Oilwatch monthly

Your coverage on the latest worldwide oil production developments

15 October 2007 - (next update: 13 November 2007)



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Did the production of conventional cheap oil peak in 2005?

The latest figures show that the worlds supply of liquids continues to reside on a plateau that started in 2005, and conventional cheap oil keeps on declining. In 2005 the production of conventional crude oil was still 73.80 million b/d while in the first seven months of 2007, only 73.18 million b/d were produced on average. As the months have passed by with no apparent change in this trend, some have started to believe that we have passed the point of maximum production for the oil of the past, the cheap oil that has fueled our society for so many decades.

I agree, that when looking at these aggregate figures, without the context of where this decline is coming from, it becomes likely that we indeed have passed the peak in conventional oil production. However, the underlying figures show that it could also be a short term political peak. The decline in crude oil production was mainly caused by the decline in Saudi-Arabian crude production, which declined from 2005 to the first seven months of 2007 by 929,000 barrels per day. It is very well possible that this was a political cut, not a geological decline. Or that it was only partially due to a geological decline.

As more months pass by, we shall see that Saudi Arabia will increase production, by 500,000 barrels per day, as announced, leading to higher conventional crude oil production. This is by itself insufficient to surpass the present maximum level of production reached in 2005. However in combination with increases from other supplies and/or more from Saudi Arabia the standing level of maximum production reached in 2005 will be surpassed. Recently, on 8 October, Shell lifted it's force majeure from the Forcados oil export terminal in Nigeria. The oil fields surrounding this facility that are currently shut -in normally produce 380,000 barrels per day. A large amount of conventional crude that can start flowing again over the coming months. Also, addition supply is to be expected from other countries amongst which are Brazil, Angola, China and Azerbaijan.

The bottom line is, that it is too early to tell whether we have passed the peak in conventional crude oil production. A rebound, appears to be in the making.

Rembrandt Koppelaar

President ASPO Netherlands

Definitions

Crude Oil, petroleum found in liquid and semi liquid form, includes deepsea and lease condensates

Liquids, all forms of liquid fuels including conventional, heavy, and extra heavy oil, oil shale, oil sands, natural gas liquids, lease condensates, gas-to-liquids, coal-to-liquids and biofuels

One Barrel of oil is equivalent with 159 litres

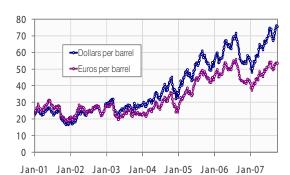
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Chart 1: Oil Price Weighed Average of Blends



Source: Energy Information Admistration

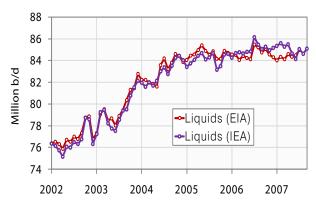


World liquids production status

In September world production of total liquids increased by 450,000 barrels per day from August according to the latest figures of the International Energy Agency (IEA). Resulting in total world liquids production of 85.10 million b/d, which is 1.03 million b/d lower than the all time maximum liquids production of 86.13 million b/d reached in July 2006.

Both the International Energy Agency (IEA) and Energy Information Administration (EIA) figures show that global liquids production has been on a plateau since 2005. The IEA figures result in an average global production in 2007 up to September of 85.03 million b/d, almost to the same as the average 2006 production of 85.00 million b/d and higher than the average 2005 production of 84.10 million b/d. The EIA puts the average global 2007 production up to July at 84.40 million b/d, slightly lower than the average 2006 production of 84.60 million b/d and the average 2005 production of 84.63 million b/d.

Chart 2: World Liquids Production Jan. 2002 - September 2007



Source: Energy Information Admistration, International Energy Agency

World crude oil production status

Latest available figures from the Energy Information Administration (EIA) show that crude oil production including lease condensates increased by 455,000 b/d from June to July. Total production in July was estimated at 73.28 million b/d, which is 1.01 million b/d lower than the all time high crude oil production of 74.30 million b/d reached in May 2005.

Chart 3: World Crude Oil Production January 2002 - July 2007

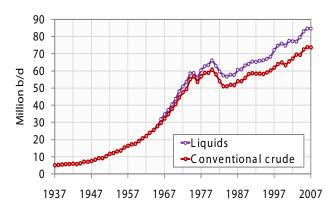


Source: Energy Information Administration

World conventional crude versus liquids production ratio

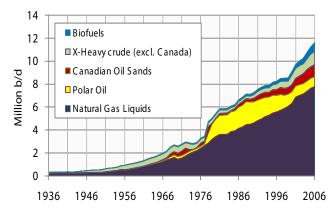
Approximately 87% of world liquids production in 2006 came from conventional crude oil including lease condensates. The remaining share of 13% was produced by other unconventional sources. In absolute amounts unconventional production has increased steadily, from 4 million b/d at the end of the 1970's, to approximately 11 mb/d in 2006 excluding lease condensates.

