

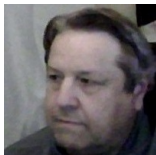


Quora Contributor

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How Many Years Of Oil Do We Have Left To Run Our Industrial Civilization, Keeping In Mind That Oil Is A Resource And Has An Economical End?

[Comment Now](#)*[Bill McDonald](#), engineer in Silicon Valley*

Probably in excess of 50 years before oil production drops below half what is currently. Counting natural gas in total hydrocarbons, probably 90 to 140 years before total hydrocarbon use drops to below half what it is currently. It is likely that this will be enough time to transition to renewables, nuclear, and biomass, with some oil still used for long distance transportation.

The Peak Oil Doomsters have a problem.

They basically said that if developed countries did not ...

- increase efficiency & conservation
- develop renewables, like wind and solar
- find new sources of oil (they sometimes suggested Antarctica)

... then the world would run into peak oil and peak natural gas, and this would **doom** civilization ...

Well, most countries **increased conservation** (see first chart for US energy use decline per capita and per GDP Dollar).

Some countries put massive funds into **renewables**, usually wind – Spain, Denmark, Germany, China.

One country – the United States – **created technology to get at gas and oil trapped in shale and turn that into economic resources** (beats harassing penguins).

*And now there isn't as much **DOOM**. **Peak oil pundits appear to have reached peak doom and are now running out.***

Peak oil (and hydrocarbons) has been significantly delayed, and the chances of a steep as opposed to a slow drop have been reduced.

Okay, why?

1. **Minor, short term (we hope) World economic crisis cut consumption.**
2. **Efforts at conservation & efficiency – all those funny light bulbs, improved cars, more efficient buildings.**
3. **Significant increase in some renewables – mostly wind power.** Spain recently was able to get **half their electric power from wind & solar on one day.**
4. Development of new technologies (fracking) that make **previously unavailable hydrocarbon deposits into real economic resources.** **Shale gas** and the **Bakken formation (mostly North Dakota)** represent actual **NEW resources**. They were not included in previous estimates because, like methane hydrates in the very deep ocean, they are not resources because there was no way to use them. (If we go back 40 years in history, we will see the **Canadian oil sands** were not counted as resources except with a sort of “asterisk” either).

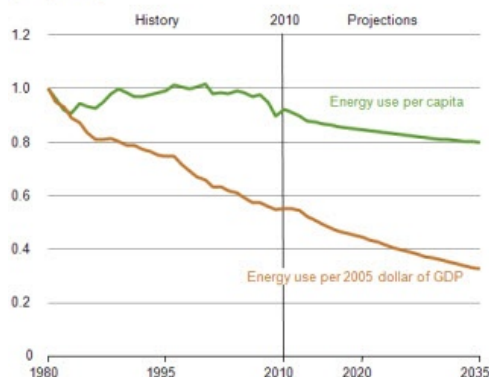
Both efficiency (2) and renewables (3) are still accelerating, and fracking is still improving.

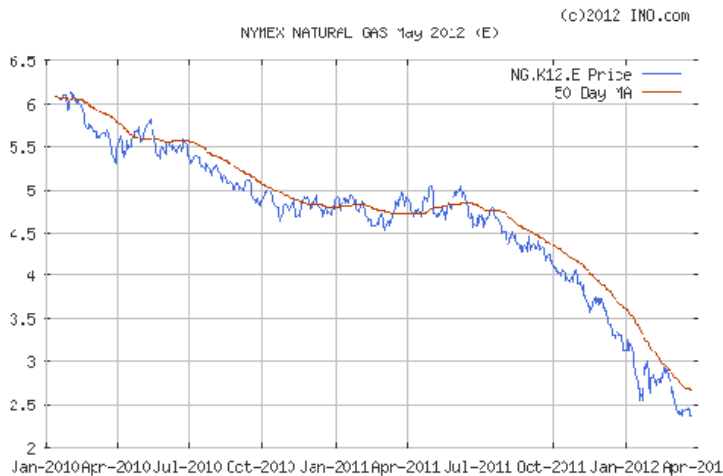
The new resources are subject to both debate and politicized controversy. However, both are real, large, and growing.

