



CLIENT:

Leading renewable energy company in India.

PROJECT DESCRIPTION:

Feasibility study of possible CO₂ capture cluster and sector-wise relevant capture technology and CO₂ utilization technologies

IMPACT

- ⊙ Enables the company to make informed design and implementation decisions on its projects that focus on producing sustainable value-added chemicals from captured carbon.
- ⊙ Techno-economic insights and considerations across available carbon capture technologies through a comparative lens.
- ⊙ Sector -wise analysis of carbon capture pathways and potential to convert CO₂/ CO to value-added chemicals – including carbon capture capital costs and, operating costs.



CLIENT OBJECTIVES

Review of CO₂ point sources across India and development of Marginal Cost Curve (MCC) along with suitability of technology across various sectors and utilization of CO₂ to value-added products. This requires understanding carbon capture technologies, identifying target sectors for carbon capture along with their techno-economic aspects, and specialized processes for chemical production from captured CO₂.

SOLUTION DESCRIPTION

Deliverables from the study included:

- ⊙ Assessment of total CO₂ emissions from key industries (Cement, Iron & Steel, Refinery) and their regional distribution.
- ⊙ Analysis of potential CO₂ sources and characteristics from various sectors including Block Flow Diagrams (BFD) for retrofitting.
- ⊙ Review and Process evaluation of commercially proven and emerging technology for carbon capture and utilization
- ⊙ Techno-economic analysis of carbon capture technologies including marginal cost curve for sector-wise CO₂ capture across India
- ⊙ Techno-economic analysis of CO₂ utilization technologies for converting CO₂ into methanol, ethanol, acetic acid, , SAF etc.
- ⊙ Evaluation & techno-commercial review of various mechanisms of CO₂ storage and transportation.



ABOUT DASTUR ENERGY

Dastur Energy Inc. is an Austin, Texas, based energy technology company specializing in conceptualization, design and development of commercial scale clean energy transition and carbon management solutions for the Power, Industrial and Government sectors. These solutions maximize ROI potential by leveraging existing assets, site level energy landscape, market models and government initiatives. Dastur Energy's offerings include – market analysis, technology options analysis, policy design, concept & feasibility studies, techno-economic analysis, integrated process design & engineering, technology licensing and project management from concept to commissioning.

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