Major Oil Projects Revisited or CERA meet ODAC

Posted by Heading Out on August 1, 2005 - 3:37pm

For those who do not normally follow these things, you may not have heard of the Oil Depletion Analysis Centre, nor of Chris Skrebowski, who is a Trustee. Which is a pity, because last November they issued a report that led to the headline "New Projects Cannot Meet World Needs this Decade." (updated here) And in very large measure this article rebutted, ahead of time, the recent report by CERA that has been given larger circulation and which formed the basis of Daniel Yergin's editorial in the Washington Post yesterday.

Although I have not read either report (not having the desire to pay $2,500 for 33 pages in the CERA case), the news reports written about both make it relatively easy to explain exactly what is going on.

To begin with, there is no disagreement that, when you start to withdraw oil from a particular oilfield, that eventually the supply in those particular rocks will be sufficiently reduced that it gets harder and harder to get the rest out. The rate at which the oil flows from that well therefore goes down, or depletes as it is increasingly called. Now there are a whole lot of oilwells around the world that are producing oil, and a fair number of those are in the stage where the production is depleting. And this has been going on long enough that one can make a rough estimate as to what that average rate is. From Skrebowski.

> Currently, world oil depletion is running at 4-6 percent, according to ExxonMobil. Taking 5 percent of 2004 production of 82.5 million barrels per day (mn b/d) gives a depletion rate of 4.1mn b/d per year. This sounds huge but is in fact correct.
>
> It accords with a presentation given by Klaus Rehaag of the International Energy Agency (IEA) in Rio last year. Another way of looking at it is that 70 percent of global production is already in decline and is declining at 7 percent per year. Simple maths: 70% x 82.5 x 0.07 = 4.04mn b/d â€" close enough.
>
> So overall depletion is running at a little over 4mn b/d each year at the present time.

To replace that production, countries drill new wells, and we have listed some of the capabilities of different countries in that regard in an earlier post . (Production increase = no of oil rigs x wells drilled per year x average production per well).

However drilling an oil well is not something that happens overnight. There is the funding to be raised, the site to be prepared, the rig to be brought to the site etc etc. And thus, for major projects there is a certain amount of lead time. For a large project this is around 6 years. Because of that, it is possible, for ODAC or CERA or yourself â€" if you have the patience â€" to read the production plans for the different countries (and they are Canada, Kazakhstan, Brazil, Azerbaijan,

Angola, Russia, Saudi Arabia, Nigeria, Algeria and Libya). From this you can see where the major projects are planned and how much oil that they will generate. Both ODAC and CERA did that. The difference is that ODAC looked at projects that had reserves of more than 500 million barrels and an anticipated production rate of 100,000 bd while CERA set the bar at 75,000 bd.

There are (ODAC numbers) 68 projects of major size that are planned between now and 2010. They will add some 12.5 million barrels of oil a day to current capabilities. This is not that far from the 16 million barrels that CERA project. But while CERA has just, inexcusably, touted the increase, they have totally neglected the current depreciation.

So, given that increase, what do we set against it. Well there is that 4 mbd a year decline in existing well production. Hmm ! 5 years x 4 mbd = 20 mbd. And to add to that there is the anticipated increase in demand (5 years x 1.6% = 8% x 83 mbd = 6.64 mbd). Adding the two together one gets a need for an additional 26.64 mbd by 2010. Now a fair amount of this will be made up by the many small projects that are ongoing and that make up the drilling activity in the rest of the world (but remember that this drilling activity is often in fields where success rates are only 1 hole in 15). But also a large portion of it has to come from new projects.

ODAC came to the conclusion, that we have a serious problem, because the numbers do not match, and planned production from the new projects will not meet this need. It is the depreciation in production that will cause the major problem, and that is, in part, why, every so often, we comment on those numbers at this site. For it is only by tracking them that we get a better appreciation of the real situation.

So, sorry gang, for all of you that got excited that our problems were over, and that we could forget about this issue for the next decade, it's time to face reality again. I fear that the only swimming we will do is not going to be in the extra oil being produced around the world, but rather in our own sweat as we, like the Chinese and Japanese, have to turn off our air conditioners.

UPDATE Oops! I've got to the point that I usually catch the spelling, and sometimes the grammar, and most of the links go through - and bingo in all that I forgot to check the arithmetic. Since 8% of 83 mbd is not 18.4 mbd but 6.64 mbd, I have corrected the numbers - sorry.

Technorati Tags: peak oil, oil