

The Oil Patch

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News, Analysis and Commentary on How the Oil Industry Works Today: Promises, Problems and Practices

Here you will find occasional news, analysis and commentary on subjects that have received too little notice from government agencies, the press and other policy analysts.

(This article was posted on the FinebergResearch.com Home Page July 1, 2008, then transferred to The Oil Patch Sept. 27, 2008. It appears here in its original form, except for one change: The June 2008 report referenced in footnote 3 has been replaced by three more recent reports, prepared in 2009, that make essentially the same points with updated data. -- RAF, July 21, 2009.)

Drill Worshippers Take Note: Domestic Oil Use, Imports On Declining Trend for First Time in 25 Years

Conservation, Alternative Technology Advance from Theory to Reality with Little Fanfare

Oil Savings in Last Four Years Outweigh Oil Potential By More than 10 to 1; Data Reveal Folly of Drilling on Arctic National Wildlife Refuge Coastal Plain

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By **RICHARD A. FINEBERG**

July 1, 2008 *(with an update to Footnote 3, July 21, 2009)*

With the nation's worried eyes riveted on rising gas pump prices and the national energy debate often characterized by rhetoric, not reason, drilling advocates hope the fears of a panicky public in an election year will cause Congress to open the Arctic National Wildlife Refuge to oil drilling.

But little-noticed data from the domestic oil front reveal important trends that dump copious quantities of cold water on the current oil drilling frenzy that threatens a national treasure. First, a calm look at domestic oil production, consumption and import figures reveals that the folks who cry about rising dependency on foreign oil are simply wrong.

- Fact: For the first time in the last quarter century, since 2005 net petroleum imports - the figure that the U. S. Energy Information Administration (EIA) uses to measure dependence on foreign oil - have exhibited a decreasing trend. Today, both net petroleum imports and total domestic consumption are slightly lower than they were in 2004. **(1) (For historical imports and consumption chart, [click here.](#))**

While the decrease in domestic consumption and imports is slight, the break from the historical trend is striking. Even more important: Looking forward, the EIA foresees a pronounced decline in the percentage of net petroleum imports in coming decades. **(2) (For EIA import projections, [click here.](#))**

These developments, largely unnoticed in the national energy debate, have momentous consequences. In the last three years reductions in domestic petroleum consumption and early implementation of alternative technologies have led to significant reductions in projected oil imports that dwarf the production potential of the Arctic Refuge. When national trends reported by EIA are extended out to the year 2050, this nation is already on track to achieve a reduction in imports of more than 100 billion barrels of oil through conservation and alternative technologies. By comparison, potential production from the Arctic Refuge Coastal Plain region during the same period is estimated to be far less than 10 billion barrels of oil. **(3) (For updated reports on potential U.S. oil production and import trends through 2030, prepared in early 2009, [click here.](#))** From these data, it is clear that the proposal to seek oil on the Coastal Plain of the Arctic Refuge can be dismissed as a misguided distraction from the urgent energy tasks at hand.

Over the past decade, environmentalists have been able to counter the misinformation of the drill worshippers by providing substantive information to Congress and the public about the environmental aspects of Arctic development and the small role Arctic Refuge oil would play in the national energy picture. But today, as drilling advocates steadily thump their inaccurate and misleading drums, in the hysteria caused by high oil prices, important facts and meaningful solutions get lost.

