbon markets	The tax is based on the additional CO_2 emission content of fossil fuels compared to natural gas.	The amount of carbon tax is calculated by multiplying t/CO_2e by the current rate of tax. Initial tax rate set low to enable low-carbon transition for EITE companies, satisfying influential energy companies. Further justified by the tax's economy-wide nature.	The amount of carbon tax is calculated by multiplying tCO_2e by the current rate of tax. Until 2022, the rate increased by the level of consumer price inflation (CPI), plus 2% annually, and will thereafter increase annually by inflation
Revenues allocation	80% of the tax revenues must be allocated to environmental and conservation efforts. The remaining 20% is earmarked for financing the National Program for the Comprehensive Substitution of Illicitly Used Crops which especially targets families that grow coca.	Accompanying regulations on the revenue allocation are yet to be released.	Revenues are not specifically earmarked but fed back into the general national budget.	Revenues are not specifically earmarked but fed back into the national budget with support for companies/ individuals affected by the tax to be subsequently derived from the collective fund.	The carbon tax revenue is pooled within the general budget. While the carbon tax design alluded to soft earmarking, no details have been provided on how revenues are used.
Use of offsets (if allowed, max % allowed, eligible standards, domestic/international)	Offsets up to 50% of the total CO_2 taxed. Offsets must derive from national projects and have been issued by entities that comply with the regulations defined by the	Accompanying regulations on the use of offsets are yet to be released.	No offsetting, actually in-kind payment with credits from CDM activities developed in Mexico.	International offsets will be permitted to cover 5% of a facility's emissions as of 2024. So far, Verra, Gold Standard and GCC accepted with full details on all accepted standards	Companies can reduce their tax liability by using carbon offsets by 5% or 10% through carbon credits issued by the CDM, Verra's VCS and the Gold Standard, with only

Item/Country	Colombia	Indonesia	Mexico	Singapore	South Africa
	Ministry of Environment and Sustainable Development in its 926 Decree of 2017.			including offset projects and host countries to come in the second half of 2023.	projects in South Africa eligible.
Other carbon pricing policies in place	Colombia is currently analysing its ETS design and plans to have it fully implemented by 2030	A mandatory, intensity-based ETS was launched in 2023 targeting the power sector, for entities with an output of more than 100 MW installed capacity.	The Mexican ETS started with a pilot program in 2020-2021, followed by a transition phase in 2022.	No national ETS.	No national ETS.
Carbon tax/pricing mentioned in the NDC	Yes, Colombia cites carbon tax in its 2020 updated NDC as part of its instruments used to reduce GHG emissions.	In its 2021 NDC, Indonesia mentions the preparation of a carbon pricing instrument as part of its climate finance mobilisation efforts.	No, Mexico does not mention its carbon tax in its 2022 updated NDC although it highlights the analysis and strengthening of public policy on carbon pricing policies.	Yes, Singapore cites the carbon tax and its newly increased forthcoming rates in its 2022 NDC update as part of its concrete implementation efforts.	In its 2021 NDC, South Africa identifies the carbon tax as an important component of South Africa's mitigation strategy.

Source: Authors' elaboration

The study countries provide a wide range of alternatives regarding the introduction and implementation of a carbon tax. Regarding the point of regulation, for instance, there are examples of a tax set at the facility level (Singapore, Indonesia) as well as examples where the tax is set on the quantity of fossil fuel used or traded (Mexico, Colombia). The share of national emissions covered also significantly varies, from around 23% in Colombia up to 80% in Singapore and South Africa (while the latter is currently much reduced due to exemptions).

Most countries set up a consultation process to allow stakeholders to contribute to the design and implementation of the carbon tax. While this contributed to the successful introduction of the tax and to overcoming main economic and social concerns, in some cases it also resulted in watering down of the carbon tax due to different interests at the table, thus limiting its effectiveness (e.g., in South Africa). As a general observation, every country saw a certain level of opposition to the tax with emitter lobbies raising concerns regarding its potential adverse impacts and aiming to reduce either the tax rate or specific exemptions to soften the implementation of the carbon tax. All countries included some exemptions to the tax, be it directly or indirectly (as through credit allocations in Singapore and allowances in South Africa): this reflects both the need to ensure feasibility as well as to reduce opposition and mitigate potential adverse impacts (Mexico provides an exemption to natural gas and Colombia to metallurgical coal, which are key fuels in these countries). The level of exemptions may change over time to become more stringent (i.e., more fuels, gases or sectors are covered by the tax). However, there are also opposite cases, for instance, in Mexico where the Government decided in 2022 to provide a 100% exemption to diesel and gasoline until 2024. Despite the adverse impact on the emissions, this indicates that carbon tax can be used as a flexible tool and react also to unexpected economic shocks for instance, as experienced in the past few years with the impacts of the COVID-19 pandemic and the war in Ukraine.

The introduction of carbon taxes was rapid and more far-reaching if the carbon tax was part of a larger fiscal package, which was the case in Mexico and Colombia (also in Chile, which was not part of our case studies). Such large fiscal packages usually satisfy all relevant interest groups, and a carbon tax component will not be as vigorously attacked as if it is a stand-alone measure.

Another common element that can be observed is the possibility of using emission credits to offset the tax: all countries allow the use of offsets but specify maximum offset limits, ranging from 50% in Colombia (100% until 2022) to 10% in South Africa. Colombia, Mexico, and South Africa only allow domestic offsets, while Singapore also looks at international credits. Data from Colombia and South Africa show that when offsetting is allowed, the domestic carbon market is stimulated, with around 92 million and over 10 million offsets used, respectively.

One common feature of all case studies is the phased introduction of the carbon tax with tax rate increase over time considered by all administrations. Currently, however, the level of the tax is generally low, ranging from 2 USD/tCO_2 (as planned in Indonesia) up to approx. 8 USD/tCO_2e in South Africa. In all cases, the tax rate should be increased to trigger more significant emission reductions; significant increases are scheduled in Singapore and South Africa and smaller ones in Colombia. Actual revenues vary between countries, due to the tax level but also to the number of years in which the tax was already in place: in Colombia, the carbon tax generated revenues above 510 million USD (2017-2022), while Mexico in the same period raised around 3 billion USD. In South Africa, tax revenues reached approx. USD 70 million in the past two years. The level of revenues is linked to the tax rate, but also to the level of exemptions: South Africa has a relatively high tax rate of approx. USD 8, but the extensive exemptions granted to taxpayers significantly reduce the impact of the tax and the overall revenues. Another common element that can be found in all countries is the lack of earmarking: national regulations do not allow earmarking. Mexico is an exception, with tax revenues

allocated to specific uses, while Singapore plans to use the revenues (not directly earmarked but allocated through the state budget) to support affected companies/individuals.

Singapore and South Africa do not foresee for the moment the implementation of a national ETS, while Mexico has an ongoing ETS pilot and Indonesia ran a voluntary pilot phase in 2021. There is not yet an actual coexistence of an ETS and the carbon tax in the case studies, thus their actual interactions as well as the final design elements that will be defined for both instruments remain to be seen. Some countries are piloting the ETS, which is a good approach to assess its impacts on the economy and emissions, as well as to study the interactions with a carbon tax and eliminate inefficiencies.

Drawing from these lessons, a comprehensive stakeholder engagement is necessary to allow the provision of comments and inputs during both the design phase of a Vietnamese carbon tax and during its implementations to ensure the minimisation of adverse impacts. Examples show that the involvement of stakeholders is crucial, although it is important to consider potential influences on the design and implementation process that may lead to a less ambitious carbon tax (e.g., in the case of South Africa). At the same time, there could be progressive companies and stakeholders that, given the increasing negative impacts of climate change also in Viet Nam, may be willing to support the carbon tax as an efficient tool to fight climate change. Viet Nam will have to balance the need for comprehensive stakeholder engagement with the avoidance of vested interests guiding the discussion that may lead to a less ambitious carbon tax.

Also, the use of offsets in other countries shows that when this option is available, taxpayers will utilise it as a flexibility valve. Well-designed, stringent eligibility criteria would be needed to avoid the use of questionable carbon credits that would undermine the environmental integrity of the tax (see the case of Colombia) as well as reduce countries' revenues from the tax itself. Viet Nam should consider credits generated domestically as eligible offsets in order to stimulate internal mitigation actions and (depending on the actual eligibility criteria, see section 6) support existing stranded activities that would be discontinued if not receiving carbon credit revenues. The ETS currently under development in Viet Nam should also allow the use of international credits from Article 6 of the Paris Agreement, so alignment of the offsetting rules against the carbon tax to this other carbon pricing mechanism should be considered.

Regarding the revenue allocation, Viet Nam will probably have to direct them toward the general (or local budget) without the possibility of earmarking. Potential indirect uses for the revenues, for instance, like in the case of Singapore, to ensure support to affected companies and individuals may prove a suitable solution to reduce distortions and gain support.

Regarding the tax rate, a phased increase over time is the best approach to allow taxpayers to familiarise themselves with the systems and develop mitigation strategies that reduce emissions but also identify the most cost-effective manner to do so. The tax should be imposed on GHG emissions: this is important to ensure consistency with CBAM regulation and allow the offsetting of the related obligation through the payment of the carbon tax.

3.3. Overview of Viet Nam's policies and legal framework for carbon tax design

In Viet Nam's legal framework, tax is defined as a compulsory amount payable to the state budget by organizations, households, household businesses, and individuals as prescribed by tax laws (National Assembly, 2019). On the other hand, fees are the amount of money that is paid by organizations or individuals to make up for expenses for public services provided by regulatory agencies, and public service providers as assigned by competent state agencies whereas charges are fixed amount of

money that is paid by organizations or individual for public services for state management provided by regulatory agencies (National Assembly, 2015).

The term carbon tax mentioned in this report however is not limited to the meaning of "tax" in the above definition but refers to general carbon price control measures (as opposed to quantity control in carbon pricing systems like the ETS). Therefore, the discussion in the below section covers Environmental Protection Tax (EPT), Environmental Protection Fees (EPF) and the formulation of the Emission Trading Scheme (ETS) that are deemed relevant to carbon tax design in Viet Nam.

3.3.1. Environmental Protection Tax

The EPT is an excise tax imposed on products and goods that have a negative impact on the environment (Law on Environmental Protection Tax, 2010). The cost of the EPT is included in the price paid by consumers who purchase and use the identified set of goods and products (Hoai, et al., 2022).

In principle, the integration of the carbon tax into the EPT is possible: they both would target goods that have negative impacts on the environment. As a matter of fact, certain products, e.g., coal and gasoline, are already covered by the EPT. The EPT could be expanded to explicitly include the GHG emissions that result from production processes and use of the selected goods. This is necessary, since the EPT is currently focusing on the adverse impacts of a good on the environment and the EPT is calculated based on the quantity of a certain good rather than linked to the GHG emissions. In order to obtain the exemption under the CBAM, the EPT should be targeting the GHG emission explicitly, setting a price per tCO_2e that would be emitted. In addition, the following subjects could be taken into consideration in the design of EPT:

- Natural gas: The inclusion of natural gas within the scope of the EPT could be necessary given its significant presence in sectors relevant to the CBAM.
- Biogenic fuels: If fuels contain biogenic components, they need to be excluded;
- Process emissions: Process emissions generally fall outside the scope of fossil-based taxation. Consequently, an alternative approach is required, whereby the tax liability is assigned to the relevant input materials, such as cement clinker and iron ore.

It is thus crucial to ensure that the carbon tax (if introduced as part of the existing EPT) is directly linked to the GHG emissions of goods, and further products could be included in the EPT to be aligned with the CBAM (for instance cement sector and steel). As discussed above, it is important to avoid double taxation, e.g., if cement is included in the EPT, a cement company may end up in a situation where it has to pay the carbon tax on the emissions associated with the use of coal for the production of the cement, but also pays the EPT on the produced cement. A coherent system of exemptions for precursor products should be designed to avoid these dysfunctions.

Regarding the expenditure on environmental protection, EPT is indicated by laws as a regular expenditure of the state budget (allocated both at the central and local state budget). This implies that revenues from taxes cannot be earmarked for specific uses. However, according to the Environmental Protection Law 2020, a part of the state budget is dedicated to environmental protection purposes. Besides, the state budget also provides financial resources to the Viet Nam Environment Protection Fund (VEPF), a state-owned fund managed by the Ministry of Natural Resources and Environment under Decision 78/2014/QD-TTg of the Prime Minister. The key role of VEPF is to support activities related to environmental protection and climate change adaptation that are not covered by the state budget estimate on a nationwide scale.

