# A New California Oil Boom?
## Drilling the Monterey Shale

## Part 6: Keeping the Story Straight: Industry Reports at Odds on California Oil

Robert Collier

December 2013

Next Generation

# Part 6: Keeping the Story Straight: Industry Reports at Odds on California Oil

*Editor's Note: This is the final installment in our series on the Monterey Shale and Part 2 of our report,* Too Big to Believe: Top Economists Doubt California Oil Industry's Jobs Figures*. You can view the full series* here*.*

California's growing debate over the environmental risks of oil production has echoed with claims that an oil boom lies just around the next bend – as long as we keep overly harsh regulations from steering us off the tracks.

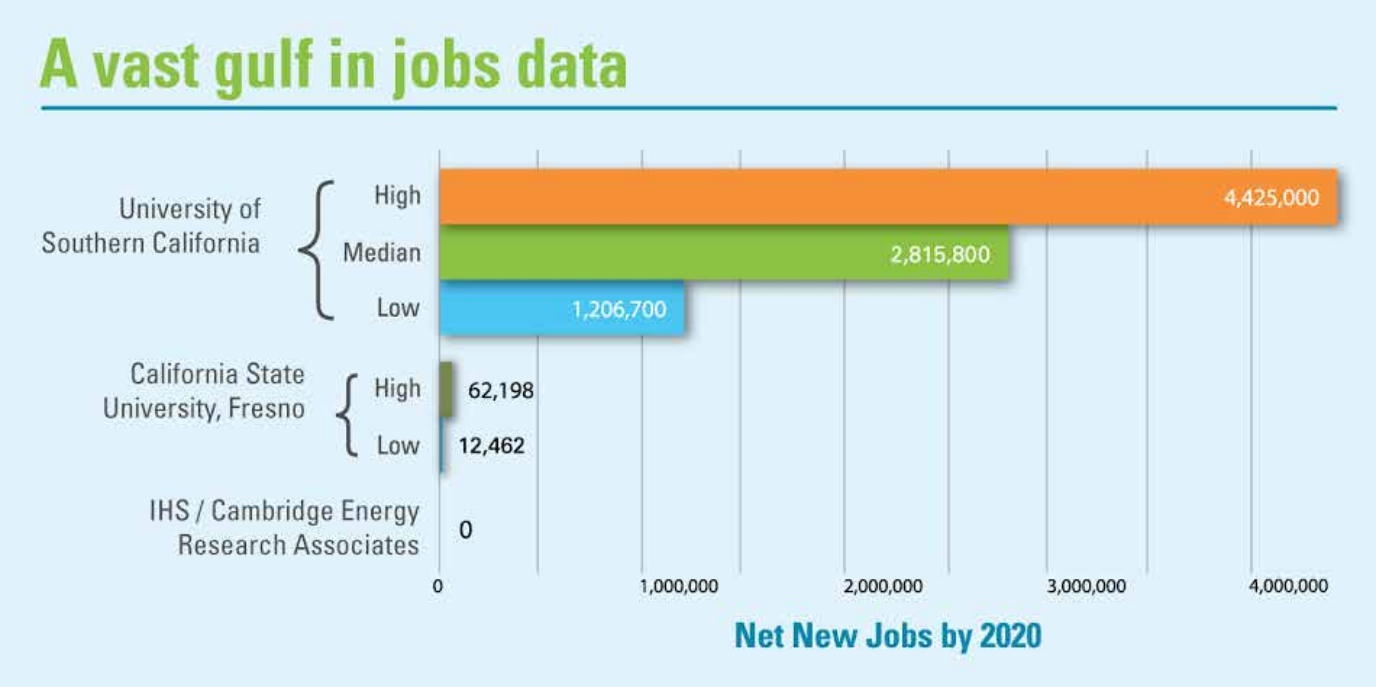
Expectations have been bolstered by a study by the University of Southern California that projected millions of new jobs and billions of dollars in tax revenue for the state and local governments. The study was paid for by the Western States Petroleum Association (WSPA), the California oil industry's main lobbying organization. But some of the state's leading economists view these promises as unreliable and based on incorrect assumptions.

More broadly, the question of whether the Monterey Shale will bring more prosperity to the state remains unanswered. As California continues debate over oil policies in 2014 and beyond, the realpolitik of jobs and the economy will remain as central to decision making as it always has been in American politics.

