Carbon Capture, Utilisation, & Storage (CCUS) Policy Framework

Focus: GS II: Government policies and Interventions

Why in News?

NITI Aayog releases study report on ‘Carbon Capture, Utilisation, and Storage (CCUS) Policy Framework and its Deployment Mechanism in India’

About CCUS report:

- CCUS is key to ensuring sustainable development and growth in India, particularly for the production of clean products and energy, leading to an Atmanirbhar Bharat

- The report explores the importance of Carbon Capture, Utilisation, and Storage as an emission reduction strategy to achieve deep decarbonization from the hard-to-abate sectors.

- The report outlines broad level policy interventions needed across various sectors for its application.

- As, India has updated its NDC targets for achieving 50% of its total installed capacity from non-fossil-based energy sources, 45% reduction in emission intensity by 2030 and taking steps towards achieving Net Zero by 2070, the role of Carbon Capture, Utilisation, and Storage (CCUS) becomes important as reduction strategy to achieve decarbonization from the hard-to-abate sectors.
Significance:

- CCUS can enable the production of clean products while still utilizing our rich endowments of coal, reducing imports and thus leading to an Atmanirbhar Indian economy.

- CCUS projects will also lead to a significant employment generation.
  - It estimates that about 750 mtpa of carbon capture by 2050 can create employment opportunities of about 8-10 million on full time equivalent (FTE) basis in a phased manner.

- The report indicates that CCUS can provide a wide variety of opportunities to convert the captured CO2 to different value-added products like green urea, food and beverage form application, building materials (concrete and aggregates), chemicals (methanol and ethanol), polymers (including bio-plastics) and enhanced oil recovery (EOR) with wide market opportunities in India, thus contributing substantially to a circular economy.