The law on the existing EPT is planned to be revised in 2026.

3.3.2. Environmental Protection Fees

The EPF are a specific type of fee regulated by the Law on Fees and Charges 2015, Annex 01, Point IX.1. Within the domain of resources and environment, these fees can be intended as payments or charges for services provided by the environment (for instance one company discharging treated wastewater in a river, the EPF serves as compensation for the environmental services provided). The EPF is additional to the EPT and covers individuals and legal entities. The EPF is calculated based on the volume of pollutants discharged in the environment, in water bodies or atmosphere, or due to mining activities. By incorporating carbon emissions into the EPF structure, the government could introduce a carbon tax by assigning a specific fee to activities based on their carbon footprint or emissions intensity.

According to the Law on Fees and Charges 2015, there are five types of EPF, of which *fees for emissions in the atmosphere* are the most relevant type to the carbon tax. The specific regulations for fees related to emissions will be decided by the Government through a Decree.

EPF can be applied to the level of emissions, although the EPF is assumed to be not directly linked to the GHG emissions nor to the harmful impacts on climate these emissions have. If the EPF is defined on the level of GHG emissions, it would be aligned with the CBAM. The coverage of the EPF could specifically target organizations and companies rather than individuals (to avoid its application to an excessively large number of potential fee-payers) to focus on main emitters who are also obliged to comply with the CBAM. Limitations and exemptions can be considered for the sectors where the CBAM is not relevant, even if a progressive expansion of the fee to main emitting sectors is advisable to support the decarbonisation of the economy beyond the impacts of the CBAM.

The revenues from the fee are allocated to the state budget after the deduction to cover the operating cost for the provision of the environmental services for which the fee is paid (Law on Fees and Charges, 2015). The EPF generates revenue to support activities aimed at protecting and improving the environment. The draft Decree on EPF for emissions should ensure the revenues from the EPF for emissions are used for targeted mitigation efforts. Clearly defining the scope of "mitigation" expenditures is important, fostering transparency and guarding against any potential misappropriation to ensure the revenues are used for the intended purpose. This revenue becomes an integral component of the state budget and will be allocated to specific areas in alignment with budgetary plans. The collected EPF can be either retained or deducted to cover operating expenses associated with providing public services and collecting fees. The remaining portion can then be remitted to the local state budget.

There is an ongoing effort to promulgate the EPF (submitted to the Government in December 2023) which aims to closely align with carbon tax principles. A draft Decree that provides comprehensive regulations on the EPF for emissions was submitted to the Government in December 2023 as stated in Resolution 01/NQ-CP, which outlines key tasks for implementation of the social-economic development plan, state budget estimates and improving the business environment and enhancing national competitiveness in 2023. It could be attempted, provided sufficient political will would be available, to align the EPF with the carbon tax directly targeting GHG emissions and to become eligible for the CBAM exemptions.

3.3.3. Emission Trading Scheme

Article 139 of the 2020 Law on Environmental Protection defines the conceptual design and maps out a timeframe for the development of the domestic carbon market in Viet Nam. The domestic carbon

market includes trading of emission allowances under a national ETS and trading of carbon credits obtained from the participation in domestic and international carbon credit exchange and offsetting mechanisms.

The total cap under the ETS will be proposed MONRE to the Prime Minister for approval for period- and annual allocation.

Entities meeting the following criteria are defined as large emitters and shall be responsible for conducting GHG inventory, developing GHG emission reduction plan, and participating in the domestic carbon market (Decree 06/2022/ND-CP):

- Facilities with annual GHG emissions of 3000 tCO_2 e or more, or;
- Thermal power plants, industrial facilities with total annual energy consumption of 1000 tonnes of oil equivalent or more;
- Transport companies with a total annual energy consumption of 1000 tonnes of oil equivalent or more;
- Commercial buildings with a total annual energy consumption of 1000 tonnes of oil equivalent or more
- Solid waste treatment facilities with an annual capacity of 65,000 tonnes or more.

The Prime Minister will promulgate the list of emitters based on the above and update it every two years. In 2022, the Prime Minister promulgated for the first time a list of 1912 large emitters in the Decision 01/2022/QD-TTg, 213 of which are operating in the CBAM-covered sector and 49 are exporting their products to the EU.

According to Decree 06/2022/ND-CP, the development of the domestic carbon market in Viet Nam is divided into 3 phases as shown in the figure below:

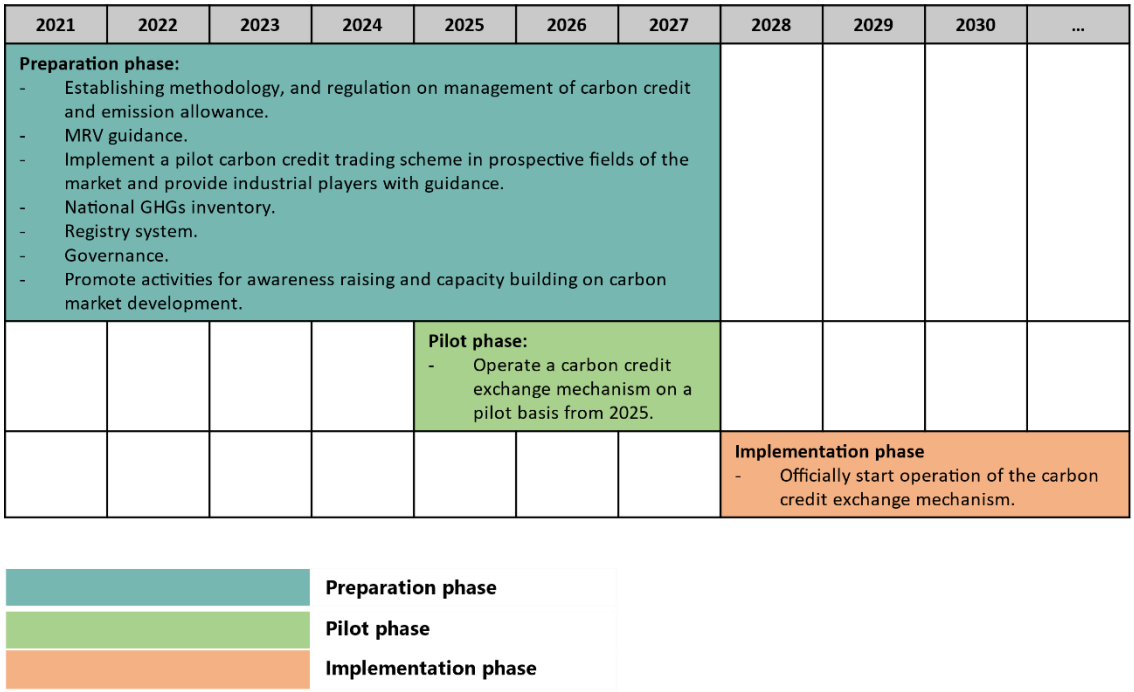

Figure 5: Roadmap for the development of the domestic carbon market
Source: Decree No. 06/2022/ND-CP on Mitigation of GHG Emissions and Protection of Ozone Layer

When the ETS is officially implemented, the methods applied for the allocation of emission allowances will be auctioned and freely allocated. MONRE will cooperate with relevant ministries to allocate GHG emission allowances based on the total GHG emission cap, the GHG inventory results in the latest inventory period, and the implementation of the GHG emission mitigation of the facilities. Emitters can use carbon credits to offset their exceeded emissions allowances, the number of carbon credits that can be used shall not exceed 10% of the total allocated allowances of an emitter. The type of carbon credits that can be used as offsets in the ETS is not yet defined.

The ETS in Viet Nam will start the pilot phase in 2025 and will become in full operation in 2028[4]. Under the current plan, thermal power, steel, and cement sectors are expected to participate in the pilot stage. This can provide the following benefits to reduce CBAM impacts:

- Emission reductions from these sectors will help reduce the emission intensity of steel and cement products, which means lower CBAM certificates need to be purchased;
- Lower payment for CBAM certificates shall be adjusted with the payment for emission allowances in Viet Nam, given the allowances are allocated through auctioning. However, it is more likely that Viet Nam will use a grandfathering method for allocation rather than auctioning in the initial stage of the ETS.

The ETS will be fully implemented from 2028, so other CBAM-covered sectors like aluminium or fertiliser might gain the benefit from the introduction of the carbon pricing instrument in Viet Nam two years later from the official phase-in of the CBAM payment obligation by the EU from 2026. The effective participation of the CBAM-covered sectors and phase-out of free allocation in Viet Nam's ETS will be critical to reduce the negative impacts of CBAM.

3.4. Suitable carbon tax design options for Viet Nam

As discussed in the previous sections, the introduction of the carbon tax through the EPF appears to be more promising than the revision of the existing EPT. Therefore, the first and the most effective option is to revise the existing draft Decree that will regulate the EPF on emissions to be submitted for approval by the end of 2023 or at any later that allows its revision. The former would be preferable given that Viet Nam only has 2 years before the CBAM is phased in. The second option to introduce the carbon tax is the revision of Decree 06/2022/ND-CP or the development of any documents that regulate the ETS in Viet Nam to allow the use of a floor price: the procedures for the revision are the same as those required for revising the EPF on emissions and in terms of timelines and practical steps the two options are similar. The main benefits of the identified options are the lower risk of rejection due to less exposure to political factors that would be generated by a completely new legislative procedure. Furthermore, earmarking is to some extent possible through the EPF and may serve to reduce potential adverse impacts of the tax on the economy and society. The current momentum of developing a decree for EPF of emissions and the current political interest in developing further the Decree 06/2022/ND-CP should be fully used. The third, but most long-term option would be to revise the EPT to integrate a carbon tax. The revision of the EPT has already been scheduled for 2026, which can be a good opportunity to extend the scope and adjust the tax rate to better reflect carbon content in the goods/fuels subject to the tax.

Since the Vietnamese ETS is intended to cover emitters in several sectors of the economy (i.e., power generation, commercial buildings, transport, industry, waste treatment) depending on their total

[4] Decree No. 06/2022/ND-CP on Mitigation of Greenhouse Gas Emissions and Protection of Ozone Layer.

emissions or fuel consumption, the carbon tax could be structured in two ways that could be introduced at the same time:

- The carbon tax is the floor price for the ETS. The entities covered by the ETS, in case of non-compliance and emissions exceeding the cap allocated to them, will pay the price set by the carbon tax per tCO_2e.
- The carbon tax is imposed on the entities that are not covered by the ETS. If Viet Nam would like to introduce ambitious carbon pricing mechanisms and maximise mitigation impacts, it can impose the carbon tax on those entities that have less emissions (or consumption of fossil fuels) than the minimum required to be included in the ETS. However, the sectors and main emitters covered under the ETS are the same as the ones covered by CBAM.

In both cases, the tax should be designed as a tax directly applied to GHG emissions to ensure eligibility against the CBAM. It is important to highlight that the allowances under the ETS are expected to be freely allocated to the entities covered (grandfathering) at least in the initial phases of the ETS. In this case, an entity that is emitting more than its own cap will either be required to purchase an equivalent amount of allowances from another entity that is emitting less than the cap and has a surplus or could pay the price set by the carbon tax (if introduced as the floor price). The initial price of the allowances is not set through auctioning; thus, companies will have an interest in paying the amount set through the carbon tax if this is lower than the price of allowances in the market. However, if allowances are allocated for free and the cap of the ETS is not ambitious enough, it is likely that covered entities will not have the need to purchase allowances.

Given the ambitious plan of Viet Nam regarding the coverage of the ETS (i.e., covering facilities emitting more than 3,000 tCO_2e or consuming more than 1000 tonnes of oil equivalent) introducing a carbon tax on those entities that would not be covered under the ETS may result in potential opposition from small and medium businesses. It would also restrict the potential for generating offsets. As experiences in other countries have shown, transaction costs would not be a relevant obstacle.

As the ETS is set to be fully operational in 2028, after the three-year pilot phase, free allocation of allowances should be progressively replaced by auctioning to increase the effectiveness of the ETS and prices are expected to move upwards: in this context, the carbon tax rate could also move upwards to set the minimum price of the allowances. The tax should be charged on a USD/tCO2 basis for fossil fuels used to simplify MRV and align it with previous MRV approaches under the EPF.

It is important to highlight that in terms of main responsibilities, the introduction of the EPF on emissions through a new decree currently being drafted, as well as an eventual revision of the EPT is led by the Ministry of Finance. The Decree 06/2022/ND-CP, on the other hand, is under the responsibility of MONRE.

