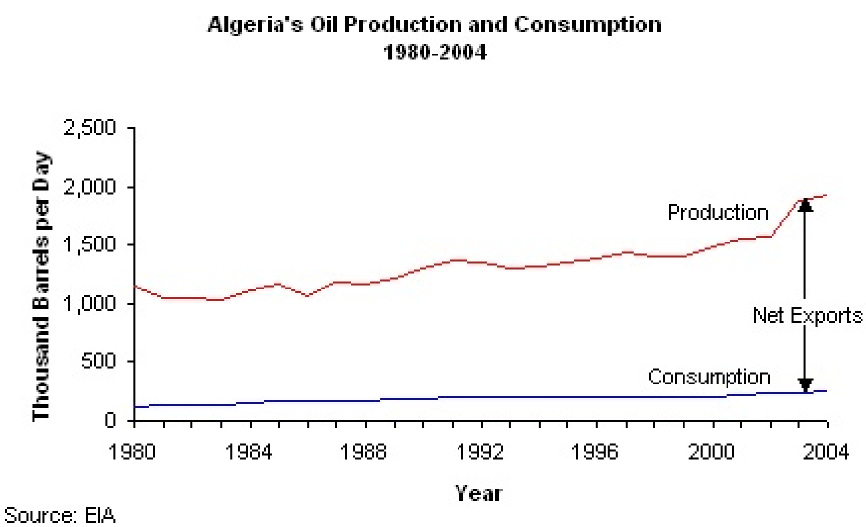
Algeria, Land of Opportunity?

Posted by Dave Cohen on November 30, 2005 - 5:50pm
Topic: Supply/Production
Tags: algeria, aspo ireland, eia, peak oil [list all tags]

Concerning Algeria, Stuart had mentioned here that

> Nice steady production increases throughout the period. Seems like a country we need to look into further, though it's not on a track to become a Russia or a Saudia Arabia soon.

So, I decided to do just that. First, from the EIA we see in the graph below that Algeria, like Kazakhstan, is a large oil exporter with the important difference being that Algeria is a mature producer while Kazakhstan is just getting started and faces many future difficulties extracting its oil and getting it to market.



Note: the graph reflects all liquids produced including crude oil, NGLs and condensates.

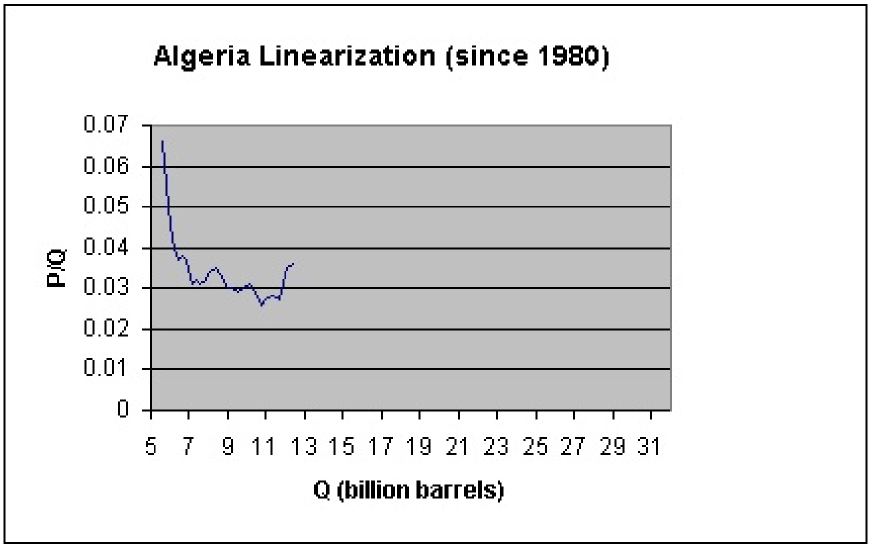
Let's look further into the future of this mid-tier OPEC supplier.

In it's Algeria country assessment (article 355, May 2004), ASPO Ireland noted

> Past production of oil amounts to about 12.5 Gb, and future production is here tentatively assessed at about 15.5 Gb, of which about 2 Gb are expected to come from new discoveries. Production is currently running at 1 Mb/d, and is expected to rise to a peak of 1.4 Mb/d by 2006 at the midpoint of depletion, before falling to about 850 kb/d by 2020 and 300 kb/d by 2050. Consumption is running at 62 Mb/a, meaning that Algeria can remain a net exporter for another fifty years assuming no increase in domestic demand. There remains however a sneaking suspicion that these estimates

> may prove too high, if official reports have been exaggerated for OPEC quota considerations. In common with other OPEC countries, Algeria's reserve reports remained implausibly unchanged, with 9.2 Gb (curiously equivalent to the total discovered in Hassi Massaoud) being reported for 11 years until 2003, when an increase to 11.3 Gb was announced.

So, we see there are the usual suspect reserves numbers for OPEC countries. On the other hand, Algeria is a geopolitically important net oil exporter (especially for Europe) with very low internal consumption and not yet in Type III depletion. So, things are looking up for them. Here's a Hubbert Linearization for Algeria (crude oil only) since 1980.



Algeria's existing fields are older as ASPO notes below, so the initial value for Q = 5.23 billion barrels of oil.

> Algeria boasts four giant oilfields : Hassi Messaoud (1956) with 9 Gb; Zarzatine (1957) with 1Gb; Rhourde El Baguel (1962) with 600 Mb and T-F Tabankort (1966) with 500 Mb, and as many giant gas fields, dominated by Hassi R'Mel.

The linearization graph does not indicate a "standard" downward trend line toward some eventual total production value Qt at the X axis. Instead, the data show a steep dropoff in Algeria's production in the 1980 to 1983 period followed by a downward trend but with a surprising upturn in the last few years. What this seems to indicate is that it is hard to extrapolate the linearization trend when the current cumulative production is less than Qt/2 (as Stuart Staniford noted, personal communication).

As noted above, ASPO Ireland expects "a peak of 1.4 Mb/d by 2006 at the midpoint of depletion" which may seem to be anticipated in the graph but, naturally, the EIA has a different story which is also possible.

> Algeria's average crude oil production during 2004 was 1.23 million barrels per day (bbl/d). Together with 445,000 bbl/d of lease condensate and 250,000 bbl/d of natural gas plant liquids, Algeria averaged about 1.93 million bbl/d of total oil production during 2004, up steadily from 1.86 million bbl/d in 2003 and 1.57 million bbl/d in 2002. Algeria's crude oil production is running well above its OPEC quota of 862,000 bbl/d (as

> of November 1, 2004), though the OPEC quota only applies to crude oil production. In coming years, it is likely that Algeria's oil production capacity will rise, as the country plans to increase investments in exploration and development efforts. Algeria's production goal is 1.5 million bbl/d of crude oil by 2005 and 2.0 million bbl/d by 2010, a level it will likely reach at current levels of production growth.

So, will Algeria reach 2.0/mbd by 2010 or peak at 1.4/mbd in 2006 as ASPO predicts? Since it's looking lately like we need every barrel we can get our hands on, questions like these are starting to really matter. ASPO leaves us with this statement.

> In short, Algeria can look forward to a prosperous future, becoming one of Europe's premier sources of oil and gas as prices are set to rise, perhaps greatly. If that were not enough, the country clearly has great potential for solar energy. Perhaps the immigrants in France, who are now denied their headscarves under a new ordinance, will be tempted to head for home in increasing numbers.

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