



## National Enhanced Oil Recovery Initiative

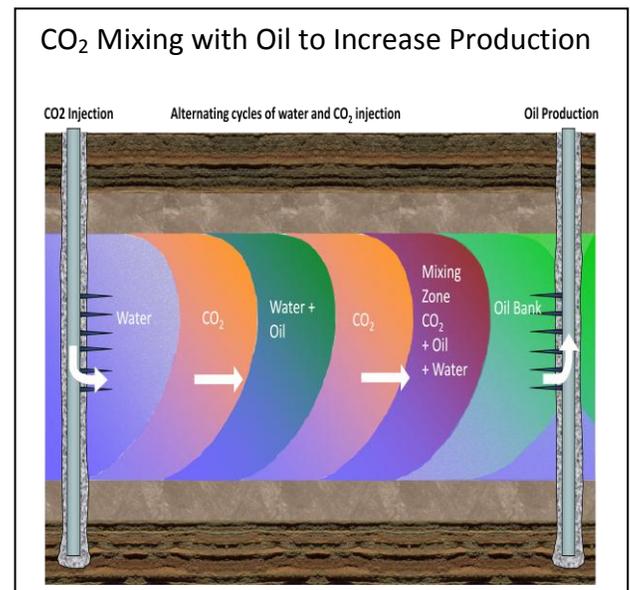
## Overview

**The National Enhanced Oil Recovery Initiative brings together diverse public and private leaders to increase U.S. domestic oil production, energy security, and reduce emissions by capturing carbon dioxide (CO<sub>2</sub>) from power plants and industrial facilities<sup>1</sup> and safely storing it in oil fields.**

Launched in July 2011, the National Enhanced Oil Recovery Initiative's purpose is to develop and advance policy recommendations to increase U.S. domestic oil production from existing oil fields through enhanced oil recovery (EOR) and to store CO<sub>2</sub> captured from power plants and industrial facilities. The private sector, government and NGO leaders participating in this initiative aim to enhance U.S. energy security, promote job and economic growth, and reduce CO<sub>2</sub> emissions.

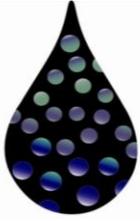
**How does CO<sub>2</sub>-EOR work?** CO<sub>2</sub>-EOR works most commonly by injecting CO<sub>2</sub> into already developed oil fields where it mixes with and "releases" additional oil from the formation, thereby freeing it to move to production wells. CO<sub>2</sub> is separated from the produced oil in above-ground equipment and re-injected in a closed-loop system many times over the life of an EOR operation.

A commercial technology established in North America in 1972, CO<sub>2</sub>-EOR could more than double economically recoverable U.S. oil reserves.<sup>2</sup>



**Increasing EOR production by using captured CO<sub>2</sub> is a compelling and largely unheralded example of American private sector innovation that supports several urgent national priorities:**

- Increase U.S. oil production from already developed fields with reduced risk and impact compared to conventional oil production;
- Strengthen America's national security by reducing our dependence on unstable and/or hostile regimes for our oil supply;
- Create new, high-paying American jobs, and retain and attract private sector investment in our economy;



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- Reduce trade deficits by keeping petroleum expenditures at home and at work in the U.S. economy;
- Achieve significant net carbon reductions by expanding opportunities for oil, natural gas, coal, ethanol and other industries to invest in commercially proven technologies to lower the CO<sub>2</sub>-intensity of their products.

**Challenge: the U.S. needs to capture more CO<sub>2</sub> to increase domestic oil production.** CO<sub>2</sub>-EOR projects use CO<sub>2</sub> to access and mobilize oil that otherwise would not be produced using conventional technologies. One study states that with an increase in CO<sub>2</sub> supply and by applying existing best practices, CO<sub>2</sub>-EOR has the potential to add as much as 61 billion barrels of oil to U.S. domestic oil production.<sup>3</sup>

**CO<sub>2</sub> capture projects and pipeline infrastructure are needed to meet this demand.** Significant amounts of CO<sub>2</sub> captured and transported from power plants and industrial sources are urgently needed to boost U.S. oil production through CO<sub>2</sub>-EOR.<sup>4</sup>

**Support for CO<sub>2</sub>-EOR is critical to achievement of energy security, economic, and environmental benefits.** The development of CO<sub>2</sub> capture projects, build-out of CO<sub>2</sub> pipeline infrastructure and improvements to existing oil field infrastructure is required to provide the level of CO<sub>2</sub> needed to expand the US CO<sub>2</sub>-EOR industry.

**This requires private investment, and federal and state policies and incentives** to support additional deployment of CO<sub>2</sub> capture projects and infrastructure. These projects will provide jobs and economic benefits for local and state governments. At a time when federal and state officials are struggling to reduce deficits, tax revenues generated from new projects can offset the additional cost of state and federal incentives and even increase government revenue over time.

**The National EOR Initiative is committed to building a pathway to a secure and low-carbon energy future through expansion of CO<sub>2</sub>-EOR.** A bipartisan group of members of Congress have welcomed the Initiative's recommendations for legislative consideration.

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<sup>1</sup> Examples of industrial facilities include fertilizer production, ethanol production, cement and steel plants.

<sup>2</sup> The US EIA estimates proved reserves of 22.3 billion barrels. [www.eia.gov/oil\\_gas/natural\\_gas/data\\_publications/crude\\_oil\\_natural\\_gas\\_reserves/cr.html](http://www.eia.gov/oil_gas/natural_gas/data_publications/crude_oil_natural_gas_reserves/cr.html)

<sup>3</sup> ARI, *Improving Domestic Energy Security and Lowering CO<sub>2</sub> Emissions with "Next Generation" CO<sub>2</sub>-Enhanced Oil Recovery (CO<sub>2</sub>-EOR)*, June 20, 2011, DOE/NETL-2011/1504.

<sup>4</sup> Ibid.