## Cold water from an unlikely source

Debunking of the USC study has come recently from an unlikely source – a separate study commissioned by WSPA. Antonio Avalos and David Vera, economics professors at California State University at Fresno, were commissioned by WSPA to carry out projections of economic impact only for the San Joaquin Valley. Their report, "The Petroleum Industry and the Monterey Shale: Current Economic Impact and the Economic Future of the San Joaquin Valley," released in October 2013, predicted much more modest job gains under two scenarios:

- Between 2,151 and 9,347 net new jobs (direct, indirect and induced) by 2020 under what Avalos and Vera call the "high resource scenario," equivalent to the U.S. Energy Department's predicted rate of growth for "tight" shale oil nationwide.



- Between 2,151 and 46,649 net new jobs by 2020 under a "high resource-oil boom scenario," equivalent to the North Dakota rate of growth.

Because the eight-county San Joaquin Valley studied in the CSU Fresno report accounts for three-quarters of California's oil production, according to state data, the high-growth projection of 46,649 jobs by 2020 would be the equivalent of roughly 62,198 new jobs statewide[1] – far less than the USC study's median prediction of 2.8 million new jobs. However, even the CSU Fresno study's numbers must be discounted somewhat because they include jobs in refinery production and gasoline station sales, neither of which would be likely to grow in any oil boom scenario.

Vera says that that the CSU Fresno report and the USC version "are not fully comparable," but declined to comment otherwise on the contrast between the results:

> *Our study focuses on the San Joaquin Valley only, while the USC study examines the entire State of California. The difference in scope leads to major differences in data availability and thus in methodology. For example our main variable in the forecasting exercise is real personal income at the county level while for the USC report is real GDP per capita at the state level, not available at the county level. Consequently, findings in the reports are not fully comparable.*

## Refineries, gas stations unlikely to see job increases

California's upstream and midstream sectors, which comprise oil exploration/production and transportation, respectively, would be directly affected by any oil production increase in the Monterey Shale. In contrast, the downstream sector, which comprises refineries, petrochemicals, wholesale and retail, is likely to remain unaffected by any such increase, for several reasons:

- As noted in Part 4 of our series, the state's 18 oil refineries have a total capacity of about 2 million barrels per day, of which California's current oil production supplies only about one-quarter, thus giving the state much excess capacity to absorb local production without building new refineries.
- Given the state's political and regulatory climate, companies would find it extremely difficult to get regulatory approval to build new refinery capacity, as shown by Chevron's recent difficulties in trying to expand its Richmond refinery.
- Federal law imposes a virtual ban on exports of crude oil to other nations.
- California has no significant pipelines that could be used for shipping to other U.S. states, and obtaining permits to build any such pipelines through California would be politically very difficult.
- California's retail gasoline prices are highly unlikely to be depressed by local fuel supply, just as the glut of crude in Cushing, Oklahoma, has not seriously affected gas prices elsewhere in the nation.
- California drivers are not going to drive more miles or buy more gas-guzzling cars just because their gasoline and diesel is locally pumped rather than being imported from Saudi Arabia or Ecuador.
- While roughly 50 percent of California's total refinery capacity is for production of gasoline, the rest is for diesel, aviation and bunker fuels, chemicals, asphalt and other products, none of which are likely to sell more just because the petroleum from which they are sourced is locally produced.
- California's exports of refined petroleum products, including petrochemicals, have fluctuated since the 1980s with no measurable decrease despite the 50 percent drop in the state's oil production during that period. Because of this de-linkage, it seems unlikely that exports of refined petroleum products would increase substantially if in-state crude production were to increase.
- California's refining capacity is configured for a wide range of oil viscosity, including heavy imported crude. So a switch from imports to local crude would not necessarily require significant equipment modifications.

*(…) We did not have access to the raw data or any of the code used in the estimations in the USC report. The USC report does not clearly explain the methodology or data employed (…) It may be valid, we just can't tell with the information that is available.*[2]

Interestingly, WSPA has repeatedly publicized the results of the USC study, but has put little effort into publicizing the results of the CSU Fresno study.

"There has been a lot of speculation and debate about the Monterey Shale, but our energy team does not see those results."

—Mohsen Bonakdarpour
Managing director of IHS Economics.