Regarding the tax level, the price range of 3.5 – 11 USD/tCO_2e should be envisaged in line with the findings from the case studies and the minimum mitigation cost per tCO2e calculated in the published NDC updated in 2022 to the UNFCCC. For the introductory period of two years, a tax level of 3.5 – 5 USD/tCO_2e could be considered. According to observations from the case study analysis and stakeholder consultation, these lower rates are considered as a more easily acceptable initial rate that may contribute to reducing opposition and provide confidence to the stakeholders that fear adverse impacts of the tax with a high rate, e.g., such as increase costs for the consumers. Tax increases after 2030 should be aligned with an increase of the NDC ambition in the NDC revision cycle of 2025 as well development of CBAM and carbon pricing in countries competing with Viet Nam as exporters. While

in the short term, it is not likely that Vietnam will introduce a very high carbon tax that would be able to offset completely the CBAM obligation, it can contribute to reducing part of this obligation and retain some of these financial flows domestically. It is important that the schedule for the tax rate increase is decided in advance and transparently communicated to the relevant stakeholders to allow them to plan for an effective carbon strategy to maximise emission reductions while reducing the associated cost. This option will provide the covered entities with a sufficiently long timeframe for planning their investment minimising uncertainty that would otherwise slow down mitigation actions.

Offsetting through high-quality carbon credits from entities not covered by the ETS or the carbon tax should be allowed to provide flexibility to the covered entities while stimulating the internal carbon market. This would include land-use-related sectors, such as forestry or agriculture, the residential building sector, as well as e-mobility if the beneficiaries of the dissemination of e-vehicles are not transport companies but individuals. Offsetting should be limited to a maximum of 25-50% of the tax liability to safeguard tax revenues. Vintages of eligible emission credits should be after 2020, and eligible activities principally should include Art. 6.4, CDM, Gold Standard, JCM and VCS (the latter subject to checks of additionality and conservativeness of baseline). International offsets should not be eligible, at least initially; there should be a regular check of potential inclusion in the future. The recommended carbon price range (3.5 – 11 USD/tCO_2e) should be sufficient to trigger new mitigation activities to generate credit for offset (although probably not in every sector, depending on the marginal abatement cost curves). Increasing the tax rate over time may also render attractive mitigation actions with higher marginal abatement costs.

Table 7 below summarises the main design elements for the introduction of a carbon tax in Viet Nam under the 3 options and relevant considerations for implementation including further work needed to underpin these options.

Table 7: Summary of main design elements for the introduction of a carbon tax in Viet Nam

Main design elements	Option 1: Introduction of carbon tax into the (Draft) Decree on Environmental Protection Fee on emissions	Option 2: Introduction of ETS floor price	Option 3: Introduction of carbon tax into the Law on Environmental Protection Tax
Coverage *(tax base)* and point of regulation (*taxable event & taxpayer*)	- Sector coverage under the draft Decree on EPF includes steel, metallurgy, basic inorganic chemicals, refinery, solid waste treatment, coal production, thermal power, cement manufacturing, pulp and paper, garment and textile, leather, etc. as specified in Annex XXIX of Decree 08/2022/NĐ-CP dated 10 January 2022 of the Government. - GHGs covered in the current draft Decree include SO_x, NO_x & CO. If a carbon tax is integrated, other GHGs including CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, and NF_3 shall be considered. - Point of regulation is the emission point (downstream), which includes different criteria for different types of facilities, e.g., total flow rate, total capacity, etc. There is a need to ensure the point of regulation shall be outside of the ETS coverage to avoid overlapping.	- Sector coverage for national GHG inventory is economy-wide. Sector coverage for ETS is not clearly defined. Currently, the list of 1912 facilities is covered under four economic sectors: Industry and Trade, Construction, Transport, Natural Resources and Environment (waste). - GHGs covered: CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, NF_3 - Point of regulation is the emission point (downstream), which includes: • Facilities with annual GHG emissions of 3000 tCO_2 e or more, or: • Thermal power plants, industrial facilities with total annual energy consumption of 1000 tonnes of oil equivalent or more; • Transport companies with a total annual energy consumption of 1000 tonnes of oil equivalent or more;	- No sector coverage defined under the current EPT Law. It taxes only products and goods, including gasoline, coal, and diesel oil. - No GHG coverage is defined under the current EPT Law. - Point of regulation is the importers and those who engage in production, processing, and sales of the goods (upstream). - To introduce carbon tax into the EPT (indirect tax), there is a need to extend the current list of covered goods to generate effective mitigation actions in more sectors and reduce CBAM impacts. Potential overlapping with ETS should be considered.

		• Commercial buildings with a total annual energy consumption of 1000 tonnes of oil equivalent or more • Solid waste treatment facilities with an annual capacity of 65,000 tonnes or more.	
Level of the tax rate	Currently proposed under the Draft Decree as follows: Total fee = fixed fee + variable fee Fixed fee is VND 3,000,000 The variable fee is calculated based on the total generated volume of each type of emission: 1. Total dust: VND 800/tonne 2. NO_X (including NO_2 and NO): VND 800/tonne 3. SO_X (including NO_2 and NO): VND 700/tonne 4. CO: VND 500/tonne It is recommended at 11 USD/tCO_2e as the minimum mitigation cost per tCO_2e based on the NDC of Viet Nam (updated in 2022) submitted to UNFCCC. For the introductory period of two years, 3.5 – 5 USD/tCO_2 could be considered. *A background study should be undertaken on setting carbon tax rates, assessing*	No floor price is indicated in the current ETS design. It is recommended that 11 USD/tCO_2e as the minimum mitigation cost per tCO_2e based on the NDC of Viet Nam (updated in 2022) submitted to UNFCCC. For the introductory period of two years, 3.5 - 5 USD/tCO_2 could be considered. *A further background study should analyse setting carbon tax rates, assessing international experience for justifying initial rates and the pathway for ratcheting them upwards. The study should also assess potential adverse impacts of the tax and estimate potential revenues.*	The current EPT rate imposes on the quantity unit of the goods and does not consistently provide the same level of rate based on the carbon content of the fuels (the rate for coal is too low to generate real mitigation actions). *There is a need to conduct further study on how the carbon tax rate can be justified according to the global harmful impacts caused by GHG emissions.*

	international experience for justifying initial rates and the pathway for ratcheting them upwards. Total revenues should be estimated as well.		
Tax administrative authority and Revenue allocation	Under the current Draft Decree, the fee will be collected by the Department of Natural Resources and Environment at provinces, and municipalities, and report to MONRE by 31 May of the following year. 25% of the revenue is kept as operation costs for the fee collection system. 75% of the revenue is sent to the State budget. *Further study should be conducted to assess the possibility of allocating the revenue from ETP to the local budget used for activities related to environmental protection.*	Earmarking is possible. According to Decree 06/2022/ND-CP, the Ministry of Finance (MOF) will be responsible for promulgating financial management mechanisms for the operation of the carbon market. *Further study should be conducted to assess the possibility for MONRE to collect and manage the revenue from auctioning of allowances in accordance with the Law on Price (Law No. 16/2023/QH15) and international experiences. Estimates on the potential volume of revenues should also be developed.*	100% of the revenue generated from EPT is collected by the tax collection system headed by the General Department of Taxation under MOF and managed and allocated according to the programs and expenditure plans of the state budget. However, it is not specifically earmarked or separated from other revenue sources within the budgetary collection levels, making it challenging to clearly track how this revenue is reinvested into environmental protection. This limitation somewhat impacts the intended role and purpose of the carbon tax.
Exemptions	No exemption is provided in the current Draft Decree. If a carbon tax is introduced, exemptions may be provided to those facilities that are already covered in the ETS. Further study is required on the exemptions that would minimise the impact on the vulnerable groups and how potential	No exemption is envisioned.	Exemptions are provided to goods falling into the following categories: • Goods being transported in transit or transhipped through the border gate of Viet Nam, in accordance with the law. • Goods temporarily imported for re-export within the time limit prescribed by law.

	distributional adverse impacts can be minimised.		• Goods directly exported by production facilities or entrusted to export businesses for export, except for organizations, households, and individuals purchasing goods subject to EPT for export. *If the carbon tax is to be introduced under the EPT, further study should assess the exemptions that would minimise the impact on the vulnerable groups and how potential distributional adverse impacts can be minimised*
Interactions with other carbon pricing policies (ETS, CBAM)	ETP's large sector coverage that includes CBAM-targeted sectors will result in a significant impact on CBAM payment. As both ETP and ETS target emissions, overlapping should be avoided.	214 out of 1,912 facilities covered in the ETS are subject to CBAM (about 11.2%). Setting a floor price for ETS may not result in a significant impact on CBAM payment. *A more detailed study should assess the potential overlaps as well as mutually reinforcing elements of the ETS and the carbon tax is needed to explore in more detail these elements.*	EPT imposes indirect tax on emissions, which might be a challenge to get accepted by the EU. *Further study should be conducted on the negotiation strategy with the EU based on WTO agreements and UNFCCC principles for the EPT to be recognised as a carbon pricing instrument in Viet Nam.*
Use of offsets	If a carbon tax is introduced, the use of offsets should be limited to a maximum of 25-50% of the tax liability *Further study should be conducted to assess possible thresholds for allowing offset credits against the EPF looking at international*	The use of offsets is limited to 10% of the total allocated allowances as defined in Decree 06/2022/ND-CP.	If a carbon tax is introduced, the use of offsets should be limited to a maximum of 25-50% of the tax liability *Further study should be conducted to assess possible thresholds for allowing offset credits against the EPF looking at*

	experience and the impacts on costs for taxed entities and tax revenues.		*international experience and the impacts on costs for taxed entities and tax revenues.*
Other considerations	MOF is responsible for developing the Draft Decree on ETP in collaboration with the Department of Environment, MONRE. The calculation of the fee in the Draft Decree is based on direct measurement of the total volume of the targeted gases. If the carbon tax is included, a cost-effective, simple yet robust and credible way to monitor the volume of GHG emissions is based on calculation. *Further study should be conducted to support MOF in bringing in carbon tax considerations into the ongoing revision of the EPF with a focus on identifying methodologically solid options to calculate the GHG emissions based on fuel quantity and applying a conservative emission factor, building on experiences with international carbon taxes, carbon markets and domestic ETSs.*	The floor price for ETS should be considered in the process of revising Decree 06/2022/ND-CP. Even though MOF is responsible for promulgating financial management mechanisms for the operation of the carbon market in Viet Nam, MONRE should make a proposal to include the floor price for the ETS and to manage the revenue from the auctioning of allowances to minimise the impacts of the ETS and for further support of the mitigation efforts in Viet Nam. *Further background study on this, building on international experience with setting minimum prices in ETSs (California, RGGI, etc.), should be conducted to prepare the proposal to the Government.*	MOF will be responsible for revising the EPT in collaboration with the Department of Climate Change, MONRE. *Further study may be conducted for the elaboration of the strategy for MOF to introduce carbon taxes into the revision of the EPT Law, scheduled for 2026 – assessing which products can be covered and how the carbon tax rate can be justified according to the damages caused by GHG emissions, bringing in international experiences from calculating the social cost of carbon.*

3.5. Recommendations and roadmap for implementation of a carbon tax in Viet Nam

3.5.1. Recommendations

The introduction of the carbon tax will require coordinated activities by the relevant authorities and stakeholders. These need to address technical aspects, as well as engagement of stakeholders, capacity building and considering the role of the carbon tax in the context of broader long-term mitigation policies. We recommend the following activities, some of which can be implemented in parallel:

- The DCC/MONRE should engage with the Ministry of Finance (MOF) regarding piggybacking on the current process of revising the EPF decree and on the possibility of revising the Decree 06/2022/ND-CP to agree on the best alternative to be pursued. In both cases, immediate action is needed for a smooth and fast inclusion of the carbon tax and to allow comprehensive cooperation between authorities on the different design elements. MONRE should agree with relevant stakeholders on the next actions to be implemented over the next six months to develop a full roadmap with detailed steps to kickstart the process.
- When considering the revision of Decree 06/2022/ND-CP, which introduces the ETS and broader regulation related to carbon markets, the introduction of a floor price for the ETS may benefit from being included together with other policies and receive less opposition than it could if introduced as a stand-alone policy instrument. In addition, including it in the regulation for the overall carbon market (including the ETS) functioning would facilitate alignment and avoidance of overlaps or having to link different pieces of legislation.
- Engage in stakeholder consultations on the principal options: 1) carbon tax is the floor price for the ETS, they are both implemented in the same sectors; 2) carbon tax is implemented for entities in sectors covered by the ETS that do not exceed the size thresholds necessary for participating in the ETS; 3) the ETS and carbon tax are implemented in different sectors. A bold approach would advance all options at the same time, a more careful approach would either combine options 1) and 2) or options 1) and 3). The discussion about the scope should also include consideration of the role of the carbon tax as a policy instrument in the broader landscape of the national mitigation policies, including the NDC and how the ETS and the carbon tax can contribute to the enhancement of the mitigation ambition of Viet Nam.
- A more detailed study on recycling revenue from the carbon tax to entities/individuals disproportionally hit by the carbon tax, while safeguarding incentives for emissions reduction, ensuring that regressive effects are prevented. The study should shed light on the best options that should be used under the carbon tax, including potential exemptions and use of revenues to reduce regressive impacts; use of revenues for supporting mitigation actions, etc. In order to harmonise the different policies, including carbon pricing schemes, it would be important to expand the study also to progressive reform of energy subsidies, particularly in the electricity sector, to reduce subsidies to fossil fuels.
- DCC/MONRE should consider drafting a regulation on domestic offsetting to reduce costs for covered companies and reduce opposition, including the maximum percentage for use of offsets. Evaluation of the different options and interactions with the ETS (for instance, eligibility of sectors not covered by the ETS or offsets from entities not crossing the threshold for inclusion in the ETS if these are not covered by the carbon tax) is needed to provide flexibility and at the same time ensure the environmental integrity of the overall system.

