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Think Again: The American Energy Boom

Yes, oil and gas made in the USA is surging. But does that really liberate us from the Middle East?

BY MICHAEL LEVI | JULY/AUGUST 2012



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"The United States Is the Next Saudi Arabia of Energy."

Yes and no. American oil production, once thought to be in terminal decline, is **up strongly** for the first time in a quarter-century. Natural gas output, largely flat since the mid-1990s, has **grown rapidly** for the last five years. These trends look poised to continue, and observers are predicting major geopolitical consequences to follow. Ed Morse, an influential Citigroup analyst and former U.S. official, **asserts**, "North America is becoming the new Middle East." Robin West, another perceptive industry observer, **predicts** that by 2020, the United States will become the world's largest producer of oil and gas -- "the energy equivalent of the Berlin Wall coming down."

These sorts of views are quickly becoming conventional wisdom. But it takes more than sheer volume of oil and gas production to dominate world energy markets.

No doubt, the renaissance in U.S. oil and gas is really happening, fueled by new technology and high oil prices. About a decade ago, innovators aggressively began to marry horizontal drilling, which allows producers to access large swaths of an

underground resource from a single well, with hydraulic fracturing -- better known as fracking -- which uses high-pressure fluids to crack dense rock and allow oil and gas to flow. The combination has unlocked vast quantities of oil and gas buried in shale rock deep underground. Technology has also allowed producers to tap resources far beneath the sea in a way that wasn't possible before; just two years after the Deepwater Horizon oil spill in the Gulf of Mexico, offshore production has recovered, helping spur U.S. oil production upward.

It's no coincidence that these technologies have flourished amid record-high oil prices. Extreme offshore production makes little sense unless oil prices are above \$50 or \$60 a barrel. The economics of extracting oil from shale are murkier, but most think that \$70 or \$80 a barrel is necessary. Ten years ago, most analysts were projecting \$20 crude for as far as the eye could see. In that world, the current boom would have been impossible. Oil prices have shifted decidedly higher, however, making new production possible along with them.

As a mere matter of scale, projections that the United States will reclaim the title of world's largest oil producer are entirely plausible, though hardly guaranteed. Saudi Arabia produces around 10 million barrels of crude oil each day, versus about **6 million** for the United States. Surging production of natural gas liquids (NGLs) -- crude-like hydrocarbons produced alongside natural gas -- effectively takes that figure up to about **8 million** barrels a day. Morse claims that total U.S. production could exceed 10 million daily barrels by 2015, and even the cautious U.S. Energy Information Administration (EIA) sees combined crude and NGLs production coming close to **10 million** barrels a day by 2020.

But what makes Saudi Arabia such a dominant global player isn't merely the scale of its energy production. It's that it actively attempts to influence the price of oil and often does so for explicitly political reasons, whether currying favor with Washington or trying to hurt Tehran. By restraining long-term investment in oil production capacity -- manufacturing scarcity -- the desert kingdom is able to prop up the average price of crude. What's more, by keeping some of its production capacity in reserve, to be swung on and off the market at will, Saudi Arabia is able to moderate short-term price swings. It's not because they love the Saudi royal family that world leaders are so solicitous when they visit Riyadh.

Nothing about the U.S. oil and gas boom suggests that Washington can or will step into this role. No U.S. government would -- or could -- attempt to prop up world prices by restraining U.S. supplies. Besides, America's oil boom is being driven by supplies that cost huge sums of money to develop. Once new wells are drilled (at a cost of about \$100 million each for offshore development), owners will produce flat out to recoup their investments; there's no way they'll leave untapped production capacity just waiting for a political crisis or global market swing.



"The United States Could Be Energy Independent."

No. This massive new U.S. oil and gas output has brought talk of American energy independence back into vogue. Energy economist Adam Sieminski, the new EIA administrator, captured the shift in a **February interview**: "For 40 years, only politicians and the occasional author in *Popular Mechanics* magazine talked about achieving energy independence," he observed. "Now it doesn't seem such an outlandish idea." The numbers would appear to back up this sentiment.

Just five years ago, the experts were bracing for the United States to become dependent on imported liquefied natural gas, with uncertain geopolitical consequences, such as dependence on vulnerable Middle Eastern suppliers and entanglement in a global gas market in which Moscow plays a troubling role. That now seems like ancient history, as record gas production has spared the United States the need for large-scale imports. According to one only somewhat hyperbolic **headline**, "We've Fracked So Much Gas We've Got No Place to Put It."

The math is shakier when it comes to oil. The most bullish projections foresee around **15 million** barrels a day of U.S. liquid fuels production by 2020, while the consultancy Wood MacKenzie claims that U.S. production **could rise** to about 10 million barrels a day by the close of this decade and 15 million before the end of the next. In any case, U.S. consumption is vastly greater. As of 2009, Americans burned through nearly 19 million barrels of oil-based liquid fuels each day to power their cars, trucks, and factories, and although that figure has edged down over the past couple of years, domestic supply is **still a long way** from matching U.S. demand.

