Giant Barb
This planet is ours

EMISSION TRADING SYSTEM

MECHANISM AND IMPLEMENTATION IN VIETNAM

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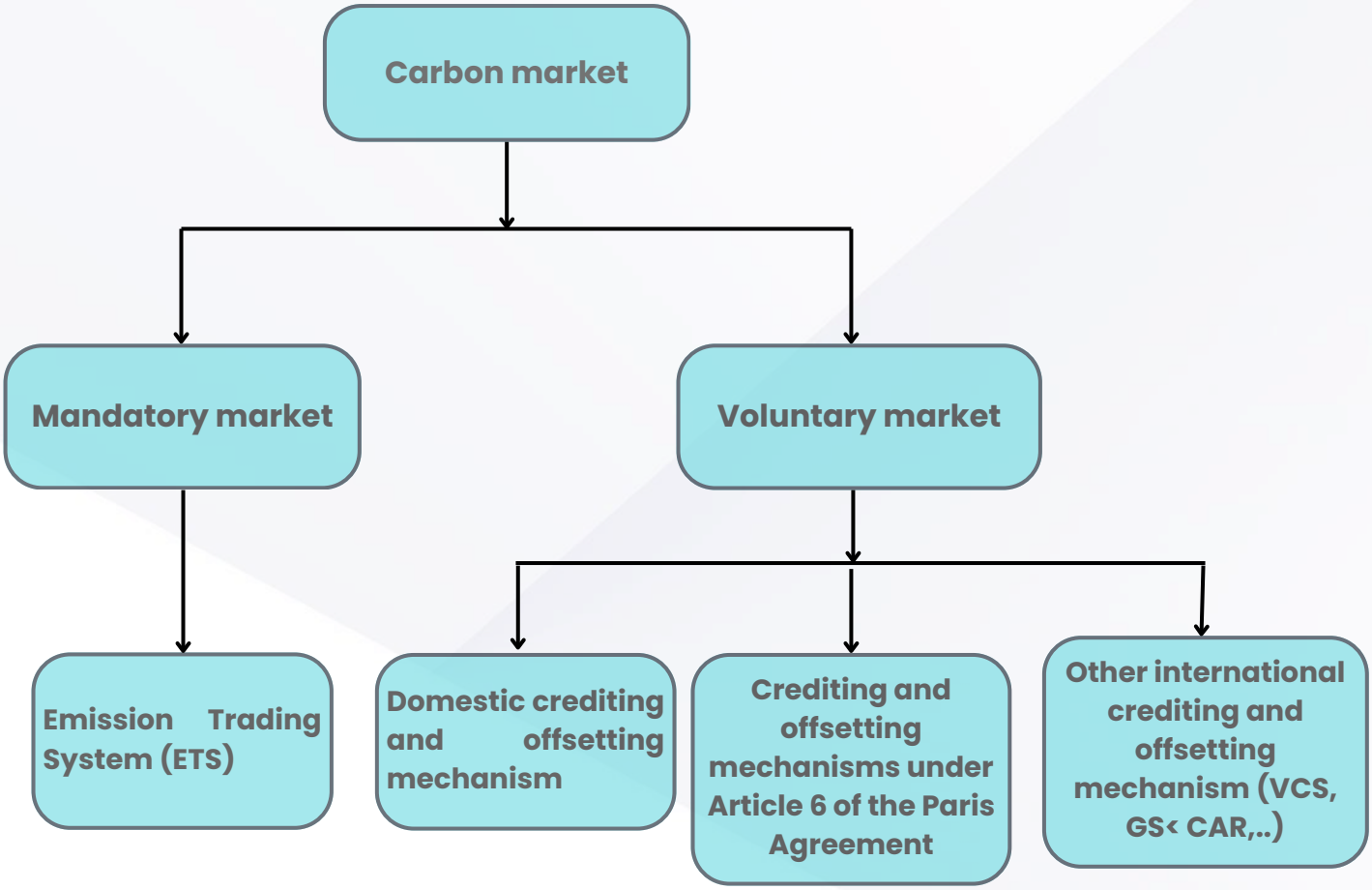
I. OVERVIEW OF CARBON MARKET

Carbon market - also known as the greenhouse gas emission reduction credit exchange market (or carbon credits), is a type of market that allows organizations to buy, sell, and trade greenhouse gas emission rights. Companies, organizations or individuals can use carbon markets to offset greenhouse gas emissions by purchasing carbon credits from entities that eliminate or reduce greenhouse gas emissions.