- For the successful implementation of the carbon tax, it is advisable to engage with the line ministries responsible for the electricity, steel, aluminium, and cement sectors to generate sufficient political support; clarify different roles and also address concerns about potential adverse impacts on the economy and society.
- The generation of support from different stakeholder groups is also key: engagement with industry groups and associations, civil society, and NGOs, is needed to communicate transparently the impacts and benefits (economic and environmental) of the carbon tax. The process should allow for the sharing of proposed solutions and accompanying legal documents and allow for commenting by relevant stakeholders. Several rounds of consultation (and associated costs and time implications) should be considered to ensure comprehensive engagement.
- Use of revenues is very important to generate support and reduce opposition, as well as to reduce potential adverse impacts. The use of revenues requires political decisions on how to redistribute these resources: transparency in declaring how revenues will be used and monitoring during implementation would contribute to social acceptance of the tax. If direct earmarking is not possible (e.g., under taxes) then other options should be considered and communicated (e.g., utilise a similar amount of revenues that will be generated by the tax to reduce other taxes that are paid by selected groups). The important message is to link the carbon tax also to its benefits beyond environmental impacts.
- DCC/MONRE is to closely follow Article 6.4 development to assess how and when Art.6.4 credits could become available as offsets against the carbon tax scheme.
- More detailed modelling may be required regarding different carbon tax levels and the impacts on the economy as well as on the mitigation potential and especially the potential interaction with the ETS (depending on the final interaction between the two). The results of the modelling should inform the discussion between stakeholders to allow informed decisions.
- Stakeholders need clarity over long-term horizons to reduce risks and uncertainty when making their investment decisions. Long-term planning and a clear implementation plan regarding the carbon tax implementation (including potential expansion of the coverage or increase in the tax rate) are necessary and should be communicated to the entities that will be covered by the tax to provide a stable regulatory environment, reducing uncertainty that may prevent the implementation of mitigation investments.
- Conduct pilot activities to allow companies to familiarise themselves with the carbon tax, including its functioning and management, MRV requirements, etc. Such trials would enable national authorities to develop internal expertise.
- Capacity building and exchange with countries (including developed ones) where the carbon tax is already implemented to enhance the understanding of the practical implementation of such an instrument and identify potential pitfalls and barriers to accelerate the learning process in Viet Nam building on best practices and international experiences.

3.5.2. Roadmap for implementation

Based on the key findings above, this section provides suggestions for a list of activities and associated timelines that the policymakers can consider for introducing carbon tax leveraging existing regulatory frameworks of Viet Nam. In addition, it also presents a general roadmap for each carbon tax design

option, highlighting tentative timelines and roles of key stakeholders, as well as considerations regarding implementation gaps.

The current draft of the EPF Decree on emissions would have to be revised to ensure that its provisions encompass all the relevant elements required by a carbon tax as well as its interactions with the ETS. Similarly, Decree 06/2022/ND-CP would also require a revision to include the provisions for the functioning of the carbon tax and the interplay with the ETS and the broad function of the carbon market in Viet Nam, including the possibility of generating high-quality offsets eligible under the carbon pricing scheme. From a procedural perspective, this could lead to two potential scenarios for the introduction of the carbon tax under EPF (Option 1): the first scenario involves modifying and supplementing the current draft of the EPF Decree and submitting it to the Government for the proposed extension of the drafting timeline (Scenario 1), while the second scenario involves the possibility of starting a revision process once the new EPF Decree is promulgated (Scenario 2). The second option is the revision of the Decree 06/2022/ND-CP to include the floor price for ETS and a third option is the revision of the EPT to include the carbon tax. Under Scenario 1, the time needed to draft the Decree is expected to be extended by 1 year, while under Scenario 2, in the case that the current Draft Decree on EPF is approved by the end of 2023, the review and revision process may only be initiated after 5 years of implementation, i.e., in 2028. The time required for revision of an existing Decree (either the Decree 06/2022/ND-CP or the EPF Decree on emissions) is estimated to take approximately 2 years in total. As discussed in the previous section, the third option of revision of the EPT is expected to require a longer time, considering the legal process for revising a Law. Consultation with MOF shows that the revision of the Law of the EPT has been put in the regulatory development program of the National Assembly and MOF shall submit the Draft revision of the EPT Law in 2026.

In line with the provisions of the 2020 Law on Environmental Protection, MONRE holds the role of leading the assessment of environmental pollution levels and GHG impacts from waste, products and goods that have adverse impacts on the environment. MONRE has the power to propose taxable subjects and subjects of environmental protection fees; schedules, tax rates, and environmental protection fees for each taxable subject and environmental protection fee; as well as a method for calculating the environmental protection fee. MONRE can work with MOF on the preparation and consolidation of the proposal and in the subsequent process for approval. As a result, in both Option 1 (amendment of the EPT) and Option 2 (amendment of the EPF) MONRE holds a key role in proposing options for the design components of the carbon tax. On the other hand, MOF is responsible for serving as the drafting agency to ensure the issuance of the revised Law on EPT and the Decree on EPF for emissions. This process will adhere to the procedures and regulations outlined in the 2015 Law on the Promulgation of Legal Documents and the Government's direction.

Regarding the floor price of the ETS (revising Decree 06/2022/ND-CP), MONRE, working in conjunction with relevant ministries, has the responsibility of overseeing the operational aspects of the carbon market, including management, monitoring, and supervision. Additionally, MONRE regulates activities that establish links between domestic and regional or global carbon markets, outlines mechanisms for carbon credit trading, and undertakes the development of the capacity of market participants. On the other hand, MOF takes the lead in establishing the carbon market and formulating financial management mechanisms to govern the operations of the carbon market. Thus, close cooperation between the two entities is key for the introduction of the carbon tax.

The timeline for the carbon tax implementation shall also consider the time needed to implement some of the recommendations described in the previous section. Along with the procedural requirements, it is important to consider these additional actions that would help support the tax introduction. These activities can be carried out in parallel with the formal step to reduce the overall timeline and stay within the two-year timeline so that the carbon tax can be implemented by 2026 when the CBAM payments will kick in.

It is suggested to consider the following activities and related timelines:

- MONRE to discuss with MOF and other relevant stakeholders the possibility of revising Decree 06/2022/ND-CP to include the floor price, or the revision of the current draft for the EPF on emissions to include a direct carbon tax. The option of revising the EPT shall also be discussed, in light of the required timeline to have it discussed and the draft version submitted in 2026. The discussion should also focus on agreeing on whether the tax is the floor price of the ETS combined with a) coverage of entities smaller than the ETS threshold and/or b) entities in sectors outside of the ETS.
    - Expected timeline – 3 to 6 months
- Perform detailed modelling of different design elements of the carbon tax to test different tax levels and impacts on the economy depending on whether the carbon tax would cover the same ETS sectors (or cover other entities). The study should also consider potential exemptions from the tax to minimise adverse and regressive impacts. The study should explore in detail the available options for direct or indirect earmarking of carbon tax revenues and the most suitable options for their allocation (e.g., finance mitigation activities, support companies and individuals/groups affected negatively by the tax such as the possibility of reducing other taxes, etc.). A comprehensive study should also be undertaken to evaluate the impacts of ETS implementation on the possibility of generating offsets to be used under the carbon tax and its impacts on the Vietnamese carbon market.
    - Expected timeline – up to 6 months
- Engagement with industry associations, civil society, and NGOs to agree on the introduction of the carbon tax and collect feedback and comments to inform the tax design and gain support/reduce potential opposition. The engagement will also contribute to raising stakeholders' awareness of the positive impacts, from an environmental and economic point of view, of the tax.
    - Expected timeline – 6 to 8 months
- MONRE and relevant ministries to extensively discuss the role of carbon tax (and carbon pricing in general) in contributing to the achievement of the national mitigation targets and how they can contribute to the continuous enhancement of the mitigation ambition in the NDC.
    - Expected timeline – 3 to 6 months

A detailed elaboration on the roadmap for the introduction of the carbon tax design under different options, including the timeline and identification of relevant responsible authorities involved in the process is provided in the Table 8 below:

Table 8: Elaboration of the roadmap for the introduction of a carbon tax in Viet Nam

	Option 1: Introduction of carbon tax into the (Draft) Decree on Environmental Protection Fee on emissions	Option 2: Introduction of ETS floor price	Option 3: Introduction of carbon tax into the Law on Environmental Protection Tax
Timeline	*Scenario 1*: Estimated 1 year (in 2024) if successfully integrated in the current revision of the Draft Decree on EPF. This is the optimal option but seems unrealistic given the tight timeline. *Scenario 2*: In the case of the current Draft Decree on EPF being approved by the end of 2023, the review and revision process may be initiated after 5 years of its implementation, i.e., in 2028. The revision of the approved Decree is estimated to be 2 years so in the ideal scenario, we will have the introduction of the carbon tax in the Decree by 2030. We will miss the opportunity to reduce CBAM payment to the EU for 4 years (2026-2030) and to reduce GHG emissions in Viet Nam to achieve the First NDC targets.	Estimated 2 years from end of 2023 to early 2025 in order to accommodate timeline for ETS development in Viet Nam and reduce impacts of CBAM: • ETS is scheduled to pilot in 2025 and officially operate from 2028 • CBAM payment is enforced from 2026 The process for negotiating with the EU for recognition of the carbon pricing instruments in Viet Nam should also be initiated as early as possible.	Estimated 3 years from 2024 to 2026. As informed by MOF, the proposal for the EPT Law revision in 2026 has already been approved. The timeline is suitable to reduce CBAM impacts on Viet Nam.
Tentative schedule with key milestones	*Scenario 1*: MONRE to discuss with MOF and other relevant stakeholders the possibility of including a carbon tax in the current Draft Decree on EPF by the end of 2023. MOF to perform procedures to propose to the Government for the promulgation of the Decree in 2024 in accordance with the Law on promulgation of regulatory documents (Law 80/2015/QH13). If it is accepted, the revision process should be conducted in 2024. *Scenario 2*: MONRE to discuss with MOF and other relevant stakeholders the possibility of including a	MONRE to discuss with MOF and other relevant stakeholders the possibility of revising the Decree 06/2022/ND-CP to include the floor price by the 2nd quarter of 2024 as directed by the Prime Minister. MOF to promulgate financial management mechanisms for the operation of the carbon market in Viet Nam, including the regulation on ETS floor price based on a proposal by MONRE in 2025.	MOF to initiate the process of reviewing and revising the EPT Law in 2024. MOF to collaborate with MONRE to agree on the detailed revisions related to scope extension, and tax rates, and submit the Draft amendment of the EPT Law to the National Assembly by the end of 2025. National Assembly to review and approve the Amendment of the Law in 2026 in accordance with the Law on

	carbon tax in the revision of the Decree on EPF in 2028 after 5 years of its implementation. MONRE to propose elements for revision in the Decree on EPF in order to include carbon tax elements therein. MOF to perform procedures to propose to the Government for the revision of the Decree in accordance with the Law on promulgation of regulatory documents (Law 80/2015/QH13).		promulgation of regulatory documents (Law 80/2015/QH13).
Key stakeholders	Facilities to be responsible for monitoring the GHG emissions and paying for the corresponding EPF. Department of Natural Resources and Environment of provinces and municipalities to collect the EPF and disburse environmental protection/climate change mitigation activities in the localities.	MONRE (Viet Nam Environmental Protection Fund) to collect revenue from the auctioning of allowances and disburse on environmental protection/climate change mitigation activities.	General Department of Taxation and its subsidiaries to collect the EPT and send it to the state budget for disbursement.
Institutional needs and capacity gaps	- MOF and MONRE need to improve their knowledge and capacity to design and operate a direct carbon tax on emissions - Facilities may lack of monitoring and reporting capacity - The Department of Natural Resources and Environment of provinces and municipalities lacks of capacity to validate the declaration of the targeted facilities - The Ministry of Industry and Trade (MOIT) needs to improve its knowledge and capacity to negotiate with the EU for recognition of the carbon pricing instruments in Viet Nam.	- MONRE and MOF need to improve their capacity to design and operate ETS, including setting floor price and auctioning of allowances	- MONRE and MOF need to improve their knowledge and capacity to design the EPT to ensure the leverage effect of mitigation action and to minimise CBAM impacts - MOIT needs to improve its knowledge and capacity to negotiate with the EU for recognition of the carbon pricing instruments in Viet Nam.
Possible solutions to fill the gaps	- MONRE and MOF to learn experiences to design and operate a direct carbon tax on emissions from other countries	- MONRE and MOF to learn experiences to design and operate ETS, including setting floor price and auctioning of allowances from other countries	- MONRE and MOF to learn experiences to design the EPT to leverage mitigation action and minimise CBAM impacts from other countries

