



Oil Watch - Global Liquid Fuel Production Trends (EIA data)

Posted by [Euan Mearns](#) on December 10, 2012 - 5:40pm

Executive Summary

Monthly oil production data reported by the US Energy Information Agency (EIA) offers several advantages over the equivalent data published by the International Energy Agency (IEA). First and foremost, the EIA report natural gas liquids separately enabling a more in depth analysis of underlying crude oil and condensate (C+C) production, they report data for a larger number of countries and make data available to download as XL spread sheets.

Asian oil production (C+C+NGL) has been on a plateau of 8 million bpd for over a decade. FSU oil production has been on a plateau of just over 13 million bpd for 3 years. African oil production has been on a plateau of 10 million bpd for 6 years and S American oil production has been on a plateau of 7 million bpd for over a decade. That is 38 million bpd of global production, or just under half, that has been static for many years.

European oil production (C+C+NGL), centered in the North Sea is in steep decline, down from a plateau of 7 million bpd a decade ago to 3.2 million bpd in August 2012.

The loss of European production has been compensated by rising production in N America and the Middle East. Rising production in N America comes mainly from unconventional oil - shale oil and tar sands.

Deducting N American shale oil and Canadian tar sands production from global C+C shows that the latter has been on a plateau of just over 73 million bpd since May 2005 with a near-term peak of 73.3 million bpd in April 2012. All of the growth in global total liquid fuel supply since May 2005 has come from natural gas liquids (NGL), unconventional oil, refinery processing gains and from biofuels.

Figure 1 Global C+C less tar sands and shale oil (US Bakken, US Eagle Ford and Canadian Bakken) has been on a bumpy plateau of just over 73 million bpd since May 2005. In May 2005 Iraqi production was just recovering from conflict and has since come back strongly. Currently Sudan is offline, Syria is all but off line and Iran is being squeezed out of the market by sanctions. The ups and downs reflect masterly control of supply by OPEC. Data sources: [Energy Information Agency](#), [National Energy Board Canada](#), [Statistics Canada](#), [North Dakota Drilling and Production Statistics](#), [Railroad Commission of Texas](#). The chart includes a 150,000 bpd assumption for Canadian Bakken 2011/12.

This is the fifth installment of our tour of global oil production statistics, this time based mainly on EIA data, co-authored with [Rembrandt Koppelaar](#). In this report we begin with a look at the make up of global total liquids production and then go on to look at individual continents / regions. Subsequent posts will look at the regional picture in greater detail.

Global total liquids production

Figure 2 EIA data, combined with other sources, shows a steady rise in World total liquids production from 67.7 million bpd in January 1994 to 88.5 million bpd in August 2012. As detailed in Figure 1, conventional crude oil + condensate production has been static since May 2005, thus most of the liquids growth since then has come from NGL, non-conventional oil and other sources (See Figure 4).

Figure 3 Comparing the EIA total liquids data with the equivalent data reported by the IEA shows that there was good agreement between the two data sets up to 2005 but since then the data have diverged somewhat. The IEA estimate 91.1 million bpd for August 2012 whilst the EIA estimate 88.5 million bpd. The difference of 2.6 million bpd (2.9%) is material and requires an explanation.

Figure 4 Natural gas liquids, refinery gains, Canadian tar sands, N American shale oil and biofuels have grown from 6.9 million bpd in January 1994 to 16.2 million bpd in August 2012. Note that the EIA have not yet reported 2012 biofuels data and so data from 2011 have been substituted in 2012. Similarly, my source for Canadian Bakken ends in 2010 and values for 2011/12 have been assumed. NGL is used mainly as petrochemicals feedstock (ethane) and for home heating and cooking (propane and butane).

Figure 5 A simple volumetric ratio of million bpd NGL / bcf nat gas *10,000 (right hand scale) shows that the linear growth in global NGL production mirrors growth in global natural gas production. For so long as natural gas production continues to rise, so it can be reasonably expected that NGL production will continue to rise with it.