Consider, for example, the myth that Arctic Refuge oil could be produced from just 2,000 acres of land. The development history of the Prudhoe Bay complex and a three-year study of the geology of the Arctic Refuge Coastal Plain by the U.S. Geological Survey (USGS) refute the notion that the Arctic Refuge can be developed from a 3.1 square-mile postage stamp development. The Prudhoe Bay development, to the west of the Arctic Refuge, cuts a sprawling, 100-mile swath across the undulating Coastal Plain of the North Slope. On the western flank of the Prudhoe complex, the recent development of the Alpine field demonstrates that the environmental impacts are significant, despite technological advances. Meanwhile, the three-year assessment of Arctic Refuge potential completed by the USGS in 1998 shattered the dream that the Arctic Refuge might contain a super-giant field like Prudhoe Bay. Instead, the USGS concluded, any oil discovered beneath the Arctic Refuge Coastal Plain would likely be found in a number of smaller deposits. The USGS mean estimate of technically recoverable oil - 10.4 billion barrels - was based on a scenario in which the largest undiscovered field beneath the Arctic Refuge Coastal Plain would produce 1.4 billion barrels. EIA estimates that the largest field and the six next largest undiscovered fields would yield about 40% of Arctic Refuge production; 2.6 billion barrels of that amount would be produced between 2018 and 2030; in EIA's view, three-quarters of Arctic Refuge production would not come until after 2030. **(4)** Based on USGS estimated field sizes, it would take the discovery and development of 30 additional, smaller fields to reach the 10.4 billion barrel total. **(5)**

In the face of the best information available, people who should know better - from Alaska Senator Ted Stevens and Congressman Don Young to energy experts at the oil-oriented University of Alaska in Fairbanks - continue to perpetuate the myth that the Arctic Refuge oil could be produced from an area smaller than 2,000 acres. **(6)** Despite the evidence of the Prudhoe Bay experience and the best estimates of the USGS, the 2,000-acre myth has found its way into Arctic Refuge drilling proposals. As if legislative language can make it so, the Drill Worshipers blindly assert that the Arctic Refuge can be developed from a 2,000-acre postage stamp.

The 2,000-acre myth is one of many exaggerated claims by drilling advocates. Senator Stevens repeatedly rewrites history to fuel hopes that the Arctic Refuge will yield far greater quantities of oil than estimated. In the latest version of this story, Senator Stevens told his colleagues that the Prudhoe Bay field was originally estimated to hold one billion barrels of oil but will produce 18 billion. **(7)** In fact, seven months after the Prudhoe Bay discovery, the geologic consulting firm DeGolyer & McNaughton, retained by the discoverers, reported that Prudhoe Bay held nearly 10 billion barrels of recoverable oil. Due to exceptional geology and technological developments, the largest producing oil field ever discovered in the United States has exceeded initial estimates, with approximately 13 billion barrels lifted in its first 31 years and more than two billion barrels estimated remaining to be produced. These are impressive figures, to be sure, but nothing like the version of history spouted by Senator Stevens. As noted above, the 1998 USGS report effectively scotches the notion that the Arctic Refuge Coastal Plain holds another Prudhoe Bay. **(8)**

In his May 1, 2008 "Dear Colleague" letter, Congressman Young proclaimed that the Coastal Plain of the Arctic Refuge holds a 30 year supply of oil capable of producing 1.0 million barrels of oil per day (bpd). **(9)** The congressman, too, is playing fast and loose:

- EIA mean case production estimates for the Arctic Refuge are far below Congressman Young's figures. According to the agency's May 2008 Analysis of Crude Oil Production in the Arctic National Wildlife

Refuge, Arctic Refuge production never even reaches 1.0 million bpd, peaking at 0.78 million bpd in 2027 and averaging approximately 0.657 bpd during the 13-year period between 2018 and 2030. **(10)**

- Congressman Young urges that "[w]e can get off our duffs and put Americans to work producing American oil in ANWR, or we can leave that 10.4 billion barrels in the ground." The congressman writes as if Arctic Refuge oil have already been discovered. In fact, however, estimates of Arctic Refuge production potential represent oil that has yet to be found; **(11)** unlike proven oil reserves, oil may or may not be discovered beneath the Arctic Refuge Coastal Plain. **(12)**
- In describing Arctic Refuge production in terms of a 30-year production horizon, Congressman Young fails to note an earlier EIA report estimated that it might take as long as 65 years to produce all of mean technically recoverable volume. **(13)**

Continued Below [\(Click Here\)](#)

..... "Energy security and the pain of high oil prices are problems of paramount national importance that cause serious drains on individual pocketbooks, and on the national economy. The policy formulation process is inevitably complicated by the fact that nobody comes to the table with a crystal ball. All too often, the national discussion casts reason to the winds. But to deal with these challenges, it is essential to consider carefully the trade-offs, costs, benefits and feasibility of each energy proposal in their broader context. This effort requires a pressing need to ensure deeper understanding of the issues, and to elevate those understandings with facts and common sense.

