



## Tech Talk - Oil Supply, Oil Prices and Saudi Arabia

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From the time that The Oil Drum first began and through the years up to the Recession of 2008-9, there was an increase in the price of oil, and that resumed following the initial period of the recession, and in contrast to the price of natural gas, oil has recovered a lot of the price that it lost.



Figure 1. Comparable price of oil from 1946 ([Inflation data](#))

If one were to draw a straight line on that graph from the low point in 1999 though now, there hasn't been a huge variation away from the slope of that line for long. That, of course, does not stop folk from pointing to the very short, roughly flat bit at the end and saying that oil prices are going to remain at that level, or are even [about to decline](#).

To address that final point first, I would suggest that those making such a foolish prediction should go away and read the [OPEC Monthly Oil Market Reports](#). Remember that, for just a little while longer, oil is a fungible product. OPEC make no secret of the fact that they continuously examine the global economy and make estimates on how it is going to behave. [This month](#) they note that the economies aren't doing quite as well as expected, and have revised down global growth to 2.9%, though they expect next year to be better, and hold to their estimate of a 3.5% growth rate.

But OPEC go beyond just making that prediction - they use it, and data that they have on consumption and oil supplies around the world to estimate how much OPEC should produce each month to balance supply against demand, so that the price will remain at a comfortable level for the OPEC economies. And based on those numbers they tailor production.

This month, for example, they note that global oil demand is anticipated to grow by 0.8 mbd this year (and by 1.04 mbd in 2014). They anticipate growth in production of around 1.0 mbd from the non-OPEC nations, with projected increases from Canada, the United States, Brazil, the Sudans and Kazakhstan contributing to an additional 1.1 mbd next year. From these numbers they can project that demand for OPEC oil will be slightly down this year, at 29.9 mbd down 0.4 mbd on last year, with next year seeing an additional fall of 0.3 mbd on average.

World oil demand in 2013, mb/d							Change 2013/12	
	2012	1Q13	2Q13	3Q13	4Q13	2013	Growth	%
Americas	23.70	23.71	23.74	23.87	23.81	23.78	0.09	0.37
Europe	13.74	13.15	13.54	13.53	13.35	13.40	-0.34	-2.50
Asia Pacific	8.59	8.95	7.97	8.29	8.74	8.49	-0.10	-1.21
<b>Total OECD</b>	<b>46.03</b>	<b>45.82</b>	<b>45.25</b>	<b>45.69</b>	<b>45.91</b>	<b>45.67</b>	<b>-0.36</b>	<b>-0.78</b>
Other Asia	10.83	10.89	11.02	11.13	11.17	11.05	0.23	2.08
Latin America	6.26	6.21	6.47	6.70	6.59	6.49	0.23	3.69
Middle East	7.58	7.79	7.75	8.18	7.75	7.87	0.29	3.80
Africa	3.42	3.42	3.42	3.38	3.52	3.43	0.01	0.26
<b>Total DCs</b>	<b>28.10</b>	<b>28.30</b>	<b>28.66</b>	<b>29.39</b>	<b>29.04</b>	<b>28.85</b>	<b>0.75</b>	<b>2.68</b>
FSU	4.41	4.33	4.18	4.59	4.84	4.49	0.07	1.63
Other Europe	0.64	0.63	0.59	0.63	0.71	0.64	-0.01	-0.81
China	9.74	9.79	10.19	9.89	10.41	10.07	0.33	3.38
<b>Total "Other regions"</b>	<b>14.80</b>	<b>14.75</b>	<b>14.95</b>	<b>15.10</b>	<b>15.96</b>	<b>15.19</b>	<b>0.40</b>	<b>2.68</b>
<b>Total world</b>	<b>88.92</b>	<b>88.86</b>	<b>88.86</b>	<b>90.18</b>	<b>90.90</b>	<b>89.71</b>	<b>0.79</b>	<b>0.89</b>
Previous estimate	88.87	88.85	88.74	90.13	90.83	89.64	0.77	0.87
Revision	0.05	0.01	0.11	0.05	0.08	0.06	0.02	0.02

Totals may not add up due to independent rounding.

Figure 2. Projected oil demand for 2013 ([OPEC MOMR](#))

Thus slight reductions in production from OPEC, and particularly the Kingdom of Saudi Arabia (KSA), can keep the world supply in balance with demand and more critically for them keep the price up at a level that they are comfortable with. Note that in relation to the overall volumes of oil being traded, they are not talking much adjustment in their overall volume (around 1% of the total 30 mbd) in order to sustain prices. The USA produces more, OPEC produces less – not much less because global demand is growing – and the price is sustained.

This has virtually nothing to do with the speculators on Wall Street and the corrections they might impose, this is all about supplying a needed volume to meet a demand and controlling that supply to ensure that the price is sustained.

There are a number of caveats to this simplified explanation, one being the short-term willingness and ability of some producers to keep to their targets. One of the imponderables is the production from Iraq. Although Iraq [has been given a waiver](#) through 2014 on the need to limit their production, the increasing violence has led to a drop in production, [back below 3 mbd](#).