Chart 4: World Crude and Liquids production 1936 - July 2007



Source: Energy Information Administration, IHS Energy, International Energy Agency

Chart 5: World Unconventional Production 1936 - 2006



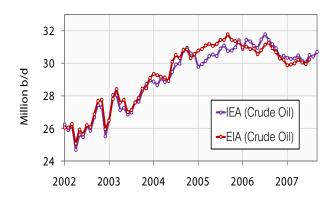
Source: Energy Information Administration, IHS Energy, International Energy Agency, Canadian Association of Petroleum Producers



OPEC production status

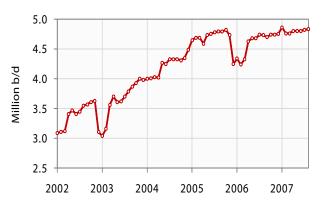
Total crude oil production excluding lease condensates of the OPEC cartel increased by 245,000 b/d to a level of 30.70 million b/d, from August to September, according to the latest available estimates of the IEA. Natural Gas Liquids production increased by 10,000 b/d to 4.83 million b/d, from July to August, according to the IEA. The average total liquids production in 2007 up to September has been 35.17 million b/d, which is 546,000 b/d lower than average 2006 production of 35.71 million b/d.

Chart 6: OPEC Crude Oil Production Jan. 2002 - September 2007



Source: Energy Information Admistration & International Energy Agency

Chart 7: OPEC Natural Gas Liquids Prod. Jan. 2002 - August 2007



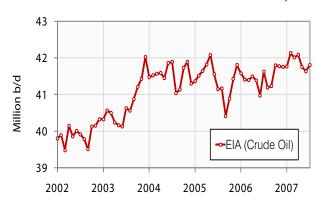
Source: International Energy Agency

Non-OPEC production status

Total crude oil production including lease condensates of non-OPEC increased by 165,000 b/d to a level of 41.80 million b/d, from June to July, according to the latest available estimates of the EIA. The average total crude oil production in 2007 up to July has been 41.88 million b/d, which is 41,000 b/d higher than average 2006 production of 41.47 million b/d.

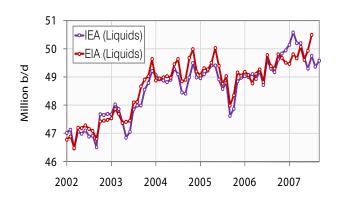
Total liquids production of non-OPEC increased by 210,000 b/d to a level of 49.57 million b/d, from August to September, according to the latest figures of the IEA. The average total liquids production in 2007 up to September has been 49.86 million b/d, which is 576,000 b/d higher than average 2006 production of 49.29 million b/d.

Chart 8: Non-OPEC Crude Oil Production Jan. 2002 - July 2007



Source: Energy Information Admistration

Chart 9: Non-OPEC Liquids Production Jan. 2002 - Sep. 2007



Source: International Energy Agency & Energy Information Administration

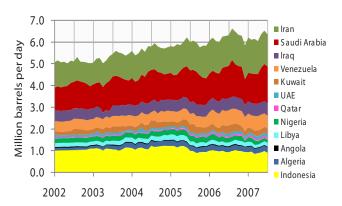


OPEC liquids demand developments

Liquids consumption within OPEC in the last few years has been on an accelerating trend. In 2002 OPEC-11 (excluding Iraq) consumed 4.63 million b/d according to the JODI database. Since then, demand has increased by 1.1 million b/d to 5.69 million b/d in 2006. The increase was mainly caused by higher consumption in Iran and Saudi Arabia, which increased by 234,000 and 418,000 b/d between respectively 2002 and 2006.

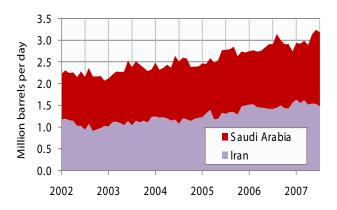
2007 shows an acceleration of this trend in both countries. In Saudi Arabia liquids consumption in the first seven months of 2007 reached 1.49 million b/d. An increase of 140,000 b/d compared to a consumption level of 1.35 million b/d in the first seven months of 2006. In Iran consumption increased by 92,000 b/d to 1.55 million b/d in the first seven months of 2007, compared to 1.46 million b/d in the first seven months of 2006.

Chart 10: OPEC-12 Liquids Demand January 2002 - July 2007



Source: JODI Database

Chart 11: Iran & S. Arabia Liquids Demand Jan. 2002 - July 2007



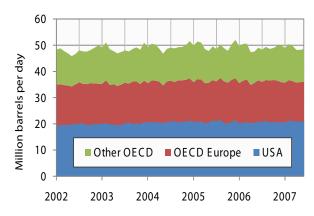
Source: JODI Database

Non-OPEC liquids demand developments

OECD liquids demand in recent years has started to decline according to the latest Energy Information Administration figures. In 2005 the OECD group of countries consumed on average of 49.67 million b/d, which declined to 49.16 million b/d in 2006. Of the total OECD decline in consumption, 215,000 b/d came from the US, 49,000 b/d from OECD Europe and 264,000 b/d from other OECD countries.

