# **Oilwatch Monthly - February 2010**

# Your coverage on the latest worldwide oil market developments

# Reality checks in the oil industry

In the past couple of years many major oil companies have been confronted with unattained production targets that proved to be unrealistic at best. Nevertheless, few lessons have been learned, as many majors keep clinging to upbeat production targets.

In an investor presentation from 2002, Petrobas targeted oil production from its Brazilian operations to increase from 1.49 million in 2002 to 1.9 million b/d in 2005. A goal that was never reached as actual 2005 production was 1.68 million b/d. Repeating its mistake, in a 2005 investor presentation Petrobras showed that production would rise to 2.3 million b/d in 2010. Five years down the road we know that average production in 2009 remained stable around 2 million b/d, despite an added 400,000 b/d from new projects. With a total of 350,000 b/d production additions scheduled for 2010 it will not be possible for Petrobras to reach 2.3 million b/d. In the most likely case Brazilian production will remain stable, and perhaps even decline slightly. The problem lies in decline rates in the deepwater environment that can barely be compensated by adding many major projects each annum. Petrobras nonetheless keeps publishing upbeat numbers. In the latest strategy update a production level of 2.68 million b/d is foreseen for Brazilian oil operations, which implies an unseen growth level of 8% per annum.

A similar pattern is visible in Shells strategy. In 2006 the company told its investors that oil and gas production would rise from 3.5 million to between 3.8 and 4.0 million boe/d in 2009, while realized production in 2009 was only 3.15 million boe/d. In its current strategy shell hedged itself from making the same mistake by 'committing' to 3.35 million boe/d in 2011/2012 with 'optional' production increases foreseen beyond 2013 towards 3.7 million boe/d. Targets that are unlikely to be met. The reality of increasing depletion in most oil basins making continuous production growth paths an impossibility, has not yet been embraced by most of the majors. Hence it can be expected that erroneous production expectations will continue in the future. What the oil industry needs is some serious reality checks, called out for by oil company investors who demand more transparent production updates, both on a company and a global level.

#### **Definitions**

Crude Oil, petroleum found in liquid and semi liquid form including deepsea oil and

lease condensates.

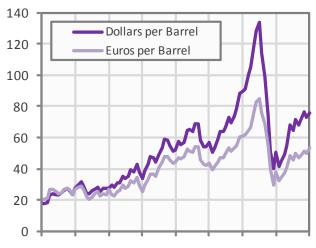
Liquids, all forms of liquid fuels including

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 to 159 litres

**Chart 1:** Oil Price Weighed Average of Blends



2002 2003 2004 2005 2006 2007 2008 2009 2010

Source: Energy Information Admistration

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**Rembrandt Koppelaar** +31 (0)6 44082419

contact@peakoil.nl www.peakoil.nl

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# **World liquid fuels production**

In January 2010 world production of all liquid fuels decreased by 40,000 barrels per day from December according to the latest fgures of the International Energy Agency (IEA). Resulting in total world liquid fuels production of 85.83 million b/d. Liquids production for December 2009 was revised downwards in the IEA Oil Market Report of February from 86.17 to 85.4 million b/d. Average global liquid fuels production in 2009 was 84.94 versus 86.6 and 85.32 million b/d in 2008 and 2007.

#### **World biofuels production**

Total world biofuels production in January 2010 is estimated at 1.93 million b/d based on statistics compiled from the Energy Information Administration, the International Energy Agency and the Brazilian ministry of Energy. With an estimated 845,000 b/d from the United States, 630,000 b/d from Brazil and 450,000 b/d from other countries.

# World oil production capacity

Total oil production capacity in January 2010 increased by 85,000 b/d from December 2009, from 89.36 to 89.45 million b/d. World production capacity is measured here as the sum of world liquids production excluding biofuels plus total OPEC spare capacity excluding Iraq, Venezuela and Nigeria.

