



BHARAT HEAVY ELECTRICALS LIMITED

C A R B O N C A P T U R E

POST COMBUSTION CO₂ CAPTURE SOLUTION TO DECARBONISE INDUSTRIES

Post combustion Carbon Capture technology is a process of capturing waste CO₂ from large point sources, such as thermal power plants, steel plants, refineries, and other industries so that it will not enter the atmosphere.

BHEL has been working in the areas of Carbon Capture since 2009. Recently, BHEL has indigenously designed, developed and installed **Nation's first** 0.25 TPD (tonnes per day) capacity Coal to Methanol pilot plant with an integrated 1.4 TPD Carbon Capture Plant, producing methanol with purity of more than 99 percent from high-ash Indian coal.

Evolution of Carbon Capture at BHEL

Development of novel materials and membranes for CO₂ capture. 0.1 TPD lab scale plant at CTI Bengaluru. 2009-2011.

Demonstration of 1.4 TPD pilot scale CO₂ capture plant at R&D, BHEL Hyderabad in 2021.

Design and development of CO₂ capture pilot plant of capacity 1 TPD at BHEL Trichy. 2012-16.



BHEL's designed & developed Nation's first Coal to Methanol Plant with Carbon Capture unit



For queries & clarifications related to CC:

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BHEL is having the pivotal role in shaping the engineering and manufacturing capability in India across several sectors including power, transmission, oil & gas, renewables, defense, aerospace, etc. BHEL has extensive experience in executing EPC projects in power plants and other industrial sectors. BHEL supplied equipment account for 60% of India's power generation with a global installed capacity base of 185 GW (coal, lignite, nuclear, solar, hydro). BHEL has 16 manufacturing units spread across the country that manufacture equipment compliant with national and international standards. BHEL's state of art facilities specialize in engineering, manufacturing, testing and after market services. BHEL has following capabilities for carbon capture:

- * **Completely indigenous technology for carbon capture**
- * **Rich R&D experience, manufacturing and engineering capability**
- * **Complete EPC and project management capability**
- * **Capability to convert captured CO₂ into methanol using green hydrogen**
- * **Successfully demonstrated CO₂ capture through pilot plant**