

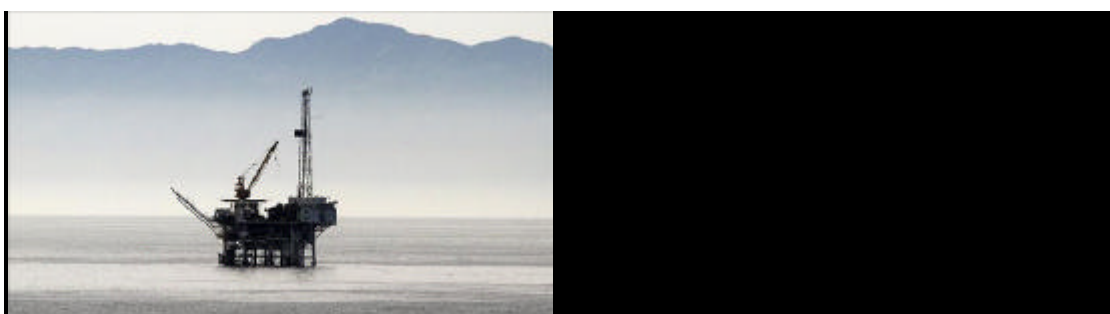
## THE WALL STREET JOURNAL

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# Expanded Oil Drilling Helps U.S. Wean Itself From Mideast

HOUSTON—America will halve its reliance on Middle East oil by the end of this decade and could end it completely by 2035 due to declining demand and the rapid growth of new petroleum sources in the Western Hemisphere, energy analysts now anticipate.



The U.S. will halve its reliance on Middle East oil by the end of this decade and could end it completely by 2035 due to falling demand and growth of new petroleum sources, energy analysts say. Angel Gonzalez has details on Markets Hub. Photo: Bloomberg.

The shift, a result of technological advances that are unlocking new sources of oil in shale-rock formations, oil sands and deep beneath the ocean floor, carries profound consequences for the U.S. economy and energy security. A good portion of this surprising bounty comes from the widespread use of hydraulic fracturing, or fracking, a technique perfected during the last decade in U.S. fields previously deemed not worth tampering with.

By 2020, nearly half of the crude oil America consumes will be produced at home, while 82% will come from this side of the Atlantic, according to the U.S. Energy Information Administration. By 2035, oil shipments from the Middle East to North America "could almost be nonexistent," the Organization of Petroleum Exporting Countries recently predicted, partly because more efficient car engines and a growing supply of renewable fuel will help curb demand.

The change achieves a long-sought goal of U.S. policy-making: to draw more oil from nearby, stable sources and less from a volatile region half a world away. "Whereas at one point there were real and serious concerns about the ability to maintain sustainable access of supplies to the United States if there were

disruptions in the Middle East, that has changed," Carlos Pascual, the top energy official at the State Department, said in an interview.

U.S. officials stress that the Middle East will remain important to American foreign policy partly because of the region's continuing influence on global oil prices. "We need to continue to pay attention to how global markets function, because we have a fundamental interest that those markets are stable," Mr. Pascual said.

That means the U.S. military will keep guarding the region's oil shipping lanes, as it has done for decades. "Nobody else can protect it and if it were no longer available, U.S. oil prices would go up," said Michael O'Hanlon, a national security expert with the Brookings Institution, who says the U.S. spends \$50 billion a year protecting oil shipments. But China, a growing consumer of Middle Eastern crude, is seeking a larger presence in the region, with its navy joining antipiracy efforts near Somalia.

Still, growing domestic energy production could allow the U.S. to lessen its focus on the unpredictable region over time. Dependence on Middle East oil has shaped American foreign, national-security and defense policies for most of the last half century. It helped drive the U.S. into active participation in the search for Arab-Israeli peace; drove Washington into close alignments with the monarchies of the Persian Gulf states; compelled it to side with Iraq during its war with Iran; prompted it to then turn against Iraq after its invasion of Kuwait, bringing about the first Persian Gulf war; and prompted Washington to then build up and sustain its military presence in the region.