..... "When it comes to the Arctic Refuge, the Drill Worshippers fail these important tests with flying colors."

Drill Worshippers Take Note: Domestic Oil Use, Imports on Declining Trend (Continued)

In addition to boosting the volume of oil that might be discovered and cutting the acreage required to develop whatever oil might be discovered, the Drill Worshippers routinely ignore or downplay the oil industry's dubious environmental performance in Alaska. In 2007 BP paid a \$20-million penalty for its North Slope corrosion problems that caused a 200,000-gallon oil spill and a partial shutdown at the nation's largest oil field early in 2006. **(14)** Eight years earlier, BP and one of its contractors, Doyon Drilling, accumulated even larger penalties for the illegally reinjecting hazardous wastes beneath the permafrost at the Endicott field between 1993 and 1995. **(15)** Together with ConocoPhillips and ExxonMobil, BP controls more than 95% of North Slope production and a roughly similar percentage of the Trans-Alaska Pipeline System (TAPS), the 800-mile pipeline that links the North Slope to the ice-free port of Valdez. The U.S. pipeline safety office hit TAPS with the largest fine assessed against any pipeline in the nation in 2007. **(16)** The shortcomings in Exxon's Alaska shipping operations were revealed in 1989 when the tanker Exxon Valdez grounded on Bligh Reef in Prince William Sound, unleashing what is generally regarded as the worst oil spill in the nation's history. **(17)** It is difficult to reconcile this dismal track record with Drill Worshipper assurances that the Arctic Refuge can be developed safely.

The major congressional battles over Arctic Refuge development in 1995, 2002 and 2005 were hard fought. In the course of those debates, many members of Congress grappled with the technicalities of finding and producing oil and came to understand the short-sightedness of risking a national treasure for an unknown quantity of oil that, in all probability, would be too small to make much of a dent in the nation's long-term petroleum deficit problem. But this time around, gas pump prices in excess of \$4.00 per gallon and the environmental focus on climate change appear to be crowding out important facts that should inform consideration of issues such as Arctic Refuge development.

In this frenzied debate, Senator Stevens once again contributes to the confusion by confabulating the distinction between the current tight oil market and the long-term imbalance between domestic supply and demand. On one hand, Senator Stevens rails against his Democratic colleagues, who say that increased production from Saudi Arabia right now could reduce gasoline prices by \$0.25 to \$0.50 per gallon. The senator accuses his colleagues of inconsistency because they seek increased production from the Saudis while saying that future production from the Arctic Refuge would have a negligible effect on gasoline prices. **(18)**

Listening to Senator Stevens' tirade on this subject, one might be surprised to learn that the senator agrees with his Democratic colleagues that current oil price increases are driven in large part by speculators. **(19)** Senator Stevens makes no distinction between the immediate act of importing oil to alleviate the current tight market and the long-term hope of producing, at a future date, a similar quantity of oil from the Arctic Refuge. But once again the senator is blowing smoke; these immediate and long-term developments would be played out in different theatres. An immediate slug of oil, might reduce prices relaxing a tight domestic market. But on the long-term

stage, the fact remains that the U.S. consumes approximately 24 percent of the world's daily oil production but possesses less than three percent of the world's oil reserves. In this situation, experts say, the Arctic Refuge's relatively small addition to the world's reserves - estimated to yield less than one per cent of total world production daily at peak - will not have a significant effect on the base price of oil or gasoline. **(20)**

Energy security and the pain of high oil prices are problems of paramount national importance that cause serious drains on individual pocketbooks, and on the national economy. The process of policy formulation is inevitably complicated by the fact that nobody comes to the table with a crystal ball. All too often, the resulting national discussion casts reason to the winds. But to deal with these challenges, it is essential to consider carefully the trade-offs, costs, benefits and feasibility of each energy proposal in their broader context. This effort requires a pressing need to ensure deeper understanding of the issues, and to elevate those understandings with facts and common sense.