	- MONRE to promulgate guidance on monitoring, reporting, and validating GHG emissions for the purpose of EPF calculation - MONRE to provide capacity building for facilities and the Department of Natural Resources and Environment of provinces and municipalities - MOIT to enhance collaboration with other countries to improve negotiation power with the EU.	- MONRE and MOF to perform the pilot operation of the carbon tax exchange, review and further improve the design of ETS.	- MOIT to enhance collaboration with other countries to improve negotiation power with the EU.

4. STAKEHOLDER ENGAGEMENT AND CONSULTATION

Stakeholder engagement plays a crucial role in assessing the potential impacts of the EU's CBAM and in providing recommendations for introducing the carbon tax in Viet Nam. Key stakeholders of this TA, including line ministries, businesses and industry associations possess valuable knowledge about the Vietnamese context. Stakeholder engagement activities allow for diverse perspectives on the potential impacts of CBAM and the introduction of a carbon tax across different sectors and communities. Their insights provide a comprehensive understanding of the affected sectors and the country's policy landscape. Moreover, direct feedback from stakeholders on the research and analysis findings allows for shaping and refinement of the implications and recommendations for both CBAM response and carbon tax design.

Moreover, considering Viet Nam's international commitments, consulting with stakeholders helps align the proposed response options for CBAM and carbon tax design with global agreements such as the Paris Agreement. This ensures that the recommendations are not only effective at a domestic level but also contribute to Viet Nam's broader role in addressing climate change on the global stage.

The Consultant's team, at the outset, performed the mapping of relevant stakeholders in Viet Nam related to CBAM and carbon pricing. The goal was to identify key stakeholders and complement the desk research with a series of bilateral meetings and focused consultations. These stakeholder engagement activities would help to validate information, gather insights, discuss preferred options, and identify barriers and measures to address them as well as to understand the political context regarding CBAM interactions and carbon pricing instruments in Viet Nam and receive direct feedback from the stakeholders on the findings and recommendations from the research and analysis process.

Key ministries involved included MONRE, MOF, and the Ministry of Industry and Trade (MOIT). Industrial associations and business representatives are also important stakeholders of the TA. They were key subjects to contact for in-depth bilateral consultation meetings. During the implementation of the Assignment, the Consultant might identify any other relevant stakeholders that could be further involved in bilateral meetings for consultation of a particular deliverable/output of the Assignment.

In addition, a series of technical consultation workshops were held in Viet Nam. The workshops served to elicit inputs and comments from a wide range of national stakeholders and ensured that national circumstances, as well as specific views from relevant stakeholders, were duly taken into account.

Table 9: Plan for consultation missions and workshops

Mission/ Workshop No.	Activities	Timeline	Targeted stakeholders
Inception Workshop	To present the overall approach and methodology for implementation of the Assignment	6 December 2022	Wider stakeholders
Survey on CBAM enterprises	To consult with relevant stakeholders on the overview of CBAM targeted sectors and the approach of the survey	December 2022/ January 2023	Industry associations of targeted sectors, MOIT
First mission		April 2023	DCC, MOIT, VCCI

First stakeholder consultation workshop	To present and consult the stakeholders about the results of the CBAM impact assessment and recommendations on negotiation policies and sectoral mitigation plans		Wider stakeholders
Second mission	To present and consult the stakeholders about recommendations on carbon tax design and application roadmap for Viet Nam	August 2023	DCC, MOF, VCCI
Second stakeholder consultation workshop			Wider stakeholders
Final Workshop	To disseminate the results of the Assignment and discuss ways forward	March 2024	Key stakeholders, including DCC and ETP

The implementation of stakeholder consultation activities for the two components, CBAM impact assessment and recommendations on carbon tax policies for Viet Nam is summarised in the following sections. Details of the date, time, and key discussion points of each stakeholder consultation meeting can be found in Appendix 3.

4.1. Stakeholder consultation for CBAM impact assessment and implications for Viet Nam

For the study on the impact assessment of CBAM and implications for Viet Nam, we have conducted two rounds of consultation activities as follows:

- Consultation on the current status and overall scope, approaches, and methodology for the enterprise survey: Consultations with four associations of CBAM-target sectors to have an understanding of the sector's status, GHG inventory and mitigation plan, and CBAM awareness, as well as improving and facilitating the enterprise survey. We also consulted with the Multilateral Trade Policy Department, MOIT to understand the responsibilities of line ministries in preparing for CBAM's response as assigned by the government, as well as receiving recommendations from the Consultant on the approach to this assignment.
- Consultation on the findings and recommendations from the CBAM impact assessment: Upon completion and sharing of the first draft report on the CBAM impact assessment, we held consultations with management authorities and an open consultation workshop to share and discuss study results as well as receive recommendations to improve the report.

In total, eight bilateral meetings and a consultation workshop have been organised to have deep discussions and to broadly share the study results and interact with relevant stakeholders to elicit inputs and feedback to refine the study of CBAM.

The stakeholder consultation process proved highly successful, gathering valuable insights from both private and public sectors. Meetings with industry associations provided a detailed picture of Vietnam's industrial landscape relevant to CBAM, including production processes, GHG inventory status, and industry views on CBAM and GHG reporting. These meetings also facilitated the survey process, with association representatives offering honest feedback and recommending improvements to the questionnaires (e.g., removing sensitive questions) to boost response rates. Discussions with key stakeholders like DCC, MOIT, and VCCI delved deeper into the study's findings and recommendations, offering diverse perspectives, and highlighting potential impacts for the

government and businesses. Finally, the consultation workshop served as a two-way dialogue, disseminating study results and CBAM information while allowing businesses and associations to voice their concerns and planned actions regarding CBAM.

The comments and feedback from stakeholder consultation have been integrated into the final CBAM impact assessment report in the following aspects:

- Correct the use of different terms and revise the report to ensure accuracy and clarity;
- Revise the recommendation section to cover potential impacts of CBAM (on the supply chain, possible extension to other sectors and other countries, the role of carbon pricing to mitigate the impacts, etc.);
- Provide ways forward to further deepen the results of the study.

4.2. Stakeholder consultation for Recommendations and roadmap for implementation of carbon tax in Viet Nam

Bilateral meetings with key stakeholders for carbon tax design and implementation in Viet Nam, including the Department of Tax policies, Fees and Charges (MOF), Department of Climate Change (MONRE), and Viet Nam Chamber of Commerce and Industry, were conducted on 29 August 2023 and the Consultation Workshop for a wider range of relevant stakeholders was organised on 30 August 2023. After that, the Consultant, together with the ETP's representative had another meeting with MOF to discuss potential collaboration to move forward with the recommendations on the carbon tax design on 12 September 2023. The bilateral meetings sought deep conversation with key stakeholders to understand the current landscape and the government's plans regarding carbon tax-related schemes, such as EPT and EPF and carbon pricing instruments, including ETS and carbon tax in Viet Nam. The Consultant presented the study findings and recommendations to these key stakeholders to get their opinions on the study. Based on the key stakeholder consultation, the Consultant has revised the report accordingly before disseminating the study results to wider stakeholders in the consultation workshop.

The consultation on carbon tax in Viet Nam was meaningfully conducted in the new context where the EU's CBAM will apply a carbon price on Vietnamese products exported to the EU from 2026 and where an ETS is scheduled to be piloted in Viet Nam from 2025 onwards with full operation envisaged from 2028. The introduction of a direct tax on GHG emissions (carbon tax) would provide an option for Viet Nam to reduce the payments due under the CBAM. This would enable Viet Nam to retain monetary resources within the country, as well as to support the implementation of mitigation action at the domestic level. This consultation has fostered a dynamic dialogue, providing valuable insights that will shape the trajectory of Viet Nam's climate change policies.

The consultation presented to the stakeholders three main options for introducing a carbon tax: 1) the revision of the EPF regulation on emissions currently prepared by the MOF, and due for submission to the Government by the end of 2023, or 2) the revision of the Decree 06/2022/ND-CP or relevant documents that regulate the carbon market in Viet Nam to introduce a floor price for the ETS, or 3) the revision of the Law on EPT. These options are more promising than the introduction of a new law to introduce the carbon tax as a new tax, which may see serious opposition and could take a long time.

It was expected that the stakeholders would agree on one option that would be considered the most relevant for Viet Nam. However, it resulted that the stakeholders agreed with all of the three options (and it is reasonable given that the options do not exclude each other). Besides clarification questions on the carbon tax design, they expected that Recommendations on Carbon Tax Design and A Roadmap

for Viet Nam Report would be the first report and there would be further studies to proceed further with each option.

In the follow-up meeting between ETP, MOF and the Consultant, MOF expressed their willingness to cooperate with ETP to move forward with the recommendations in the report to integrate the carbon tax into the revision of the Law on Environmental Protect Tax. They also expect ETP to provide technical support for them to revise the whole Law on EPT. An extension of the existing Assignment on fact-finding to assess the role of the carbon tax in the EPT Law is a necessary next step for ETP to decide whether to engage further with MOF and provide longer-term support to MOF for revision of the EPT Law until 2025.

Thanks to the stakeholder consultation, the Consultant was able to develop valuable recommendations and a tailored roadmap for the introduction of a carbon tax Viet Nam. The recommendations and comments drawn from the bilateral meetings and the consultation workshop were also incorporated in the Carbon Tax Report.

5. CONCLUSIONS AND THE WAY FORWARD

5.1. Conclusions

The Technical Assistance, situated in the evolving landscape of the EU's CBAM and the impending implementation of an ETS in Viet Nam, addresses the multifaceted challenges and opportunities for the country. The first part of the analysis focuses on the implications of CBAM on Viet Nam's aspects such as economics and policy, highlighting the uncertainties surrounding its scope and potential expansion to other trade-intensive sectors. Recognising the need for proactive engagement, the study recommends the adoption of carbon pricing as a strategic approach for mitigating CBAM impacts while advancing Viet Nam's energy transition and achieving national climate targets.

Moreover, the study advocates for constructive dialogues between Viet Nam and the EU to clarify details and negotiate a fair implementation of CBAM that considers Viet Nam's concerns and efforts. A crucial proposition is the suggestion to allow Vietnamese exporters to submit internationally valid emissions credits as an alternative to purchasing CBAM certificates. The CBAM component concludes by emphasising the importance of preparedness to navigate potential challenges and seize the benefits of CBAM, aligning with Viet Nam's climate goals.

The Carbon Tax component initiates a discourse on carbon tax in Viet Nam, contextualised within the CBAM and the planned ETS. Recognising the potential financial burden imposed by CBAM, the study underscores the introduction of a direct tax on greenhouse gas emissions (carbon tax) as a means for Viet Nam to mitigate CBAM-related payments. Three viable options for introducing a carbon tax are outlined, with a preference for revising existing regulations to expedite implementation and minimise opposition: 1) the revision of the Decree on EPF on emissions currently prepared by the Ministry of Finance, and due for submission to the Government by the end of 2023, or 2) the revision of the Decree 06/2022/ND-CP or relevant documents that regulate the carbon market in Viet Nam to introduce a floor price for the ETS, or 3) the revision of the Law on EPT. These options are more promising than the introduction of a new law to introduce the carbon tax as a new tax, which may see serious opposition and could take a long time.

