

Carbon Capture and Utilisation Testbeds

Prelims: Current events of national and international importance | Environmental issues

Why in news?

Recently Central Government has approved setting up five carbon capture and utilisation (CCU) testbeds in the cement sector.

- **Carbon Capture and Utilisation (CCU) testbeds** - It aims to develop and demonstrate net zero decarbonisation pathways using CCU technologies.

Carbon Capture and Utilisation (CCU) is a process where carbon dioxide (CO₂) emissions are captured from sources like power plants or industrial facilities and then used in various applications instead of being released into the atmosphere.

- **Initiative by** - Ministry of Science & Technology under a PPP (Public-Private Partnership) model.
- **CCU Applications** - Captured CO₂ will be converted into value-added products like:
 - Synthetic fuels
 - Urea
 - Soda ash
 - Food-grade CO₂
 - Chemicals
 - Concrete aggregates

Significance

- **Accelerates Net Zero Goals** - It supports India's 2070 carbon neutrality target and Paris Agreement commitments.
- It also supports India's Nationally Determined Contribution (NDC) under Paris Agreement.
- **Industrial Decarbonisation** - It enables clean tech transition in hard-to-abate sectors like cement, steel, and power.
- **Trade Competitiveness** - It prepares Indian industry for EU's Carbon Border Adjustment Mechanism (CBAM) by lowering carbon footprint.
- **Boosts Innovation** - It fosters academia-industry R&D collaboration in cutting-edge carbon capture and utilisation technologies.
- **Promotes Aatmanirbhar Bharat** - It reduces dependence on imported clean-tech solutions; promotes indigenous tech development.

Reference

[Times of India| Carbon Capture and Utilisation Testbeds](#)