The carbon market includes: Mandatory (compliance) market and Voluntary market.



Mandatory Carbon Market - MCM: is a market in which the trading of carbon credits is based on the commitments of countries under the framework of the UNFCCC to achieve greenhouse gas emission reduction targets.

Voluntary Carbon Market - VCM: is a market based on bilateral or multilateral cooperation agreements between organizations, companies or countries. The market allows organizations and businesses to buy and sell carbon credits - providing an opportunity for companies to offset their emissions.

I. OVERVIEW OF CARBON MARKET

Legal framework for building a carbon market in Vietnam

Resolution No. 55-NQ/TW on strategic directions for national energy development by 2030 with a vision towards 2045 (2020)	Resolution No. 24-NQ/TW on proactive response to climate change, improvement of natural resource management and environmental protection (2013)	Resolution No. 50/NQ-CP of the Government on the Action Program of the Government implementing the Resolution of the XIII National Congress of the Communist Party(2021)
Law on Environmental Protection (2020)	Law on Natural disaster prevention and control (2013)	Law on Hydrometeorology (2015)
Decree No. 06/2022/NĐ-CP dated 07/1/2022 by Government on mitigation of greenhouse gas (GHG) emissions and protection of ozone layer	National strategy on climate change for the period until 2050	National strategy for disaster prevention and control until 2030, with a vision to 2050 (2021)
	Resolution No. 93/NQ-CP dated 2016 approving the Paris Agreement implementing the United Nations Framework Convention on Climate Change issued by the Government (2016)	National plan for climate change adaptation for the period 2021 - 2030, with a vision to 2050 (2020)
	10-year socio-economic development strategy (2021 – 2030)	
	Green Growth Strategy (2021)	

I. OVERVIEW OF CARBON MARKET

Roadmap for development of the carbon market

Preparation and Pilot 2025

a) Develop regulations for managing carbon credits, emission allowances and carbon credits trading; establish operational regulations for CTX.

b) Pilot carbon crediting and offsetting mechanisms in potential sectors and provide guidance for the implementation of carbon crediting mechanisms both domestically and internationally in accordance with the laws and international agreements of the Socialist Republic of Viet Nam.

c) Establish and pilot operation of CTX starting in 2025.

d) Implement activities to enhance capacity and raise awareness.

Official operation 2028

a) Officially operate the CTX in 2028.

b) Regulate activities for linking and exchanging carbon credits domestically with regional and international carbon markets.

c) Regulate financial products based on emission allowances and carbon credits traded on CTX.

Expansion and linking After 2030

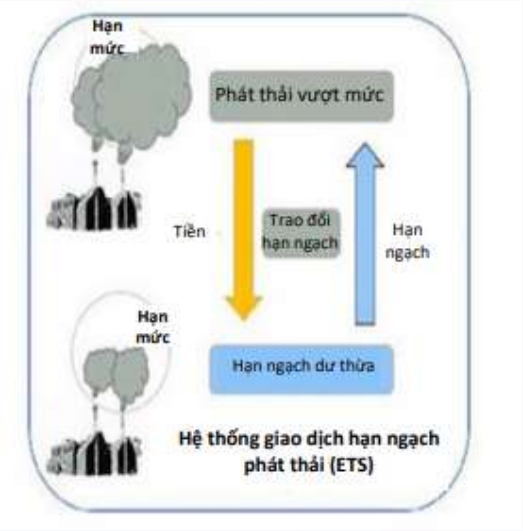
a) Expand the participants in the domestic carbon market.

b) Link the domestic carbon market with regional and international carbon markets

I. OVERVIEW OF CARBON MARKET

In the carbon market, there are two types of goods that will be traded: GHG emission allowances and voluntary Carbon Credits.