Figure 6 Processing gains have also grown with global oil production and higher volumes of oil refined but the relationship is not linear. Processing gains are increasing more rapidly than crude oil production as a result of a steady shift towards heavier and heavier grades of oil. When quoting oil production on a volumetric basis, processing gains are a valid component of the equation that tends to normalise for varying densities of crude oil.

Figure 7 The EIA do not report monthly data for biofuels and the last report was for annual production in 2011. They do however provide a useful breakdown between bio ethanol and bio diesel. The data suggest that bio fuel production has stalled between 2010 and 2011 with a small decrease in bio ethanol compensated by a small increase in bio diesel. The IEA data also showed biofuel production stalling in the 3 year period 2010 to 2012.

Regional trends

In these regional compilations C+C+NGL production has been aggregated making the EIA data comparable with IEA and BP data. In future reports on the countries from each region we will disaggregate C+C from NGL in order to provide a more detailed picture.

Figure 8 European oil production is in steep decline. This is the only world region / continent to show such significant decline and the question needs to be asked to what extent growing

energy import bills are underpinning the economic malaise. The key reason for this decline is the dominant offshore nature of European oil and it remains to be seen if other offshore provinces, such as Brazil, Angola and Azerbaijan, experience the same demise.

Figure 9 *North American oil production is the global success story, starting to rise once again after more than a decade on a 14 million bpd plateau. Much of this growth comes from unconventional tar sands and shale oil production that will be looked into more closely in a future report.*

Figure 10 *Middle East oil production shows a punctuated rise from 19.8 million bpd in January 1994 to 27.0 million bpd in August 2012. The punctuations reflect OPEC control of supply to match demand and loss of production during regional conflicts etc. The EIA no longer publish statistics on OPEC spare capacity hence we must rely upon the IEA for this vital data that is discussed [here](#). Much of the rise in OPEC production took place in the period to 2005, since then production has been on a plateau and inability (or unwillingness) of ME OPEC to raise production further has underpinned the raising of the oil price to a new norm >\$100 bbl (Brent spot). Note how Iran is currently being squeezed from the market.*

Figure 11 *FSU production, recovering from the turmoil associated with collapse, grew strongly until 2005 when the rate of growth stalled. This is one of the major factors in triggering the run in oil prices with demand growth running ahead of supply growth since 2005. Russian production is still growing slowly but Azerbaijan is now in a phase of slow decline. FSU production has been on a plateau of 13.3 million bpd for three years.*

Figure 12 *African oil production rose steadily from January 1994 until 2006 at which point it has stalled at close to 10 million bpd. With a large amount of exploration and development activity ongoing around the coast of the continent and along the East African Rift Valley, it is somewhat surprising to see that production growth has stalled. Part of the story is the Arab Spring with Sudan still off line and Libya newly back on but not yet up to pre-revolution levels. But the story is more complex than that which will be examined in detail in a future report.*

Figure 13 *Oil production in Asia / Oceania is dominated by 6 producers - China, Indonesia, Malaysia, India, Thailand and Australia. Production has been more or less flat at 8 million bpd since 2000 with declines in countries like Indonesia and Malaysia compensated by growing production in China. Notably, the EIA data confirm the observation made from IEA data on China where production hit a near term peak of 4.2 million bpd in September 2010 and has since drifted side ways and down. This trend will be something to watch in the months ahead.*

Figure 14 *Production in South and Central America is dominated by Venezuela and Brazil. Note the impact of the 2003 national strike on Venezuelan production. Brazilian production has risen steadily since 1994 but is currently coming down off a near term peak of 2.3 million bpd hit in January 2012. With production centred off shore, Brazil can look forward to the same demise as the North Sea once they run out of new giant fields to develop. South and Central American production hit a peak of 7.2 million bpd in December 2000. Since then it has drifted sideways but hit a new near term peak of 7.3 million bpd in November 2011.*

Earlier reports

[Oil Watch Monthly](#)

[Oil Watch - World Total Liquids Production](#)

[Oil Watch - OPEC Crude Oil Production \(IEA\)](#)

[Oil Watch - OECD Oil Production \(IEA\)](#)

[Oil Watch - Rest of World Oil Production \(IEA\)](#)



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