



The Peak of Light Sweet Crude?

Posted by [Stuart Staniford](#) on August 24, 2005 - 12:00am

Topic: [Supply/Production](#)

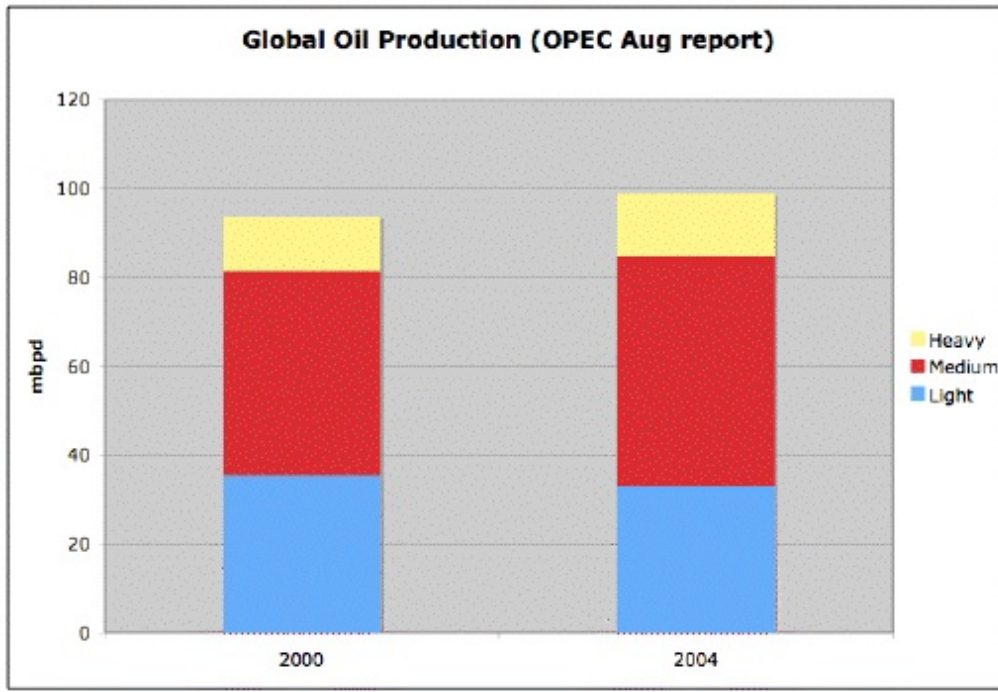
[editor's note, by Prof. Goose]This is a guest post by Stuart. Enjoy!

[Vital Trivia](#) recently made a fascinating claim that light sweet crude has passed its peak production. If true, this is a very significant milestone in the peak oil story, and strong evidence for the idea that there is a near-term peak in total liquids production. But is it true? Let's take a closer look.

Recall that "light" means that the crude has low density (and usually low viscosity) so it flows easily. (Technically, it's light if it has API gravity higher than 35 degrees). "Sweet" means that there's little sulphur. Light sweet crude is the most desirable as it can be easily refined into gasoline. Heavy sour crude requires removal of the sulphur *and* catalytic cracking of the long carbon chain molecules to shorter species in order to get much gasoline out of it. Those big molecules are what makes heavy oil black and goeey. This means the refinery needs to be more complex and expensive to process heavy sour oil. Famous flavors of light sweet crude include West Texas Intermediate, Brent oil from the North Sea, and of course the output of Ghawar in Saudi Arabia.

Unfortunately, public data for the history of light sweet crude production seems to be almost non-existent. The case at the moment is based on some data on page three of the [August Opec Monthly Oil Market Report](#).

A careful analysis of the numbers reveals some serious problems, however. Here's basically what it gives for global production:



The first thing that will hit you is that, indeed, the light production has dropped. OPEC's figures says the global production of light sweet dropped by 2.6 mbpd from 2000 to 2004. *But* there's a problem. Notice the total production here: 93.8 mbpd in 2000, and 99 mbpd in 2004. That's not an error on my part: the OPEC report says 2000 non-OPEC production was 66 mbpd, and 2000 OPEC production was 27.8 mbpd. 2004 numbers were 70 mbpd and 29 mbpd respectively. This can't possibly be right (all other authorities state that total production last year was in the low 80s). So there's something wrong with OPEC's numbers.

Even if that problem turns out not to be material, there's some danger in assuming from two data points that we know the shape of the curve. Maybe one or other data point was an anomaly. Declaring peak on light sweet crude would be a lot more comfortable with the whole curve before us. Still, there are other interesting indications. The Saudi's have been saying for some time that the world's current problem is lack of refining capacity for heavy oil, not lack of oil per se. And, as [Econbrowser noted recently](#), the price spread between light sweet crude and heavier grades has grown unprecedentedly: consistent with the idea that the good stuff is in decline, while there's still increasing amounts of the not-so-great oil.

If we are some time past the peak of light sweet production, that is *profoundly* important. Firstly: *nobody noticed till now!* Truly a tribute to the lousy data in the oil market.

But, more importantly, it suggests that light sweet might be a canary in the coal mine: a predictor for what depletion of the whole liquid fuel sector might have in store for us. If the light sweet depletion stays at moderate annual percentages, that suggests there'll be time for gradual adaptation as we all start driving hybrids, building windmills and nuclear power plants, and digging up more coal. But suppose light sweet falls off a North-sea style cliff (10% plus per year); if Matt Simmons is right about Ghawar then it surely must. Then we shall know that we are in for a very nasty experience, but with a little warning before the medium and heavy oil follow the light trend.

Now all we need are some decent data...

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