While “peak oil” is still a valid mathematical concept, if there is not a sharp drop after the peak, or a massive price spike for a long time, most of the economic and social disruption forecast by the peak oil people becomes a much smaller issue.

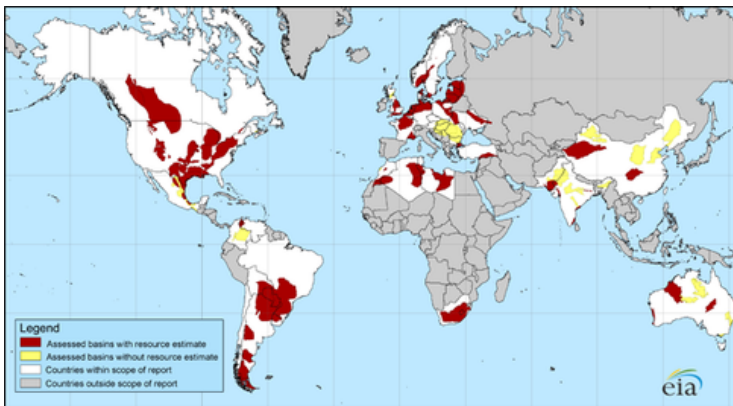
U.S. oil production increased by 12% last year.

Figure 1. Energy use per capita and per dollar of gross domestic product, 1980-2035
(index, 1980=1)

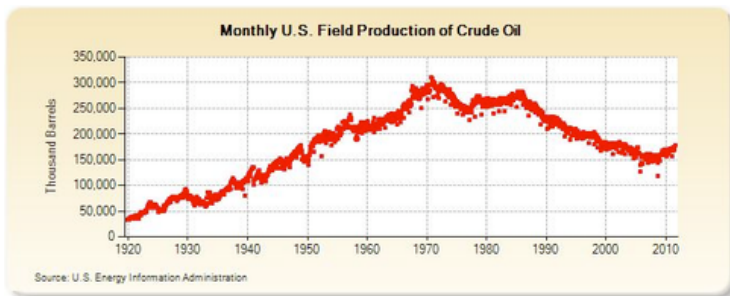




Shale gas is all over the world...

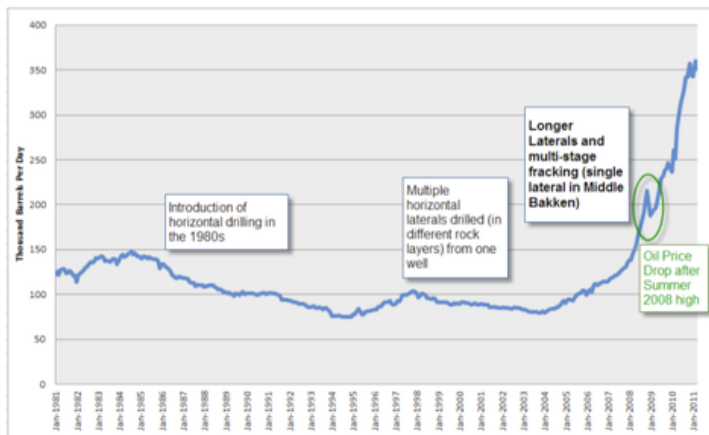


This chart goes back to the 1920s



Up and to the right...

Figure 5. North Dakota Field Production of Crude Oil



EIA forecasts

<http://www.eia.gov/forecasts/aco/>

Shale gas

http://www.eia.gov/pressroom/presentations/newell_06212011.pdf

Bakken

<http://www.eia.gov/todayinenergy/detail.cfm?id=3750>

This question *[originally appeared](#)* on *[Quora](#)*. More questions on *[the oil and gas industry](#)*:

- *[Is it possible for an untrained person to immediately become an oil rig worker?](#)*
- *[Why do profitable oil companies receive federal subsidies and/or tax breaks?](#)*
- *[Why does the price per gallon of gas change as soon as the price per barrel of oil goes up, even though the stations already have gas?](#)*

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