Trading of allowances

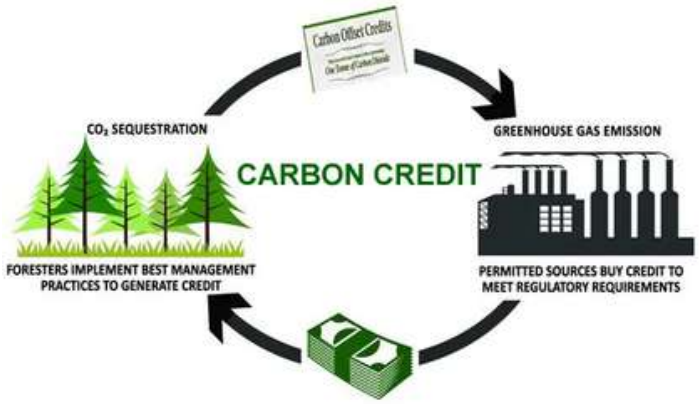


GHG emission allowances: The government will allocate and businesses have the right to emit within the quota they own. If they emit more, they have to buy quotas from other businesses.

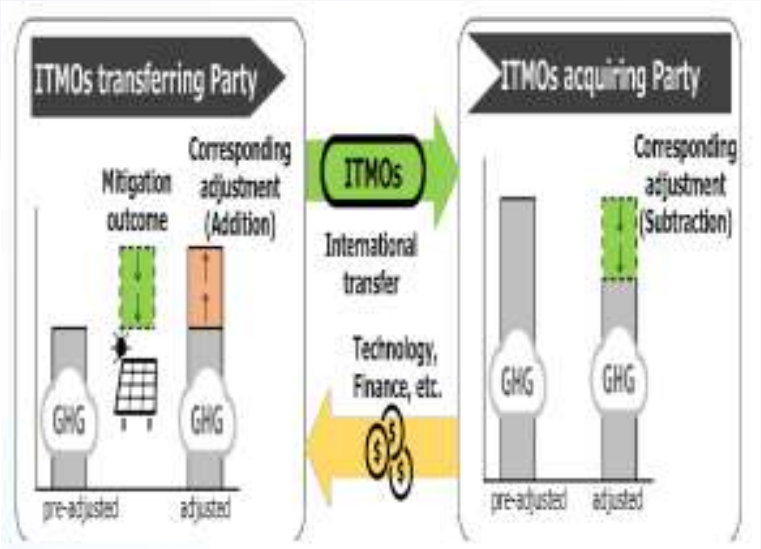
Allowance prices in long-standing markets such as the European Union or the US are very high. The transaction price of greenhouse gas emission allowance in the European market fluctuates at 80-100 euros/ton, in the US at 40 USD/ton...

Voluntary carbon credits: When businesses invest in emission-reducing business models such as afforestation, the regulatory agencies approve and assess the reduction – creating carbon credits. Because these credits are voluntary, the price ranges from 1 to 15 USD/ton, depending on the type of technology and the level of investment.

Domestic trading of carbon credits



International trading of carbon credits



The objective of the carbon market : *Reduce greenhouse gas (GHG) emissions and ensure the implementation of Viet Nam's international commitments*

I. OVERVIEW OF CARBON MARKET

Carbon crediting and offsetting mechanisms in Viet Nam

- Domestic carbon crediting and offsetting mechanisms.
- International carbon crediting and offsetting mechanism based on agreements or international treaties between the Government of Viet Nam and foreign signatories
- Carbon crediting and offsetting mechanisms within the framework of the United Nations Framework Convention on Climate Change (UNFCCC) and international treaties and agreements to which the Socialist Republic of Viet Nam is a member
- Other international carbon crediting and offsetting mechanisms

The process of generating carbon credits

Mechanism selection
The project developer selects a crediting mechanism and opens an account

Registration
After validation, the project can be registered with the selected mechanism

Verification
The project is verified to ensure that it is implemented according to the requirements/ standards of the mechanism

Project Design
The project development organization creates a Project Design Document (PDD).

Validation
The project is validated by a validation entity to ensure it complies with the requirements of the mechanism.

Monitoring
The project must be monitored in accordance with the mechanism's requirements or standards.

Credit
Issuance Credits are issued and registered on the mechanism's registry system.

