The Oil Drum
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The US Offshore Drilling Argument: The Debate Between "Starting Now" and "Waiting a While"

Posted by Gail the Actuary on June 30, 2008 - 10:00am
Topic: Supply/Production
Tags: american petroleum institute, anwr, california, florida, offshore drilling, original, peak oil [list all tags]

Offshore drilling is again in the news, with many saying we shouldn't drill now. Drilling will take more than 10 years for most of the oil in question. I believe that we need to start the process now, partly because the expected impact of peak oil will make drilling in future years much more difficult, and partly because technical advances within the petroleum industry have helped overcome some previous objections to drilling.

Locations of concern include coastal waters such as those near Florida; the Outer Continental Shelf (OCS) (beyond state coastal areas); and the Arctic National Wildlife Refuge (ANWR).

The views in this article are my own, particularly the peak oil views. Many of the comments about technical issues are based on discussions with the American Petroleum Institute (API). I recently participated in an API bloggers conference phone call on the subject of "Exploration and Production." We talked about offshore drilling and ANWR. A listing of the people involved can be found here, and a transcript of the call can be found here.

Why We Should Start Now

If legislation is passed to permit drilling in areas which have previously been off limits, it will be at least 7 to 10 years before we can expect new production (Transcript 15:43). If new production is far from existing pipelines, as is often the case, new production is likely to be at least 10 years away. This long time period is required because of the many steps involved.

In this post, I will first tell you the reasons why I think we should start this long process now. After that, I will answer some of the objections I am aware of.

Necessary resources available

I think one major reason we should start now is that we have the drilling rigs, trained geologists, pipelines, financing capability and all the other requirements for going ahead with drilling now. (Transcript 26:30) These may not be in as good supply as companies might like, but if companies are willing to wait until an appropriate rig becomes available, and until staff can be brought on board, there is a reasonable chance of projects going forward.

In future years, as we pass peak oil, the world will become a more a more difficult place to do

major integrated projects of any type. There are likely to be financial disruptions that make financing more difficult. More and more pipelines will exceed their planned lifetimes. Air travel will become more and more difficult.

A reasonable estimate of the timeframe for oil production in these new locations might be 2018 to 2040 if we start the process now. If we delay for say, another 20 years, the production window might be 2038 to 2060. Who is to say what the world will look like then? If we don't start now, there is a good chance we may never be able to access oil in difficult locations. A bird in the hand is worth two in the bush.

How much do we really have?

According to API (Transcript 23:17), we really don't know how much recoverable oil is available. There are some published estimates for various pieces--coastal oil, OCS-48 states oil, Alaska-offshore, Alaska-ANWR--but none of these is very big. At this point, we haven't done any on-site research to see what is really there, using today's equipment. We don't know if there are some fairly good sized fields that we have overlooked. It is possible that the estimates are too high, but without looking, we really don't know.

Better use of existing pipeline systems

We have pipeline systems both for transporting oil to refineries and for transporting refined oil to consumers. The pipelines exist within the 48 states and Alaska. As production from existing wells diminishes, the amount of oil flowing through these pipelines will drop below their planned operating levels. Additional production from new sources will keep the pipelines operating longer, and give at least of chance of business close to normal, if not business as usual. The issue of minimum operating levels is raised in a recent EIA analysis of ANWR.

One thing we should consider is that our existing distribution system is built with the expectation that we will have our current 20 million barrels a day of supply. What will happen if our imports get cut back dramatically, perhaps because of financial issues? The more we have of our own resources to prop up the system, the better.

Better energy return on investment (EROI)

All of the proposed new drilling areas seem to have relatively small potential. Oil companies will start running into problems with overly high fixed costs if the majority of oil that is available is from these small locations. If companies need to start laying large amounts of pipeline because the old pipeline has corroded, costs will be even higher. If companies can arrange their drilling so that they can piggyback on infrastructure that is still available, this will increase the likelihood that it will be financially feasible to drill in these areas.

Help cushion the downslope

The estimated amounts from drilling these areas don't appear to be very great, based on information available at these time. No one who has studied the question thinks that the additional production will actually postpone the peak. In fact, all of these areas together are not likely to provide very much production. Whether or not they provide very much, they may help make the situation less bleak for people who are around during the window when their oil is available.