Chart 2: Liquids Production January 2004 - January 2010

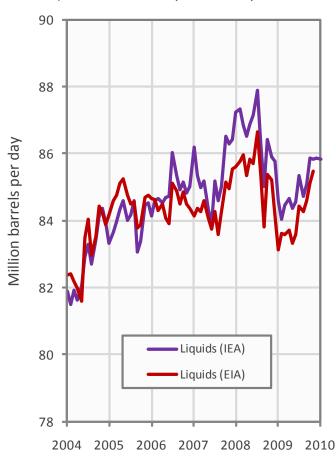


Chart 3: World Biofuels Production Jan. 2004 - January 2010

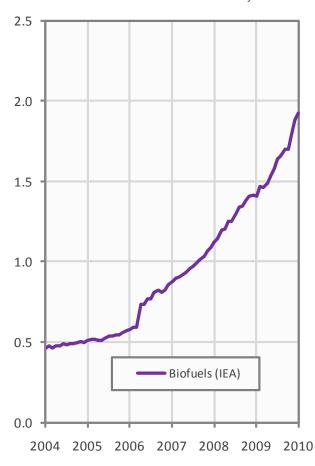
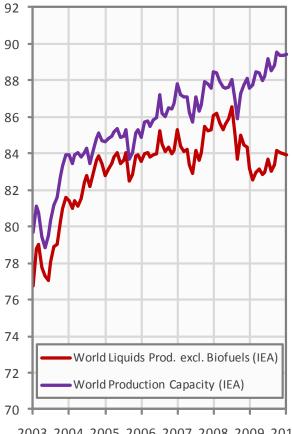


Chart 4: World Production Capacity Jan. 2003 - January 2010



2003 2004 2005 2006 2007 2008 2009 2010

Source: International Energy Agency

Source: IEA, EIA, Brazilian Ministry of Energy

Source: Energy Information Administration

# EIA liquids versus IEA liquids excluding biofuels production

Liquid fuels production figures published by the Energy Information Administration in their International Petroleum Monthly excludes biofuels produced in countries beside the United States and Brazil. The remaining difference is caused by discrepancies between natural gas liquids and Canadian unconventional oil production.

#### World crude oil production

Latest figures from the Energy Information Administration (EIA) show that crude oil production including lease condensates increased by 283,000 b/d from October to November 2009. Resulting in total production of crude oil including lease condensates of 73.22 million b/d.

#### World natural gas liquids production

Natural Gas Liquids production from natural gas fields increased by 71,000 b/d from October to November 2009 according to the latest International Petroleum Monthly of the Energy Information Administration (EIA). Resulting in total NGL production of 8.29 million b/d.

Chart 5: EIA & EIA Liquids Comparison Jan. 2004 - January 2010

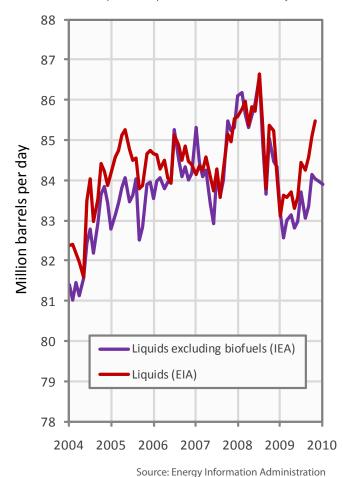
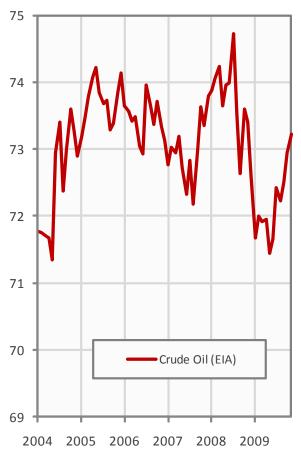
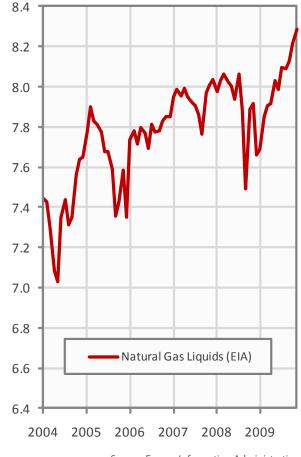


