

Fact Sheet: What Is Energy Independence?

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By Justin Yarros

Introduction

A popular narrative has emerged saying that America will produce enough oil and natural gas to achieve energy independence within a decade, and that this will somehow solve America's energy security concerns.

This narrative is false.

First, America has long been independent of foreign sources of energy for electricity, residential, and commercial use (about 50% of U.S. energy use); only the petroleum products that are used for transportation and industrial uses are subject to imports.

Although technically "independent" in that these commodities are not largely imported, it would be a mistake to call these sources of energy safe, sustainable, or economically stable.

Second, even if the U.S. could produce all the oil it used, that oil would be subject to global market fluctuations – and those market prices are dominated by demand growth in developing countries and by supply changes by large producers like the Persian Gulf.

This fact sheet examines the myth of "energy independence" and shows why America cannot drill its way to energy security.



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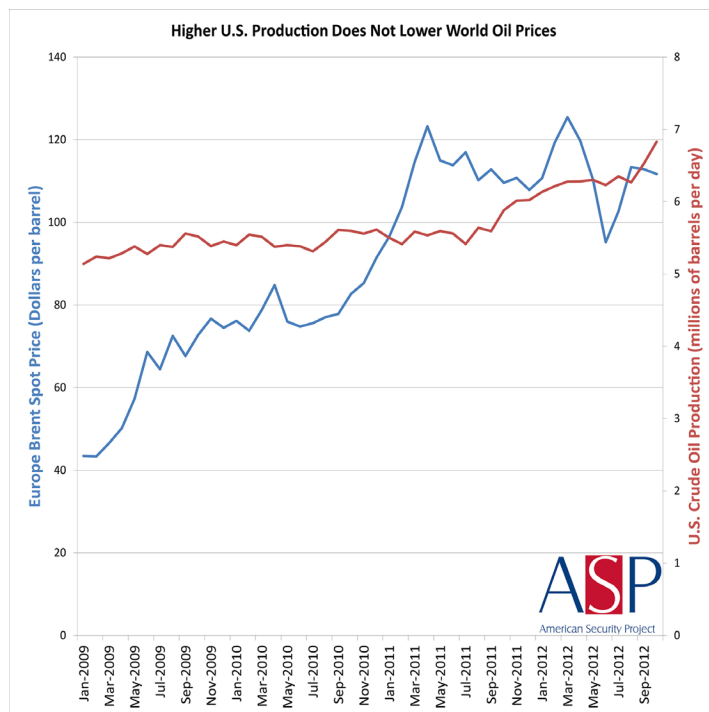


This fact sheet presents key facts about our consumption patterns of oil and natural gas and examines the threats of fossil fuel dependence. Instead of “energy independence,” U.S. energy policy should strive for energy security, which can be defined as the ability to act in foreign policy regardless of how we use energy at home.

U.S. policy should focus on building an energy system that is secure, economically stable, and sustainable. To really achieve a measure of energy security, we have to diversify our energy sources, use less fossil fuels, and address climate change.

Oil, Transportation, and Security

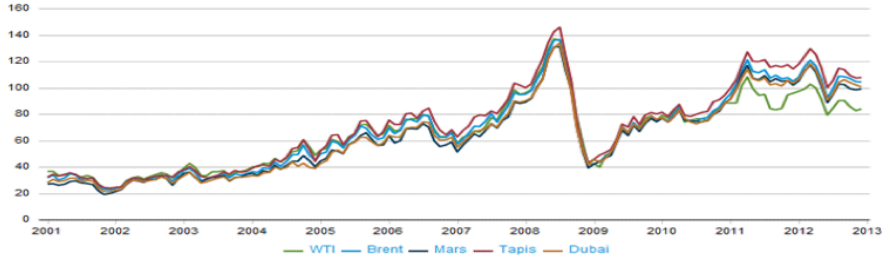
- Oil prices are determined by the global interaction of supply, demand, and the perception of future changes in supply or demand on the world market. These market forces are mostly out of America’s control; the U.S. does not produce enough domestic oil to significantly affect price.
- In 2012, total U.S. oil consumption was about 18.6 million barrels per day (mbd) and U.S. crude oil production was 6.4 mbd.¹
- Our transportation infrastructure is highly dependent upon oil.
- Gasoline expenditures in 2012 for the average U.S. household reached \$2,912, about 4% of income before taxes - the highest estimated percentage of household income spent on gasoline in nearly three decades.
- Due to our use of oil and inability to drill to energy independence, we are faced with significant economic and military threats.
- By one estimate, the U.S. military spends \$83 billion each year to protect oil supplies and transit routes in the Persian Gulf.²
- To shield itself from supply disruptions, the United States is then obligated to set foreign policy objectives that may run counter to our long-term interests.