Whatever the success such strategies had in ensuring American influence in the region, all also came at a price. Involvement in the Arab-Israeli peace process brought the U.S. the enmity of many of the region's most radical forces upset at the failure to create a Palestinian state. The decision to build up an American military presence in the region was used as a rationale for anti-American agitation and attacks by al Qaeda and other extremist forces.

The shift away from Middle Eastern oil means closer ties with Canada, which is emerging as the top U.S. energy ally, but also with Latin neighbors that are strong trading partners. A dollar spent buying oil from these countries is more likely to end up back in the U.S. than a dollar spent buying Iraqi or Saudi crude. Economies buoyed by petrodollars also lessen the appeal of northward migration for Latin America's poor, says Jeremy Martin, director of the energy program at the Institute of the Americas in La Jolla, Calif.

The American energy revolution also is making a splash across the Atlantic. Countries in Eastern Europe, long dependent on Russia for their energy, are seeking to tap their own shale resources with the help of U.S. companies. Even Russia, which needs new sources of oil to maintain its status as an energy superpower, is getting into fracking with the biggest U.S. oil company, Exxon Mobil Corp. This month Exxon and Russia's state-controlled OAO Rosneft broadened an existing alliance to include the joint development of tight oil reserves in western Siberia.

The prospect that new sources of supply in the Americas could lead to years of flat or even falling oil prices is a source of great concern in the Kremlin. Surging oil revenues over his 12 years in power have helped President Vladimir Putin pay for an eightfold increase in government spending, going to everything from pension and wage hikes to costly projects like the Sochi Olympics to a major military buildup. Now, his government is scrambling to find ways to tighten its belt as oil prices—and thus tax revenues—slide. Finding a new driver for Russia's economy is "a colossal challenge," said economy minister Andrei Belousov.

The domestic oil picture has become part of the presidential campaign this year. President Barack Obama likes to point out that output has surged during his first term. "We've added enough new oil and gas pipeline to encircle the Earth and then some," he said in a speech earlier this year. Mitt Romney, the presumed GOP candidate, says the U.S. must do more to promote domestic exploration and says Mr. Obama is holding back the industry. Mr. Romney's campaign ads say that on "Day 1" he will give approval for the Keystone XL pipeline, a project to bring oil from Canada that Mr. Obama's administration has rejected for now.

The renaissance of the U.S. oil patch is pushing down oil prices, giving a boost to the economy at a time when a global slowdown threatens to crimp demand. Research firm Raymond James lowered its 2013 forecast for U.S. crude prices this month to \$65 per barrel from \$83, partly because production in the U.S. has risen much more quickly than previously expected.

Just the same, obstacles to developing the Western Hemisphere's oil riches remain.

Argentina recently nationalized the assets of Spanish energy giant Repsol SA, arguing that the company wasn't investing enough to develop the country's full oil potential. The action makes investors leery of risking capital there to tap shale-rock formations that could rival booming U.S. oil fields.

In Brazil, where most of the newfound oil lies under thick salt domes far beneath the seabed, a small spill in a Chevron Corp. offshore field led to criminal charges, which Chevron contests. Also, state giant Petroleo Brasileiro SA cut its world-wide 2020 production forecast by 11% earlier this month while estimating that extracting its oil would be more costly than anticipated.

In the U.S., offshore drilling in the Gulf of Mexico is recovering slowly from the impact of the 2010 Deepwater Horizon oil spill.

Still, U.S. government forecasters expect that U.S. petroleum purchases from the Middle East, Africa, and Europe will drop to about 2.5 million barrels a day by 2020, from more than four million barrels today. Oil imports from the Persian Gulf's OPEC members—a group that includes Saudi Arabia, Iraq and Kuwait—will drop to 860,000 barrels a day that year from 1.6 million barrels currently.

