5.1 CARBON TRADING

Carbon trade is the buying and selling of credits that permit a company or other entity to emit a certain amount of carbon dioxide or other greenhouse gases. The carbon credits and the carbon trade are authorized by governments with the goal of gradually reducing overall carbon emissions and mitigating their contribution to climate change. Carbon trading is also referred to as carbon emissions trading.

Carbon trading, also known as emissions trading or cap-and-trade, is a market-based approach used to control pollution by providing economic incentives for reducing emissions of greenhouse gases (GHGs), particularly carbon dioxide (CO2). Here's how it generally works:

1. **Setting a Cap:**

   A regulatory authority sets an overall limit, or cap, on the total amount of emissions allowed from certain sources, usually expressed in terms of CO2 equivalent.

2. **Allocating Allowances:**

   Under the cap, allowances representing the right to emit a certain amount of GHGs are distributed or sold to regulated entities, such as power plants, factories, or other facilities.

3. **Trading:**

   Regulated entities can then trade these allowances among themselves in a carbon market. Those who can reduce emissions more cost-effectively than required can sell their excess allowances to those facing higher abatement costs.

4. **Compliance:**

   Regulated entities must surrender enough allowances at the end of each compliance period to cover their actual emissions. Failure to comply may result in penalties or fines.

Carbon trading aims to achieve emission reductions in a cost-effective manner while providing flexibility for businesses to innovate and adapt to new regulations. It encourages the adoption of cleaner technologies and practices by creating a financial incentive for emissions reductions.

Some of the key benefits of carbon trading include:

1. **Cost-effectiveness:**

   By allowing emissions reductions to occur where they are cheapest, carbon trading minimizes the overall cost of achieving environmental goals.

2. **Flexibility:**

   Carbon trading provides flexibility for regulated entities to choose how they reduce emissions, whether through investments in cleaner technologies, energy efficiency improvements, or purchasing offsets.

3. **Innovation:**

   The carbon market incentivizes innovation and the development of low-carbon technologies by rewarding emissions reductions.

4. **Global Impact:**

   Carbon trading can facilitate international cooperation on climate change mitigation by enabling the transfer of emission reduction credits between countries.

However, carbon trading also faces challenges and criticisms, including concerns about the integrity of emissions accounting, the potential for market manipulation, and the distributional impacts of emissions reductions. Additionally, the effectiveness of carbon trading depends on the design and implementation of the regulatory framework, including the stringency of emission caps and the transparency of trading mechanisms.

Understanding Carbon Trade

Carbon trading is based on the cap and trade regulations that successfully reduced sulfur pollution during the 1990s. This regulation introduced market-based incentives to reduce pollution: rather than mandating specific measures, the policy rewarded companies that cut their emissions and imposed financial costs on those that could not.

The idea of applying a cap-and-trade solution to carbon emissions originated with the Kyoto Protocol, a United Nations treaty to mitigate climate change that took effect in 2005. At the time, the measure devised was intended to reduce overall carbon dioxide

emissions to roughly 5% below 1990 levels by 2012. The Kyoto Protocol achieved mixed results, and an extension to its terms has not yet been ratified.