Chart 6: Crude Oil Production January 2004 - November 2009



Source: Energy Information Administration

Chart 7: Nat. Gas Liquids Production Jan. 2004 - Nov. 2009

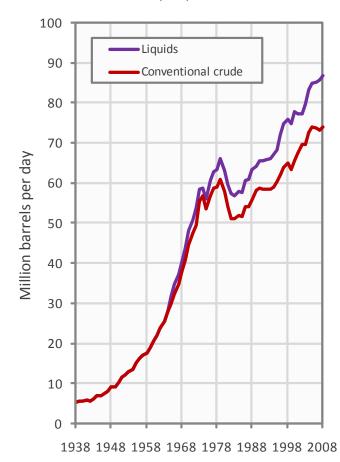


Source: Energy Information Administration

## World conventional crude versus liquids production ratio

Approximately 85% of world liquid fuels production in 2008 came from conventional crude oil including lease condensates. The remaining share of 15% was produced by unconventional sources including Biofuels, Extra Heavy Oil, Tar Sands, Polar Oil and Natural Gas Liquids. In absolute amounts unconventional production has increased steadily, from 4 million b/d at the end of the 1970s, to approximately 12.9 mb/d in 2008, excluding lease condensates.

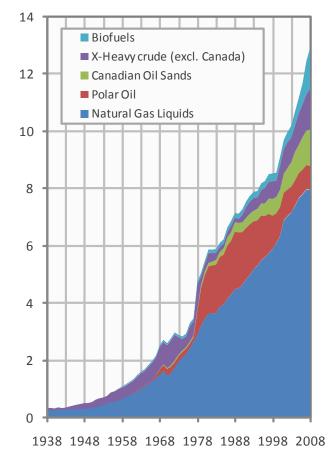
Chart 8: World Crude and Liquids production 1938 - 2008



#### World unconventional liquid fuels production

In 2008 the biggest part of unconventional liquid fuels production came from Natural Gas Liquids at 11% or 7.94 million b/d. Secondly, extra heavy crude and bitumen at 3.4% or 2.68 million b/d of which 1.27 million b/d from Canadian oil sands and 1.41 million b/d from other sources. Thirdly, Biofuels at 1.8% or 1.45 million b/d. A and finally Polar Oil at a production rate of 840,000 b/d in 2008 or 1.1% of total liquids supply.

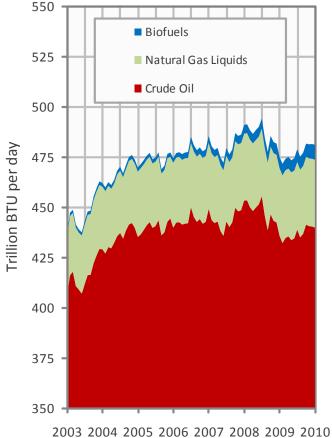
Chart 9: Unconventional Oil Production 1938 - 2008



## World energy content from liquid fuels production

In production statistics all liquid fuels are aggregated as total 'oil' production while containing different amounts of energy per barrel produced. For example, a barrel of crude oil contains around 5.8 million British Thermal Units while a similar barrel of natural gas liquids contains 4.2 million BTU. Conversion to BTU's shows that actual available energy worldwide in January 2010 was 3.3% lower than liquids statistics counted in barrels would suggest.