Unfortunately, when it comes to the Arctic Refuge, the Drill Worshipers fail these important tests with flying colors. Senator Stevens leads the pack in this regard. Over the years, the senator has demonstrated a disturbing willingness to pin Arctic Refuge development to the coattails of current national energy concerns by bending facts and using parliamentary legerdemain to suit his obsession. (Witness, for example, Senator Stevens' attempt to tie the Arctic Refuge to Iraq war funding and Hurricane Katrina disaster relief as Congress prepared to adjourn for the Christmas holidays in 2005.)

This commentary spotlights the folly of drilling for oil in the Arctic National Wildlife Refuge by focusing on national energy trends, as well as specific examples of misinformation regarding Arctic Refuge development. For more detailed discussion of the economic aspects of Arctic Refuge development, click here to see this writer's recent report to the Alaska Wilderness League (AWL).

Endnotes to "Drill Worshipers"

1. 1985 - 2005 - U.S. Energy Information Administration (EIA), *Annual Energy Outlook Retrospective Review, 2006*, Tables 5 and 7; 2006 - 2008 - EIA, *Monthly Energy Review*, May 2008, Table 3.1.
2. Since 2004, EIA's estimate of oil imports two decades from now has declined significantly, from over 70% to 54% in 2008. See charts presented by EIA Administrator Guy Caruso, appended to this writer's report, *Existing Conservation and Alternative Technology Gains Far Outweigh Arctic National Wildlife Refuge Potential; Oil Imports Have Declined Significantly Since 2005* (Alaska Wilderness League), June 4, 2008, Appendix A.
3. See: *Existing Conservation and Alternative Technology Gains Far Outweigh Arctic National Wildlife Refuge Potential*, pp. 9-14.
4. EIA, *Analysis of Crude Oil Production in the Arctic National Wildlife Refuge*, May 2008 (Report No. SR/

OIAF/2008-03), pp. 3-6 (<http://www.eia.doe.gov/oiaf/servicerpt/anwr/index.html>).

5. Author's estimate, based on U.S. Geological Survey (USGS) data. (See: USGS, *The Oil and Gas Resource Potential of the Arctic National Wildlife Refuge, 1002 Area, Petroleum Assessment, 1998, Including Economic Analysis*, USGS Fact Sheet FS-028-01, April 2001 [<http://pubs.usgs.gov/fs/fs-0028-01/fs-0028-01.pdf>], Figure 5).

6. See, for example: Congressman Don Young, "Dear Colleague," May 1, 2008.

7. Senator Ted Stevens, "Senator Stevens Calls for Oil and Gas Development in Alaska," May 1, 2008 (press release).

8. Prudhoe Bay discovery history - Jack Roderick, *Crude Dreams, A Personal History of Oil & Politics In Alaska* (Epicenter Press, 1997), p. 222. (Senator Stevens praises this history as "[a] real treasure trove of historical fact which reads like an adventure story."). Prudhoe Bay production - Estimated from: Alaska Department of Natural Resources, Division of Oil and Gas, *Alaska Oil & Gas Report 2006*, pp. 3-2 and 3-6.

9. In his May 1, 2008 "Dear Colleague" letter, Congressman Young implies that this exaggerated and misleading estimate comes from unnamed opponents of Arctic Refuge drilling. He offers no documentation on this point.

10. *Analysis of Crude Oil Production in the Arctic National Wildlife Refuge*, May 2008 (Report No. SR/OIAF/2008-03), pp. 5, 8. EIA's estimated Arctic Refuge mean resources case scenario production profile between first production in 2018 and 2030 is calculated by subtracting Alaska reference case annual production totals (without Arctic Refuge development) from the corresponding Alaska totals under the Arctic Refuge development mean resources case in Table 11 of the EIA reference and Arctic Refuge mean resource case scenarios, posted on line with its May 2008 report. (The EIA's figures are essentially the same as the agency's 2007 estimate in 2007; see "Analysis of Crude Oil Production in the Arctic National Wildlife Refuge [Mean Resource Case]," [Table 11], Annual Energy Outlook 2007, p. 202.)