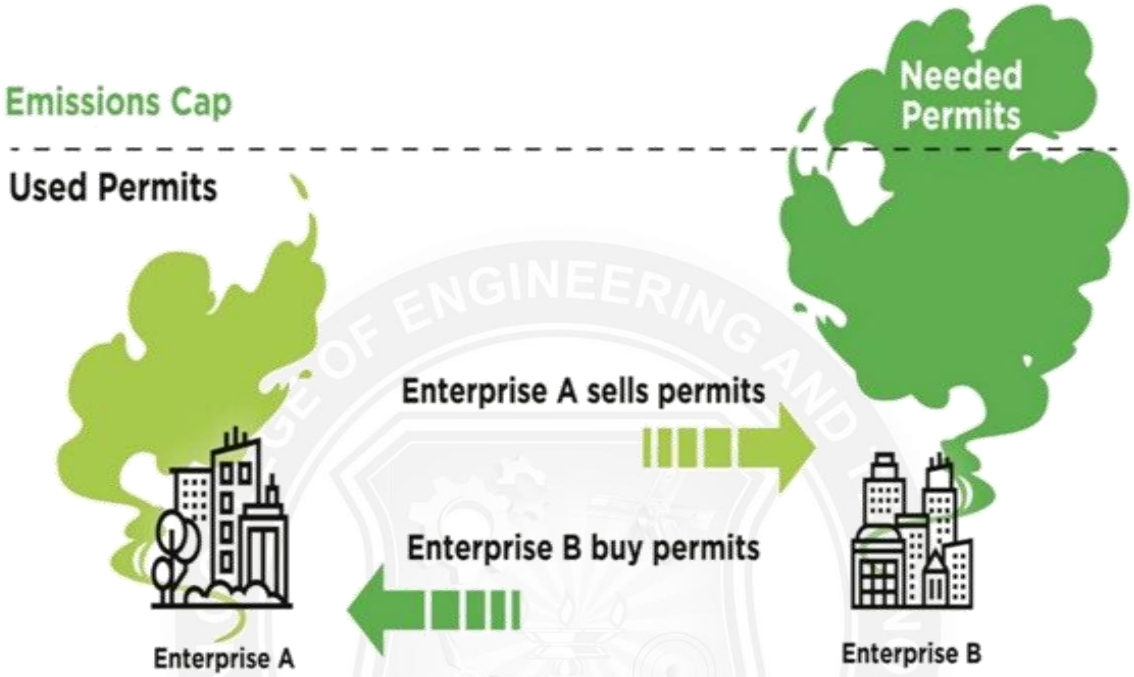

FIG.5.1.1 CARBON TRADING

Carbon Trading Basics

The carbon trading market facilitates the buying and selling of the rights to emit greenhouse gases. The industrialized nations, for which reducing emissions is a daunting task, buy the emission rights from other nations whose industries do not produce as much of these gases. The market for carbon is possible because the goal of the Kyoto Protocol was to reduce emissions as a collective.

On the one hand, carbon trading seems like a win-win situation: greenhouse gas emissions may be reduced while some countries reap economic benefits. On the other hand, critics of the idea feel some countries exploit the trading system, and the consequences are negative. While carbon trading may have its merits, the debate over this type of market is inevitable since it involves finding a compromise between profit, equality, and ecological concerns.

Advantages and Disadvantages of Carbon Trading

Proponents of the carbon trade argue that it is a cost-effective partial solution to the problem of climate change and that it incentivizes the adoption of innovative technologies.

However, carbon emissions trading has been widely and increasingly criticized. It is sometimes seen as a distraction and a half-measure to solve the large and pressing issue of global warming.

Despite this criticism, carbon trading remains a central concept in many proposals to mitigate or reduce climate change and global warming.

Why are carbon markets important?

In 2021, the Intergovernmental Panel on Climate Change (IPCC) released a fresh report card on the world's progress towards slowing climate change. The bad news: Greenhouse gas (GHG) emissions are still rising across all major sectors globally, albeit at a slower pace. Among the good news: renewables are now cheap – cheaper often than coal, oil, and gas.

Despite some progress, the world faces a formidable challenge. Scientists warn 2°C of warming will be exceeded during the 21st century unless we achieve deep reductions in GHG emissions now.

Effective action will require concerted and sufficient investment, knowing also that the costs of inaction will be far higher. Developing countries will need up to US$6 trillion by 2030 to finance not even half of their climate action goals (as listed in their Nationally Determined Contributions, or NDCs).

The latest IPCC report finds all countries are falling way short, with financial flows three to six times lower than levels needed by 2030 – and even starker differences in some regions of the world.

So how do we drive – and finance – the transformation needed to address the climate crisis? Many countries are looking to carbon markets as part of the answer.

How many types of carbon markets are there?

There are broadly two types of carbon markets: compliance and voluntary.

Compliance markets are created as a result of any national, regional and/or international policy or regulatory requirement.

Voluntary carbon markets – national and international – refer to the issuance, buying and selling of carbon credits, on a voluntary basis.

The current supply of voluntary carbon credits comes mostly from private entities that develop carbon projects, or governments that develop programs certified by carbon standards that generate emission reductions and/or removals.

Demand comes from private individuals that want to compensate for their carbon footprints, corporations with corporate sustainability targets, and other actors aiming to trade credits at a higher price to make a profit.