In the first half of 2007, OECD consumption declined further by 116,000 b/d to an average of 49.03 million b/d. Solely because of a consumption decline of 470,000 b/d in OECD Europe. In the United Sates and the other OECD countries demand growth rebounded, leading to an increase in consumption of 324,000 b/d and 29,000 b/d respectively.

Chart 12: OECD Liquids Demand Jan. 2002 - June 2007



Source: Energy Information Administration

Consumption growth in China has remained robust despite higher oil prices. According to the JODI database China consumed on average 5.98 million b/d in 2005, growing to 6.47 million b/d in 2006 and 6.87 million b/d in the first half of 2007. India consumption is growing at a less robust pattern according to JODI figures. The country consumed on average 2.31 million b/d in 2005, which declined slightly to 2.29 million b/d in 2006 but grew again in the first half of 2007 to an average of 2.49 million b/d.

Chart 13: India & China Liquids Demand Jan. 2002 - June 2007



Source: JODI Database



Crude oil and oil product stocks status

Industrial Inventories of Crude Oil in the OECD have remained stable in the past few years according to IEA statistics, hovering around 960 million barrels. Of this total, 340 million barrels reside in OECD Europe, 160 million barrels in OECD Asia Pacific and 460 million barrels in North America.

Gasoline stocks in the OECD remained stable from June to July at 358 million barrels. More recent data from the EIA shows that gasoline stocks in the USA increased slightly to 192 million barrels in the middle of October from 190 million barrels in September.

Chart 14: OECD Crude Oil Stocks January 2002 - July 2007



Source: International Energy Agency

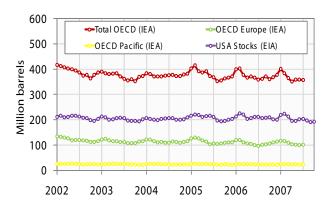
Total Product Stocks in the OECD were 1377 million barrels in July. Slightly lower than last years level in July of 1420 million barrels, but close to the five year average of 1382 million barrels.

Chart 15: OECD Product Stocks January 2002 - July 2007



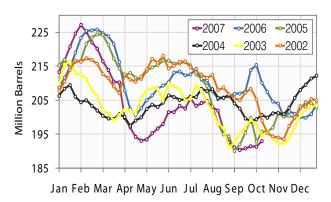
Source: International Energy Agency

Chart 16: OECD Motor Gasoline Stocks Jan. 2002 - Sep. 2007



Source: International Energy Agency & Energy Information Admistration

Chart 17: USA Motor Gasoline Stocks January 2002 - Okt. 2007



Source: Energy Information Admistration



World Crude Oil Export Status

The series was derived by subtracting the consumption of oil products, refinery fuel and direct crude oil sales from liquids production in producer countries. Data comes from the Joint Oil Data Initiative (JODI) for demand and the International Energy Agency (IEA) and Energy Information Agency (EIA) for supply. Biofuels are not included in consumption data but are included in production data. Because biofuels are not identified in the production data it is not possible to separate this flow. Given that net energy biofuel production has increased by approximately 50,000 to 100,000 b/d annually in recent years, the series is slightly optimistic.

This method gives a crude approximation of the export market because it assumes that all producers refine their own oil products to satisfy internal market needs. In reality not all oil producers have their own refineries to meet internal product demand. Therefore, more crude will be exported to foreign countries were it is refined into usable products. These usable products are then imported back to the country were the crude oil came from. To derive precise export statistics one would need to combine four components for each individual oil producing country: 1) crude oil export flows, 2) crude oil import flows, 3) total product export flows, 4) total product import flows. Statistics that show only crude oil exports or total product imports on an aggregate basis only reveal one component of the equation, and cannot be taken at face value.

Unfortunately, data on all four components is not readily available for countries outside the OECD. At the moment the statistics shown are purely based on the method of subtracting the consumption of oil products, refinery fuel and direct crude oil sales from liquids production in producer countries, unless otherwise noted.

From 2005 to 2006, worldwide liquids production increased by nearly 1 million b/d from 84.1 million b/d in 2005 to 85 million b/d in 2006 according to the IEA. Our exports database, which used the methodology outlined above, shows that annual worldwide exports were 43.6 million b/d, 46.4million b/d, 47.0 million b/d and 46.81 million b/d in 2003, 2004, 2005 and 2006 respectively. In the first seven months of 2007 an average of 45.99 million b/d was exported.

Chart 18: World Liquids Exports Estimate Jan. 2002 - July 2007

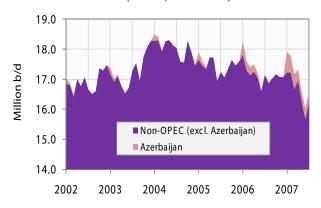


Source: derived from the IEA, EIA and JODI Database

A worrisome trend is visible in the exports of non-OPEC countries. In 2003 exports were estimated at 17.3 million b/d, increasing to 18 million b/d in 2004 and subsequently declining to 17.5 million b/d in 2005 and 17.3 million b/d in 2006. In the first seven months of 2007 non-OPEC exports declined to an average of 17.06 million b/d.

