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Carbon Trading to Save Future

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Carbon trading is the process of buying and selling permits and credits that allow the permit holder to emit carbon dioxide. The notion was conceived and birthed by the United Nations (UN) through a Kyoto Protocol treaty in 2005.It has been a central pillar of the EU's efforts to slow climate change. The world's biggest carbon trading system is the European Union Emissions Trading System (EU ETS). It is beset with problems and corruption and yet countries such as Brazil and China continue to pursue carbon trading as a way to tackle rising emissions.

Introduction

What is Carbon Trading?

- It is a market-based system aimed at reducing greenhouse gases that contribute to global warming, particularly carbon dioxide emitted by burning fossil fuels.
- The process involves buying and selling of permits and credits to emit carbon dioxide, it uses the Cap and Trade mechanism to achieve the reduction in Emissions.

What does Cap and Trade Mean?

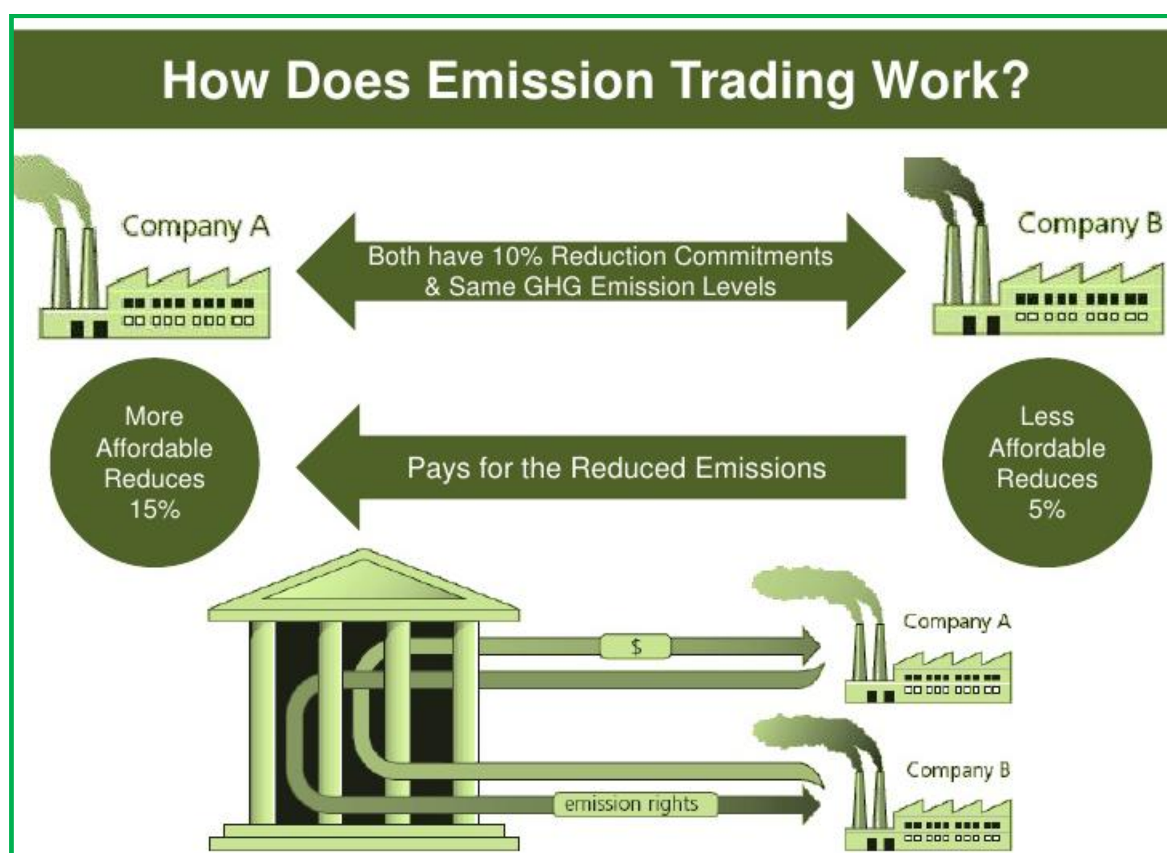
- It is also called as Emission Trading.
- The system works by setting an overall limit or cap on the amount of emissions that are allowed from significant sources of carbon, including the power industry, automotive and air travel.

Kyoto Protocol and Carbon Trading

- The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change (UNFCCC), which commits its Parties by setting internationally binding emission reduction targets.
- Kyoto Protocol allows countries that have emission units – to sell this excess capacity to countries that are over their targets.
- Parties with commitments under the Kyoto Protocol (Annex B Parties) have accepted targets for limiting or reducing emissions.
- These targets are expressed as levels of allowed emissions, or assigned amounts, at over the 2008-2012 commitment period.
- The allowed emissions are divided into assigned amount units (AAUs).
- A new commodity is created in the form of emission reductions or removals.
- Since carbon dioxide is the principal greenhouse gas, people speak simply of trading in carbon. Carbon is now tracked and traded like any other commodity. This is known as the "Carbon Market."

