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The Americas, Not the Middle East, Will Be the World Capital of Energy

Adios, OPEC.

BY AMY MYERS JAFFE | SEPT/OCT 2011

For half a century, the global energy supply's center of gravity has been the Middle East. This fact has had self-evidently enormous implications for the world we live in -- and it's about to change.

By the 2020s, the capital of energy will likely have shifted back to the Western Hemisphere, where it was prior to the ascendancy of Middle Eastern megasuppliers such as Saudi Arabia and Kuwait in the 1960s. The reasons for this shift are partly technological and partly political. Geologists have long known that the Americas are home to plentiful hydrocarbons trapped in hard-to-reach offshore

deposits, on-land shale rock, oil sands, and heavy oil formations. The U.S. endowment of unconventional oil is more than 2 trillion barrels, with another 2.4 trillion in Canada and 2 trillion-plus in South America -- compared with conventional Middle Eastern and North African oil resources of 1.2 trillion. The problem was always how to unlock them economically.

But since the early 2000s, the energy industry has largely solved that problem. With the help of horizontal drilling and other innovations, shale gas production in the United States has skyrocketed from virtually nothing to 15 to 20 percent of the U.S. natural gas supply in less than a decade. By 2040, it could account for more than half of it. This tremendous change in volume has turned the conversation in the U.S. natural gas industry on its head; where Americans once fretted about meeting the country's natural gas needs, they now worry about finding potential buyers for the country's surplus.

Meanwhile, onshore oil production in the United States, condemned to predictions of inexorable decline by analysts for two decades, is about to stage an unexpected comeback. Oil production from shale rock, a technically complex process of squeezing hydrocarbons from sedimentary deposits, is just beginning. But analysts are predicting production of as much as 1.5 million barrels a day in the next few years from resources beneath the Great Plains and Texas alone -- the equivalent of 8 percent of current U.S. oil consumption. The development raises the question of what else the U.S. energy industry might accomplish if prices remain high and technology continues to advance. Rising recovery rates from old wells, for example, could also stem previous declines. On top of all this, analysts expect an additional 1 to 2 million barrels a day from the Gulf of Mexico now that drilling is resuming. Peak oil? Not anytime soon.

The picture elsewhere in the Americas is similarly promising. Brazil is believed to have the capacity to pump 2 million barrels a day from "pre-salt" deepwater resources, deposits of crude found more than a mile below the surface of the Atlantic Ocean that until the last couple of years were technologically inaccessible. Similar gains are to be had in Canadian oil sands, where petroleum is extracted from tarry sediment in open pits. And production of perhaps 3 million to 7 million barrels a day more is possible if U.S. *in situ* heavy oil, or kerogen, can be produced commercially, a process that involves heating rock to allow the oil contained within it to be pumped out in a liquid form. There is no question that such developments face environmental hurdles. But industry is starting to see that it must find ways to get over them, investing in nontoxic drilling fluids, less-invasive hydraulic-fracturing techniques, and new water-recycling processes, among other technologies, in hopes of shrinking the environmental impact of drilling. And like the U.S. oil industry, oil-thirsty

China has also recognized the energy potential of the Americas, investing billions in Canada, the United States, and Latin America.

The revolution-swept Middle East and North Africa, meanwhile, will soon be facing up to an inconvenient truth about their own fossil-fuel legacy: Changes of government in the region have historically led to long and steep declines in oil production. Libya's oil output has never recovered to the 3.5 million barrels a day it was producing when Col. Muammar al-Qaddafi overthrew King Idris in 1969; instead it has been stuck at under 2 million barrels a day for three decades and is now close to zero. Iran produced more than 6 million barrels a day in the times of the shah, but saw oil production fall precipitously below 2 million barrels a day in the aftermath of the 1979 Islamic Revolution. It failed to recover significantly during the 1980s and has only crept back to 4 million in recent years. Iraq's production has also suffered during its many years of turmoil and now sits at 2.7 million barrels a day, lower than the 3.5 million it produced before Saddam Hussein came to power.

The Arab Spring stands to complicate matters even further: A 1979-style disruption in Middle Eastern oil exports is hardly out of the question, nor are work stoppages or strikes by oil workers caught up in the region's political zeitgeist. All in all, upwards of 21 million barrels a day of Arab oil production are at stake -- about a quarter of global demand. The boom in the Americas, meanwhile, should be food for thought for the Middle East's remaining autocrats: It means they may not be able to count on ever-rising oil prices to calm restive populations.

This hydrocarbon-driven reordering of geopolitics is already taking place. The petropower of Iran, Russia, and Venezuela has faltered on the back of plentiful American natural gas supply: A surplus of resources in the Americas is sending other foreign suppliers scrambling to line up buyers in Europe and Asia, making it more difficult for such exporters to assert themselves via heavy-handed energy "diplomacy." The U.S. energy industry may also be able to provide the technical assistance necessary for Europe and China to tap unconventional resources of their own, scuttling their need to kowtow to Moscow or the Persian Gulf. So watch this space: America may be back in the energy leadership saddle again.

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