

California could be next oil boom state

Steve Hargreaves, CNN, 1-15-13

California is sitting on a massive amount of shale oil and could become the next oil boom state. But only if the industry can get the stuff out of the ground without upsetting the state's powerful environmental lobby.

Running from Los Angeles to San Francisco, California's Monterey Shale is thought to contain more oil than North Dakota's Bakken and Texas's Eagle Ford -- both scenes of an oil boom that's created thousands of jobs and boosted U.S. oil production to the highest rate in over a decade.

In fact, the Monterey is thought to hold over 400 billion barrels of oil, according to the U.S. Geological Survey. That's nearly half the conventional oil in all of Saudi Arabia. The United States consumes about 19 million barrels of oil a day.

"Four hundred billion barrels, that doesn't escape anyone in this businesses," said Stephen Trammel, energy research director at IHS Cambridge Energy Research Associates.

The trick now is getting it out.

As a result of the San Andres fault, California's geologic layers are folded like an accordion rather than simply stacked on top of each other like they are in other Shale states. The folds have naturally cracked the shale rock, and much of California's current "conventional" oil production -- the third largest in the nation -- is thought to come from the Monterey.

But the folds mean recent advancements that have made shale oil and gas profitable to extract -- horizontal drilling combined with hydraulic fracturing -- don't work as well in California. It's hard to drill horizontally if the shale is not flat.

Plus, it appears the Monterey is made up of shale rock that doesn't respond as well to hydraulic fracturing -- the controversial practice known as fracking that involves injecting water, sand and chemicals into the ground under high pressure to crack the rock and allow the oil and gas to flow.

Still, the U.S. Energy Information Agency estimates there are over 15 billion barrels of oil that can be recovered using today's technology.

"That's a huge number," said Matt Woodson, an analyst at the energy research firm Wood Mackenzie. Woodson said the 15 billion number far exceeds current estimates for North Dakota's Bakken Shale, and is about half the amount held in Alaska's North Slope before it was tapped.

That potential has attracted the attention of the oil industry.

Several oil companies have put together research teams to work on the Monterey, said Katie Potter, head of exploration and production staffing at NES Global Talent, a company that recruits oil industry professionals.

If the Monterey takes off, Potter said the impact on jobs in the state would be huge, saying the shale boom has already created 600,000 jobs nationwide over the last few years.

offered, they were all snapped up.

Occidental, which is California-based and has long held acres in the Monterey, has had some success using a technology known as deep acid injection, said IHS's Trammel.

The process involves injecting hydrofluoric or other acids deep underground, where they eat away at the shale rock and allow the oil to flow. It's cheaper than fracking, said Trammel. And while it sounds ominous, it may not be as controversial, as the volumes involved are far less and it's not done under such pressure, he said.

Still, no matter how the oil is produced, environmentalists in the Golden State are keeping close watch.

Fracking could still become an issue, as it has in other states where it's led to fears over groundwater contamination, said Nathan Matthews, a Sierra Club attorney based in San Francisco. And there's no guarantee acid injection is much better.

Plus, there's air pollution, road congestion and other issues that go along with an oil boom.

Matthews wants California regulators to require full disclosure of everything the oil industry is putting in the ground, as well as individual permits issued for each well drilled.

"There's a chance to get this done much better than where it's been done elsewhere," said Matthews. "We need to understand the risks before we open the flood gate."

Regulations or not, there's still no guarantee there will be an oil boom at all.

"It might not live up to its expectations," said Fadel Gheit, a senior energy analyst at Oppenheimer. "The industry has not concluded whether it's boom or bust."

But given the rapid advances over the last few years in oil drilling and producing technology, the smart money may be on boom.

"There are some pretty creative people in this industry," said Trammel. "I'd say they are going to figure it out."