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To drill, or not to drill

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This column is about the Alaska National Wildlife Refuge (ANWR) and its role in Florida's energy future.

Much is being made about reducing America's dependence on imported oil and the positive impacts for Alaska's economy by including a provision for oil exploration in ANWR in the *Energy Policy Act of 2003* currently being hammered out by a conference committee in the U.S. Congress. The House and Senate chairmen of the conference committee, both Republicans, and the President, want to include ANWR exploration in the energy bill although a proposal to open the refuge failed 48-50 in the Senate's version of the bill earlier this year.

Senate Democrats and Republicans voted the provision down not only out of concern for the environmental impacts of drilling in this pristine wilderness but because many of them see ANWR as a key intellectual battlefield in a war of ideas. *The New York Times* captured some of the essence of this in a September editorial: "The best evidence of Congress's bias in favor of production as opposed to conservation is the fact that the legislation would authorize oil drilling in the Arctic National Wildlife Refuge while doing nothing to improve the fuel economy of automobiles and light trucks."

The stakes are high. So much so that Senate Democrats have indicated that they may filibuster the entire bill if it's brought to the floor with a refuge drilling provision. Sixty votes are required to overcome a filibuster. We're already seeing signs that the pot is being sweetened to try and encourage a dozen senators to switch their votes, but that is the subject for another column.

My perspective is also one of production vs conservation and while concern for the livelihoods of Alaskans is appreciated, it's not Alaska's energy future at stake. For Florida, ANWR is just another source of imported oil. Yes, even though the federal government owns the oil it's still the equivalent of imported oil for Florida. You might ask, "why is American oil a problem?" The plain truth is that it's like having your family sell you drugs when you know you need a different prescription.

Florida's dependency on imported fuels from all sources is roughly $35 billion dollars annually, and growing. Outside of transportation fuels, Florida's electricity utilities alone are adding the equivalent of 1,000 MW of new electric capacity each year to keep pace with our burgeoning population growth. That's $35 billion dollars transferring from the pockets of Floridians and Florida's economy to fossil fuel companies, other states and countries every year.

Let's take a look at some of these energy purchases. Automobile engines are at best 20% efficient and the average efficiency of Florida's power generation stock is just over 30%. Florida spent $18 billion on imported transportation fuels and $15 billion dollars on electricity purchases in 2000. That means, as a very rough estimate, that $8 billion went to useful work while $25 billion was wasted in inefficient processes but 100% of the carbon was pumped into the atmosphere.

The Laws of Thermodynamics tell us that efficiency can never be perfect or even close to perfect. But there is a lot of low-hanging fruit and bunches of efficiency just

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To drill, or not to drill (continued)

requiring some effort that could improve the situation in Florida. And, using the numbers above, the economic rewards are considerable. For every 1% increase in energy efficiency we could defer $330 million annually in fossil fuel purchases, the equivalent of conserving ANWR to the tune of 35,000 barrels per day.

Everywhere we turn we could be optimizing the nation's best energy resource—energy efficiency.

We also know that Florida's building stock is woefully inefficient and that our home appliances could be upgraded. If our homes become more efficient, renewable energy technologies based on the sun will begin to become more attractive because as energy efficiency improves, load requirements will be reduced and smaller solar systems costing less and serving efficient loads can be deployed.

As one of my colleagues, Raymond Kaiser at Florida House, has written, "Energy that is used inefficiently dampens Florida's economy. The US has a very high energy per capita and most of our energy is imported. Florida imports almost 100% of its energy. In time, higher energy costs relative to competitors in the international marketplace make Florida's businesses less competitive and energy bills reduce the amount of money the state's consumers can spend on goods and services. When money is spent on energy, much of it leaves the state and the nation. When money is spent on other goods and services, much more stays in Florida, creating economic growth and jobs. Many of these investments offer opportunities to improve productivity and lower operating and maintenance costs. Investments in energy-saving products and practices can lower energy bills for residents and businesses. Lower energy bills, in turn, will promote overall economic efficiency and create jobs. Investments in energy efficiency can increase cash flow and operating margins, providing businesses a critical competitive edge."

What does the future hold for Florida without an effort to expand cogeneration and end-use energy efficiency standards?

Take a look at one sector alone—natural gas for power generation. Florida's electric utilities purchased 320 BCF (billion cubic feet) of gas in 2000. Based on business-as-usual, the *Review of Electric Utility 2002 Ten-Year Site Plans* (Florida Public Service Commission, December 2002) cautions that "electric utilities forecast a significant (125%) increase in natural gas requirements over the next ten years". In the next 5 years (2008) the utilities expect consumption to increase to 827 BCF while the Energy Information Administration (EIA) forecasts 6% price increases compounded annually.

The upward pressure on natural gas prices is actually being felt today, but in a strikingly different way—that of deteriorating air quality and atmospheric pollution. In its September 2003 *Electric Power Monthly Report*, the EIA notes that gas consumption in June 2003 "plunged by 21% compared to June 2002", while "oil-fired generation was up 47% from a year ago". EIA further comments that "the decline in gas-fired generation and the growth in oil-fired generation" is attributable in part to "the high price of gas ($5.48 MMBtu in May 2003) compared to fuel oil ($4.74/MMBtu in May 2003)".

This suggests we might mitigate the impacts of natural gas shortages and price increases by simply switching to oil-fired generation on an "as needed" basis. This is not difficult to do, as most natural gas power plants built today are designed for dual-fuel operation. But this would not only impact our environment it would place increased dependency on imported oil.

The American Council for an Energy Efficient Economy (ACEEE) has recently completed a study in the natural gas power sector, including Florida. They estimate that with an aggressive end-use efficiency effort the utility projections would not only reduce total consumption to 735 BCF in 2008, but would have the effect of also reducing prices resulting in a $122 million annual retail saving for Florida's residents.

The ACEEE study notes that "small changes in natural gas consumption can have disproportionately large impacts on natural gas prices because they reduce prices at the margin where they are the highest". This is also true for oil consumption. By extrapolation, the potential impacts of energy efficiency and renewable energy on natural gas *and oil markets* can be considerable.

In a production vs conservation analysis, I estimate saving 92 BCF in annual natural gas purchases (827-to-735 BCF) also removes 50,000 barrels-of-oil equivalent per day from our demand on ANWR oil. Oil that would otherwise be completely wasted.

The Association of Energy Engineers acknowledges the value of conservation over production and in a letter circulated to members this week urged them to sign onto a letter written to our federal legislators by the Alliance to Save Energy (ASE). While not specifically addressing ANWR, the Alliance's letter says in part, "Energy efficiency is our nation's greatest, cheapest, most secure, and most environmentally friendly energy resource—by decreasing gasoline demand, and therefore America's dependence on foreign oil, increased energy efficiency has the potential to play a critical role in our nation's national security."

My recommendation to the nation, and Florida, is that we need to respect and appreciate the value and beauty of ANWR and earn the right to develop its riches through a demonstration of stewardship—that of preserving more of what we now currently waste.

As Holland and Peterson posit in their excellent Princeton University text, *Living Dangerously* (1995), "Your grandchildren may ask you in amazement: You *burned* them, those nice molecules, you just burned them?"

Anything less than conservation over production is just plain irresponsible.•