Entities participating in carbon credit trading

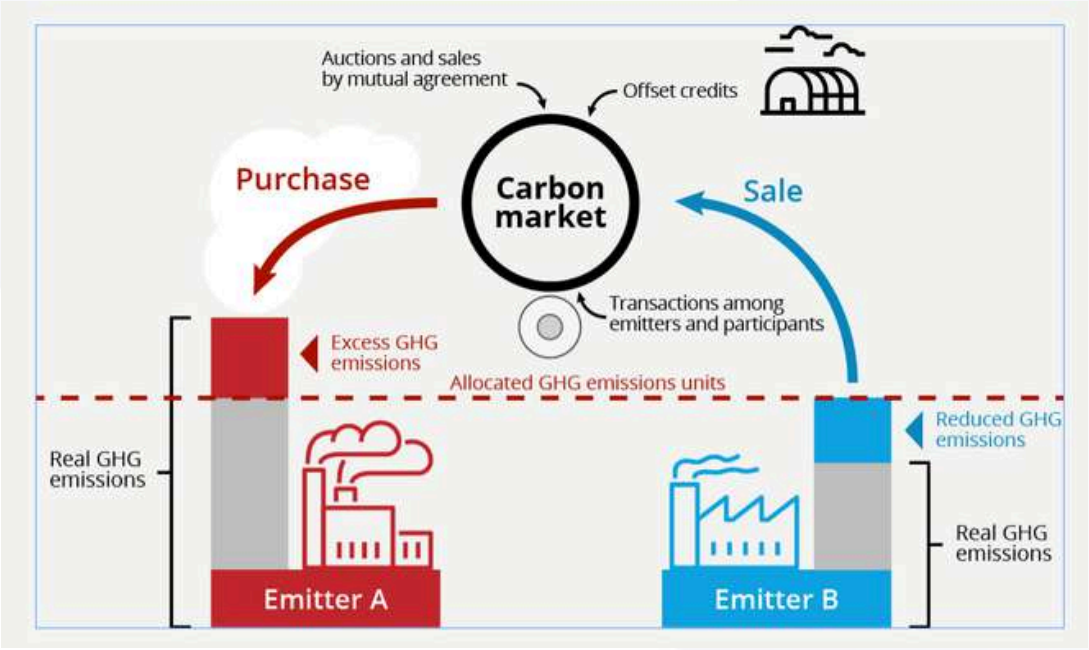
- Organizations implementing programs and developing domestic credit creation projects.
- Programs and projects are developed according to the international carbon credit exchange and offset mechanism.
- Organizations and individuals eligible to participate in buying and selling carbon credits on the trading floor.
- Intermediary organizations supporting transactions such as appraisal units, brokers, etc.

II. EMISSION TRADING SYSTEM – ETS

A greenhouse gas emission allowance represents the maximum quantity of a greenhouse gas that a particular entity is permitted to emit into the atmosphere over a specific period.

Emissions Trading System – ETS is commonly employed in mandatory carbon markets established by governments, are market-based mechanisms designed to control greenhouse gas emissions within a defined region. ETS achieves this by providing economic incentives for greenhouse gas emissions reductions.

- ETS offers countries the flexibility to assess their individual circumstances and propose tailored approaches to meet their emission reduction targets.
- ETS serves as a pollution control instrument and a mechanism to promote sustainable development.
- ETS creates a market for emissions allowances where the price of these allowances is determined by supply and demand.



Source: EEC

Facilities under ETS are allocated allowances during the compliance period

Facilities are obligated to ensure that their emissions are less than or equal to the allocated allowances

In the event that Facility A exceeds its allocated allowances, Facility A has the right to seek Facility B, which has emissions lower than its allocated allowances, to purchase allowances to offset the excess emissions

II. EMISSION TRADING SYSTEM – ETS

Subject taking part in Emission Trading System

Sectors required to conduct GHG inventory	Facilities required to conduct GHG inventory
Energy	Facilities with annual emission ≥ 3.000 tons CO2 equivalent
Transportation	Thermal power plants and industrial production facilities with total annual energy consumption ≥ 1.000 tons oil equivalent (TOE)
Construction	Freight transportation companies with total annual fuel consumption≥ 1.000 TOE
IPPU	Commercial buildings with total annual energy consumption≥ 1.000 TOE
AFOLU	
Waste	Solid waste treatment facilities with annual operational capacity≥ 65.000 tons

Initial phase of the ETS

- Sectors: Iron and steel; cement; thermal power
- In the pilot phase, only large-emission facilities are included in the carbon market (approximately 150 enterprises)
- 100% free allocation of allowances will be applied for during the pilot phase of the carbon market
- The maximum percentage of carbon credits that can be used to offset allowances is 20%

II. EMISSION TRADING SYSTEM - ETS

Types of Emissions Trading Systems

There are two main types of ETS systems that are widely used: Cap-and-Trade Systems and Baseline-and-Credit Systems.

