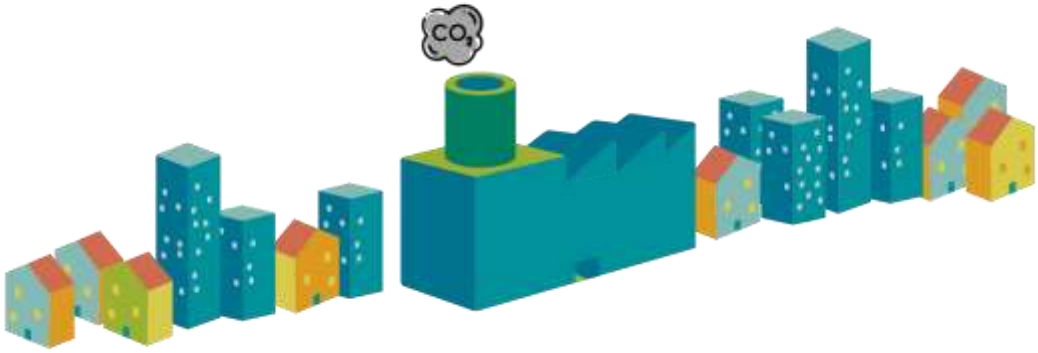
# Emissions Trading System

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## Emissions Trading System

An emissions trading system (ETS) is a market-based instrument designed to reduce greenhouse gas (GHG) emissions. It is based on the "cap-and-trade" principle. According to this principle, it is the government that determines the maximum limit of total emissions allowed in the ETS. The purpose is that this cap tends to reduce over time.

Companies under this system must have a permit called "Carbon Credit," this represents each ton of CO2 they are entitled to emit into the atmosphere. On the other hand, if they reduce their emissions, they obtain Reduced Emission Certificates (CERs), granted by the Clean Development Mechanism (CDM) and are equivalent to one ton of CO2, which is no longer emitted into the atmosphere and can be sold in the carbon market to industrialized countries, according to the nomenclature of the Kyoto Protocol.

## International System Framework

Since the United Nations Framework Convention on Climate Change (UNFCCC) in 1992, a framework for action has been established with the objective of "stabilizing GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. That level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened, and to allow economic development to proceed in a sustainable manner."

This convention established commitments in response to climate change, these include: formulating, implementing and regularly updating national programs to mitigate climate change; promoting and supporting technologies, practices and processes that control, reduce or prevent anthropogenic GHG emissions; developing, regularly updating and publishing national inventories of GHG emissions; cooperating in preparing for adaptation to the impacts of climate change by submitting periodic reports on the measures they are taking to implement the UNFCCC.

As part of the UNFCCC agreements, an annual Conference of the Parties (COP) was established, at which negotiations are held to advance the objectives of the UNFCCC (National Institute of Ecology and Climate Change, 2018).

Based on the principles of the UNFCCC, the Kyoto Protocol was adopted in 1995. This instrument commits industrialized countries to reduce GHG emissions. In addition, it establishes a

series of market-based mechanisms such as Emissions Trading, Joint Implementation and the Clean Development Mechanism (CDM).

In 2015 during COP21 in Paris, France; as part of the global effort to tackle climate change, the Paris Agreement approved that it will replace the Kyoto Protocol at the end of its second commitment period in 2020. At this COP, 195 nations made commitments against climate change and in favor of the environment and sustainable development, adopting the Paris Agreement to reduce GHG emissions. This new agreement commits nations, both developed and developing, to work together ambitiously, progressively, equitably and transparently to keep global temperature below 1.5°C. This agreement is the most important voluntary commitment that has been made in recent years in the area of Climate Change (National Institute of Ecology and Climate Change, 2018).

## International Cases

Across the Atlantic several jurisdictions in North America show how sub-national governments can use emissions trading to demonstrate climate leadership. Since 2009, the Regional Greenhouse Gas Initiative (RGGI) has driven emission reductions and clean energy investments in a multi-state collaborative effort. California also relies on emissions trading to ensure that its portfolio of climate policies, from vehicle emission standards to renewable energy targets, keep California on track to meet its emission reduction targets.

Emissions trading has also become an important policy instrument in emerging economies, with the next generation of ETS developing in Asia and Latin America. In these regions, the ETS has adapted to reduce emissions, limit local pollution and transform energy systems in the context of a growing economy. Mexico has moved quickly to incorporate the price of carbon as a fundamental element of its climate policy.

