



Oil Drilling and Automobile Fuel Economy: The Relative Impact on Oil Prices

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Today, the Republican Study Committee put forth an alternative to the Federal Reserve's bailout plan that includes a provision to open the Arctic National Wildlife Refuge (ANWR) to oil drilling. This comes just a week after the U.S. House of Representatives passed a bill that lifted some restrictions on oil drilling in America's outer continental shelf. The bill was supported by many Democrats but was criticized by many Republicans for not going far enough and for not opening up enough areas to drilling. And in supporting the lifting of all restrictions on drilling in the outer continental shelf, Senator John McCain argues that increased offshore production will reduce dependence on foreign oil, in addition to lowering gas prices.

However, the Energy Information Administration (EIA) has concluded that even proposals for comprehensive offshore drilling will have no impact in the near-term, since it will be close to a decade before any oil can be extracted from the coastal areas in question. The EIA estimates that actual production would not begin until 2017 and would not reach peak production until 2030. The EIA projects domestic oil production to increase by 200,000 barrels a day (0.2 percent of projected world production), an amount too small to have any significant effect on oil prices.¹

It is interesting to compare the potential impact on oil prices of the proposal to remove restrictions on offshore drilling and in ANWR with the impact of the recently passed Energy Independence and Security Act of 2007. This legislation included regulations designed to increase production of renewable fuels and increase energy efficiency. Most significantly, the measure raised the corporate average fuel economy (CAFE) standard for automobiles. Under the legislation, the minimum CAFE standard for passenger vehicles must average at least 35 miles per gallon (mpg) by 2020, up from the previous minimum standard of approximately 27.5 mpg at present.²

CAFE standards were first implemented in 1975 at 20 mpg and increased to 27.5 mpg in 1985. The CAFE program had the direct effect of reducing national oil consumption by compelling automakers to produce more fuel-efficient cars. The Board on Energy and Environmental Systems estimates that without CAFE standards, gasoline consumption (and crude oil imports) would be about 2.8 million barrels a day greater.³ Currently, our consumption of oil is estimated at 20.8 million barrels a day.⁴

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¹ The projections for oil output for the protected areas can be found in: United States. Department of Energy, Energy Information Administration. *Annual Energy Outlook with Projections to 2030*. Washington: GPO, 2007. <http://www.eia.doe.gov/oiaf/archive/aeo07/issues.html>. Accessed September 8, 2008.

² White House. *Fact Sheet: Energy Independence and Security Act of 2007*. Washington: White House, 2007. <http://www.whitehouse.gov/news/releases/2007/12/20071219-1.html>. Accessed September 9, 2008. The current 25 miles is a rough average of the 27.5 MPG requirement for cars and the 22.2 MPG requirement for light trucks.

³ Board on Energy and Environmental Systems. *Effectiveness and Impact of Corporate Average Fuel Economy (CAFE) Standards*. Washington: National Academy Press, 2002. http://www.nap.edu/openbook.php?record_id=10172&page=3. Accessed September 9, 2008.

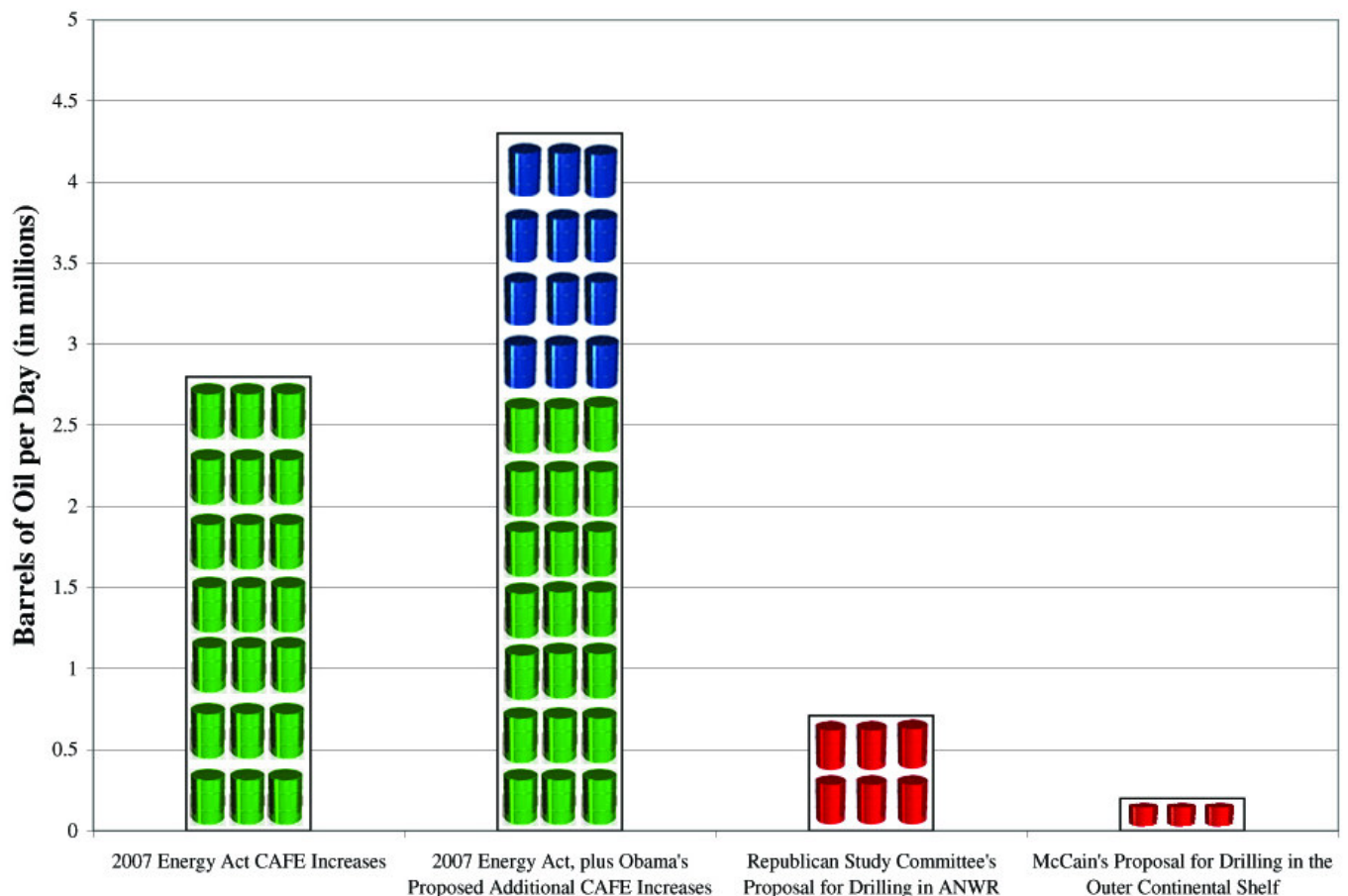
⁴ Central Intelligence Agency, World Factbook. *Rank Order – Oil – Consumption*. Washington: CIA, 2005. <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2174rank.html>. Accessed September 11, 2008.