In 2003 exports from OPEC (including Iraq) were 26.3 million b/d, increasing to 28.3 million b/d in 2004, to 29.6 million b/d in 2005 and 29.7 million b/d in 2006. This increase has recently halted. Since July 2006 exports from OPEC have declined in line with announced production cuts. In the first four months of 2007 OPEC exports remained around 29 million b/d, declining in May and June to 28.78 million b/d and 28.54 million b/d respectively and rebounding to 28.98 million b/d in July.

Chart 19: Non-OPEC Liquids Exports January 2002 - June 2007



Source: derived from the IEA, EIA and JODI Database

Chart 20: OPEC Liquids Exports January 2002 - June 2007

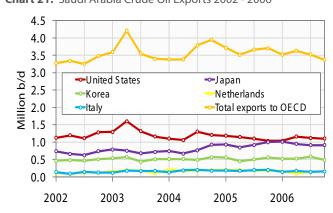


Source: derived from the IEA, EIA and JODI Database



Data on actual flows from the IEA shows that crude oil exports from Saudi Arabia to the OECD declined by $140,000 \, \text{b/d}$ from 2005 to 2006.

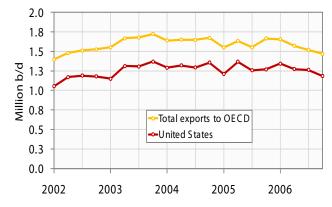
Chart 21: Saudi Arabia Crude Oil Exports 2002 - 2006



Source: International Energy Agency

Data on actual flows from the IEA shows that crude oil exports from Mexico to the OECD declined by 50,000 b/d from 2005 to 2006.

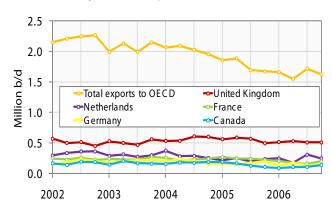
Chart 23: Mexico Crude Oil Exports 2002 - 2006



Source: International Energy Agency

Data on actual flows from the IEA shows that crude oil exports from Norway to the OECD declined by $140,000\ b/d$ from $2005\ to$ 2006.

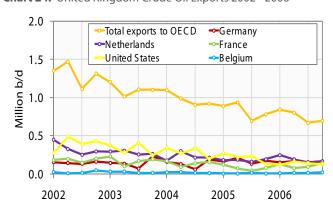
Chart 22: Norway Crude Oil Exports 2002 - 2006



Source: International Energy Agency

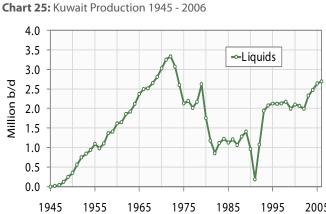
Data on actual flows from the IEA shows that crude oil exports from the United Kingdom to the OECD declined by 73,000 b/d from 2005 to 2006.

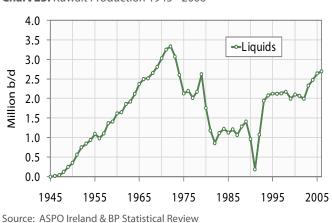
Chart 24: United Kingdom Crude Oil Exports 2002 - 2006

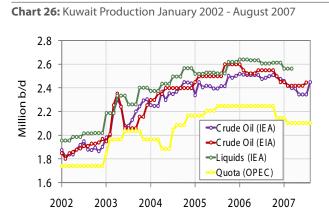


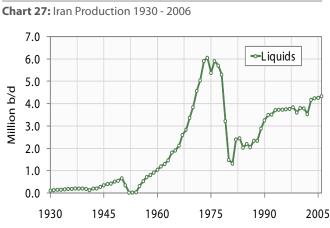
Source: International Energy Agency



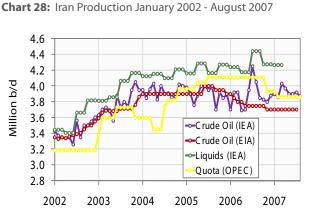




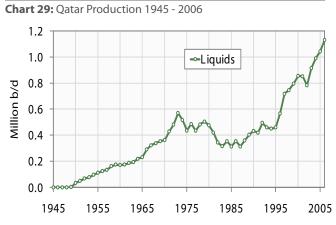




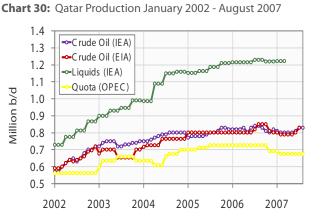




Source: Energy Information Admistration & International Energy Agency









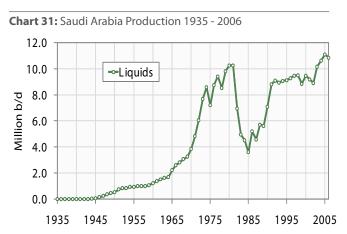
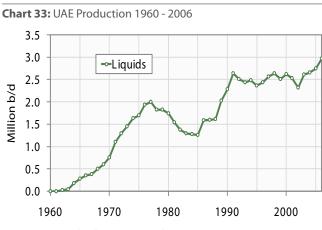


