



The Emerging U.S. Energy Powerhouse

By Steve Goreham

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The United States is emerging as the world's energy powerhouse. Two months ago, the US became the largest producer of crude oil. Exports of crude oil, oil products, and natural gas are rising rapidly. The “keep it in the ground” movement is losing ground.

US crude oil [production](#) in August reached 10.8 million barrels per day, more than double the 5 million barrels per day produced in 2008. Last February, US output surpassed that of Saudi Arabia. In August, US production exceeded that of Russia, making the US the world's largest producer of petroleum.

US natural gas [production](#) is up 40 percent from 2007 to 2017. The US surpassed Russia as the world's leading producer of natural gas in 2011.

Driving American energy dominance is the hydrofracturing revolution. Over the last two decades, US geologists and petroleum engineers perfected the techniques of hydraulic fracturing and horizontal drilling, permitting cost-effective extraction of oil and gas from low-permeability shale rock formations. US companies hold about a 10-year experience lead in shale extraction techniques over international competitors.

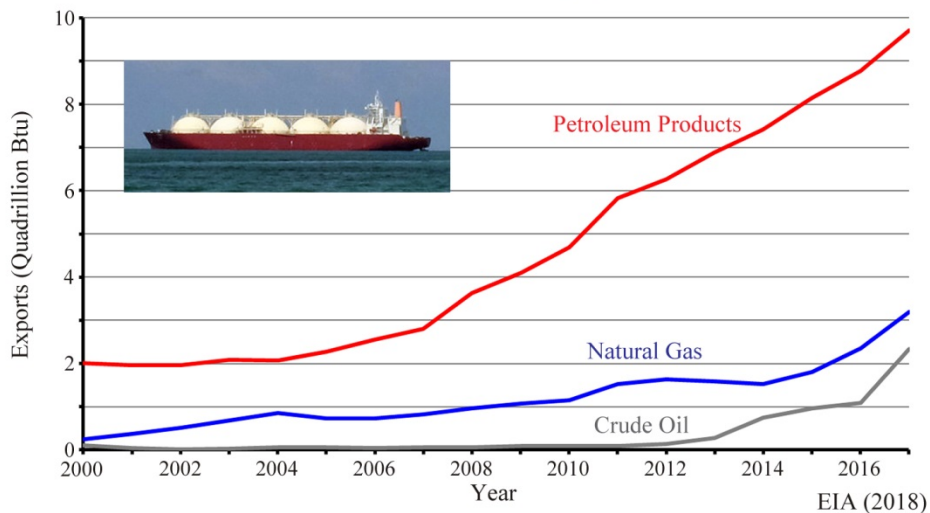
In 2000, only about 7 percent of US natural gas [came](#) from hydraulically fractured wells. Today about 70 percent of US gas production and over 50 percent of crude oil production comes from fractured wells. Fracking operations are active in more than 20 states.

US oil and gas production surged despite strong opposition from environmental groups. For more than a decade, green advocates have opposed drilling, fracking, [pipeline](#) transport, export terminals, and even investments in oil and gas. But the “keep it in the ground” [movement](#) is being trampled by the US energy juggernaut.

Along with the rapid rise in production, US oil and gas exports are [exploding](#). US exports of refined petroleum products increased by a factor of five from 2004 to 2017. Our nation became a net exporter of refined petroleum products in 2011. In 2015, the Obama administration [lifted](#) a 40-year ban on US crude oil exports. Crude exports rose by 400 percent since 2014. The US still remains a net importer of crude oil, but oil imports have dropped to the lowest level since 2000.

In 2017, the US became a net exporter of natural gas, with Mexico the largest customer. Prior to 2010, terminals were under construction to import liquefied natural gas. But the fracking revolution produced a huge volume of gas at one-half of the price of gas in Europe and one-third of the price in Japan. Liquefied natural gas (LNG) export terminals [started](#) operation in 2016 at Sabine Pass in Louisiana and in 2018 at Cove Point in Maryland. Four other new LNG export terminals are scheduled to come on line by 2020.

US Exports of Crude Oil, Petroleum Products, and Natural Gas 2000-2017



Propane, a hydrocarbon fuel used for heating and cooking, is a notable example of success. Prior to 2010, the US was a net importer of propane. But US propane field production [doubled](#) since 2010 and exports now approach one million barrels per day.

About three billion people around the world do not have modern fuels for heating and cooking. India has a [program](#) to get liquid propane gas to 80 percent of households by March, 2019. Exports of US propane are meeting this need in India, along with needs in China and other nations. The Panama Canal [expansion](#) completed in 2016 allows supertankers to deliver US propane and natural gas to Asia.

A major benefit of US energy resurgence is an improved balance of trade in energy. In 2011, US energy imports [exceeded](#) exports by \$325 billion. With growing production of oil and gas and rising exports, the US trade imbalance in energy fell to \$57 billion in 2017. Energy plays a major role in the strength of today's US economy.

The US plastics industry now enjoys a large cost advantage in global markets. US oil and gas refineries produce the lowest-cost ethylene and propylene in the world, the basic materials for plastics. US natural gas also provides a cost advantage for chemical and steel firms. Gas fuels generation of cheap electricity for aluminum, cement, paper, and other industries.

Despite environmental opposition, the United States is emerging as the world's energy powerhouse. US energy production is not only good for US industry and the US economy, but exports increasingly provide low-cost energy for Europe, Asia, and the rest of the world.

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