That said, U.S. demand for oil appears to have peaked. While part of the recent fall can be chalked up to slow economic growth, sustained high oil prices and improving automobile technology are also at work. New fuel-economy standards, if they stick, could drive U.S. consumption down much further. Ultimately, though, it's a massive stretch to think the United States will eliminate the gap between oil supply and demand anytime soon.

In any case, energy independence requires more than impressive arithmetic. As long as the United States is fully integrated into the world oil market, U.S. fuel prices will rise and fall along with events on the other side of the globe -- say, a war with Iran. Greater domestic production will blunt the economic shock of rapidly rising prices -- better to suddenly be

sending massive sums to North Dakota than to Saudi Arabia -- but because oil producers everywhere are relatively slow to spend their windfalls, skyrocketing prices could still knock the economy on its back.



"We Can Drill Our Way Out of High Prices."

Don't bet on it. Some people claim that unleashing U.S. oil and gas resources would slash the price of crude. Who can forget the cries of "**Drill, Baby, Drill!**" that saturated airwaves during the 2008 presidential campaign? Others insist that, because oil is priced on a global market, increased U.S. output wouldn't move the needle. Even Douglas Holtz-Eakin, the top economist for John McCain's 2008 presidential campaign, **has written**, "Domestic action to increase production will not lower gas prices set on a global market."

The precise truth lies somewhere in between. If U.S. producers were able to massively ramp up output, the ultimate impact would mostly boil down to one big question: How would other big oil producers (mainly the Saudis and the rest of OPEC) respond to a surge in U.S. supplies?

To stop prices from falling, they could cut back their output in response to new U.S. production, much as they've tried to in the past. That's essentially what happens in the much-cited projections by the Energy Information Administration. In one recent exercise, for example, it looked at what would happen to gasoline prices if U.S. oil production grew by about a million barrels a day. The net impact was a mere 4 cents a gallon fall. Why? All but a sliver of the increase in U.S. output was matched by cutbacks in the Middle East, leaving oil prices barely changed.

Predicting OPEC's behavior, though, is notoriously difficult. No one country wants to bear the burden of selling less oil. In good times -- when demand is high and supplies from outside OPEC are weak -- the market is big enough for everyone to have a piece. That's what happened in the early 1970s: Rising demand for crude combined with declining supply in the United States to give OPEC unusual power. The result was a decade of historically high prices.

In leaner times, though, when demand is less robust and supplies from outside OPEC are strong, restraint can be difficult. Left with a smaller market to divide among themselves, OPEC producers can end up battling for market share, ultimately pumping far more crude than expected. This is in part what happened in the 1980s: High prices spurred new supplies and restrained demand, making coordinated OPEC action to prop up prices almost impossible.

Which pattern will we see in the face of rising U.S. supplies, combined with new production from Brazil, Canada, Iraq, and

beyond? Given the growing demand for oil in China, India, and elsewhere, the safest bet is on continued high prices, though slightly lower ones than would prevail without the new supplies. As a senior OPEC official told me this year, "There is plenty of room for everyone." Yet new crude -- particularly if it collides with strong restraints on demand -- could change the equation. It would be foolish to rule out a crash.

FREDERIC J. BROWN/AFP/Getty Images



"The U.S. Energy Boom Will Create Millions of New Jobs."

Overstated. The U.S. oil and gas boom has come at an auspicious time. With record numbers of Americans out of work, hydrocarbon production is helping create much-needed jobs in communities from Pennsylvania to North Dakota. Shale gas production alone accounted for an estimated **600,000** U.S. jobs as of 2010, according to the consultancy IHS CERA.

It's much harder, though, to extrapolate into the future. In a deeply depressed economy, new development can put people to work without reducing employment elsewhere. That's why boom states have benefited massively in recent years. The same is not true, though, in a more normal economy. Unemployment rates are typically determined by fundamental factors such as the ease of hiring and firing and the match between skills that employers need and that workers have. The oil and gas boom won't change these much.

That's why we should be skeptical about rosy projections of millions of new jobs. Wood MacKenzie, for example, claims that the energy boom could deliver as many as 1.1 million jobs by 2020, while Citigroup forecasts a whopping **3.6 million**. Unless the U.S. economy remains deep in the doldrums for another decade, these will mostly come at the expense of jobs elsewhere.

That hardly means all the new oil and gas coming online is worthless. In the near term, it can support hundreds of thousands of workers who would otherwise be unemployed. In the long term, it should deliver a boost to the overall U.S. economy, **raising GDP** by as much as three percentage points, according to my colleague, Citigroup's Daniel Ahn. But we can't drill our way out of America's job crisis. The numbers just don't add up.



"Strong Regulations Would Kill the Boom."

Dead wrong. The technology at the heart of the U.S. oil and gas boom has become central to the battle between the environmental community and the oil and gas industry. Drillers and their allies have often resisted new regulation, insisting that the industry is already heavily regulated at the state level and that fears of fracking are overblown. Barry Smitherman, chairman of the Texas Railroad Commission, captures the sentiment well, **warning** that more regulation could "kill the technology that's taking us to energy independence." Green groups have hit back with demands for stricter oversight of fracking, highlighting threats to air and water and disruptions to local communities. The Sierra Club has gone so far as to launch a "**Beyond Natural Gas**" campaign to accompany its efforts to move "**Beyond Coal**" and "**Beyond Oil**."