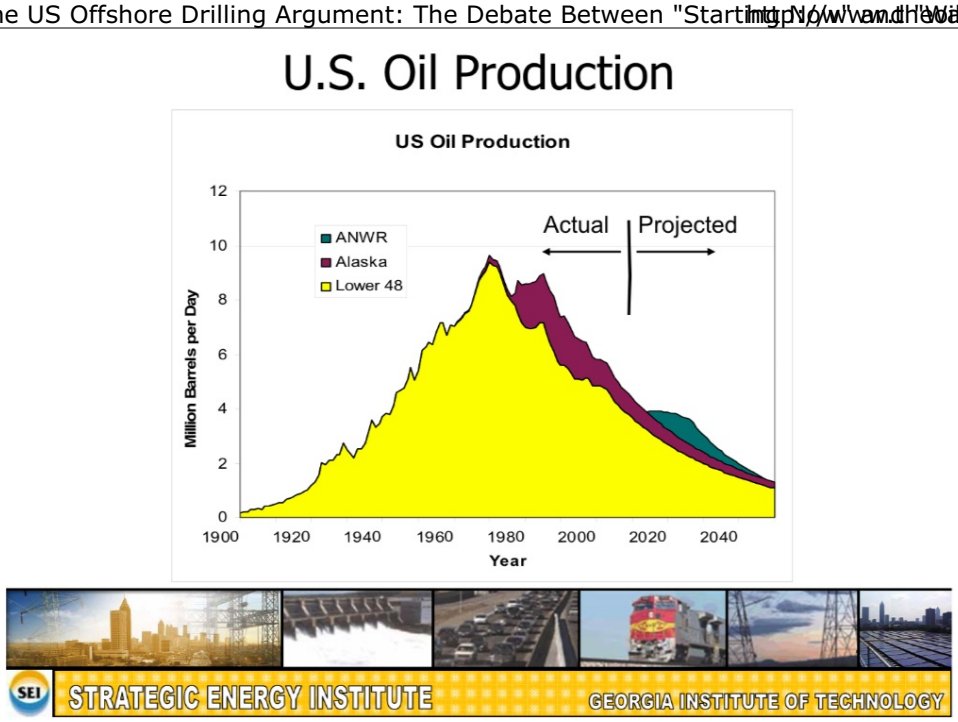

Figure 1. Projected US Production, with and without ANWR - Sam Shelton, GA Tech

Protect (very partially) against the loss of imports

At this point, it seems to me that we are living on borrowed time with respect to the amount of imported oil we are buying, given our lack of exports to pay for the oil. If we start pumping our own oil, it might partially offset the loss, when it comes.

Objections

These are my responses to some of the reasons I have seen for not drilling.

Spoil the view

In areas where there is a tourist trade, or even fancy homes along the beach, there is often concern that drilling equipment will spoil the view, and thus negatively affect the local economy. This is primarily an issue where drilling would be close to the beach.

The current Republican legislation relates to OCS areas that are at least 50 miles from shore. At this distance, there is little chance that oil platforms would be visible from shore.

According to API (see transcript, 11:45), even with coastal drilling, technology has changed so that it is not necessary to put oil derricks or platforms in the middle of the view. Newer technology allows companies to place the physical structures out further, beyond the horizon. The physical structures are then tied by umbilical lines to small subsea systems closer to the coast which are out of sight.