## Industry's top consultants predict no new jobs

An even more bearish set of conclusions about Monterey Shale job growth has come from yet another unlikely corner – the petroleum industry's leading consultancy, IHS CERA. The firm, headed by Pulitzer Prize-winning author and pundit Daniel Yergin, has close ties to major oil firms and often takes bullish views of production potential. But IHS CERA's December 2012 report, America's New Energy Future: The Unconventional Oil and Gas Revolution and the US Economy, Volume 2: State Economic Contributions, concluded that California's "unconventional" oil sector, which is almost entirely synonymous with the Monterey Shale, will produce almost zero new oil or new jobs for at least the next decade. Its chief conclusions were these:

- California unconventional oil will produce virtually nothing through 2020, then 10,000 barrels daily in 2025, 40,000 barrels daily in 2030, and 60,000 barrels per day in 2035. These amounts are small fractions of the state's overall output of 536,000 barrels daily, and they comprise an even tinier fraction of the bonanza promised by the oil lobby.
- California jobs, income and tax revenues will experience modest increases – but with a huge caveat. By 2020, net new jobs (direct, indirect and induced) are projected to increase by 57,105, annual labor income will rise by $3.8 billion, and state and local tax revenue will jump by $1.6 billion. However, because in-state oil production is expected to be flat, these benefits will be generated only by spill-over spending from other states such as North Dakota and Texas as California-based companies Chevron and Occidental benefit from out-of-state work. Examples could include additional income to headquarters employees or stockholders of these companies, out-of-state work by California-based consultants and oil service providers, or exports by California manufacturers of oilfield equipment. Oil production from the Monterey Shale will add no direct, indirect or induced economic benefits.

In subsequent interviews, IHS-CERA experts stood behind the study's findings of negligible job growth. Mohsen Bonakdarpour, managing director of IHS Economics, said:

*There has been a lot of speculation and debate about the Monterey Shale, but our energy team does not see those results. We have much more conservative estimates for California.*[3]

Pete Stark, the IHS-CERA research director on unconventional oil, said oil companies' success in North Dakota and Texas shale was likely to be stymied in the Monterey:

*We have followed Monterey activity with interest but have observed little evidence that the local operators have broken the code to unlock production from this complex package of tight rocks. … We have characterized the Monterey with Churchill's pertinent observation about Russia – 'It is a riddle, wrapped in a mystery, inside an enigma.' It will take substantial R&D investment and time to understand and unlock even part of the technically recoverable oil cited by the EIA. We expect that operators like Oxy … will peck away with close-in development drilling in and around the old producing fields and structures. This will yield more of the*

*tight oil resource. If companies unlock oil production from deeper zones within active oil generating systems this could increase volumes of lighter oil similar to that from the large tight shale oil plays like the Bakken and Eagle Ford. Apart from that we will continue to track activity but will not hold our breath awaiting a game changer.*[4]

Although the IHS-CERA findings were the first comprehensive expert analysis of the Monterey Shale's potential, they appear to have gone entirely unnoticed. Database searches on Google and Nexis reveal no mention anywhere of the IHS-CERA findings on California from the report's release in December 2012 to the present.[5]

The IHS-CERA pessimism about the unconventional oil in the Monterey Shale received the tacit backing of the U.S. Department of Energy in mid-2013 when the Department released its Annual Energy Outlook 2013.

Under its "high resource" scenario – essentially the most optimistic boom conditions – total U.S. national oil production would rise by more than one-third during 2013-2020, but California's total production would fall by 6.5 percent. Although the report did not specify how much of the state's production was likely to come from the Monterey Shale, it made clear that the results there would be minuscule.

## Weak grounds for boom boosterism

So is California on the verge of a historic oil bonanza that will bring a surge in prosperity, as the USC study claims? Or will the results be slim pickings, as most other experts believe?

Under any scenario, California could use more jobs – the state still had 1,611,926 unemployed workers as of October 2013.[6] But California has already been adding about 300,000 net new jobs annually since mid-2010, when the economic recovery began, according to federal labor data. While an oil boom, even an unlikely one, would clearly add some jobs, it's worth taking the time to understand the true employment implications of a boom – and weighing those against the environmental and climate implications of drilling and burning more oil.

But such a boom is still a hypothetical, future event. In the meantime, the state can continue pursuing its role as a global leader in clean energy job creation, climate change mitigation and preparedness, and overall quality of life. Regardless of what happens with the Monterey Shale, the state's diverse economy and penchant for technology innovation are likely to continue to be the real California Gold Rush.

## Notes

[1] This may slightly understate the statewide total because it does not account for headquarters and services jobs outside of oil-producing regions, but any undercounting would be minuscule in comparison with the large discrepancy in overall projections.

[2] Personal email, Nov. 4, 2013

[3] Telephone interview, Oct. 1, 2013

[4] Personal email, Oct. 1, 2013

[5] The IHS-CERA communications team promoted the overall report in press releases and other materials but did not mention its unusual California findings.

[6] Recent net job growth for California: 217,443 from January through October of 2013; 326,937 in 2012; 294,092 in 2011. Accessed here.