Some warnings, like an alarm in early 2011 that Pittsburgh's **tap water was radioactive**, have been over the top. Executed properly, development of shale gas and oil can be done in ways that safeguard the environment and protect communities. But there are always bad apples and sloppy operators. They require not only solid regulation, which often exists at the state level, but also strong enforcement and penalties to deter and punish violators, which too often do not exist.

This is not only about preventing bad behavior -- it's a matter of building public trust. Operators that refuse, for example, to support mandatory disclosure of the chemicals they use in fracking inevitably raise suspicions. That's true regardless of whether those chemicals actually endanger public health. Industry is at its best when it helps craft regulations that protect people and the environment while allowing robust development to proceed apace. But those who instinctively oppose stricter rules are sowing the seeds of their own misfortune: Robust regulation might add a few percentage points to the cost of producing natural gas, but weak regulation will sap confidence, and if communities shut down drilling, the price of natural gas will rise a lot more.



"The Energy Boom Is Bad for Climate Change."

It doesn't have to be. If there's one thing that critics of oil and gas development on the left have right, it's that we've done far too little to combat climate change. Serious action to mitigate the problem will require moving close to zero carbon emissions over the long run. That's right, zero. That will eventually mean little or no coal, oil, or gas consumption, unless the emissions produced by burning those fuels are captured and buried deep underground. Nor can we wait to start taking action: Because investments today can last decades, a meaningful strategy to curb U.S. emissions must begin, well, yesterday.

So is more oil and gas production fundamentally at odds with confronting climate change? It's not that simple. New natural gas production is actually great news for climate change. Gas is largely displacing coal, and it produces only half as much carbon dioxide when burned. Furthermore, while new coal-fired power plants are expensive and thus tough to displace later, gas-fired facilities are much cheaper. That makes it easier to replace them as lower-carbon options, such as nuclear energy, solar power, or coal or gas plants that capture their carbon dioxide emissions, become more attractive. All of this means gas is better for the climate.

Oil presents a tougher problem. New U.S. production doesn't displace dirtier fuels; indeed, insofar as it lowers gasoline and diesel prices, it feeds higher demand for crude. Yet unless massive U.S. production fundamentally overturns world oil market dynamics, the impact of new supplies on world prices (and hence emissions) will be modest. Instead, new U.S. output will largely displace production overseas, particularly from OPEC members. Not only will the scale of additional emissions be limited, but the gains to the U.S. economy will be larger than the accompanying climate damage.

Ultimately, U.S. efforts to combat climate change should focus mostly on the demand side of the equation. Curbs on fossil fuel usage, through steps like fuel-economy standards, carbon pricing, power plant regulation, and targeted incentives for clean energy, are far less likely to lead to additional emissions elsewhere than restraints on fossil fuel production. If U.S. policy aimed at oil demand ends up crashing crude prices, and that in turn reduces domestic production, the net result will still be good for the United States. But if the United States goes after the drillers without cutting back on demand, it'll just be shifting production to other countries.



"Barack Obama Is Bad for the Oil and Gas Industry."

False. The oil and gas industry does not exactly love President Obama. Many of the industry's most prominent members rail against his "**job-killing tax hikes**," bankroll his opponents, and **assert** that his claims about oil production "couldn't be farther from the truth." Some of this frustration stems from real policy disagreements. Many oil and gas producers scoff at efforts to promote clean energy. They chafe at the drilling restrictions put in place in the aftermath of the Deepwater Horizon oil spill and are apoplectic about the president's denial of a permit for the Keystone XL pipeline.

Yet Obama has presided over an extraordinary boom in oil and gas production. That fact alone suggests he isn't out to wreck the industry. So why the hostility? Bennett Johnston, then a Democratic senator from Louisiana, put the dynamic well, though he was **talking about another president** and another energy boom 30 years ago: "When I go down in my state, I see virtually none of the independent oil producers for Carter.... We've gotten higher drilling rig counts, more dollars being spent, more activity, more profits being made by oil people than ever before. But do they like Carter? Oh no, they hate him because of his rhetoric."

So let's get real: Obama may criticize the energy industry, but he has been pretty damn good for business. Washington under his watch may not be turning into Riyadh on the Potomac, but these are happy days for oil and gas producers. Even the president's efforts to remove industry tax breaks would amount to an additional burden of around **\$4 billion a year** for an industry that posted more than **\$100 billion in profits** (and far more in revenues) last year. And far from shutting down business with draconian new rules, his administration has worked to craft regulations that keep production going while also protecting the public. After pausing to improve safety provisions in the wake of the Deepwater Horizon oil spill, Obama has allowed new offshore oil drilling and production to resume. No president has a perfect record on energy. Yet if America's energy industry and its supporters set aside rhetoric, they'll find quite a lot to gush about.

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