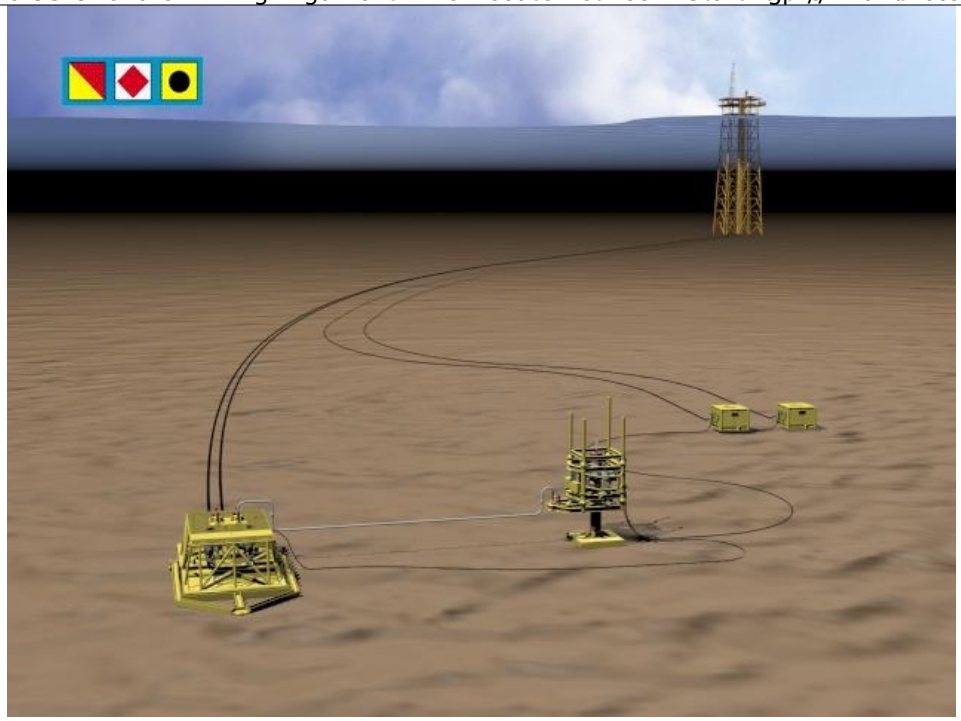

Figure 2. Typical Basic Subsea Oil or Gas Development - Wikipedia

Oil spills

According to API (see transcript, 32:50), most oil spills happen when an oil tanker (a special type of ship) collides with some object. Very often these tankers are international ships that are not required to comply with US laws regarding oil transport.

When oil companies produce oil offshore or on US soil, they transport the oil in pipelines, rather than in tankers. There are many fewer spills with pipelines than with tankers. For US produced off-shore oil, there have been no major spills in 25 years, even in hurricanes.

If there are fewer spills when we produce oil ourselves and transport it by pipeline, and more spills when we import oil by tanker, the oil spill argument against offshore production makes little sense.

Save it for our grandchildren

The idea of saving oil for our grandchildren is popular among people who are peak oil aware. The problem is that we are saving fields that are difficult to extract, in remote locations. If they are difficult for us to extract now, they are likely to be even more difficult for future generations to extract, when fewer resources are available.

The oil infrastructure we currently have is likely to corrode over time. We may also have problems with available oil falling below pipeline minimum operating levels, even before we run out of oil. With these difficulties, and the general lack of availability of resources after peak oil, I question whether future generations will actually be capable of producing and distributing the oil that is left. If we want to save oil for future generations, it seems to me that we should extract it now, and save it in easy to access storage facilities.

Nothing in it for the local economy

This argument may not be explicitly stated, but I expect that it is one of the reasons there is not much support for offshore drilling. Oil companies operating offshore often use contractors from distant locations (the largest offshore drilling contractor is Transocean, headquartered in the Cayman Islands) and contract workers from around the world. In addition, workers who work on oil platforms sometimes commute (by air) to homes many states away. If this model is followed, the benefit to the local economy may not be very great.

One benefit states can expect to get (see transcript, 30:18) is a portion of payments made by oil companies under leases. Under proposed Republican legislation, amounts from offshore leases are shared with the states, with states getting 37.5% of the funds. This means that states get up-front money, while oil companies are in the process of looking for the oil.

As oil gets more expensive, long distance commuting by off-shore workers will become less and less feasible. In many ways this will be good for local economies, because workers will be more likely to spend their money near where the drilling takes place. In inhospitable areas like ANWR, it may mean that it will be harder to find workers because it will no longer be feasible for workers to live in Hawaii and work in Alaska, commuting back and forth every two weeks.

False promises

The Republican legislation that has been introduced has the misleading name of "The Gas Price Reduction Act of 2008". It includes a provision to allow drilling on the OCS more than 50 miles out, and the option for states to choose to drill closer. The rest of the package is of rather questionable value. It would repeal the moratorium on oil shale development; give funding and loans with respect to plug in autos; and make some changes in futures markets. I can live with these, but they certainly won't provide as much benefit as the title of the legislation suggests.