The Assignment identifies key design elements for the proposed carbon tax, offering policy recommendations and a roadmap for development. It suggests follow-up discussions with relevant ministries for a detailed design, focusing on integrating carbon tax into existing regulations, determining floor prices within the ETS, and strategising for legislative revisions. Additionally, the study recommends a thorough examination of the carbon tax rate-setting process, revenue allocation mechanisms, and the use of offsets within the ETS and carbon tax.

To deepen the study's results, future research is proposed, encompassing economic impacts, non-economic aspects, and pre-emptive policy moves. The economic impact analysis is suggested to extend to various export sectors, evaluating spill-over effects and interlinkages with key trading partners. The non-economic impacts, including awareness raising and capacity building, are identified as critical elements requiring further assessment. Finally, pre-emptive policy moves, such as diplomatic engagements and the eligibility of carbon market credits, are recommended for evaluation.

In summary, this study provides a holistic exploration of the challenges and opportunities arising from the EU's CBAM and the impending ETS in Viet Nam. It does not only propose immediate actions to mitigate impacts but also outlines recommendations for the introduction of a carbon tax, aligning with the country's sustainable development goals and global climate ambitions.

5.2. The way forward

This study represents the inaugural effort to conduct a comprehensive evaluation of the impacts of the CBAM in Viet Nam. Drawing insights from stakeholder feedback gathered through bilateral meetings and a dedicated stakeholder consultation workshop, the ensuing steps in this research endeavour are recommended to delve deeper into various dimensions with regard to the impact assessment of CBAM. Specifically, it is advised to conduct separate analyses on economic impacts, non-economic considerations, and potential pre-emptive policy measures.

- **The economic impact analysis** could be further extended to other export sectors of Vietnam to the EU that are currently covered in the EU-ETS, especially those that constitute a significant portion of the export value from Vietnam to the EU. Furthermore, the spill-over impacts of CBAM due to the interlinkages between sectors, the impacts on the supply changes and the impacts in the case where the key countries that Vietnam is exporting to besides the EU (Japan, Korea, US etc.) also apply CBAM should also be carefully analysed. These will provide a more comprehensive and deeper view of the CBAM's impacts on the economy, trade, and development of Vietnam.
- **The non-economic impacts** can also impose significant burdens at the facility level. These include the associated awareness raising and capacity building for them to accommodate the reporting requirements from the EU importers, the administrative and management burdens to collect data over the supply chain, the development of a response plan to CBAM to suit their production circumstance, etc. These can be further assessed.
- **In terms of pre-emptive policy moves**, diplomatic engagement with the EU and possible CBAM adopters would be assessed as well as the option to make carbon market credits eligible to offset CBAM payments.

It is noteworthy that while the official launch of Viet Nam's domestic carbon market is scheduled for 2028, payment obligation of CBAM is set to take effect from 2026. Acknowledging this temporal misalignment, the subsequent task in this assignment is highlighted — to propose viable options for a carbon tax design that not only minimises adverse impacts but also capitalises on the advantages offered by CBAM to enhance Viet Nam's climate change mitigation ambitions. The study identified the main design elements of a carbon tax, and how they could look like in the Vietnamese context. It also provides policy recommendations and a roadmap for the development of the carbon tax under different options. In order to develop a detailed design of the carbon tax in different options, follow-up discussion with MONRE and MOF should be performed, and the following elements should be studied in more detail as immediate next steps:

- **Integration of the carbon tax into the EPF on emissions**: support MOF in bringing carbon tax considerations into the ongoing revision of the EPF. The focus would be on how to avoid the requirement to monitor emissions, showing that measurement of fuel quantity and applying a conservative emission factor is as robust and credible as direct emissions monitoring would be, building on experiences with international carbon taxes, carbon markets and domestic ETSs.
- **Determination of the floor price in the ETS**: support MONRE in determining the floor price in the Vietnamese ETS, building on international experience with setting minimum prices in ETSs (California, RGGI, UK etc.), and concrete regulatory proposals on how to implement the floor price within the ETS regulation.

- **Integration of carbon tax in the revision of the EPT**: Elaboration of a detailed strategy for MOF to introduce carbon taxes into the revision of the EPT Law, scheduled for 2026 – assessing the suitable coverage and point of regulations, and how the carbon tax rate can be set taking into account the need to strike a balance between triggering mitigation actions and avoiding imposing a too high price. More detailed assessment of existing approaches at the international level with tax rate setting, building on the social cost of carbon or on the abatement cost and desired environmental outcome.
- **Setting the carbon tax rate and revenues allocation**: Background study for MOF and MONRE to provide detailed information on how to set the carbon tax rates, assessing international experience for justifying initial rates and the pathway for ratcheting them upwards to stimulate mitigation actions. The study can focus also on the possibility of revenue allocation according to the option selected for the introduction of the carbon tax, assessing available options, as well as the pros and cons of each alternative and identifying the relevant stakeholders to be involved.
- **Use of offsets within the ETS and carbon tax**: Background study for the identification of the ideal threshold for the use of offsets under the ETS and carbon tax, to couple flexibility and low-cost options of the entities covered, while not reducing excessive revenues for the government. The study will also explore in more detail the different eligibility criteria that can be set and how these will impact the inflow of carbon credits as offsets, highlighting the pros and cons of the proposed options. Detailed assessment of processes will lead to the determination of offset thresholds, as also imposed in Colombia, South Africa, and Singapore.

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APPENDICES

Appendix 1: CBAM-targeted commodities

Iron and Steel

HS code	GHG
72 – Iron and steel **<u>Except:</u>** **7202 – Ferro-alloys** **7204 – Ferrous waste and scrap; remelting scrap ingots and steel**	CO_2
7301- Sheet piling of iron or steel, whether or not drilled, punched or made from assembled elements; welded angles, shapes and sections, of iron or steel	CO_2
7302 – Railway or tramway track construction material of iron or steel, the following: rails, check-rails and rack rails, switch blades, crossing frogs, point rods and other crossing pieces, sleepers (cross-ties), fish- plates, chairs, chair wedges, sole plates (base plates), rail clips, bedplates, ties and other material specialised for jointing or fixing rails	CO_2
730300 – Tubes, pipes and hollow profiles, of cast iron	CO_2
7304 – Tubes, pipes and hollow profiles, seamless, of iron (other than cast iron) or steel	CO_2
7305 – Other tubes and pipes (for example, welded, riveted or similarly closed), having circular cross-sections, the external diameter of which exceeds 406,4 mm, of iron or steel	CO_2
7306 – Other tubes, pipes and hollow profiles (for example, open seam or welded, riveted or similarly closed), of iron or steel	CO_2
7307 – Tube or pipe fittings (for example, couplings, elbows, sleeves), of iron or steel	CO_2
7308 – Structures (excluding prefabricated buildings of heading 9406) and parts of structures (for example, bridges and bridge-sections, lock- gates, towers, lattice masts, roofs, roofing frameworks, doors and windows and their frames and thresholds for doors, shutters, balustrades, pillars and columns), of iron or steel; plates, rods, angles, shapes, sections, tubes and the like, prepared for use in structures, of iron or steel	CO_2
7309 – Reservoirs, tanks, vats and similar containers for any material (other than compressed or liquefied gas), of iron or steel, of a capacity exceeding 300 l, whether or not lined or heat-insulated, but not fitted with mechanical or thermal equipment	CO_2
7310 – Tanks, casks, drums, cans, boxes and similar containers, for any material (other than compressed or liquefied gas), of iron or steel, of a capacity not exceeding 300 l, whether or not lined or heat-insulated, but not fitted with mechanical or thermal equipment	CO_2

7311 – Containers for compressed or liquefied gas, of iron or steel	CO_2

Aluminium

HS code	GHG
7601 – Unwrought aluminium	CO_2 and PFCs
7603 – Aluminium powders and flakes	CO_2 and PFCs
7604 – Aluminium bars, rods and profiles	CO_2 and PFCs
7605 – Aluminium wire	CO_2 and PFCs
7606 – Aluminium plates, sheets and strip, of a thickness exceeding 0,2 mm	CO_2 and PFCs
7607 – Aluminium foil (whether or not printed or backed with paper, paper-board, plastics or similar backing materials) of a thickness (excluding any backing) not exceeding 0.2 mm	CO_2 and PFCs
7608 – Aluminium tubes and pipes	CO_2 and PFCs
760900 – Aluminium tube or pipe fittings (for example, couplings, elbows, sleeves)	CO_2 and PFCs

Cement

HS code	GHG
252310 – Cement clinkers	CO_2
252321 – White Portland cement, whether or not artificially coloured	CO_2
252329 – Other Portland cement	CO_2
252390 – Other hydraulic cements	CO_2

Fertilisers

HS code	GHG
280800 – Nitric acid; sulphonitric acids	CO_2 and N_2O
2814 – Ammonia, anhydrous or in aqueous solution	CO_2
283421 - Nitrates of potassium	CO_2 and N_2O
3102 – Mineral or chemical fertilisers, nitrogenous	CO_2 and N_2O
3105 – Mineral or chemical fertilisers containing two or three of the fertilising elements nitrogen, phosphorus and potassium; other fertilisers; goods of this chapter in tablets or similar forms or in packages of a gross weight not exceeding 10 kg **Except: 310560 – Mineral or chemical fertilisers containing the two fertilising elements phosphorus and potassium**	CO_2 and N_2O

Electricity

HS code	GHG

271600 – Electrical energy	CO_2

Hydrogen

HS code	GHG
280410 – Hydrogen	CO_2

Sources: European Commission (2020) and European Parliament (2023)

Appendix 2: Quantitative impacts of CBAM on targeted sectors

Notes to Appendix Tables on the estimated impact of CBAM on four targeted sectors:

- *Positive numbers represent increases from the BAU scenario, and negative numbers represent decreases.*
- *Numbers are rounded to the nearest 1-digit; -0.0 and +0.0 (if any) refer to negative and positive numbers, respectively, with absolute values less than 0.05.*
- *The estimated means are outside the brackets, and the 95% confidence intervals are inside the brackets.*

Appendix Table 1: Estimated impacts on the steel sector with CBAM in the EU

Indicators	No carbon pricing, No change in emission intensity		No carbon pricing, Reduced emission intensity		Carbon pricing, No change in emission intensity		Carbon pricing, Reduced emission intensity	
	2030	2035	2030	2035	2030	2035	2030	2035
Production output (%)	-0.8 [-1.7, -0.0]	-0.8 [-1.8, -0.0]	-0.8 [-1.6, -0.0]	-0.8 [-1.7, -0.0]	-4.5 [-8.3, -0.3]	-4.5 [-8.4, -0.3]	-4.2 [-7.9, -0.3]	-4.1 [-7.6, -0.3]
Production output (million tonnes)	-0.4 [-0.8, -0.0]	-0.7 [-1.4, -0.0]	-0.4 [-0.8, -0.0]	-0.6 [-1.4, -0.0]	-2.3 [-4.2, -0.2]	-3.7 [-6.9, -0.3]	-2.2 [-4.0, -0.2]	-3.3 [-6.2, -0.2]
Export values (%)	-3.6 [-5.4, -0.4]	-3.8 [-5.7, -0.4]	-3.5 [-5.3, -0.4]	-3.6 [-5.4, -0.4]	-6.4 [-13.3, +0.8]	-6.6 [-13.5, +0.7]	-6.1 [-12.6, +0.7]	-6.0 [-12.3, +0.6]
Export values (billion USD)	-0.7 [-1.1, -0.1]	-1.3 [-1.9, -0.1]	-0.7 [-1.1, -0.1]	-1.2 [-1.8, -0.1]	-1.3 [-2.8, +0.2]	-2.2 [-4.5, +0.2]	-1.3 [-2.6, +0.2]	-2.0 [-4.1, +0.2]
Export value to EU (%)	-51.2 [-80.2, -3.7]	-54.5 [-83.7, -4.1]	-49.5 [-78.3, -3.5]	-51.0 [-80.1, -3.7]	-47.8 [-76.8, -2.2]	-51.5 [-80.8, -2.5]	-46.1 [-74.8, -2.1]	-48.1 [-77.0, -2.3]
Export value to EU (billion USD)	-1.1 [-1.7, -0.1]	-1.8 [-2.8, -0.1]	-1.0 [-1.6, -0.1]	-1.7 [-2.7, -0.1]	-1.0 [-1.6, -0.0]	-1.7 [-2.7, -0.1]	-1.0 [-1.6, -0.0]	-1.6 [-2.6, -0.1]
Import values (%)	-0.3 [-1.3, +0.7]	-0.3 [-1.4, +0.8]	-0.3 [-1.2, +0.7]	-0.3 [-1.3, +0.7]	+0.5 [-1.6, +3.2]	+0.5 [-1.6, +3.2]	+0.5 [-1.5, +3.0]	+0.4 [-1.4, +2.8]
Import values (billion USD)	-0.1 [-0.4, +0.2]	-0.1 [-0.7, +0.4]	-0.1 [-0.4, +0.2]	-0.1 [-0.7, +0.4]	+0.2 [-0.5, +1.0]	+0.2 [-0.8, +1.6]	+0.1 [-0.5, +1.0]	+0.2 [-0.7, +1.4]
Carbon pricing revenue (billion USD)					+1.2 [+1.1, +1.2]	+1.9 [+1.8, +1.9]	+1.1 [+1.0, +1.1]	+1.7 [+1.6, +1.7]
Emission quantity (million tCO_2)	-0.9 [-1.8, -0.0]	-1.5 [-3.1, -0.1]	-7.5 [-8.4, -6.7]	-22.2 [-23.6, -21.0]	-4.9 [-9.2, -0.4]	-8.1 [-14.9, -0.6]	-11.1 [-14.9, -7.0]	-27.3 [-32.8, -21.5]

