

Carbon Capture and Storage in Geological Formation, its Legal, Regulatory Imperatives and Opportunities in India

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Abstract : The Carbon Capture and Storage Technology (CCS) provides a veritable platform to bridge the gap between the seemingly irreconcilable twin global challenges of ensuring a secure, reliable and diversified energy supply and mitigating climate change by reducing atmospheric emissions of carbon dioxide. Making its proper regulatory policy and making it flexible for the government and private company by law to regulate, also exploring the opportunity in this sector is the main aim of this paper. India's total annual emissions was 1725 Mt CO₂ in 2011, which comprises of 6% of total global emission. It is very important to control the greenhouse gas emission for the environment protection. This paper discusses the various regulatory policy and technology adopted by some of the countries for successful using CCS technology. The brief geology of sedimentary basins in India is studied, ranging from the category I to category IV and deep water and potential for mature technology in CCS is reviewed. Areas not suitable for CO₂ storage using presently mature technologies were over viewed. CSS and Clean development mechanism was developed for India, considering the various aspects from research and development, project appraisal, approval and validation, implementation, monitoring and verification, carbon credit issued, cap and trade system and its storage potential. The opportunities in oil and gas operations, power sector, transport sector is discussed briefly.

Keywords : carbon credit issued, cap and trade system, carbon capture and storage technology, greenhouse gas

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