Chart 10: World Production in BTU January 2003 - Jan. 2010



Source: International Energy Agency

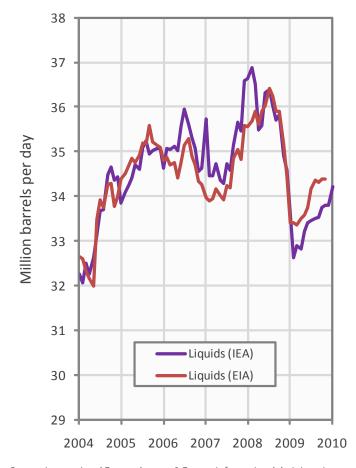
Source: International Energy Agency & Energy Information Administration

Source: EIA, EIA & CAPP

## **OPEC liquid fuels production & production capacity**

Total liquid fuels production in OPEC countries increased by 410,000 b/d from December 2009 to January 2010 to a level of 34.2 million b/d. Liquids production for December 2009 was revised downwards in the IEA Oil Market Report of February from 34.21 to 33.79 million b/d. Average liquid fuels production in 2009 was 33.7 million b/d, versus 36.09 and 35.02 million b/d in respectively 2008 and 2007. All time high production of OPEC liquid fuels stands at 36.4 million b/d reached in July 2008.

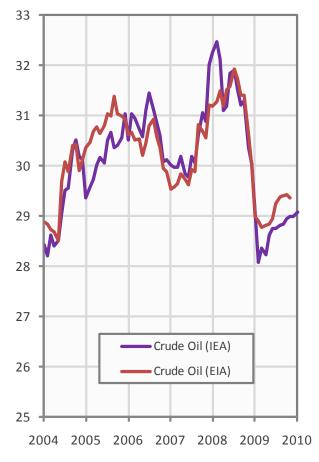
Chart 11: OPEC Liquids Production Jan. 2004 - January 2010



#### **OPEC crude oil production**

Total crude oil production excluding lease condensates of the OPEC cartel increased by 100,000 b/d to a level of 29.05 million b/d, from December 2009 to January 2010, according to the latest available estimate of the IEA. Crude oil production for December 2009 was revised downwards in the IEA Oil Market Report of February from 29.05 to 28.97 million b/d. Average crude oil production in 2009 was 28.7 million b/d, versus 31.43 and 30.37 million b/d in respectively 2008 and 2007.

Chart 12: OPEC Crude Oil Production Jan. 2004 - January 2010

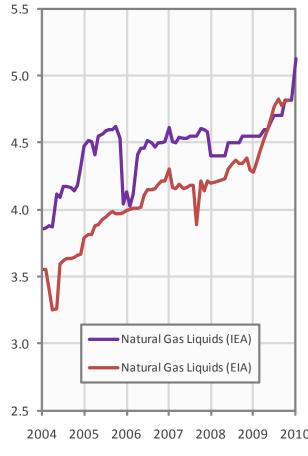


Source: Energy Information Administration

## **OPEC natural gas liquids production**

OPEC natural gas liquids increased by 310,000 b/d from December 2009 to January 2010 to at a level of 5.13 million b/d. Natural Gas Liquids production for December 2009 was revised downwards in the IEA Oil Market Report of February from 5.17 to 4.82 million b/d. Average OPEC natural gas liquids production in 2009 up to November was 4.67 million b/d, versus 4.47 and 4.55 million b/d in respectively 2008 and 2007.

Chart 13: OPEC NGL Production January 2004 - January 2010



Source: Energy Information Administration

Source: International Energy Agency & Energy Information Administration

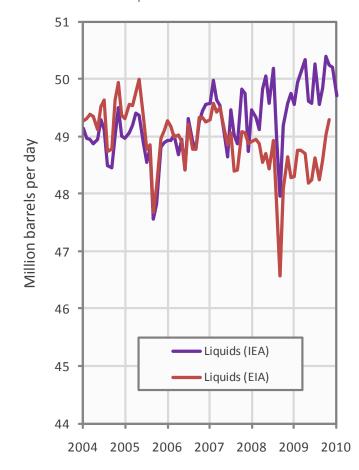
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# Non-OPEC liquid fuels production

Total liquid fuels production excluding biofuels in Non-OPEC countries decreased by 495,000 b/d from December 2009 to January 2010. Resulting in a production level of 49.71 million b/d according to the International Energy Agency. Liquids production for December 2009 was revised upwards in the IEA Oil Market Report of February from 50.17 to 50.2 million b/d. Average liquid fuels production in 2009 was 49.67 million b/d, versus 49.32 and 49.34 million b/d in respectively 2008 and 2007.