Appendix Table 2: Estimated impacts on the aluminium sector with CBAM in the EU

Indicators	No carbon pricing, No change in emission intensity		No carbon pricing, Reduced emission intensity		Carbon pricing, No change in emission intensity		Carbon pricing, Reduced emission intensity	
	2030	2035	2030	2035	2030	2035	2030	2035
Production output (%)	-0.4 [-0.8, -0.0]	-0.4 [-0.8, -0.0]	-0.4 [-0.8, -0.0]	-0.4 [-0.8, -0.0]	-8.7 [-15.9, -1.0]	-8.7 [-15.9, -1.0]	-8.2 [-15.0, -0.9]	-7.7 [-14.2, -0.9]
Production output (million tonnes)	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.3 [-0.5, -0.0]	-0.5 [-0.9, -0.1]	-0.3 [-0.5, -0.0]	-0.4 [-0.8, -0.0]
Export values (%)	-4.3 [-5.7, -0.7]	-4.5 [-5.8, -0.8]	-4.3 [-5.7, -0.7]	-4.3 [-5.7, -0.7]	-11.9 [-27.5, +1.2]	-12.1 [-27.6, +1.1]	-11.4 [-26.2, +1.1]	-11.0 [-25.1, +1.0]
Export values (billion USD)	-0.1 [-0.1, -0.0]	-0.1 [-0.2, -0.0]	-0.1 [-0.1, -0.0]	-0.1 [-0.2, -0.0]	-0.2 [-0.5, +0.0]	-0.4 [-0.9, +0.0]	-0.2 [-0.5, +0.0]	-0.4 [-0.8, +0.0]
Export value to EU (%)	-72.2 [-96.6, -10.2]	-74.7 [-97.6, -11.2]	-70.9 [-95.9, -9.7]	-72.1 [-96.5, -10.1]	-69.4 [-95.4, -7.4]	-72.3 [-96.8, -8.5]	-68.0 [-94.6, -7.0]	-69.6 [-95.5, -7.7]
Export value to EU (billion USD)	-0.1 [-0.1, -0.0]	-0.2 [-0.2, -0.0]	-0.1 [-0.1, -0.0]	-0.2 [-0.2, -0.0]	-0.1 [-0.1, -0.0]	-0.2 [-0.2, -0.0]	-0.1 [-0.1, -0.0]	-0.2 [-0.2, -0.0]
Import values (%)	-0.1 [-0.7, +0.4]	-0.1 [-0.8, +0.5]	-0.1 [-0.7, +0.4]	-0.1 [-0.7, +0.4]	+1.7 [-5.5, +9.9]	+1.7 [-5.5, +9.9]	+1.6 [-5.2, +9.3]	+1.5 [-4.9, +8.7]
Import values (billion USD)	-0.0 [-0.1, +0.0]	-0.0 [-0.1, +0.1]	-0.0 [-0.1, +0.0]	-0.0 [-0.1, +0.1]	+0.1 [-0.4, +0.8]	+0.2 [-0.7, +1.3]	+0.1 [-0.4, +0.7]	+0.2 [-0.6, +1.1]
Carbon pricing revenue (billion USD)					+0.6 [+0.5, +0.6]	+0.9 [+0.8, +1.0]	+0.5 [+0.5, +0.6]	+0.8 [+0.8, +0.9]
Emission quantity (million tCO_2)	-0.2 [-0.5, -0.0]	-0.4 [-0.8, -0.0]	-3.6 [-3.9, -3.5]	-11.1 [-11.4, -10.8]	-4.9 [-9.0, -0.6]	-7.9 [-14.5, -0.9]	-7.8 [-11.5, -3.9]	-17.0 [-22.2, -11.5]

Appendix Table 3: Estimated impacts on the cement sector with CBAM in the EU

Indicators	No carbon pricing, No change in emission intensity		No carbon pricing, Reduced emission intensity		Carbon pricing, No change in emission intensity		Carbon pricing, Reduced emission intensity	
	2030	2035	2030	2035	2030	2035	2030	2035
Production output (%)	-0.1 [-0.2, -0.0]	-0.1 [-0.2, -0.0]	-0.1 [-0.2, -0.0]	-0.1 [-0.2, -0.0]	-24.7 [-43.6, -3.4]	-24.7 [-43.6, -3.4]	-23.5 [-41.6, -3.2]	-22.3 [-39.6, -3.0]
Production output (million tonnes)	-0.1 [-0.3, -0.0]	-0.2 [-0.3, -0.0]	-0.1 [-0.3, -0.0]	-0.2 [-0.3, -0.0]	-34.4 [-60.7, -4.8]	-39.9 [-70.4, -5.5]	-32.7 [-57.9, -4.5]	-36.0 [-64.0, -4.8]
Export values (%)	-0.6 [-0.8, -0.2]	-0.6 [-0.8, -0.2]	-0.6 [-0.8, -0.2]	-0.6 [-0.8, -0.2]	-27.6 [-66.1, -10.8]	-27.6 [-66.1, -10.8]	-26.3 [-63.6, -10.2]	-25.1 [-61.2, -9.5]
Export values (billion USD)	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.5 [-1.1, -0.2]	-0.5 [-1.3, -0.2]	-0.4 [-1.1, -0.2]	-0.5 [-1.2, -0.2]
Export value to EU (%)	-89.4 [-100.0, -23.2]	-90.2 [-100.0, -24.8]	-89.0 [-100.0, -22.4]	-89.4 [-100.0, -23.1]	-87.4 [-100.0, -11.8]	-88.4 [-100.0, -13.7]	-87.0 [-100.0, -11.5]	-87.6 [-100.0, -13.2]
Export value to EU (billion USD)	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]
Import values (%)	-0.1 [-0.7, +0.1]	-0.1 [-0.7, +0.1]	-0.1 [-0.7, +0.1]	-0.1 [-0.7, +0.1]	+40.8 [-27.5, +237.4]	+40.8 [-27.5, +237.4]	+37.2 [-26.0, +215.1]	+34.0 [-24.6, +195.2]
Import values (billion USD)	-0.0 [-0.0, +0.0]	-0.0 [-0.0, +0.0]	-0.0 [-0.0, +0.0]	-0.0 [-0.0, +0.0]	+0.0 [-0.0, +0.1]	+0.0 [-0.0, +0.1]	+0.0 [-0.0, +0.1]	+0.0 [-0.0, +0.1]
Carbon pricing revenue (billion USD)					+1.0 [+0.7, +1.3]	+1.1 [+0.9, +1.5]	+0.9 [+0.7, +1.2]	+1.0 [+0.8, +1.3]
Emission quantity (million tCO_2)	-0.1 [-0.2, -0.0]	-0.1 [-0.3, -0.0]	-7.4 [-7.5, -7.3]	-16.5 [-16.6, -16.4]	-29.5 [-52.0, -4.1]	-34.2 [-60.3, -4.7]	-33.6 [-53.8, -10.9]	-43.5 [-64.7, -20.0]

Appendix Table 4: Estimated impacts on the fertiliser sector with CBAM in the EU

Indicators	No carbon pricing, No change in emission intensity		No carbon pricing, Reduced emission intensity		Carbon pricing, No change in emission intensity		Carbon pricing, Reduced emission intensity	
	2030	2035	2030	2035	2030	2035	2030	2035
Production output (%)	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-7.7 [-13.3, -1.0]	-7.7 [-13.3, -1.0]	-7.3 [-12.5, -1.0]	-6.9 [-11.8, -0.9]
Production output (million tonnes)	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.9 [-1.6, -0.1]	-1.2 [-2.0, -0.2]	-0.9 [-1.5, -0.1]	-1.0 [-1.8, -0.1]
Export values (%)	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-10.0 [-26.3, +1.8]	-10.0 [-26.3, +1.8]	-9.4 [-24.9, +1.7]	-8.9 [-23.6, +1.6]
Export values (billion USD)	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.1, +0.0]	-0.1 [-0.2, +0.0]	-0.0 [-0.1, +0.0]	-0.1 [-0.1, +0.0]
Export value to EU (%)	-75.5 [-97.3, -13.6]	-77.9 [-98.2, -14.9]	-74.2 [-96.8, -12.9]	-75.4 [-97.3, -13.5]	-72.9 [-96.4, -9.7]	-75.7 [-97.6, -11.1]	-71.5 [-95.8, -9.2]	-73.1 [-96.5, -10.1]
Export value to EU (billion USD)	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]
Import values (%)	-0.0 [-0.0, +0.0]	-0.0 [-0.0, +0.0]	-0.0 [-0.0, +0.0]	-0.0 [-0.0, +0.0]	+5.5 [-6.1, +20.7]	+5.5 [-6.1, +20.7]	+5.2 [-5.8, +19.4]	+4.8 [-5.4, +18.2]
Import values (billion USD)	-0.0 [-0.0, +0.0]	-0.0 [-0.0, +0.0]	-0.0 [-0.0, +0.0]	-0.0 [-0.0, +0.0]	+0.1 [-0.1, +0.3]	+0.1 [-0.1, +0.4]	+0.1 [-0.1, +0.3]	+0.1 [-0.1, +0.3]
Carbon pricing revenue (billion USD)					+0.3 [+0.3, +0.3]	+0.3 [+0.3, +0.4]	+0.3 [+0.2, +0.3]	+0.3 [+0.3, +0.3]
Emission quantity (million tCO_2)	-0.0 [-0.0, -0.0]	-0.0 [-0.0, -0.0]	-1.6 [-1.6, -1.6]	-3.9 [-3.9, -3.9]	-2.1 [-3.6, -0.3]	-2.6 [-4.4, -0.3]	-3.5 [-4.8, -1.9]	-6.0 [-7.4, -4.2]

Appendix 3: Details of stakeholder consultation

This Appendix provides information on the consulted governmental agencies and organisations, including the organisation name, meeting date and time, and key discussion points of each stakeholder consultation meeting and workshop. The minutes of all stakeholder consultation meetings were provided in the Report on CBAM Impact Assessment and Implications for Viet Nam and Stakeholder Consultation Report on Carbon Tax Recommendations for Viet Nam.