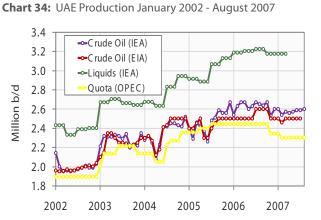


Chart 32: Saudi Arabia Production January 2002 - August 2007 11.5 11.0 10.5 10.0 Million b/d 9.5 9.0 8.5 Crude Oil (IEA) 8.0 Crude Oil (EIA) 7.5 **⊸**Liquids (IEA) 7.0 Quota (OPEC) 6.5 2002 2003 2004 2005 2006 2007

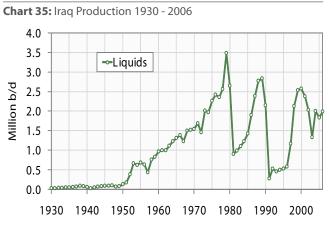
Source: Energy Information Admistration & International Energy Agency



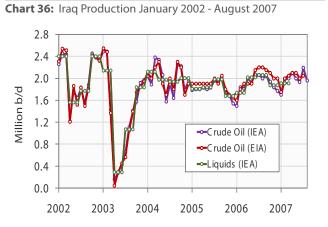
Source: ASPO Ireland & BP Statistical Review



Source: Energy Information Admistration & International Energy Agency

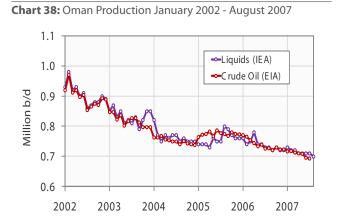


Source: ASPO Ireland & BP Statistical Review

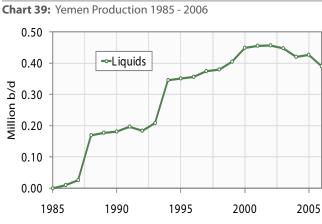


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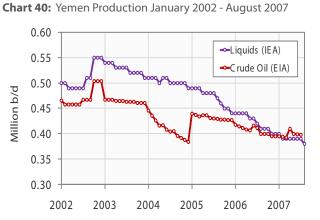




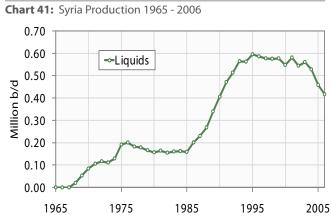
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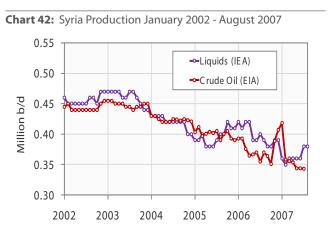
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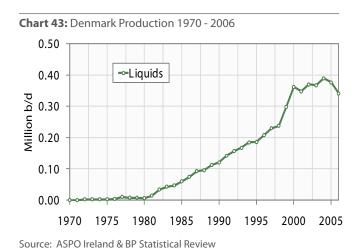
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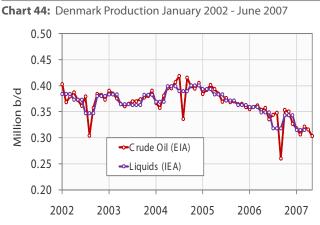


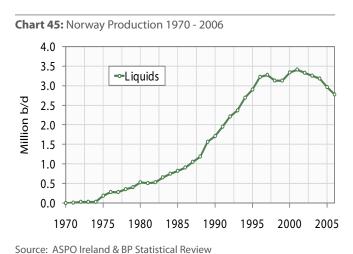
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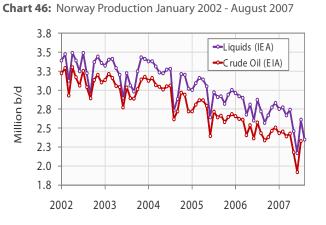




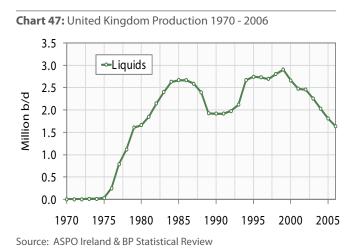


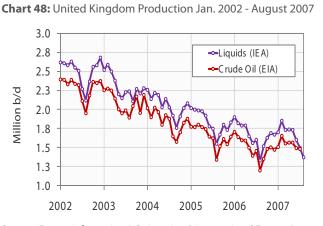




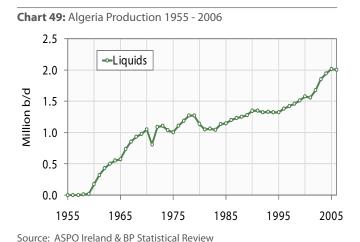


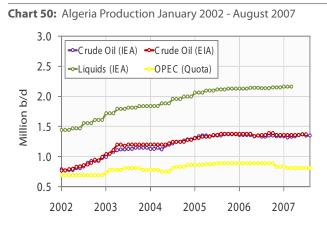
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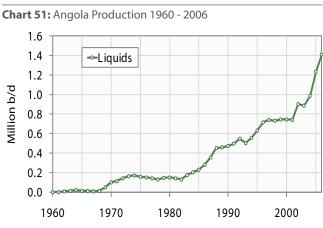


