SAN FRANCISCO -- Just below California’s surface lies enough shale oil to fundamentally transform the state’s entire economy.

And for the first time in the state’s history, California regulators have seriously started to grapple with how the state deals with the controversial practice of hydraulic fracturing, or “fracking,” in order to retrieve that oil.

Industry representatives insist the practice -- which involves injecting a mixture of water, sand and chemicals into an oil or natural gas well to stimulate production -- is safe, and note that it has been employed in some California wells for decades. But environmentalists worry that fracking could soon become ubiquitous, doing untold damage to the state’s environment in the process.

“These are the first steps in a larger discussion about fracking we’re going to have,” explained Jason Marshall of the California Department of Conservation’s Division of Oil, Gas and Geothermal Resources during a conference call Tuesday announcing a new set of rules governing fracking in the state.

California has previously lacked a specific set of guidelines for how to deal with fracking, which has sparked oil and natural gas bonanzas in places Pennsylvania, North Dakota and northeastern Texas. Due to a loophole inserted into the Bush Administration’s 2005 energy bill, a large portion of what happens with fracking -- particularly natural gas drilling -- is exempted from federal oversight, so the practice is entirely left up to the individual states.

California’s proposed regulations include requirements that all wells using hydraulic fracturing take safety measures to prevent seepage and test machinery regularly. They specify how wastewater is to be stored and discarded and mandate energy companies to regularly monitor old wells after active drilling has ceased.

The rules also require energy companies to publicly release a whole host of information about each well
they frack -- from the exact location to the makeup of the fluid being injected.

“If these requirements keep someone out of the fracking market because they can’t afford it,” Marshall said, “we’re fine with that.”

Some environmental activists, such as the Center For Biological Diversity’s Kassie Siegel, are less than impressed with the new rules.

Siegel, whose organization is suing both the state of California and the federal government for not doing enough to regulate fracking on public lands leased in an increasingly controversial set of mineral rights auctions, charged that the latest measures don’t ensure environmental safety. “These draft regulations would keep California’s fracking shrouded in secrecy and do little to contain the many threats posed by fracking,” Siegel said in a statement. “[They] are going to have to be completely rewritten if the goal is to provide real protection for our air, water, and communities.”

Siegel argues that the regulations fail to address air pollution and don’t require drilling operations to capture the methane released in the process.

She said that a quarter of all the chemicals used in fracking are known carcinogens, and some people living near fracked wells have reported health ailments like vomiting, nausea and seizures. “We should have baseline testing of air and water quality around fracked wells, but we don’t,” Siegel said.

Conversely, industry backers have pointed to a year-long study conducted in Southern California’s Ingleside Oil Field that found no negative health, air quality or seismic effects from the fracking occurring there. The study, sponsored by an oil company as part of a lawsuit, has been criticized by environmentalists for not looking at the long-term health effects of fracking and failing to disclose that one of its peer reviewers had close ties to the energy industry.

California has been a major oil producer for over a century and is one of the top five oil-producing states in the nation. But a report issued last year by the U.S. Energy Information Administration released information that could easily kick state production into overdrive.

The research found that the Monterey Shale, a rock formation running underneath much of Central California, contains 15 billion barrels of oil, or some 64 percent of all the recoverable shale oil in the United States. “This shale alone could provide for our domestic oil needs for 50 years,” said Dave Quast of the industry-backed research and public outreach group Energy In Depth.

Despite the area’s enormous oil reserves, the formation’s unique geology has impeded previous efforts to drill. The conditions underground vary widely from one location to another, making it difficult to predict the productivity of any given well based on its neighbors. One well could yield a torrent of oil while the one next door could turn up dry.

As a result, it’s a lot riskier, therefore significantly more expensive, to tap directly into the Monterey Shale than continue to rely on the traditional plays that have long been the backbone of the state’s oil production.

No one yet has been able to find the key to unlocking vast oil wealth hidden inside the Monterey Shale. When they do, however, not only will those techniques likely involve fracking, but the economic and environmental implications have the potential to be enormous.

Environmentalists predict that much drilling would be devastating. “The 15 billion barrels of oil in the Monterey Shale are a carbon bomb,” Siegel said. “If we dig this up and burn it, we’re going to counteract all of California’s pollution reduction efforts.”

On the other hand, California has one of the highest unemployment rates in the nation, something that boosters of increased oil production argue could be largely remedied through more drilling. “North Dakota has the lowest unemployment rate in the country and that’s largely due to oil and gas development,” said Quast, of Energy In Depth.

Californians themselves are relatively split on fracking, with a recent Public Policy Institute poll showing a roughly even number of Golden State residents falling on either side of the issue.
The poll found opposition to fracking falling along the expected partisan lines, with liberals and urban dwellers in regions like Los Angeles and the San Francisco Bay Area less like to support the practice. However, some residents in California’s rural, agricultural centers -- areas like Kern County, where the majority of the state’s oil production takes place -- have also voiced concerns.

“We work with a lot of agricultural groups and small farmers, most of whom are shocked to discover that fracking is happening near them,” said Kristen Lynch of Food & Water Watch, a national organization that opposes fracking. A recent report by the Oakland-based group noted that 10 chemicals commonly used in fracking are known to cause cancer or reproductive harm, and some farmers are concerned about these chemicals contaminating the groundwater and affecting their crops.

State regulators said they have yet to see any instances of significant contamination coming from a fracked well.

Some California municipalities, such as Culver City and Los Angeles, have taken steps toward banning the practice entirely.

California State Assemblyman Bob Wiecowski’s (D-Fremont), who reintroduced a bill earlier this month that seeks to clarify the state’s rules on fracking, shrugs off an outright ban as both premature and extreme. “We’re Californians and we like to hate oil companies. There are always going to be people who are looking to shoot Goliath in the eyeball,” he said. “It doesn’t make a lot of sense to have a moratorium before all the information about fracking has been disclosed. You don’t want to be in the dark when you make your decisions, and we’re all in the dark right now.”

Wiecowski emphasized that establishing a clear set of rules and regulations should be the state’s first priority. “It’s important to get all of this squared away now, before companies really figure how to tap into all of the oil in the shale,” he said. “Then we can all fight about Monterey.”