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## 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 CO<sub>2</sub> 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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