Carbon trading policy

Why in news?

The Energy Conservation (Amendment) Bill 2022 has been passed in the Lok Sabha, and the carbon trading market is expected to take shape.

What is the Energy Conservation (Amendment) Bill 2022?

- The Bill seeks to amend the Energy Conservation Act, 2001.
- The Act promotes energy efficiency and conservation.
- It provides for the regulation of energy consumption by equipment, appliances, buildings, and industries.
- **Use of non-fossil sources of energy:** The Act empowers the central government to specify energy consumption standards.
- The Bill adds that the government may require the designated consumers to meet a minimum share of energy consumption from non-fossil sources.
- Designated consumers include:
    - Industries such as mining, steel, cement, textile, chemicals, and petrochemicals
    - Transport sector including Railways
    - Commercial buildings, as specified in the schedule
- Failure to meet the obligation for use of energy from non-fossil sources will be punishable with a penalty of up to Rs 10 lakh.
- The bill will help India achieve its climate goals which include:
    - Reducing the emissions intensity of GDP (that is, the volume of emissions per unit of GDP) by 45 per cent below 2005 levels
    - Ensuring that about 50 per cent of installed electric power capacity is from non-fossil sources.
- **Carbon Trading:** The Bill empowers the central government to specify a carbon credit trading scheme.
- Carbon credit implies a tradeable permit to produce a specified amount of carbon emissions.
- The central government or any authorised agency may issue carbon credit certificates to entities registered under and compliant with the scheme.
- The entities will be entitled to purchase or sell the certificate.
- Any other person may also purchase a carbon credit certificate on a voluntary basis.

What is a carbon market?

- They are trading systems in which carbon credits are sold and bought.
- One tradable carbon credit equals one tonne of carbon dioxide or the equivalent amount of a different greenhouse gas reduced, sequestered or avoided.
- Emission reductions and removals are converted into tradable assets through a carbon

market.
- This implies that an industrial unit that surpasses the emission criteria is eligible to receive credits.
- Additionally, it would allow struggling units to purchase credits and demonstrate compliance.
- They will create incentives to reduce emissions or improve energy efficiency.

"India is currently the third largest carbon emitter in the world, behind the US and China."

What is the efficacy of carbon trading policy?

- The carbon trading market revolves around the presence of:
  - Permissible threshold limits of CE for each industry
  - Market players' success at decarbonisation
  - Polluting/inefficient market players who's CE exceeds the permissible threshold levels
  - Pricing mechanism that acts as an incentive for sale of credits
- In Europe, which has the largest carbon market operating for over 16 years, industry has been lukewarm.
- Except the power sector wherein carbon credits have helped expedite a switch from coal to gas-fired electricity.
- The idea of a carbon market is that, market dynamics will enable optimum price discovery that is a deterrent for polluters and incentive for entities who invest on protecting the environment.
- This objective does not appear to have been realised so far.

What are the caveats in the carbon trading policy?

- The policy will initially be limited to the 'hard to abate sector' (HtAS).

"Hard to abate sectors include aviation, steel and shipping which rely on coal, oil and natural gas."

- The term 'hard to abate' (HtA) raises several questions on the scope and efficacy of the policy.
- The term HtAS pertains to a sector where the transition to net zero emission (NZE) status is difficult because of lack of technology and/or prohibitive cost.
- The existing Perform, Achieve and Trade (PAT) scheme also purportedly incentivises carbon emission (CE) reduction.
- CE occur during the burning of carbonaceous fossil fired fuels, or in industrial manufacturing processes of cement, steel, chemicals etc.
- CE can be eliminated by substituting energy, solar/wind energy for thermal power; electric vehicles for petrol/diesel vehicles; and domestic electric appliances instead of kerosene/gas.

- This leads to an obvious question, why have two policies with similar objectives? Why has the carbon market been restricted to HtAS?

"India's cement industry is perhaps the most efficient in the world with the emission intensity reduced to 576 kg of CO2 per tonne of cement against the global average of 634 kg."

What are the limitations of the PAT Scheme?

- The underlying logic of the PAT scheme was to curb energy demand in 13 energy intensive areas, by improving their energy efficiencies.
- These areas include thermal power plants (TPP), cement, aluminium, iron and steel, pulp and paper, fertiliser, chlor-alkali, petroleum refineries, petrochemicals, distribution companies, railways, textile and commercial buildings.
- By reducing energy consumption below a threshold limit that begets tradeable energy certificates, an entity indirectly reduces CE and concurrently earns revenue.
- However, the PAT scheme does not incentivise efforts for the major direct CE reduction in HtAS emanating from industrial chemical processes.
- There is no potential for additional benefit from the PAT scheme for most cement plants in India.

"The cement industry has limited potential for further process efficiency and continues to be an HtAS."

- **Carbon Capture and Storage (CCS)** is often portrayed as a path breaking solution for decarbonisation.
- However, CCS does not curb the CE in HtAS but merely captures the unavoidable CE and transports over long distances to store underground at depths of +2 km.
- In this business-as-usual scenario, the aggregate CE are expected to increase to 6,033 billion tonnes and the HtA emissions could increase from 45 per cent to 76 per cent.
- This threatens to derail the achievement of NZE by 2070 and hence, the introduction of the carbon trading market for HtAS is a step in the right direction.
- It is to be hoped that the carbon trading policy including the permissible threshold limits in each industry are carefully crafted to meet the twin objectives of growth and quality of life.

What is the future?

- India is no stranger to carbon credits, which it has accumulated through participation in Clean Development Mechanism (CDM) projects.
- The strong experience in CDM projects has helped India develop projects that qualify for Voluntary Carbon Credits.
- However, if the proposed carbon market in India does not become vibrant and robust quickly, there is a danger that HtAS will buy carbon credits at low prices and continue to increase their CE.

- This defeats the very purpose of a market linked mechanism that determines a deterrent cost for pollution.
- Compared to developed markets like the US, Voluntary Carbon Credits market in India is still in its infancy.

Reference

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