Global oil and gas investments tripled between 2003 and 2011, according to IHS Cambridge Energy Research Associates. In the Western Hemisphere, where the U.S. and Canada provided more political stability for investors, they nearly quadrupled. In 2011, 48% of global oil investment, or \$320 billion, ended up in the Americas, up from 39% in 2003.

A lot of that money went into the revival of the U.S. oil patch, where energy companies learned to profitably produce oil from tight oil formations by injecting them with high-pressure jets of water mixed with chemicals and sand. The technique has raised concerns with environmentalists who claim it uses too much water and can contaminate water supplies.

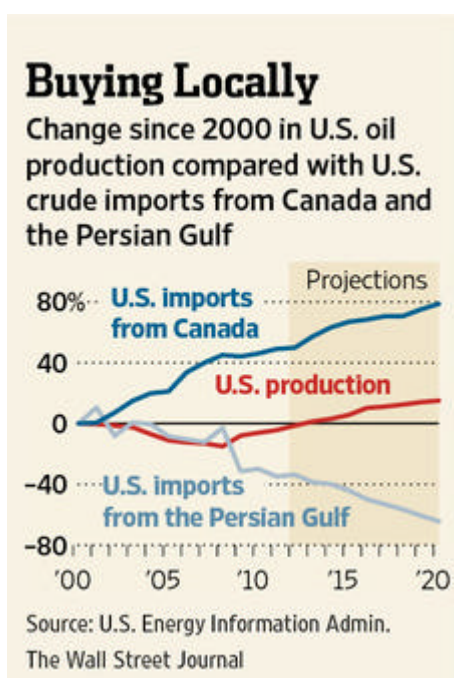
First developed in natural-gas fields, fracking yielded an unexpected oil boom that has redrawn America's energy geography. Abundant crude, combined with a huge refining base and waning demand at home turned the U.S. into a net exporter of refined products last year; the EIA expects that situation to continue beyond 2020.

North Dakota went from being a minor producer to surpassing Alaska in March in petroleum output thanks to the Bakken Shale, which is being developed through fracking. Now it is only second to Texas in oil production.

The Bakken, as well as Texas' booming Eagle Ford Shale and the deep-water U.S. Gulf of Mexico, helped average daily U.S. oil production rise 6% between October 2011 and March 2012, topping six million barrels a day for the first time since 1998, the EIA said this month.

"U.S. oil production was for nearly 40 years in total decline, and that decline was never supposed to end," says Jim Burkhard, an analyst with IHS CERA. "This is a major pivot point."

Canada's oil sands—where the earth is drenched in thick, tar-like oil—contain some of the largest quantities of oil in the world but for years they were too expensive to tap. Companies had to mine tons of oil-drenched sand for each barrel of oil, or inject steam deep beneath the earth to make the oil liquid enough for extraction.



As oil prices began to rise, starting in 1999, oil-sands reserves became more profitable, and early investments from Canadian producers like Suncor Energy Inc. and Encana Corp., along with international producers like Royal Dutch Shell PLC turned Canada into the largest oil exporter to the U.S. Later in the decade, international investment poured into Alberta's boreal forest from U.S.-based companies like ConocoPhillips and Exxon Mobil, and Chinese oil companies like Sinopec, PetroChina Co. and CNOOC Ltd.

Deep-water technology enabled Brazil, which for years depended on oil imports, to become a net exporter in 2009. By 2020, Brazil's production is expected to rival Canada's, rising 57% to 4.7 million barrels a day, thanks to some of the largest offshore oil field finds in 30 years.

The drop in American energy imports comes at a time when hundreds of millions in the developing world are beginning to consume more energy as they rise from poverty. "We're very fortunate that this is happening," said Marvin Odum, the

president of Shell's U.S. unit, who also heads its exploration and production activities in the Western Hemisphere. "It enables resources to flow to emerging economies."

—Gerald F. Seib, Gregory L. White, Chip Cummins and Keith Johnson contributed to this article.

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