

Potential for Long Term uses of Anthropogenic CO₂ in the Permian Basin

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Presently, 3+ BCF of CO₂ are processed daily in the Permian Basin. In addition to the 1+ BCF of daily recycle CO₂ utilized in the EOR projects in the basin, an additional 2 BCF of "new" CO₂ are imported into the basin. It is estimated that a volume of CO₂ equal to the new CO₂ or ~2 BCF a day in our EOR projects is incidentally sequester. Since 1986, the number of CO₂ EOR projects in the basin has grown from <20 to 62, including 9 projects where CO₂ is being injected into the Residual Oil Zones beneath the Main Pay. This total volume of new CO₂ is estimated to have a value near \$700 million per year and is currently restricted by the sources or, in the case of the Cortez line from Cortez, CO to Denver City, Tx, by pipeline capacity. CO₂ from the Marathon Thrust Belt and expansions at McElmo Dome and Doe Canyon, in Colorado, have the potential for adding additional supplies but a significant backlog of EOR projects remains. Two CO₂ capture equipped coal fired power plants are being permitted in the basin; however, additional long term supplies of anthropogenic CO₂ will be needed.

With the addition of Residual Oil Zone EOR projects and the long term potential for Greenfield CO₂ EOR ROZ projects (significant additional supplies of CO₂ will be necessary in the long term. With the potential for CO₂ utilization in the Permian Basin, and the long term potential for CO₂ utilization in existing fields and Greenfield ROZ projects, it is critical that CO₂ be treated as a commodity and not as a waste product from an industrial source. All CO₂ EOR projects have incidental CO₂ Storage and long term potential for CO₂ Storage in conjunction with additional oil production. For energy security and environmental reasons, these types of projects should be the first place industry and government look to store anthropogenic CO₂.