## Royal Dutch Shell Case Study

Royal Dutch Shell (Shell) is an international oil and gas company based in The Hague, the Netherlands. The company operates in more than 70 countries and employs 87,000 people. In 2013 it produced 2% of the world's oil and 3% of the world's natural gas.

Therefore, Shell, having such an international impact, operates in a number of jurisdictions that have introduced emissions trading, and has therefore had extensive experience in the carbon market.

In 1998, Shell set its first voluntary companywide GHG reduction target, which was to reduce emissions 10% below 1990 levels for 2002. As part of this effort, Shell piloted an internal carbon trading system, called "The Shell Tradable Emissions Permit System" (STEPS) that was led by the Health, Safety and Environment team, which was launched in 2000, two years before Shell joined the UK ETS (Partnership for Market Readiness, 2015).

STEPS presented several challenges, which are presented below:

1. Being voluntary, there was low participation and the participating units tended to be those with the cheapest emission reductions.
2. Some units applied for and received additional subsidies from Shell headquarters, which led to a low trading volume.
3. Financial trading of domestic emission rights across borders between foreign subsidiaries would have generated a tax burden, meaning that only scorecard-style trading was allowed.

Despite having had these challenges within its internal emissions trading system, this helped the company prepare itself with knowledge and experience for international emissions trading.

From this experiment, the company realized that it is better to manage carbon trading with a team expert in managing and performing commercial actions for the company for the carbon market than the Health, Safety and Environment team. Consequently, the team of "Shell Trading" was chosen to manage the carbon assets and appoint an expert about emissions trading. In 2001, a team was established within Shell Trading called "Environmental Products Trading Business" (EPTB) which since its inception is responsible for everything related to the carbon market.

EPTB first operated in the UK ETS and then, joined the European Union (EU) ETS two years before starting Phase I (2005-2007), realizing its first EU emissions trading right in 2003.

This whole process allowed Shell to design contracts per unit of emissions and establish relationships with potential partners. It should be noted that their early involvement allowed Shell to better use and share lessons learned on policies as the emissions trading system was designed.

## Emissions Trading System in Mexico

On June 6, 2012, the General Law of Climate Change was enacted, same that entered in force in October of the same year.

The reform of the General Law of Climate Change establishes an Emission Trading System to promote the reductions of the emissions at the lowest cost possible (Environmental and Natural Resources Ministry, 2019).

## Regulatory Body

Mexico will perform a Pilot Program of an Emission Trading System headed by the Ministry of Environment and Natural Resources (SEMARNAT) and the Mexican Stock Exchange so that 60 national and international companies, voluntarily join this dynamic of sustainable and financial development.

In the Pilot Program, companies that show that they had reduced their emission will be certified by SEMARNAT who will grant them permission to bonuses of emissions, same that may be acquired by companies that find it difficult to reduce them.

The objective of The General Law of Climate Change is to regulate gas emissions and compounds of the greenhouse effect to achieve the stabilization of their concentrations in the atmosphere at a level that prevents dangerous anthropogenic interference in the climate system; regulate actions for mitigation, as well as promoting the transition towards a competitive, sustainable and low carbon emissions economy.

The second transitory article of the General Law of Climate Change, reformed by virtue of the Decree reforming and adding various provisions of the General Law of Climate Change, published in the Official Journal of the Federation on July 13, 2018, incorporates into that law Mexico's international commitments acquired by virtue of the Paris Agreement and the Expected and Determined Contribution at the National Level, by means of which the country commits to reduce unconditionally 22% of its greenhouse gas emissions and 51% of its black carbon emissions by 2030 with respect to the base line.

## Agreement Establishing the Preliminary Basis for the Test Program of the Emission Trading System

Article 1° of the agreement aims to establish the preliminary basis for the Test Program of the Emission Trading System provided for in article 94 of the General Law of Climate Change, without economic effects for the participating sectors.

> ***Article 94.*** *The Ministry, with the participation and consensus of the Commission, the Council and the representation of the participating sectors, will establish a progressive and gradual way of the emission trading system with the objective to promote the reductions of the emissions that can be carried out with the lowest cost possible, in a measurable, reportable and verifiable way, without violating the competitiveness of the participating sectors facing international markets.*
>
> The Ministry will elaborate and publish the reductions achieved in tons of CO2 and the percentage that represents in relation of the national emissions, as well as the implementation cost. (General Ministry, 2018)

The Test Program of the Emission Trading System is integrated by:

I. The information that the Participants referred to in the article 7 of this agreement report to the Regulation of the National Emissions Registry (RENE);
II. The emission rights cap;
III. The mecanism of tracking and transactions of the market of emission rights and the credit compensation;
IV. The market where they perform the transactions with emission rights, and
V. The Flexible Compliance Mecanisms.

