Parabolic Projection of a Recent Estimate of World Conventional Oil Resources

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As a contribution to the current debate on the future of world conventional oil production, Phil Hart and Chris Skrebowski have published a considered assessment of the world's resources of conventional oil and natural gas liquids (NGLs).[1] The values published by these authors for the usual resource categories appear in the following table taken here as applicable at the end of 2005.

In this note, these values were projected using the parabolic technique developed by this author to arrive at expected values for the peak and date of world conventional oil output.[2] As in previous applications of this methodology, two approaches were employed to deal with Reserves Growth. In Case 1, the 250 gigabarrels (GB) of Reserves Growth was excluded from the derivation of the underlying parabola (solid red line) and only appear in the related extended parabola (dotted red line) past peak. In Case 2, the 250 GB were considered as part of the undiscovered potential of 250 +200 = 450 GB from the start of the projection from the 2006 historical data point. The June 2007 issue of the *BP Statistical Review of World Energy* was the source for the historical production data. A small correction was applied to this data set by deducting an estimate of oil sands and other unconventional oil output embodied in this published source. This correction was based upon an assumed unconventional oil production of 300,000 barrels per day in 1996 and 1,200,000 bbl/day in 2006 and applied linearly over this range of dates.

The results appear in the figure and may be summarized as a peak of 30.2 GB (82.74 million barrels/day) of world conventional oil production occurring in 2013 for Case 1 and a peak of 30.8 GB (84.38 million barrels/day occurring in 2017 for Case 2. The actual situation is likely to lie between these two cases. The extended parabolic projection for Case 1 and the projection for Case 2 cross after 2040.
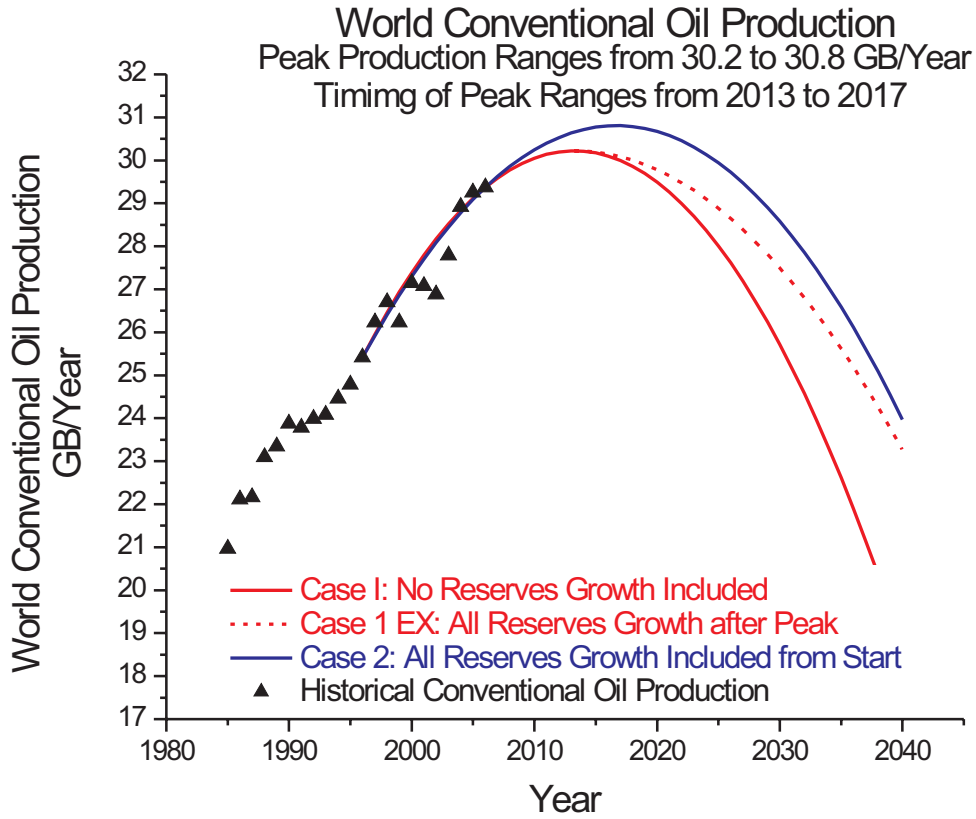
As noted in the Referenced Paper [2], this technique does not account for additional output from idle sources gradually restored to service as the peak is approached. Idle capacity in mid-2007 is thought to be of the order of one to two million barrels per day (mainly in the Middle East) and peak output may be correspondingly higher though its timing would not be greatly affected by this additional production.

Category	Billion Barrels
Cumulative Production	1080 (to end of 2005)
Remaining Reserves	890
Reserves Growth	250
Undiscovered	200
Total	**2420**
Remaining	**1340** (55%)

References

1. Phil Hart and Chris Skrebowski, *Peak Oil: A Detailed and Transparent Analysis*, Energy Bulletin 4 June 2007. (Web: www.energybulletin.net)

2. J.H. Walsh, *Procedure for the Parabolic Projection of Geological Assessments of Conventional Oil and Gas Resources with Examples*, Revised January 2004. (Web: pages.ca.inter.net/~jhwalsh/wpara1.html)

World Conventional Oil Production
Peak Production Ranges from 30.2 to 30.8 GB/Year
Timimg of Peak Ranges from 2013 to 2017

Case I: No Reserves Growth Included
Case 1 EX: All Reserves Growth after Peak
Case 2: All Reserves Growth Included from Start
▲ Historical Conventional Oil Production

World Conventional Oil Production GB/Year

Year

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