More on Saudi fields and rigs

Posted by Heading Out on August 10, 2005 - 5:34am

Had a bit of trouble reading the names on the original post, so I am adding a second segment to the map I posted yesterday on Saudi oilfields, and modified that one slightly to add oilfields North of Safaniyah. (Abqaiq and Fazran are common to tie them together. Red is a gas field).

On Monday the Guardian carried an article with the title "We have been here before:the price of oil will fall," by Vincent Cable. It is a bit amazing how little evidence is required to allow this conclusion to be published in a major newspaper. Here's the pitch

> "What theory and experience should teach us is that the current high prices will affect supply and demand. On the supply side, a lot of exploration and investment is already taking place in OPEC countries and new areas such as the Caspian and the African continental shelf. Oil firms have developed new technologies for maximising yields and exploring inhospitable offshore reserves which are now profitable. Non-conventional oils like the "tar sands" of Canada and Venezuela are vast and believed to be profitable at around $30 a barrel, in effect setting a cap on the long term price.
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> On the demand side, the scope for easy economies in oil use has been limited by advances already made. The oil intensity of western economies (and China) halved after the oil shocks of the 1970s. But industry, already under pressure on energy costs, is having to economise and so will households."

Which leads to

> "It seems clear that increased supplies, and capacity, and slowing demand will reverse the market trend before long, possibly very sharply."

These are the statements so beloved of politicians, since they are so general, and thus a bit harder to refute. So, where does one start to do that? Let's begin with the exploration and investment in Saudi Arabia, since this is where the largest increase in oil supply is expected. Yesterday's quote from Aramco VP Khalid al-Falih has an interesting sub-message. He said that the Saudi's are now increasing the number of drilling rigs to 90, from a recent working set of 28 onshore and 3 offshore. This is to meet their production plans, and to counter a recognized depletion of 1 mbd per year.

Now 25 years ago the average Saudi well produced around 10,000 bd, but by 2000 this had fallen to 5,140 bd, and there is growing body of evidence that it has now fallen to about 3,300 bd. Unfortunately the decline will not stop there, and Matt Simmons has projected that it will continue to decline to below 3,000 bd before long, and one can expect that it will continue to decline thereafter.

There are two consequences to this, the first is that it just takes more drilling rigs, and more time to produce the same amount of oil. Whereas 20 rigs, each drilling 5 wells a year, when each produced 10,000 bd, would give 1 million barrels of new oil a year, at 5,000 bd/well this required 33 rigs (since they increased productivity to 6 wells/yr each). Now we need 90 rigs, and before long even more. This is a clear indication that the glory days of high production from the original major fields of Abqaiq, Berri and the northern parts of Ghawar (Ain Dar and Shadgum) are drawing to a close.

The likelihood is also that the new wells are going to be drilling to outstep existing reservoirs, and so the number of dry holes will increase, and also, since they will be tapping into smaller fields, that the individual wells will deplete faster. And it will all take time, and a huge investment, that will result in only a gain of around 500,000 bd a year on average, over the next five. In which regard I noted that the increase in production is now down to 12 mbd, not 12.5 as earlier touted, and includes an new oilfield beyond the original planned source fields, suggesting again that the old ones are no longer reliable.

And time is not going to allow much of this planned increase to meet this season's demand. As Platts notes

> Saudi Arabia, the only OPEC member with any significant volume of surplus capacity, maintained its production at 9.5-mil b/d and has already signalled that it will keep output at this level through August.
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> "Crude prices are now holding well above $60 and it is not even autumn let alone winter," said John Kingston, global director of oil at Platts. "What, if anything, does OPEC have up its sleeve? Rank-and-file members are coming up with a few extra barrels here and there, so if OPEC is going to pump any sizeable volume of extra oil, it is going to have to come from Saudi Arabia."

Now Saudi Arabia is the largest major new development around the world, other anticipated increases are significantly smaller, and some, such as the much anticipated Russian increase, have now been shown to be wishful thinking. Non-OPEC oil is, if anything, declining this year (thanks Halfin). And we are now entering the time of high demand. Somehow I fear that Mr Cable's optimism will prove to be unfounded, and the price of British petrol will soon pass a pound, perhaps never to drop below that point again. But one wonders, will anyone remember his words when this comes to pass?

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