## How the Test Program Works

Article 6 establishes that the trial program shall be thirty-six months, beginning on January 1, 2019 and ending on December 31, 2021.

The objectives of the Test Program will be:

I. Make progress in achieving the country's emission reduction targets;

II. Promote emission reductions that can be carried out at the lowest possible cost, in a measurable, reportable and verifiable manner;

III. Test the functioning of the System;

IV. Identify the areas of opportunity of the Testing Program to make adjustments to the System;

V. Generate more robust and higher quality information;

VI. Familiarize those who carry out activities in the sectors and subsectors covered with the operation of the Testing Program;

VII. Develop capacities in the area of emissions trading, and

VIII. Generate a value for emission rights and compensation credits.

This Agreement shall apply to installations carrying out activities in the energy and industry sectors only, according to the classification provided for in the RENE Regulation, as stated in Article 7.

I. For the energy sector, the present basis will be applicable to the subsectors:

a) Subsector for the exploitation, production, transportation and distribution of hydrocarbons, and

b) Subsector for the generation, transmission and distribution of electricity.

II. For the industrial sector, the present basis will be applicable to the subsectors:

a) Automotive industry subsector;

b) Cement and limestone industry subsector;

c) Chemical industry subsector;

d) Food and beverage industry subsector;

e) Glass industry subsector;

f) Steel industry subsector;

g) Metallurgical industry subsector;

h) Mining industry subsector;

i) Petrochemical industry subsector;

j) Subsector pulp and paper industry, and

(k) Other industrial subsectors that generate direct emissions from fixed sources.

Article 8 establishes that this Agreement shall apply to installations whose annual emissions are equal to or greater than 100 thousand tons of direct carbon dioxide emissions from fixed sources in the sectors referred to in Article 7.

## Test Program Cap

The Article 12 establishes that the System Cap during the Test Program and, consequently, the amount of emission rights issued in each of the three Test Program compliance periods, shall be determined by the Ministry, based on the historical information reported to the Registry by the participants, the Contribution Determined at the National Level of Mexico, and the sectoral goals established in the Second Transitory Article of the Law. Such cap shall be in accordance with the country's emission reduction goals and international mitigation commitments.

## Reserves of emission rights

The Article 13 of this Agreement establishes that the Ministry shall establish a reserve for new participants, for which purpose it shall deposit annually in the Mechanism, in the account created for such purposes, an amount of additional emission rights to the cap equivalent to 10% of this last one, which shall be assigned free of charge to new participants; and to participants who have an expansion in their production, in accordance with the rules and criteria determined by the Ministry.

Established in Article 14, the Ministry shall implement an auction reserve, for which it shall deposit annually in the Mechanism, in the account created for such purposes, an amount of emission rights in addition to the cap, equivalent to 5% of this last one, which will be destined for ordinary auctions.

## Allocation, auctioning and delivery of the emission rights

In Article 16, the emission rights allocated free of charge shall be deposited annually in the accounts of the Participants in the Mechanism no later than 24 October 2019, in accordance with Annex I.

The Ministry will establish the quantity of emission rights that shall be assigned for free on the basis of the quantity resulting from adding the percentage cap of the reserve referred the article 13 and, as a result, subtract the percentage of the reservation provided in the article 14

The Ministry will assign for free a quantity of emission rights to each new participant, equivalent to its emissions in the year in which it has reached or exceeded the threshold provided by Article 8, which shall be deposited on its account no later than 24 October of the year in which it reports and verifies such emissions, in addition to the emission right that corresponds to the new participant for the next compliance period in accordance with this Agreement and Annex I.

## Tracking Mechanism and Transactions of the Market of Emission Rights

The Article 28 mentions that the Ministry will implement and administer the Mechanism, with a period of 10 months from the entry into force of this Agreement, the following activities will be carried out:

I. Record the emission rights and compensation credits that are in force in the test program and register their titleholders;
II. Validate and register the transactions made by the participants with the emission rights and compensation credits, as well as the actions taken by the Ministry regarding the first ones, including their:
    a) Assignment
    b) Buying-Selling;
    c) Acquisition by auction;
    d) Delivery of the fulfillment of the obligations;
    e) Cancellation, and
    f) Maintenance between fulfillment periods.
III. Create and maintain the accounts, and
IV. Register the number of emissions resulting from the verification process.

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