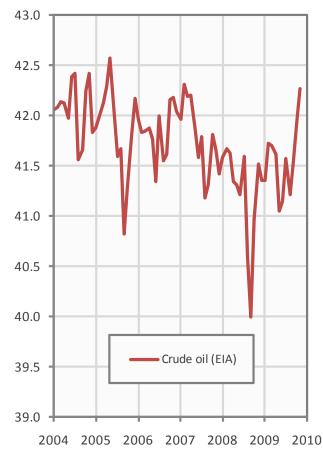
Chart 14: Non-OPEC Liquids Production Jan. 2004 - Jan. 2010



## Non-OPEC crude oil production

Total Non-OPEC crude oil production excluding lease condensates increased by 335,000 b/d to a level of 42.26 million b/d, from October to November 2009, according to the latest available estimate of the EIA. Crude oil production for October 2009 was revised downwards in the IEA International Petroleum Monthly of February from 42.11 to 41.93 million b/d. Average crude oil production in 2009 up to November was 41.55 million b/d, versus 41.32 and 41.80 million b/d in respectively 2008 and 2007.

Chart 15: Non-OPEC Crude Oil Production Jan. 2004 - Nov. 2009

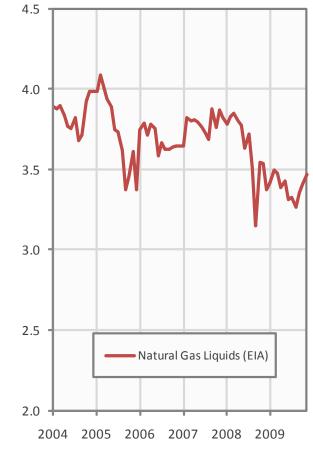


Source: Energy Information Administration

# Non-OPEC natural gas liquids production

Non-OPEC natural gas liquids production increased by 60,000 from October to November 2009 to a level of 3.47 million b/d. Average Non-OPEC natural gas liquids production in 2009 up to November was 3.39 million b/d, versus 3.65 and 3.79 million b/d in respectively 2008 and 2007.

Chart 16: Non-OPEC NGL Production January 2004 - Nov. 2009



Source: Energy Information Administration

# **OPEC oil consumption**

Oil consumption in all OPEC oil producers combined decreased by 49,000 b/d from October to November 2009. Resulting in a consumption level of 5.82 million b/d. Average OPEC oil consumption in 2009 up to November was 5.96 million b/d, versus 5.76 and 5.30 million b/d in respectively 2008 and 2007.

#### Iran oil consumption

Oil consumption in Iran increased by 16,000 b/d from October to November 2009 to a level of 1.53 million b/d. Average Iranian oil consumption in 2009 up to November was 1.52 million b/d, versus 1.64 and 1.52 million b/d in respectively 2008 and 2007.

## Saudi Arabia oil consumption

Oil consumption in Saudi Arabia decreased by 33,000 b/d from October to November 2009 to a level of 1.72 million b/d. Average Saudi Arabian oil consumption in 2009 up to November was 1.84 million b/d, versus 1.65 and 1.52 million b/d in respectively 2008 and 2007.

