

Carbon Capture and Storage: Prospects in India

Authors : Abhinav Sirvaiya, Karan Gupta, Pankaj Garg

Abstract : The demand of energy is increasing at every part of the world. Thus, use of fossil fuel is efficient which results in large liberation of carbon dioxide in atmosphere. Tons of this CO₂ raises the risk of dangerous climate changes. To minimize the risk carbon capture and storage (CCS) has to be used so that the emitted carbon dioxide do not reach the atmosphere. CCS is being considered as one of the options that could have a major role to play in India. With the growing awareness towards the global warming, carbon capture and sequestration has a great importance. New technologies and theories are in use to capture CO₂. This paper contains the methodology and technologies that is in use to capture carbon dioxide in India. The present scenario of CCS is also being discussed. CCS is playing a major role in enhancing recovery of oil (ERO). Both the purpose 1) minimizing percentage of carbon dioxide in atmosphere and 2) enhancing recovery of oil are fulfilled from the CCS. The CO₂ is usually captured from coal based power plant and from some industrial sources and then stored in the geological formations like oil and gas reservoir and deep aquifers or in oceans. India has large reservoirs of coal which are being used for storing CO₂, as coal is a good absorbent of CO₂. New technologies and studies are going on for injection purposes. Government has initiated new plans for CCS as CCS is technically feasible and economically attractive. A discussion is done on new schemes that should bring up CCS plans and approaches. Stakeholders are welcomed for suitability of CCS. There is still a need to potentially capture the CO₂ and avail its storage in developing country like India.

Keywords : Carbon Capture and Storage (CCS), carbon dioxide (CO₂), enhance oil recovery, geological formations, stakeholders

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020