



10 Remarkable Facts From North America's Shale Revolution

Description

The reality is clear: Shale has reshaped the global energy industry.

For over a century, geologists have been aware of the bounty locked inside the fine-grained sedimentary rock. However, it has only been recently that drillers have been able to exploit these hydrocarbons.

And since producers have begun developing these shale beds in earnest, the industry has produced some truly incredible statistics. Here are the top 10 most remarkable facts from North America's shale revolution.

1. North America has enough shale oil to fuel every vehicle for a decade.

According to estimates by the U.S. Energy Information Administration, North America is sitting on 80 billion barrels and 1,783 trillion cubic feet of technically recoverable shale oil and gas. To put those numbers into perspective, that's enough oil to fuel the continent's 260 million consumer vehicles for the next decade and enough gas to heat 175 million homes for 150 years. Though how much of that energy can be economically produced has yet to be determined.

2. The continent could become energy independent by 2017.

Shale production has sparked a renaissance in the U.S. energy industry. Thanks primarily to gains in shale production, the country produced 22.2 million barrels of oil equivalent per day by the end of last year, becoming the world's largest energy producer. Based on current trends, the entire continent could be energy self-sufficient by 2017.

3. Horizontal drilling can pull forward up to four decades on oil production.

It's important to note that most of this surge in production has been driven by advances in technology like horizontal drilling and hydraulic fracturing. In a recent conference call, **Pioneer Natural Resources** ([NYSE: PXD](#)) Chief Executive Scott Sheffield pointed out that a single well in the Texas Permian Basin produced 140,000 barrels of oil equivalent within its first six months of operation. By comparison, a

typical vertical well would take 30 to 40 years to accomplish the same feat.

4. Shale drilling has boosted U.S. household income by \$1,200 per year.

According to a report by the IHS CERA, shale drilling created 1.7 million direct and indirect jobs between 2008 and 2012. The study estimates that unconventional energy production has also boosted America's average annual household income by \$1,200.

5. Shale drilling could create 5 million manufacturing jobs in North America.

Lower natural gas prices brought about by shale drilling has also sparked a revival in domestic manufacturing. If energy costs remain low, the Boston Consulting Group estimates that 5 million manufacturing jobs could be added by 2020.

6. The energy industry will spend \$30 billion per year on new infrastructure.

Canadian midstream companies like **Enbridge** ([TSX: ENB](#))([NYSE: ENB](#)) and **TransCanada** ([TSX: TRP](#))([NYSE: TRP](#)) are at the center of a spending bonanza. North America's energy industry requires a massive build out of new infrastructure in things like pipelines, terminals, and processing facilities in order to accommodate surging production. Based on a study by ICF International, Canada and the United States will have to spend U.S. \$30 billion per year on new oil and gas infrastructure, for a total of U.S. \$641 billion over the next 22 years.

7. Shale energy could boost global GDP by \$2.7 trillion per year by 2035

According to a study by PricewaterhouseCoopers, lower oil prices brought about by shale production could provide a 2.7% to 3.7% boost to the world's gross domestic product by 2035. That equates to around \$1.7 trillion to \$2.7 trillion in additional economic activity.

8. Demand for natural gas as a transit fuel is poised to grow four-fold by 2030.

The abundance of cheap supplies has also raised the prospect of using natural gas as a transportation fuel. According to **Citibank**, global demand for natural gas in transportation could grow more than four-fold to 20.4 billion cubic feet per day by 2030 from 4.3 billion cubic feet per day today. That's good news for Canadian companies like **Westport Innovation** (TSX: WPT)([NASDAQ: WPRT](#)) that are leveraged to this trend.

9. Shale drilling has radically changed America's electricity mix.

Supplies of ultra-cheap natural gas are also driving a massive shift in America's energy mix. According to **BP's Statistical Review**, U.S. gas-fired power generation increased 21% in 2012 — the largest incremental change of any fuel in over 40 years. On the contrary, U.S. coal fire power generation fell to its lower level since 1997.

10. Shale drilling has significantly reduced carbon emissions.

No doubt shale energy poses numerous risks to the environment. However, there is one problem it's helping to solve: global warming. According to the Department of Energy, U.S. CO2 emissions per capita have fallen 15% over the past decade and are at the same level as they were in 1963. Much of

this decrease can be credited to the transition to natural gas in electric power generation.

Foolish bottom line

It's clear that North America's shale revolution has been the most important trend in the energy industry over the past decade. However, it's also important for investors to recognize the changes this development will have on the rest of the economy. Expect this theme to continue in 2014 and beyond.

CATEGORY

1. Investing

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