11. 10.4 billion barrels is the U.S. Geological Survey's estimate of the mean volume of technically recoverable oil that might lie beneath the Arctic Refuge Coastal Plain (U.S. Geological Survey, *Arctic National Wildlife Refuge, 1002 Area, Petroleum Assessment, 1998, Including Economic Analysis* [fact sheet], Table 1. Since this figure is based on geologic assessments, it does not vary with oil price changes.

12. The importance of this distinction was made painfully clear in the early 1980s, when the near-shore waters of Alaska's Beaufort Sea coughed up what U.S. Interior Department has called "the most spectacular failure in the history of petroleum exploration." It was called Mukluk and it was thought to contain up to 10 billion barrels of recoverable oil. For the rights to Mukluk, bidders spent an estimated \$1.6 billion. They were sadly disappointed. Plugged and abandoned early in 1984, to this day Mukluk remains, by most accounts, the most expensive dry hole ever drilled. (See: Northeast National Petroleum Reserve - Alaska, Final Integrated Activity Plan / Environmental Impact Statement, "III. Description of Affected Environment; (2) Petroleum Geology," 1998 [accessed in January 2005 at <http://aurora.ak.blm.gov/npra/final/html/3a1a2.html>]). Shortly after Mukluk came up

dry, Texaco, a crude-short giant with an interest in Mukluk, launched its famous battle with Pennzoil for the crude oil resources of Getty Oil. Thomas Petzinger, Jr., *Oil & Honor: The Texaco-Pennzoil Wars* (G.B. Putnam's Sons, 1987), pp. 138-9, 153, 185, 214.

13. EIA, *Potential Oil Production from the Coastal Plain of the Arctic National Wildlife Refuge: Updated Assessment*, May 2000 [Report No. SR/O&G/2000-02], Table 3 and Figure 3).

14. U.S. Department of Justice, "British Petroleum to Pay more than \$370 Million in Environmental Crimes, Fraud Cases: Charges Result from 2005 Texas Refinery Explosion, Alaska Pipeline Leaks and Attempts to Manipulate Markets" (press release), Oct. 25, 2007. For this writer's reports on BP's North Slope corrosion problems, click [here](#).

15. U.S. Department of Justice, "BP Exploration [Alaska] Sentenced for Environmental Crime; Court Orders \$500,000 Fine and Establishment of Nationwide Environmental Management System" (press release), Feb. 1, 2000.

16. U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration (PHMSA), Notice of Probable Violation, Proposed Civil Penalty and Proposed Compliance Order ("NOPV;" CPF 5-2007-5041), p. 12; and Notice of Amendment (CPF 5-2007-5042M), Nov. 27, 2007 (letters from Chris Hoidal [Director, Western Region, PHMSA] to Mr. Jim Johnson [Pipeline Vice President, Alyeska]). (First reported on this web site.)

17. See: State of Alaska, *Spill: The Wreck of the Exxon Valdez - Implications for Safe Marine Transportation* (Report of the Alaska Oil Spill Commission), January 1990.

18. Senator Ted Stevens, "Senator Stevens Highlights Inconsistencies in Anti-Drilling Stance," May 23, 2008 (press release).

19. In fact, Senator Stevens has joined with one of his Democratic colleagues to introduce legislation designed to make it illegal for speculators to drive up current oil prices. On June 13, the senator acknowledges that oil speculators are responsible for a significant portion - perhaps 30 to 35 percent - of the oil price run-up. (Senator Ted Stevens, "Senators Stevens and Feinstein Introduce Legislation to Limit Excessive Speculation in Energy Markets," June 13, 2008 [press release].

20. EIA's mean resources case per-barrel price effects for 2025 are summarized in *Analysis of Crude Oil Production in the Arctic National Wildlife Refuge*, p. 11; gasoline price effects can be calculated from Table 12 of the EIA reference case (without Arctic Refuge development) and Arctic Refuge mean resource case scenarios .

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