World oil prices move together due to arbitrage

World crude oil prices

dollars per barrel (real 2010 dollars, monthly average)



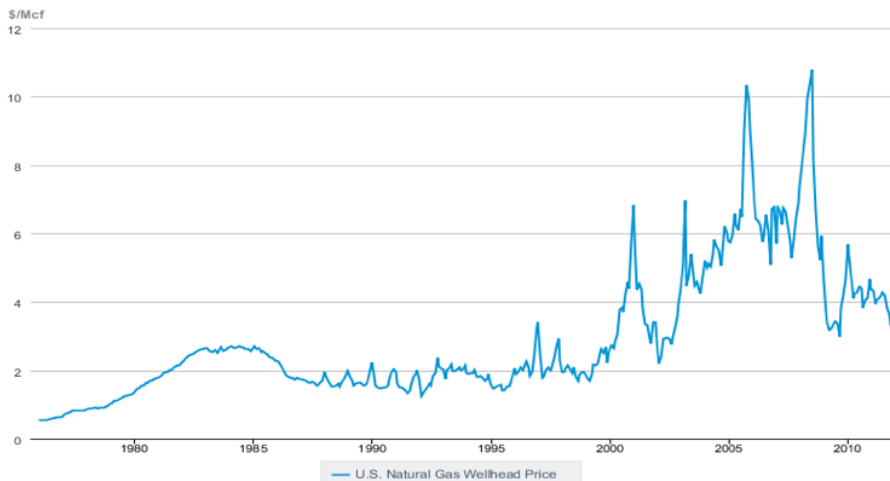
Sources: Bloomberg, Thomson Reuters. Published by: U.S. Energy Information Administration.
Updated: Monthly | Last Updated: 12/31/2012

Many types of crude oil are produced around the world. Variations in quality and location result in price differentials, but because oil markets are integrated globally, prices tend to move together.

Electricity

- America's electricity is provided by a mix of mostly coal, natural gas, nuclear power, with about 13% coming from renewables. All of these sources have abundant domestic supplies, and the U.S. is "energy independent" in electricity.
- However, our electricity sector is aging, sources of energy like coal are not environmentally sustainable, and commodity prices are not stable.
- While the shale gas 'revolution' has caused prices of natural gas to temporarily plummet, natural gas prices have been prone to volatility.
- For now, electricity independence does not solve America's dependence on oil, because electricity is not used in transportation.
- For that reason, the newfound abundance of natural gas cannot and will not make us energy independent.

Natural Gas Prices



Source: U.S. Energy Information Administration

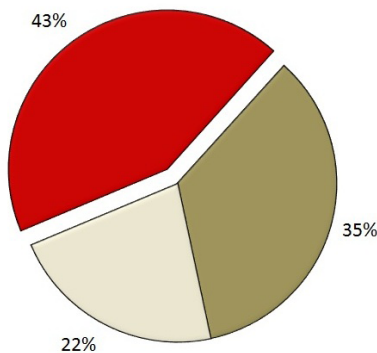
Climate Change

The consequences of climate change – rising temperatures, increased occurrence of extreme weather events, and more intense droughts, floods and heat waves – present a national security threat to the United States.