Cap-and-Trade system	Baseline-and-Credit system
The cap-and-trade system is the most widely implemented approach globally, notably exemplified by the EU ETS.	The baseline-and-credit system is commonly used in sectors where emissions are difficult to control or where setting an absolute cap is impractical.
This system imposes an absolute cap on total emissions that all participating entities can release. This cap is divided into emissions allowances, each permitting the emission of a specific quantity of greenhouse gases (typically one metric ton of CO2 equivalent).	Under this system, each participating entity is assigned a baseline emissions level, determined based on historical emissions data or industry standards. Entities can then implement improvements to reduce their emissions below this baseline.
If an entity can reduce its emissions at a cost lower than the market price of an emissions allowance, it can sell its surplus allowances and generate revenue. Conversely, if reducing emissions is too costly, the entity can purchase additional allowances from the market.	The equivalent CO2 emissions saved from these reductions can be certified as credits. These credits can be sold to other entities or used to meet emissions obligations.
This system is relatively straightforward to implement.	This system is more complex to monitor and verify due to the need to establish and adjust baselines.

II. EMISSION TRADING SYSTEM - ETS

Emissions trading systems of countries around the world

Country	Characteristics of ETS
Europe (EU)	The EU ETS, launched in 2005, is currently the largest and longest-standing ETS in the world. For the period 2021-2030, the EU has set a target to reduce CO2 emissions by at least 55% compared to 1990 levels. The EU ETS currently covers approximately 11,000 power stations and industrial installations across 30 countries, generating around 55 billion euros in revenue from auctioning emissions allowances in 2022.
China	The Chinese ETS, launched in 2021, is the world's largest ETS in terms of emissions covered, accounting for about 30% of the country's total emissions. Currently, the system is mainly focused on the power sector but is expected to expand to other sectors.
USA	Two major ETS systems are the California Cap-and-Trade and the Regional Greenhouse Gas Initiative (RGGI). The California Cap-and-Trade, operating since 2013, covers about 85% of the state's emissions and has helped reduce CO2 emissions by about 10% compared to 2012 levels.
Korea	Launched in 2015, it is the first national ETS in East Asia. The system covers about 70% of the country's emissions and has helped reduce CO2 emissions by about 4% between 2015 and 2020.
Canada	It has adopted a federal ETS combined with provincial ETS systems in Quebec and Ontario since 2019. The federal system has contributed to a reduction of about 2% in CO2 emissions in 2023.

II. EMISSION TRADING SYSTEM – ETS

Lessons learned from global ETS models for Vietnam

Developing and operating an effective Emissions Trading System (ETS) requires thorough preparation and practical experience.

- Vietnam's ETS development roadmap necessitates meticulous preparation, careful pilot implementation, and controlled expansion. Referencing successful ETS models to extract lessons suitable for Vietnam's context is crucial.

- To establish core ETS components such as coverage, emissions allowance levels and types, and permit allocation mechanisms, policymakers must pay close attention to national conditions and base decisions on accurate and comprehensive data.

- In system operations, policymakers need to continuously monitor market conditions, promptly amend existing regulations to align with practical realities, and implement measures to address challenges, stabilize the market, and ensure its efficient operation.

Establishing an ETS in Vietnam offers significant benefits for reducing greenhouse gas emissions and fostering economic growth. Beyond environmental control and mitigation, ETS stimulates economic activity, promotes technological innovation, and strengthens international relations.

Building and operating a successful ETS is a complex process demanding thorough preparation, multi-stakeholder involvement, and a sustained commitment. Vietnam should learn from the experiences of other countries while developing an ETS tailored to its unique characteristics.

“REACH OUT TO US TODAY, AND TOGETHER, LET'S SHAPE A BETTER TOMORROW”

Together, we can make a difference that transcends boundaries and leaves a positive legacy for generations to come.

Giant Barb is a pioneer in the field of Carbon Finance in Vietnam, offering comprehensive services such as **Greenhouse Gas Inventory, ESG Reporting**, and **Carbon Credit Market** solutions to both domestic and international enterprises.

With the motto ***"Towards a low carbon society"***, Giant Barb connects individuals, investors, businesses, and governments together to build green projects aimed at carbon neutrality, contributing to global efforts in combating climate change.

Find out more here:
www.giantbarb.com

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