Appendix Table 5: Information and key contents of stakeholder consultation meetings and workshops

Date and Time	Organisation	Topics	Key contents
29 December 2022 **09:00 – 10:00**	Vietnam Cement Association	Consultation on overview of the sector, sectoral awareness regarding GHG inventory and CBAM, potential reactions, and strategy to increase survey response rate	Vietnam mainly exports cement to Asian and South American countries and also exports to Europe but in small quantities. The development direction of the cement sector in Vietnam focuses on the domestic market. Regarding GHG inventory practices and CBAM awareness, while the association has a good level of understanding, the majority of its members only know basic information and the association plans to regularly share relevant information. Although some cement producers collected GHG emission inventory-related data and did calculations, they followed different standards because Vietnam has not had specific guidance yet. **Recommendations**: Use alternative methods for collecting financial indicators in the survey because they are sensitive data and would be difficult to collect. In addition, if Vietnam imposes a carbon tax on cement to reduce the carbon tax when exporting to Europe, it should be cautious and reasonable, considering the impacts on the wide sector.
30 December 2022 **08:30 – 09:30**	Vietnam Aluminium Association	Consultation on overview of the sector, sectoral awareness regarding GHG inventory and CBAM, potential reactions, and strategy to increase survey response rate	Although Vietnam exploits bauxite and produces alumina, Vietnam cannot extract aluminium from alumina yet, so aluminium enterprises in Vietnam rely on imported aluminium to produce processed and semi-processed aluminium. Vietnam exports aluminium to many countries and regions in the world, but mainly the US and East Asia. Enterprises of VAA subjected to Decision 01 have not calculated GHG emissions, but members of VAA have become aware of environmental issues and regularly update new technologies to save costs, increase efficiency and save energy, while also reducing emissions. The majority of VAA's members do not export to Europe

			so while they have heard about CBAM, they are not interested in this. However, some members have long-term plans to enter the EU's market so they will prepare in advance for the CBAM and relevant mechanisms and seek to improve their competitiveness. **Recommendations:** There should be a guideline for assessing GHG emissions with training workshops and support from relevant government agencies. The obligations of GHG inventory and GHG emission reduction and the application of a carbon tax should be introduced gradually. Regarding the questionnaire, enterprises may cooperate to provide data, but some sensitive information such as data on costs, and revenue may not be shared.
30 December 2022 **10:30 – 11:00**	Fertiliser Association of Vietnam	Consultation on overview of the sector, sectoral awareness regarding GHG inventory and CBAM, and strategy to increase survey response rate	Vietnam mainly exports fertilisers to neighbouring regions such as Myanmar, Cambodia, and Thailand. Some enterprises already have a good understanding of GHG inventory and can carry out the GHG inventory, but FAV and small businesses have not yet been informed about it as well as the CBAM.
10 January 2023 **09:00 – 10:30**	Vietnam Steel Association	Consultation on overview of the sector, sectoral awareness regarding GHG inventory and CBAM, potential reactions, and strategy to increase survey response rate	Vietnam is in the top 13th steel production countries in the world. Steel became one of the 10 products with the highest exporting value in Vietnam. Vietnam steel is being exported to more than 30 markets with the EU as one of the main markets, after ASEAN and the USA markets. VSA shared that conducting GHG inventory is a challenge for steel enterprises as there is no legal document providing detailed guidance on conducting GHG inventory. Regarding CBAM regulation, steel enterprises may hear about it but do not have a plan to respond to it. VSA think the survey is very detailed and in-depth, enterprises can provide general information, but sensitive information is a challenge. **Recommendations:** • Provide initial impact assessment of CBAM to enterprise to raise awareness on CBAM and attract enterprise's interest; • Conduct workshops on GHG inventory guidance for enterprises; • Consult the Energy Efficiency and Sustainable Development Department, MOIT to get their support in providing data on energy consumption from steel enterprises;

			• Publish more information on CBAM to raise awareness; VSA can support and facilitate the survey process.
12 January 2023 **16:00 – 17:00**	Department of Multilateral Trade Policy, MOIT	- Introduction of the project - Consultation on the opinions and current approach of the government concerning CBAM, as well as the government's plan in responding to CBAM	DMTP is assigned by the government to conduct a study on CBAM focusing more on the aspects of trade and import/export. Regarding the current movement of Vietnam on CBAM, the Department's Deputy General Director shared that Vietnam was considering CBAM within the WTO framework and looking for a basis for the negotiation on CBAM within the framework of WTO or EVFTA. **Recommendations:** The consultant could make recommendations from a Vietnamese perspective, offering flexible policies, e.g., by sector.
12 April 2023 **14:00 – 15:30**	Legal Department, Vietnam Chamber of Commerce and Industry (VCCI)	- Brief on the CBAM Impact Assessment Report - Consultation regarding the impact analysis of CBAM on enterprises in CBAM-target sectors, policy implications, and strategies to respond to CBAM under business perspectives	VCCI's officer shared VCCI's perspective on prioritised approaches if any new policy was introduced, which includes: (i) Let the market self-adjust; (ii) Propose supporting and encouraging policies; (iii) As a last resort, apply compulsory measures such as tax. **Recommendations**: The Consultant could propose different approaches to the policy recommendation, such as supporting policies and mandatory policies. The Consultant should be more careful with proposing a carbon tax because enterprises would react negatively, and this should give rise to reform of environmental tax and fees first. In addition, it was important to take advantage of information exchange channels between Vietnam and the EU to timely update information, prepare to respond, and negotiate with the EU regarding CBAM.
13 April 2023 **09:00 – 10:30**	Department of Multilateral Trade Policy, MOIT	- Brief on the CBAM Impact Assessment Report - Consultation regarding the impact analysis of CBAM on the import/export of CBAM-target sectors and recommendations for Vietnam's negotiation strategies and policy implications	The Deputy General Director underlined the responsibilities of MOIT and MONRE according to the current direction of the Government that MOIT was in charge of CBAM's impact assessment on import and export (economy impact) and MONRE's duty was assessment on socio-environmental (non-economic) impact. **Recommendations**: The Consultant should separate the two aspects of import-export and socio-economics into separate reports to be further analysed in the next phase of the research. In addition, it would be interesting to expand the impact assessment to other sectors that would be both potentially covered by CBAM and major export sectors to the EU

			because it could bring valuable warnings to relevant ministries. Finally, another comment was to be careful when formulating the key messages in the CBAM impact assessment report in order to reflect potential impacts, get the interest of the public and provide directions for more detailed studies on CBAM.
13 April 2023 **13:30 – 15:00**	Department of Climate Change, MONRE	- Brief on the CBAM Impact Assessment Report - Consultation regarding the impact analysis of CBAM on sectoral GHG emissions, macroeconomic, NDC implementation, and policy implications	DCC would, based on the results of the study, recommend the higher governmental bodies about the negotiation and response strategies to CBAM. **Recommendations**: The report should highlight the impact of CBAM from a value-chain perspective because Vietnam imports materials from other countries. This impact could be much more significant than the economic impact. DCC also asked the Consultant to check and use the term "carbon pricing" in terms of "carbon tax" while referring to the broad climate change mitigation policy in this report.
14 April 2023 **08:30 – 12:00**	Consultation Workshop on the Results of the Impact Assessment of the EU's Border Adjustment Mechanism on and Implications for Viet Nam	Present and consult on findings of study on CBAM impact assessment and recommendations	The Consultation Workshop aimed to update the project progress, and latest regulations on CBAM and to inform and consult with stakeholders on the impacts and implications of the EU's Carbon Border Adjustment Mechanism (CBAM) on export products, energy transition, the economy, and the implementation of the NDC in Vietnam. The Workshop was divided into two sections, section one focused on the overview of the EU's CBAM and four CBAM-target sectors in Vietnam and section two was to share the initial results of the study and collect comments/feedback from the participants. The Workshop attracted a wide range of audiences and also received several comments and questions. Enterprises are mainly concerned about the requirements of CBAM reporting and GHG emissions inventory and reporting, as well as which party and how they would bear the cost of CBAM. Some participants have questions about governmental authorities' plans to deal with CBAM and support enterprises to mitigate CBAM's impacts. In addition, it was also advisable to learn from international experiences, especially in negotiation strategy for Vietnam. Finally, some participants requested clarifications on some of the results, which we clarified in the workshop and further in this report.

Monday, 28 August 2023 **09:00 – 09:30**	Southeast Asia Energy Transition Partnership	Discussion regarding the Carbon Tax Report and potential activities	ETP and the Consultant team discussed the coordination of line ministries on the carbon tax, including the roles of MONRE and MOF, which steer the options proposed for introducing a carbon tax system in Viet Nam. In addition, ETP also provided feedback and requested some clarifications regarding the contents of the Carbon Tax report, including the proposed tax rate, the earmarking of tax revenue, and the recommendations for the implementation of carbon tax in Viet Nam. **Recommendations**: The report should clarify the roles of MONRE and MOF in the implementation roadmap for a carbon tax. The proposed tax rate should be given in a range, instead of a definite value. Finally, the Consultant should consult with the stakeholders and provide further recommendations in the report.
Tuesday, 29 August 2023 **08:30 – 09:30**	Ministry of Finance – Department of Management and Supervision of Policy on Tax, Fees, and Charges	Consultation on the government plan for the revision of EPT and EPF, the carbon tax study findings and recommendations	Representatives of the Division of Policies for Land Use Tax, Natural Resources Tax and EPT (Tax Division) and the Division of Policies on Fees, Charges and Other Fees (Fee Divison) shared MOF's perspectives on carbon tax for Viet Nam and the progress of the development of revising regulatory documents related to EPT and EPF. The Tax Division members also had various questions about the design and operation elements of carbon tax systems in case studies presented by the Consultant. **Recommendations**: The option to integrate in the revision of Decree 06 is very difficult because according to Viet Nam's legal framework, tax policies are only regulated in legislation related to tax. Because there is an urgent need to reform the EPF, MONRE, and MOF are currently in close collaboration to implement EPF as soon as possible within this year. Thus, a long-term option would be EPT reform, as the draft amendment of the Law on EPT is scheduled to be proposed in 2026.
Tuesday, 29 August 2023 **14:00 – 15:00**	Ministry of Natural Resources and Environment – Department of Climate Change – Economics and	Consultation on the government's perspectives on carbon pricing instruments, the carbon tax study findings and recommendations, and other potential activities	The Consultant presented the key findings of the Carbon Tax Report and previous consultation meetings with the Department of Tax policies, fees, and charges Supervisory Authority, MOF. The representatives of the Division of Economic and Climate Change Information explained Viet Nam's approach to selecting carbon pricing instruments at the moment and asked the Consultant about different aspects regarding the implementation of a carbon

	Climate Change Information Division		tax, including the tax subjects, the scope, and the considerations to implement both a carbon tax and ETS. **Recommendations**: It is necessary to define the right subject for the carbon tax and the ETS if Viet Nam implements both instruments.
Tuesday, 29 August 2023 **15:30 – 16:30**	Legal Department, Vietnam Chamber of Commerce and Industry	Consultation on business perspectives on current tax duties, introduction of a new tax, and carbon tax study findings and recommendations	The Consultant team and the representatives of VCCI had a discussion regarding the perspective of the business community on the implementation of CBAM and carbon tax and the challenges to integrate the carbon tax in currently proposed options, the revision of EPF and Decree 06 under legal perspective. **Recommendations**: The report should clarify the necessity to have the carbon tax in addition to the ETS or whether we could expand the ETS in the future to other sectors or smaller enterprises. In addition, the most important aspects that should be considered for imposing a tax on civilian goods such as gasoline and diesel are the social reactions and the macroeconomic stability of the country.
Wednesday, 30 August 2023 **08:30 – 12:00**	Carbon Tax Consultation Workshop	Present and consult on carbon tax study findings and recommendations	The Carbon Tax Consultation Workshop aimed to present research results on the domestic legal framework related to environmental protection tax and fees, ETS, and international experiences on carbon taxes. The workshop proposed an appropriate design and roadmap suitable for applying carbon tax in Viet Nam to mitigate the impact of CBAM. The workshop also aimed to discuss and receive comments and insights from delegates on recommendations and proposals for Viet Nam to ensure that the development of the carbon tax will contribute to its effectiveness in energy transition efforts, climate change mitigation, and low-carbon development in Viet Nam. The Workshop attracted a wide range of audiences and also received several comments and questions. The Q&A section delved into various aspects involving carbon tax, including the feasibility of integrating the carbon tax into the draft of the revised decree on EPF or as a floor price for the ETS, the design elements of the carbon tax (revenue use, scope, offset, and interaction with CBAM and ETS), and how the business would be affected and should be prepared.

Tuesday, 12 September 2023	Second meeting with Department of Management and Supervision of Policy on Tax, Fees, and Charges, MOF	Discuss potential cooperation between ETP and MOF to move forward with the recommendations on the carbon tax design	The meeting focuses on the cooperation between ETP and MOF to move forward with the recommendations on the carbon tax design. The representative of the Department of Management and Supervision of Policy on Tax, Fees, and Charges, MOF shared their roles and responsibilities regarding the proposal of all taxes and fees in Viet Nam and the current plan to review and revise the Law on Environmental Protection Tax in 2026. MOF also shared their willingness to cooperate with ETP to move forward with the recommendations to integrate the carbon tax into the revision of the Law on Environmental Protection Tax and hoped that ETP could provide technical assistance to revise the Law. MOF recommended assessing the role of carbon tax in the Environmental Protection part as a necessary next step. ETP would discuss internally to see whether it could support MOF to integrate carbon tax in the revision of the Law on Environmental Protection Tax (Option 1) or to provide technical support for the revision of the whole Law on Environmental Protection Tax (Option 2).