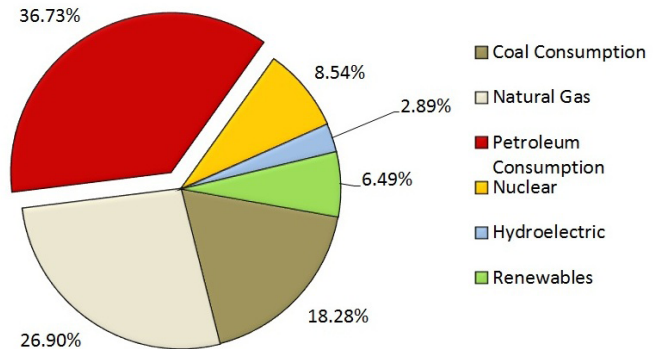
Achieving “energy independence” does not address the effects of climate change resulting from our dependence on fossil fuels

- The “greenhouse effect” is a natural process whereby thermal radiation is trapped in our atmosphere, increasing global temperatures.
- Man-made warming has happened because of an upward trend in industrial activity and release of carbon into the atmosphere.³
- Earth’s average temperature has risen by 1.4°F over the past century, and is projected to rise another 2 to 11.5°F over the next hundred years.⁴
- Total Emissions in 2010 were 6,822 Million Metric Tons of CO2 equivalent. Transportation accounts for 27% of 2010 greenhouse gas emissions - primarily from burning petroleum products.⁵

U.S. Greenhouse Gas Emissions From Energy



Percentage of U.S. Total Energy by Source



Conclusions

- America does not produce enough to make a significant impact on oil prices.
- Our oil dependence distorts our foreign policy – we often value the stable flow of oil above other strategic interests.
- The natural gas boom does not solve the problems of energy independence because it is used for electricity.
- Fossil fuels contribute to climate change.
- Both natural gas and oil are going to run out someday. We must develop alternative sources to fuel our transportation sector.
- The only way to improve our energy security for transportation is to diversify our fuel options and use less oil. This means investing in electric vehicles, biofuels, mass transit and R&D into new technologies.
- Energy independence is a buzzword without a definition. U.S. policy should focus on building an energy system that is secure, economically stable, and sustainable.

Further reading

[Cause and Effect – U.S. Gasoline Prices](#)

[WHITE PAPER: Advanced Biofuels and National Security](#)

[FACT SHEET: DoD's Biofuels Program](#)

[Need to Know – Energy and U.S. National Security](#)

[Climate Security Report](#)

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Endnotes

1. Unless otherwise noted, all figures sourced from Energy Information Administration. <http://www.eia.gov/>
2. Crane, K., Goldthau, A., Toman, M., Light, T., Johnson, S., Nader, A., et al. (2009). Imported Oil and U.S. National Security. Santa Monica, CA: Rand Corporation. http://www.rand.org/content/dam/rand/pubs/monographs/2009/RAND_MG838.pdf
3. Environmental Protection Agency. (2012, December 11). Climate Change Indicators in the United States. Retrieved February 13, 2013, from EPA web site: <http://www.epa.gov/climatechange/science/indicators/ghg/index.html>
4. Environmental Protection Agency. (2012, June 14). Climate Change Basics. Retrieved February 13, 2013, from EPA web site: <http://www.epa.gov/climatechange/basics/>
5. Environmental Protection Agency. (2012, June 14). Sources of Greenhouse Gases. Retrieved February 13, 2013, from EPA <http://www.epa.gov/climatechange/ghgemissions/sources.html>

Building a New American Arsenal

The American Security Project (ASP) is a nonpartisan initiative to educate the American public about the changing nature of national security in the 21st century.

Gone are the days when a nation's strength could be measured by bombers and battleships. Security in this new era requires a New American Arsenal harnessing all of America's strengths: the force of our diplomacy; the might of our military; the vigor of our economy; and the power of our ideals.

We believe that America must lead other nations in the pursuit of our common goals and shared security. We must confront international challenges with all the tools at our disposal. We must address emerging problems before they become security crises. And to do this, we must forge a new bipartisan consensus at home.

ASP brings together prominent American leaders, current and former members of Congress, retired military officers, and former government officials. Staff direct research on a broad range of issues and engages and empowers the American public by taking its findings directly to them.

We live in a time when the threats to our security are as complex and diverse as terrorism, the spread of weapons of mass destruction, climate change, failed and failing states, disease, and pandemics. The same-old solutions and partisan bickering won't do. America needs an honest dialogue about security that is as robust as it is realistic.

ASP exists to promote that dialogue, to forge consensus, and to spur constructive action so that America meets the challenges to its security while seizing the opportunities the new century offers.



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