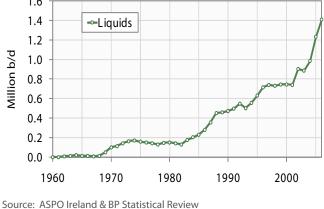


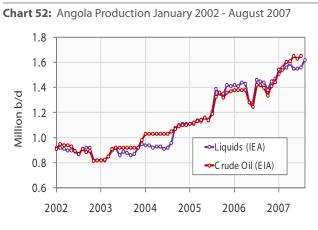




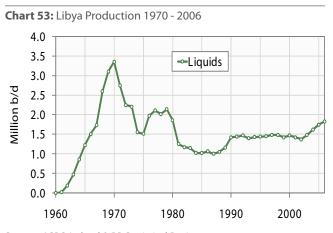








Source: Energy Information Admistration & International Energy Agency





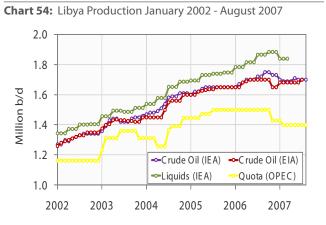




Chart 55: Nigeria Production 1955 - 2006 3.0 2.5 --Liquids 2.0 Million b/d 1.5 1.0 0.5 0.0

1975

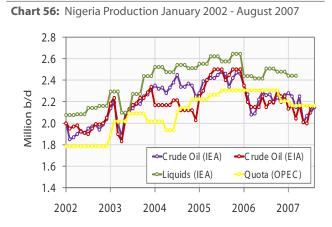
1985

1995

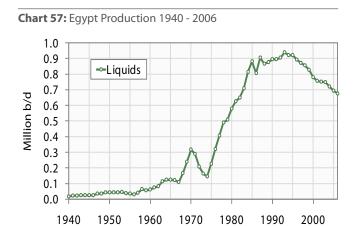
2005

1965 Source: ASPO Ireland & BP Statistical Review

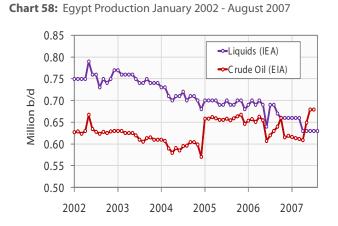
1955



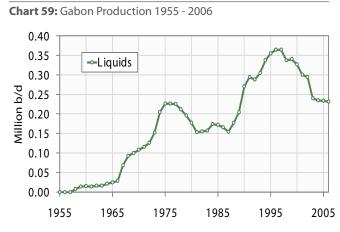
Source: Energy Information Admistration & International Energy Agency



Source: ASPO Ireland & BP Statistical Review



Source: Energy Information Administration & International Energy Agency



Source: ASPO Ireland & BP Statistical Review

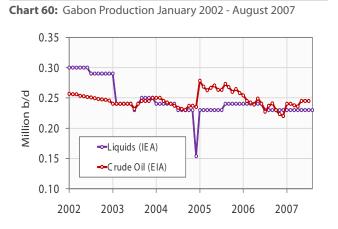
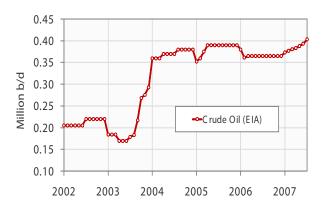


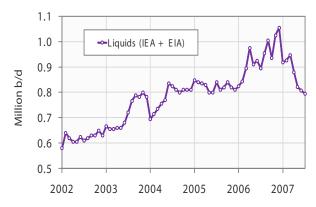


Chart 61: Equatorial Guinea Production Jan. 2002 - July 2007



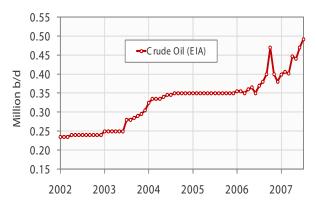
Source: Energy Information Admistration

Chart 63: Other Africa Production Jan. 2002 - July 2007



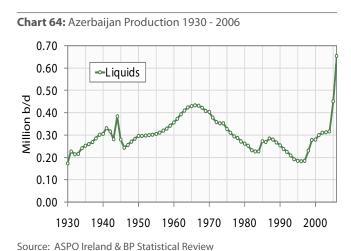
Source: Energy Information Admistration & International Energy Agency

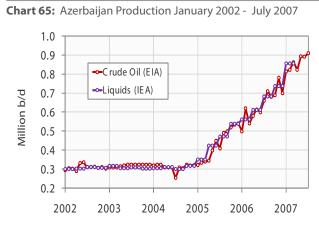
Chart 62: Sudan Production Jan. 2002 - August 2007