Other trading units under Kyoto Protocol

- More than actual emissions units can be traded and sold under the Kyoto Protocols emissions trading scheme. The other units which may be transferred under the scheme, each equal to one ton of CO_2, may be in the form of:
- A Removal Unit (RMU) on the basis of land use, land-use change and forestry (LULUCF) activities such as reforestation
- An Emission Reduction Unit (ERU) generated by a joint implementation project
- A Certified Emission Reduction (CER) generated from a clean development mechanism project activity
- Transfers and acquisitions of these units are tracked and recorded through the registry systems under the Kyoto Protocol.



Paris Agreement

The Paris Agreement of 2016 is a historic international accord that brings almost 200 countries together in setting **a common target to reduce global greenhouse emissions in an effort to fight climate change.**

- The pact seeks **to keep global temperature rise to below 2 degrees Celsius from pre-industrial levels,** and to try and **limit the temperature increase even further to 1.5 degrees Celsius.**
- To this end, **each country has pledged to implement targeted action plans that will limit their greenhouse gas emissions.**
- The Agreement asks rich and developed countries to provide **financial and technological support to the developing world in its quest to fight and adapt to climate change.**

Carbon Credits

A carbon credit is a generic term for any tradable certificate or permit representing the right to emit one ton of carbon dioxide or the equivalent amount of a different greenhouse gas (tCO_2e). Carbon credits and carbon markets are a component of national and international attempts to mitigate the growth in concentrations of greenhouse gases (GHGs). One carbon credit is equal to one tonof carbon dioxide, or in some markets, carbon dioxide equivalent gases. Carbon trading is an application of an emissions trading approach. Greenhouse gas emissions are capped and then markets are used to allocate the emissions among the group of regulated sources.

Types of Credits

There are two types of credits. Voluntary emissions reduction (VER) is a carbon offset that is exchanged in the over-the-counter or voluntary market for credits. Certified emissions reduction (CER) relies on emission units (or credits) created through a regulatory framework with the purpose of offsetting a project's emissions.

The goal is to allow market mechanisms to drive industrial and commercial processes in the direction of low emissions or less carbon intensive approaches than those used when there is no cost to emitting carbon dioxide and other GHGs into the atmosphere. Since GHG mitigation projects generate credits, this approach can be used to finance carbon reduction schemes between trading partners around the world. There are also many companies that sell carbon credits to commercial and individual customers who are interested in lowering their carbon footprint on a voluntary basis. These carbon offsetters purchase the credits from an investment fund or a carbon development company that has aggregated the credits from individual projects. Buyers and sellers can also use an exchange platform to trade, which is like a stock exchange for carbon credits. The quality of the credits is based in part on the validation process and sophistication of the fund or development company that acted as the sponsor to the carbon project. This is reflected in their price; voluntary units typically have less value than the units sold through the rigorously validated **Clean Development Mechanism.**

What are offset credits?

Every current and planned carbon 'cap and trade' scheme involves offset credits in one form or another. Credits are a supplementary source of permissions to pollute that can be bought in from countries or industries outside the cap, usually in the developing world. Their purchase allows the emitter to exceed the emissions cap by paying someone else somewhere else to reduce their emissions instead. It is important to remember: offsets do not reduce emissions, they merely replace them. This practice of carbon offsetting has now filtered through into the realm of private individuals, for example by paying extra money when you book a flight to offset your carbon footprint. Before we get deep into these waters, let's have a light review of greenhouse gases/emissions. Any Indian fifth-grader can tell you that GHGs are bad for the planet and every living thing on it.

Greenhouse Gases, Carbon Dioxide, and Pollution

Greenhouse gas (GHG) is any gas that absorbs infrared radiation (often in the form of heat) from the Earth's surface and traps it. Think of it like a greenhouse used to keep plants thriving in the winter or like a car interior that becomes blistering hot in the summer — on a global scale. Carbon dioxide, methane, and steamy water vapor are among the most problematic GHGs. Other gases that can trap heat include:

- Ground-level ozone
- Nitrous oxides
- And fluorinated gases

Carbon Offsetting

A carbon offset broadly refers to the **reduction in GHG emissions** – or **an increase in carbon storage** (e.g., through land restoration or the planting of trees) – that is used to compensate for emissions that occur elsewhere.

A carbon Offset Project, May Involve

- Renewable energy development (displacing fossil-fuel emissions from conventional power plants);
- The capture and destruction of high-potency GHGs like methane, N_2O, or HFCs; or
- Avoided deforestation (which can both avoid the emission of the carbon stored in trees, as well as absorb additional carbon as trees grow).

How do carbon trading permits work?

The model used in all current carbon trading schemes is called ‘cap and trade’. In a ‘cap and trade’ scheme, a government or intergovernmental body sets an overall legal limit on emissions (the cap) over a specific period of time, and grants a fixed number of permits to those releasing the emissions. A polluter must hold enough permits to cover the emissions it releases. Each permit in the existing carbon trading schemes is considered equivalent to one ton of carbon dioxide equivalent (CO_2e). In the theoretical model, (but rarely in practice) permits are to be sold – usually by auction – so that from the outset, polluters are forced to put a price on their emissions, and are incentivized to reduce to a bare minimum the permits they seek.

References

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