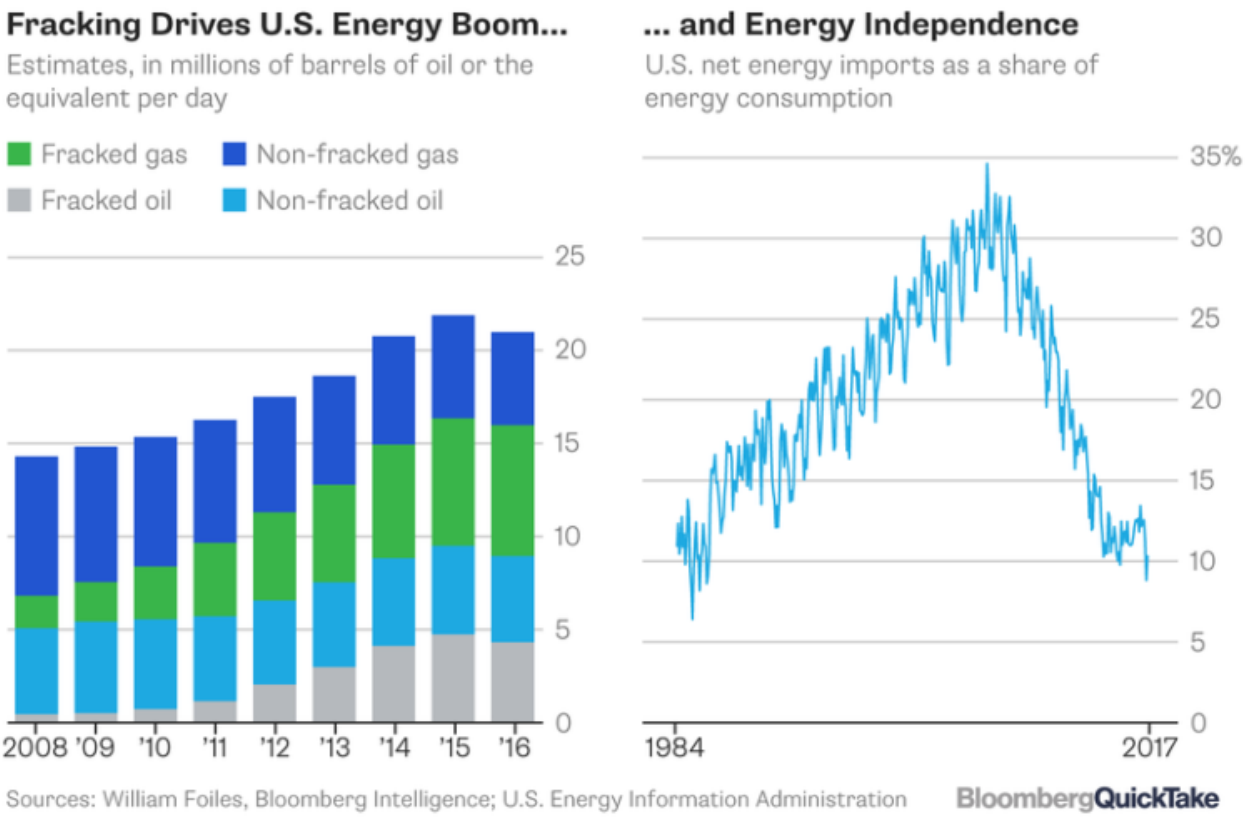
Fracking



Fracking to extract oil and natural gas from shale rock has produced a flood of energy in the U.S. and Canada, lowered fuel prices and created tens of thousands of jobs. It's helped the two countries lessen their dependence on foreign energy and cut their use of coal, the dirtiest fossil fuel, by almost a third since 2008. At the same time, fracking is associated with earthquakes, greenhouse-gas emissions and water and air pollution. Fracking raises questions about whether the benefits justify the costs, whether the minuses can be diminished through technology and regulation, or whether fracking presents a threat so grave it must be banned, an action many communities have taken.

The Situation

Hydraulic fracturing, or fracking, was largely responsible for a 52 percent increase in U.S. oil and gas output from 2008 to 2015 and has made the country one of the world's biggest

producers of the two fuels. Fracking generates a little more than half the oil and gas the U.S. produces today. The practice has yet to take off outside North America. Environmental concerns have provoked a backlash, with bans or limits imposed by several European countries, Canada's Quebec province and, in the U.S., the states of New York, Vermont and Maryland and hundreds of counties and municipalities. Saudi Arabia and other members of the Organization of Petroleum Exporting Countries tried to drive North American frackers out of business starting in 2014 by flooding the market to push down oil prices. The biggest crash in the price of crude in a generation put some frackers out of business and prompted others to scale back. In 2016, U.S. crude production declined 5.7 percent and gas output fell 1.7 percent. After slashing costs by more than a quarter by adopting more efficient drilling techniques, the fracking industry began to rejuvenate in 2017. At the same time, U.S. President Donald Trump began to reduce energy regulations.

The Background

The first commercial use of fracking was in 1949 in Oklahoma. The technique involves forcing water mixed with sand and chemicals into a well to create fissures in shale rock so the oil or gas trapped inside escapes. Advances in another innovation, horizontal drilling, came in the early 1980s and provided access to shallow layers of shale deep underground. The subsequent exploitation of the Barnett Shale formation in Texas proved large-scale fracking was economically viable, not least because of high oil and gas prices.

The Argument

Advocates of fracking point out that abundant gas has let many U.S. power plants abandon coal, helping drive down energy-related carbon emissions 12 percent from 2005 to 2015. It's also decreased U.S. dependence on Persian Gulf oil, with U.S. net energy imports as a share of consumption in recent years

hovering around 10 percent – levels last seen in the 1980s. The environmental risks of fracking, proponents argue, can be mitigated. For instance, operators can reduce leaks of methane, a potent greenhouse gas, by testing and repairing pressure safety valves. Pollution of nearby water sources can be minimized by ensuring that oil and gas wells are properly sealed with cement. Fracking's champions say the risks of small earthquakes – linked mainly to the injection of wastewater into underground wells – can be lessened by mapping deep-rock formations and avoiding areas where tremors might result. They say frackers can trim their tremendous consumption of fresh water by recycling wastewater or using foam or gel as alternatives. Opponents say fracking is inherently too hazardous to tolerate. They say that methane leaks not only offset the greenhouse-gas savings from fracking but could outweigh them. Critics say strictly enforced nationwide regulations are required before operators would make investments that might curb environmental risks. They argue that the oil and gas industry has the power to block comprehensive regulation, and that the Trump administration has no interest in such oversight in any case. That leaves in place an existing patchwork of gap-filled laws. Opponents argue that the abundance of fossil fuels fracking produces will prove a curse because it will delay the development of renewable alternatives and thus impede the effort to slow global warming.