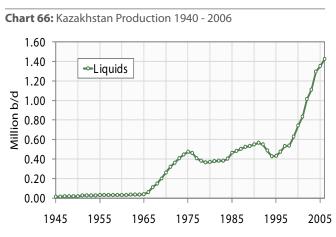


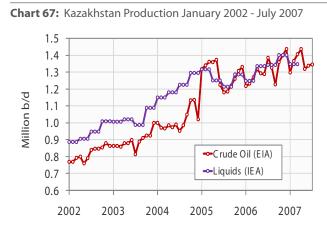
Source: Energy Information Admistration





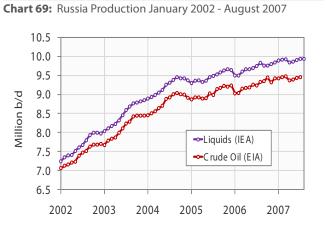






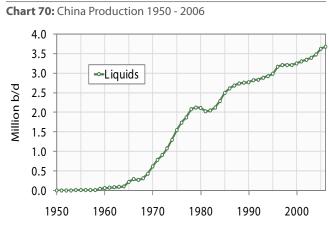
Source: ASPO Ireland & BP Statistical Review Source: Energy Information Administration & International Energy Agency



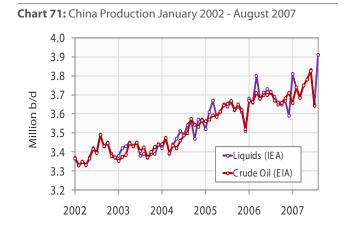


Source: ASPO Ireland & BP Statistical Review Source: Energy Information Administration & International Energy Agency

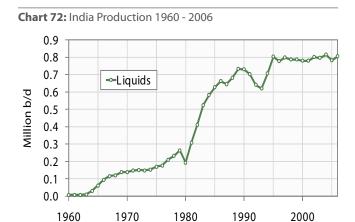




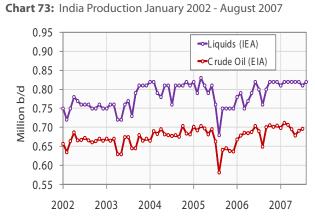
Source: ASPO Ireland & BP Statistical Review



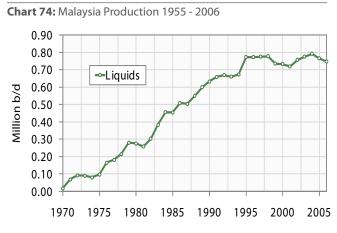
Source: Energy Information Administration & International Energy Agency



Source: ASPO Ireland & BP Statistical Review



Source: Energy Information Administration & International Energy Agency



Source: ASPO Ireland & BP Statistical Review

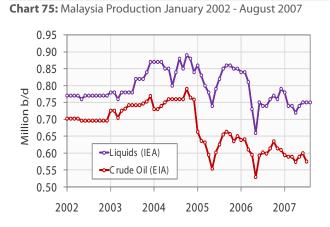




Chart 75: Vietnam Production 1955 - 2006

0.50

0.40

Pag 0.30

0.20

0.10

1995

2000

2005

Source: ASPO Ireland & BP Statistical Review

1990

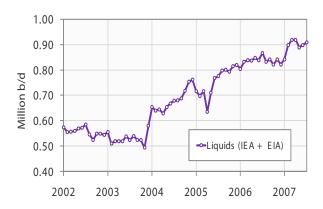
0.00

1985

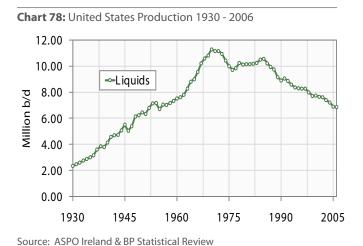
Chart 76: Vietnam Production January 2002 - July 2007 0.50 0.45 Million b/d 0.40 0.35 ---C rude Oil (EIA) 0.30 **∽**Liquids (IEA) 0.25 2002 2003 2004 2005 2006 2007

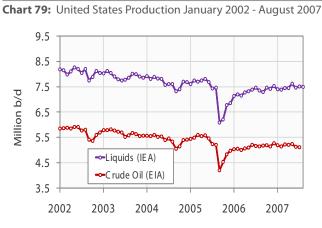
Source: Energy Information Administration & International Energy Agency

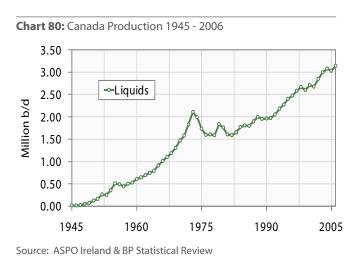
Chart 77: Other Asia Production Jan. 2002 - August 2007