Figure 1 shows the relative impact on oil production of lifting drilling restrictions in ANWR and on the Outer Continental Shelf, compared with the impact on oil consumption of increasing standards of automobile fuel efficiency.

The Energy Independence and Security Act of 2007 should have a similar impact on fuel efficiency and oil consumption, also lowering consumption by approximately 2.8 million barrels per day by 2027, the year when the EIA projects that peak production could be reached from drilling in the currently protected offshore area.⁵ If this is the case, then the increase in fuel economy standards contained in the recent legislation will decrease oil dependency by an amount *fourteen times greater* than any comprehensive offshore drilling effort.

Senator Obama has proposed a slightly more ambitious fuel efficiency schedule which would increase mileage standards at the rate of 4 percent a year. This would lead to somewhat greater energy savings, especially if the increases are continued beyond the 2020 date. In this case, the mileage standard will reach 52 miles per gallon by 2027, which will raise the average for all cars driven to just less than 42 miles per gallon by that date. In this case, the savings in oil consumption would be equal to 4.2 million barrels a day by 2027.⁶ This amount would be 21 times as large as the impact of opening up the protected offshore areas to drilling.

FIGURE 1
The Relative Impact of Expanding Oil Drilling and Increasing Fuel Efficiency Standards in 2030



Sources: Energy Independence and Security Act (2007), Energy Information Administration and authors' analysis.

⁵ This calculation assumes that the efficiency of the fleet of cars sold increases at the rate of 0.85 MPG per year between now and 2020. It also assumes that each year a car is on the road it is driven 10 percent less (e.g. 2005 cars are driven 10 percent less than 2006 cars) and that it is pulled off the road altogether after 20 years. It also assumes a baseline where gasoline consumption rises by 10 percent from 9 million barrels per day in 2008 to 10 million barrels per day in 2027.

⁶ This calculation makes the same assumption about the rate at which cars are pulled off the road.

In response to the \$700bn bailout proposed by the Federal Reserve, a recent Republican legislative proposal supports lifting the restrictions on drilling. The EIA has estimated that drilling in the Arctic National Wildlife Refuge would have no effect in the near-term. Production would not begin until 2018, and in 2030, production would plateau at 710,000 barrels a day. This amount of oil is projected to decrease the price of oil by about \$2.00 a barrel, which would bring down the price of gasoline by less than 5 cents a gallon.⁷

In conclusion, the increase in CAFE standards signed into law by President Bush will have four times the impact on oil dependency as drilling in the Arctic National Wildlife Refuge and fourteen times the impact as drilling in the Outer Continental Shelf. Senator Obama's conservation proposal would have 21 times the impact of opening up drilling in protected offshore areas and 6 times the impact of drilling in the Arctic National Wildlife Refuge. The impact of opening drilling in either area will be zero for close to a decade. Even when these regions attain peak production in close to twenty years, the potential impact on gasoline prices will still be negligible.

⁷ The projections for oil output for the protected areas can be found in: United States. Department of Energy, Energy Information Administration. [Analysis of Crude Oil Production in the Arctic Wildlife Refuge](http://www.eia.doe.gov/oiaf/servicert/anwr/pdf/sroiaf(2008)03.pdf). [http://www.eia.doe.gov/oiaf/servicert/anwr/pdf/sroiaf\(2008\)03.pdf](http://www.eia.doe.gov/oiaf/servicert/anwr/pdf/sroiaf(2008)03.pdf). Accessed September, 9 2008.