

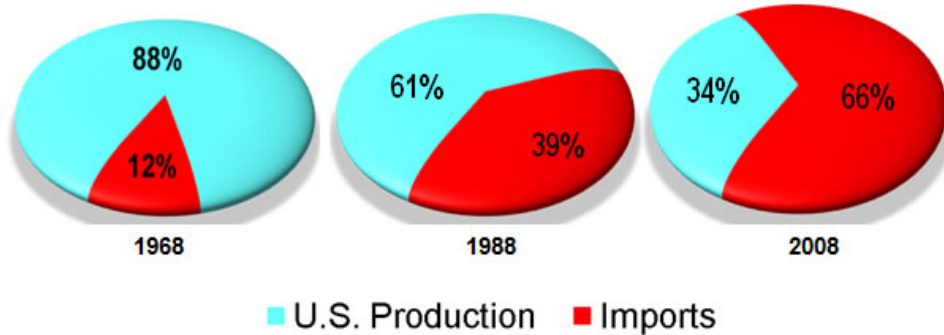
## Utilizing the CO<sub>2</sub> from Coal-based Generation: Reduced Emissions, More Oil and Stronger National Security

**"Enhanced Oil Recovery with Carbon Dioxide Is a Win-Win ... CO<sub>2</sub>-EOR has a substantial immediate to long-term role to play in both increasing domestic oil production ... and in sequestering CO<sub>2</sub> underground."**

*-- Natural Resources Defense Council [1]*

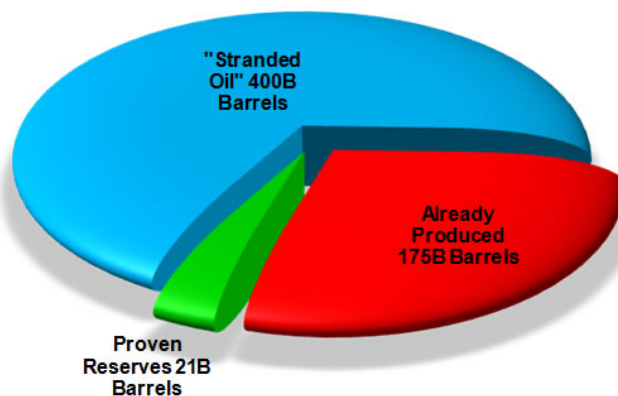
Injecting CO<sub>2</sub> underground to produce oil is known as enhanced oil recovery (EOR). This established technology is currently producing over 250,000 barrels of oil per day in the Southwest, especially Texas.

### Our Ever Increasing Dependence On Foreign Oil The U.S. Supply of Crude Oil



### The Oil Is There

Large Volumes of Domestic Oil Remain "Stranded"  
From Original Oil-In-Place: 596B Barrels



Research at the National Energy Technology Laboratory has indicated our EOR efforts could be expanded to produce **at least two million of barrels of oil per day.** [2]

Furthermore, capturing, utilizing and storing the CO<sub>2</sub> from coal-based power plants will be a major step forward in meeting emission reduction goals:

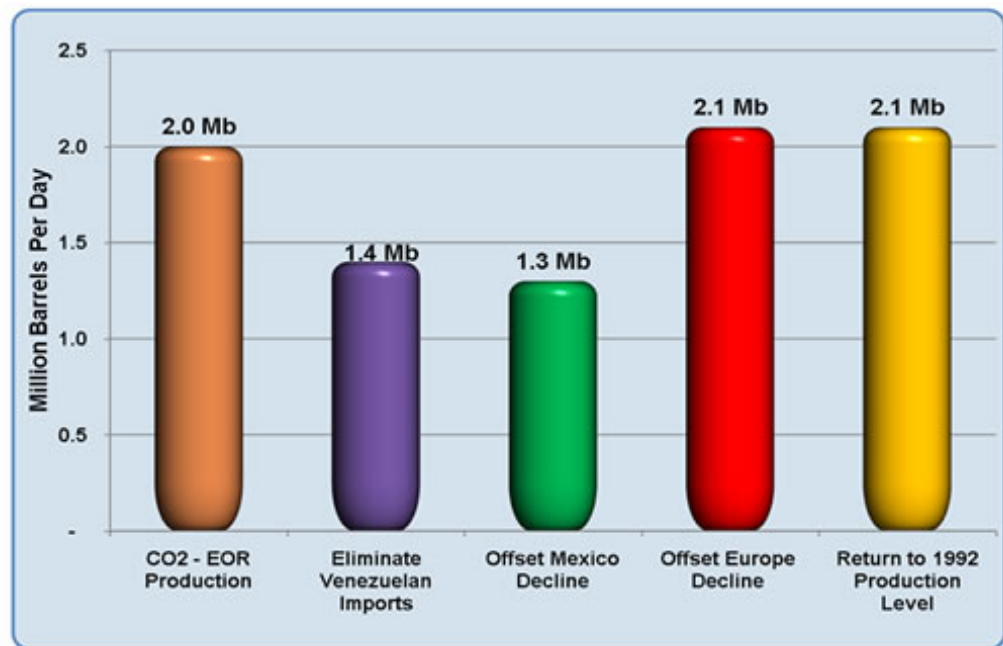
- Provide access to 70 billion barrels of economically recoverable oil. [3]

*(Continued on reverse)*

(Continued from front)

- Create enough demand for CO<sub>2</sub> to store the emissions of 140 coal-based power plants for 30 years.
- Yield oil that is 50-80% "carbon free" since its production requires CO<sub>2</sub> to be stored underground.

## What 2 Million Barrels a Day From CO<sub>2</sub>-EOR Can Do



**"These new technologies not only will help fight climate change, they will create jobs now and help position the United States to lead the world in carbon dioxide capture technologies, which will only increase in demand in the years ahead."**

*-- Steven Chu, U.S. Secretary of Energy [4]*

### References:

- [1] "Tapping into stranded domestic oil," Natural Resources Defense Council, July 2008
- [2] "Recovering 'Stranded Oil...,' US DOE, February 2006.
- [3] "Storing CO<sub>2</sub> with Next-Generation CO<sub>2</sub> -- EOR Technology," National Energy Technology Laboratory, US DOE, January 2009
- [4] Steven Chu, US DOE, October 2, 2009

### About Frank Clemente, Ph.D.

Dr. Clemente is a Professor at Penn State University where he specializes in research on the socioeconomic aspects of energy policy. His work has appeared in *World Oil*, *Public Utilities Fortnightly*, *Oil and Gas Journal* and a variety of other energy related media. *The materials presented here are solely the responsibility of the author and do not represent Pennsylvania State University in any manner.*