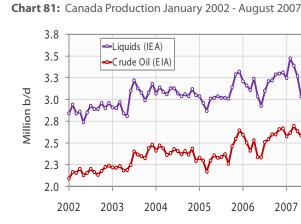






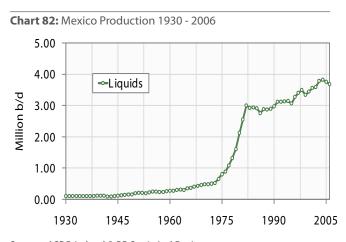


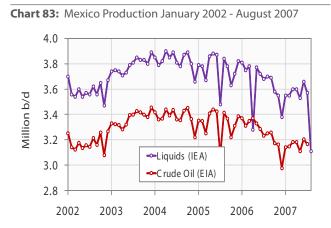




Source: Energy Information Administration & International Energy Agency

2007





Source: Energy Information Administration & International Energy Agency

Source: ASPO Ireland & BP Statistical Review



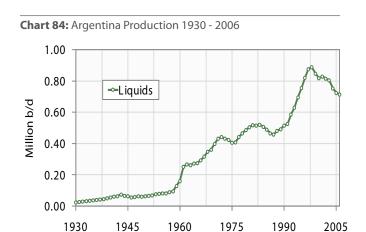
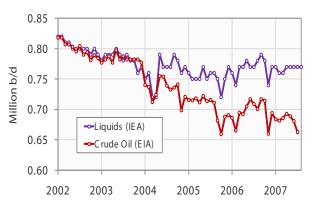


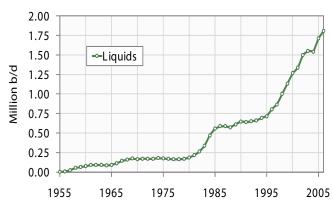


Chart 85: Argentina Production January 2002 - August 2007



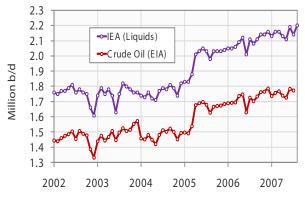
Source: Energy Information Administration & International Energy Agency

Chart 86: Brazil Production 1955 - 2006



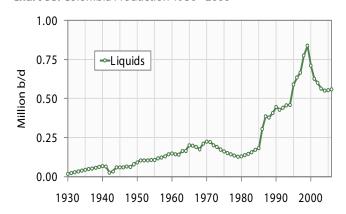
Source: ASPO Ireland & BP Statistical Review

Chart 87: Brazil Production January 2002 - August 2007



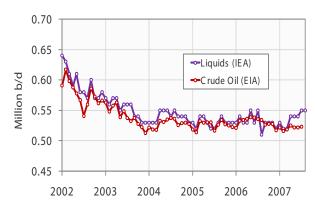
Source: Energy Information Administration & International Energy Agency

Chart 88: Colombia Production 1930 - 2006

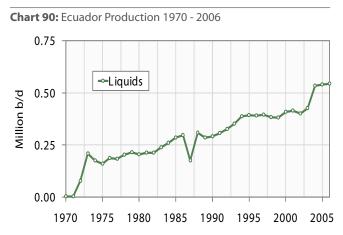


Source: ASPO Ireland & BP Statistical Review

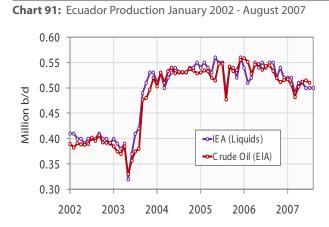
Chart 89: Colombia Production January 2002 - August 2007



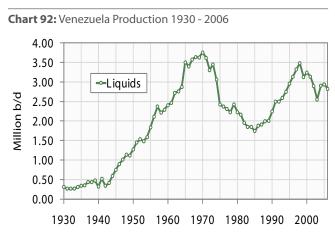




Source: ASPO Ireland & BP Statistical Review



Source: Energy Information Administration & International Energy Agency



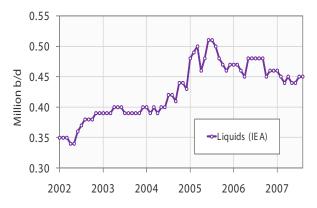
Source: ASPO Ireland & BP Statistical Review

3.5 3.0 2.5 Million b/d 2.0 ---C rude Oil (IEA) 1.5 **∽**C rude Oil (EIA) -Liquids (IEA) 1.0 Quota (OPEC) 0.5 2002 2003 2004 2005 2006 2007

Chart 93: Venezuela Production Jan. 2002 - August 2007

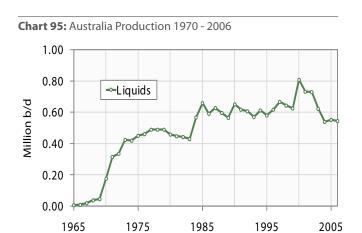
Source: Energy Information Admistration & International Energy Agency

Chart 94: Other S. America Production Jan. 2002 - August 2007

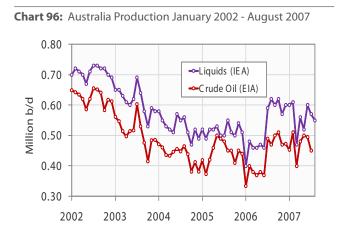


Source: International Energy Agency





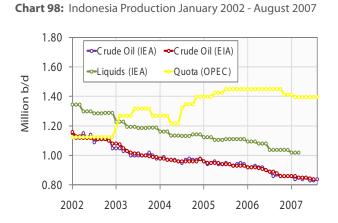




Source: Energy Information Administration & International Energy Agency



Source: ASPO Ireland & BP Statistical Review



Source: Energy Information Administration & International Energy Agency