10 Things You Should Know About Enhanced Oil Recovery (EOR)

Enhanced Oil Recovery (EOR) uses fluids or gases to add pressure to an oil-producing reservoir to cause oil, that may otherwise be unattainable, to flow to producing wells.

25-50%

According to the US Department of Energy, traditional oil extraction methods only produce between a quarter to a half of a well's natural oil reserves – leaving valuable untapped resources!

95%

EOR is used to produce 95% of oil in California. Most of the oil fields in California have lost their natural pressure, making traditional methods no longer economically feasible.

EOR has been used safely and effectively for decades in the oil and gas industry.

EOR in California currently only uses two forms of mechanical or heat energy: Steam or water. The methods include steam flood, cyclic steam injection and water flood.

EOR is NOT Hydraulic Fracturing. California statute (SB 4 Pavley 2013) makes a clear distinction between EOR and HF. Hydraulic fracturing uses pressure to open cracks in oil-bearing rocks. The flow of that oil to a producing well is generally caused by natural reservoir pressures, not through mechanical pressure created through EOR.

When CO_2 is used for EOR it chemically bonds to the rock in the formation, transforming the rock chemistry and permanently fixing the CO_2 underground in geological formations.

Even though California's optimal geology is well-suited for CO_2 EOR, it is not typically used in our state because of the lack of sufficient volume to make it economically feasible.

Capturing CO_2 at the "stack" from sources like cement production sites and power plants, then transporting it to oil fields for EOR makes economic sense if the collection, transportation, and injection is economically incentivized.

37%

According to the International Energy Agency (IEA) CO_2 EOR equals 37% fewer CO_2 emissions per barrel compared to conventional oil production.