

## Ferguson: Energy Matters

October 12, 2007

### Going to the Ends of the Earth for Gas

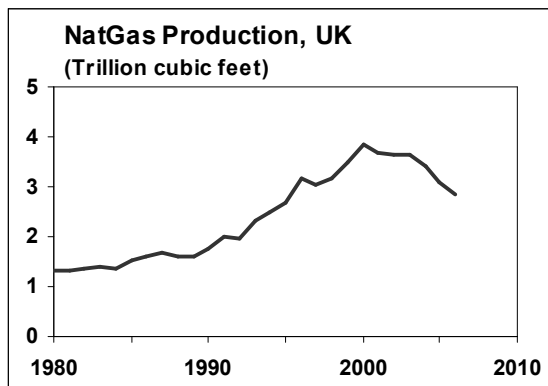
One of the more interesting articles making the email rounds this week is by Jad Mouawad in the New York Times about a new natural gas development in Norway. More accurately, 90 miles off the coast of northern Norway – 340 miles north of the Arctic Circle in the Arctic Ocean. As the article highlighted, gas is harder to get these days.

Despite the well-publicized loss of ice in the Arctic in the summertime and the plight of the poor polar bears and walruses, there is still plenty of ice in wintertime, making gas development tricky. The hardy Norwegians and Statoil had tried for years to design production platforms that could withstand winter conditions but failed.

They decided instead to put all the necessary facilities on the ocean floor 1000 feet beneath the ice. Gas is then piped to an island near the coast, liquefied into LNG, and loaded on tankers to be shipped internationally.

All this is neither easy nor cheap, of course. Cost ballooned from an estimated \$6 billion to \$10 billion during development. (In fairness to the estimators, nobody had ever built such a project before.)

Much of the LNG will be sent to the US East Coast, where the LNG terminal at Cove Point, MD, has been expanded to accommodate it. This winter New Yorkers will stay warm thanks to gas from beneath the Arctic Ocean. Imagine that!



What does it tell us that now it is profitable to supply New York with gas from under the Arctic Ocean? For one thing, it tells us that we are burning up our other sources of gas. For example, the UK obtained a large supply of natural gas from its share of the North Sea a decade or so ago that was quickly burned up and is now in

decline as the chart shows. Britain soon will become as dependent on imported gas as the rest of Europe.

The countries around the Arctic Ocean are beginning to squabble over territory beneath the sea. Russian politicians pulled off a publicity stunt recently by planting a (metal) Russian flag on the ocean floor at the North Pole. From their submarine, they declared that Russia had exclusive rights to everything north of Russia. We should all appreciate the irony of burning fossil fuels to warm the planet and melt the arctic ice so we can squabble over access what little fuel remains.

Unlike the Norwegian gas field, much of the world's gas is associated with deposits of oil. Historically, much of this was simply burned in flares. Today, it is more often reinjected into oil fields to maintain pressure if there is no access to consumers, but much is still flared. In a classic NASA photo of Earth at night these flares are clearly visible.

I have no doubt that we will burn up all of the world's natural gas in this century. It astounds me that we are nevertheless willing to waste this resource by simply burning it in flares. I'm willing to bet that 50 years from now people will look back on our era and ask, "What were they thinking?" Someone should leave a note for posterity explaining why flaring gas is 'cost effective' these days.

The British experience in the North Sea should be a wake-up call for all of us. Yes, there is still a lot of gas left to be extracted, but the amount left is getting smaller every day. Does anybody care? Evidently not much. Not one cent of credit is given to solar power for slowing the rate at which we are depleting the world's gas supply, for example. We leave the decision of how fast to burn through our gas supplies to 'market forces.'

My guess is that by the time the market sends us the right message it will be, "You fools, why didn't you do something 20 years ago?" One would think that having to go to the ends of the Earth (so to speak) to get our next gulp of gas would teach us something – natural gas is not just *playing* hard to get.

—Dr. Rich Ferguson, Research Director, CEERT, rich@ceert.org.