If one looks at the description of benefits, one can find more misleading information. Drilling in the OCS is said to provide 14 billion barrels of oil, and this is said to be "More Than All US Imports From Persian Gulf Countries Over The Last 15 Years." Most people don't know that in the past, most US imports have been from places like Mexico, Canada, and Venezuela, since they are closer than the Middle East. It would have been clearer to say, "Almost three years of US oil imports, at current levels" or "Equal to six months of world oil usage."

I would agree that the legislation is packaged with promises that don't make sense. Nevertheless, I think the question of drilling should be judged on its own merits, regardless of the silliness of the packaging.

We need to increase auto mileage standards first

I don't know that waiting until we have auto higher mileage standards necessarily makes sense. Offshore drilling and higher milage standards are really two separate questions.

In some sense, it is questionable whether we even need to build more gasoline or diesel powered cars. We already have about as many cars as we need; we could just fix up ones we have. Instead of building more gasoline powered cars, we could be using our resources to build buses, trains, bicycles, and scooters. Passing legislation raising milage standards just makes it look like we will be able to keep motoring along in more efficient cars.

We need to start planning for a lot of other things that are not nearly as popular as higher auto mileage cars:

• We need to encourage young people to have smaller families.

• We need to plan to grow food locally, and teach people the skills they need to do this.

• We need to plan for soil fertility. Can this be accomplished by crop rotation, or will fertilizer be needed? If we cannot import it, can we make it ourselves?

• We need to make plans to improve the electrical grid, if we have any plans of adding more renewable energy or if we plan to use it to recharge battery powered cars. Otherwise, we are just kidding ourselves thinking that these things are feasible. (See my article here.)

• We need to figure out how we are going to maintain our roads, using much fewer resources. We may need to change some roads to gravel or dirt.

• Now that we have hit resource limits, the US needs to figure out how to live within its means--that is, not continue to increase our debt, and not continue to import more goods and services than we export. (See my talk The Expected Economic Impact of an Energy Downturn). To do this, our oil imports will need to drop significantly, as will our imports of all kinds of things from China and around the world. Our taxes will either have to be much higher, or we will have to cut back on spending.

How can we do this? Will it be necessary to ration gasoline? Will we have enough resources available to build factories in the United States to replace imports we can no longer afford? While living within our means may sound like an unreasonable goal, this result is likely to be imposed on us by the financial markets, whether we plan for it or not.

We need to learn to live without oil

Having less oil is likely to mean a much lower standard of living. We can plan for less oil with some of the steps I have suggested, but it won't make it very easy.

Not enough oil to make a difference

The oil that is off limits may not be all that much, but it is all that we have. If we are no longer able to import oil without having goods to export in return, we are going to have to use our own oil, or no oil at all. Even a relatively small amount of oil can go a long way toward making medicines and textiles and the many other goods that can be manufactured from oil. We may no longer have enough oil to burn.

Won't help prices

I think there are plenty of reasons to drill for oil, apart from helping prices. The issue of whether it helps prices only matters if one is concerned about the message Republicans are using to "sell" their legislation.

The US Energy Information Administration (EIA) has made forecasts that indicate that the additional oil will make little difference in prices, even in the future. EIA's price forecasts have been so inaccurate in the past that I think they are more or less irrelevant.

If drilling for oil makes the difference between having medicines and textiles, and not having those goods, it could be very important, regardless of the price anyone assigns to these goods.

We tend to believe so much in fungible oil supplies and very open international trade that it is

difficult for us to understand that the situation could change very dramatically, very quickly.

Drilling would damage the wilderness

If I had to choose a place to damage, I would choose a place that is as far away from large population areas as possible. ANWR seems to satisfy that profile.

Drilling would only involve one small part of the ANWR. It seems to me that it should be up to the Alaskan people as to whether or not they want drill in ANWR. I understand that the opposition to drilling in ANWR has generally been from outside of the state in the past. (Transcript 22:48)

Prevent global warming

It is my understanding that even James Hansen feels that drilling offshore and in ANWR is irrelevant to global warming. There is just too little oil, and he feels that it will be drilled at some point anyhow.