OPEC crude oil production based on secondary sources, tb/d									
	2011	2012	4Q12	1Q13	2Q13	May 13	Jun 13	Jul 13	Jul/Jun
Algeria	1,240	1,210	1,186	1,169	1,165	1,171	1,148	1,154	6.6
Angola	1,667	1,738	1,728	1,754	1,745	1,767	1,725	1,710	-14.6
Ecuador	490	499	502	502	506	505	504	504	0.0
Iran, I.R.	3,628	2,973	2,680	2,709	2,678	2,669	2,685	2,684	-0.8
Iraq	2,665	2,979	3,118	3,031	3,098	3,108	3,023	2,972	-50.9
Kuwait	2,538	2,793	2,820	2,787	2,836	2,842	2,837	2,826	-11.0
Libya	462	1,393	1,468	1,399	1,342	1,402	1,186	1,062	-124.4
Nigeria	2,111	2,073	1,965	1,992	1,917	1,929	1,871	1,881	10.0
Qatar	794	753	732	736	729	725	731	731	0.0
Saudi Arabia	9,296	9,737	9,436	9,105	9,470	9,540	9,599	9,696	97.0
UAE	2,516	2,624	2,650	2,690	2,728	2,721	2,757	2,742	-14.8
Venezuela	2,380	2,359	2,328	2,345	2,347	2,352	2,342	2,347	5.6
<b>Total OPEC</b>	<b>29,788</b>	<b>31,132</b>	<b>30,613</b>	<b>30,218</b>	<b>30,562</b>	<b>30,729</b>	<b>30,406</b>	<b>30,308</b>	<b>-97.3</b>
<b>OPEC excl. Iraq</b>	<b>27,122</b>	<b>28,152</b>	<b>27,495</b>	<b>27,187</b>	<b>27,463</b>	<b>27,621</b>	<b>27,383</b>	<b>27,337</b>	<b>-46.4</b>

Totals may not add up due to independent rounding.

Figure 3. OPEC production based on data from secondary sources ([OPEC MOMR](#))

As I have noted in the past, OPEC is sufficiently suspicious of the reported numbers from the countries themselves that they check from secondary sources, and provide both sets of numbers.

	2011	2012	4Q12	1Q13	2Q13	May 13	Jun 13	Jul 13	Jul/Jun
Algeria	1,173	1,203	1,184	1,199	1,202	1,204	1,207	1,210	3.0
Angola	1,618	1,704	1,690	1,734	1,730	1,730	1,748	..	..
Ecuador	500	504	503	506	520	522	524	530	6.3
Iran, I.R.	3,576	3,740	3,713	3,704	3,711	3,710	3,708	3,721	13.0
Iraq	2,653	2,944	3,058	2,957	3,042	3,070	2,994	2,989	-5.0
Kuwait	2,660	2,977	2,967	2,813	2,970	2,960	2,980	3,011	31.0
Libya	462	1,450	1,498	1,489	1,415	1,441	1,286	1,242	-44.0
Nigeria	1,896	1,954	1,864	1,820	1,649	1,676	1,544	1,610	65.9
Qatar	734	734	727	728	724	723	721	722	1.5
Saudi Arabia	9,311	9,763	9,413	9,111	9,538	9,657	9,642	..	..
UAE	2,565	2,652	2,664	2,823	2,792	2,770	2,836	2,877	41.2
Venezuela	2,795	2,804	2,785	2,743	2,762	2,758	2,774	..	..
<b>Total OPEC</b>	<b>29,942</b>	<b>32,429</b>	<b>32,066</b>	<b>31,626</b>	<b>32,055</b>	<b>32,221</b>	<b>31,964</b>	..	..
<b>OPEC excl. Iraq</b>	<b>27,290</b>	<b>29,485</b>	<b>29,008</b>	<b>28,669</b>	<b>29,013</b>	<b>29,151</b>	<b>28,970</b>	..	..

Totals may not add up due to independent rounding.

.. Not available.

Figure 4. OPEC production numbers from the originating countries. ([OPEC MOMR August 2013](#))

Note, for example, that Iran says that it is producing over 1 mbd more than other sources report, and Venezuela is around 400 kbd light. The balancing act is largely the charge of KSA, since it produces the largest amount and can adjust more readily to balance the need.

One of the other caveats is that the internal demand in these countries is rising, and that lowers the amount that can be exported. This will in time require that OPEC produce more, just to sustain the amounts that they export. And the problem here is the biggest caveat of all. Because KSA cannot continue to produce ever-increasing amounts of oil.

Just exactly how much the country can produce is the subject of much debate, and has been at The Oil Drum since its inception. But if I can now gently admonish those who think it can keep increasing forever and that it has vast reserves that can flood the market at need. This fails to recognize that the major fields on which the country has relied are no longer capable of their historic production levels, and that over the time that TOD has been in existence, production has switched to the new fields that KSA had promised it would, back in time.

But these new fields, including Manifa and Safaniya produce a heavier crude that, for years, KSA struggled, usually in vain, to find a market for internationally. It is only now that it is building its own refineries to process the oil that it can find a global market for the product. Yet those refineries have only a limited capacity. If you can't ship, refine and market your product in the form that the customer needs, it can't be sold, regardless of how much, instantaneously, you can pump out of the ground. And so KSA is starting to look harder for other fields. They have increased the number of rigs employed to 170 by the end of the year (in 2005 they had about [20 oil and 10 gas rigs operating](#)), going beyond the 160 estimated earlier, seeking both to raise production from existing fields, but also to find new ones. This is almost double the number that Euan reported at the end of last year. That this is being expedited is not good news! Because new fields will very likely be smaller, and more rapidly exhausted, and may not have the quality of the oil produced from Ghawar and the other old faithfuls.

Realistically, over a couple of years, I would suspect that the oil price line that I mentioned was rising at the beginning of the piece will continue to rise and we are just going to have to accommodate to it.



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