Chart 17: OPEC Oil Consumption January 2004 - Nov. 2009

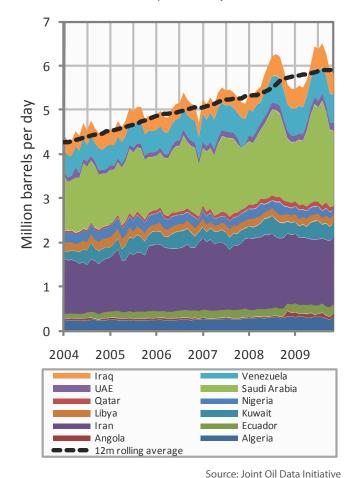


Chart 18: Iran Oil Consumption January 2004 - November 2009

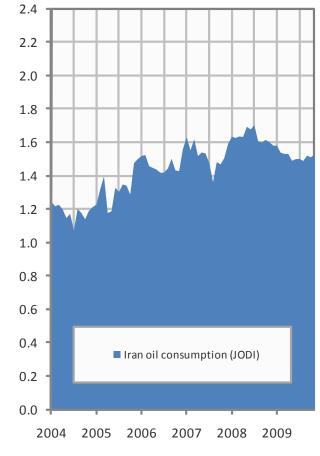
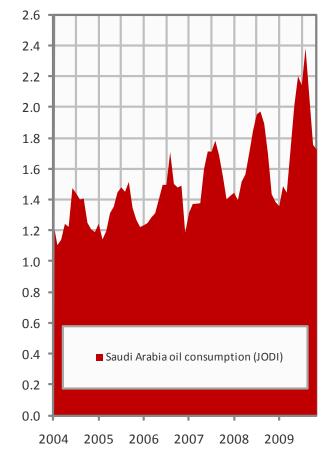


Chart 19: Saudi Arabia Oil Consumption Jan. 2004 - Nov. 2009



Source: Joint Oil Data Initiative

#### **OECD** oil consumption

Oil consumption in OECD countries decreased by 697,000 b/d from October to November 2009. Resulting in a consumption level of 43.51 million b/d. Average OECD oil consumption in 2009 up to November was 43.80 million b/d, versus 46.10 and 47.68 million b/d in respectively 2008 and 2007.

#### **North America oil consumption**

Oil consumption in North America decreased by 303,000 b/d from October to November 2009. Resulting in a consumption level of 22.29 million b/d. Average oil consumption in North America in 2009 up to November was 22.43 million b/d, versus 23.50 and 24.72 million b/d in respectively 2008 and 2007.

#### **European Union oil consumption**

Oil consumption in the European Union decreased by 637,000 b/d from October to November 2009. Resulting in a consumption level of 13.27 million b/d according to JODI statistics. Average consumption in the European Union in 2009 up to November was 13.6 million b/d, versus 14.25 and 14.32 million b/d in respectively 2008 and 2007.

Chart 20: OECD Oil Consumption January 2004 - Nov. 2009

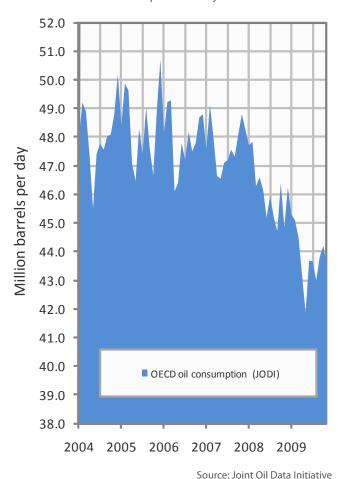


Chart 21: North America Oil Consumption Jan. 2004 - Nov. 2009

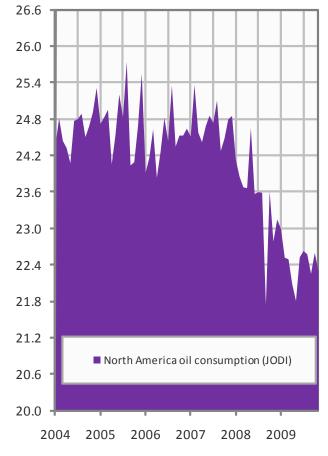
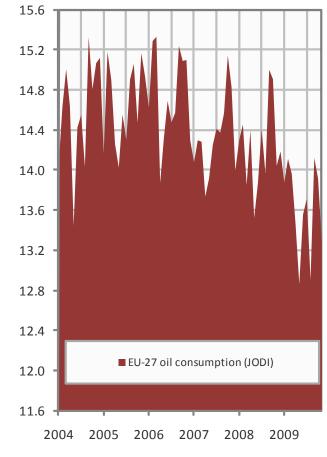


Chart 22: EU-27 Oil Consumption January 2004 - Nov. 2009



# **United States oil consumption**

Oil consumption in the US decreased by 243,000 b/d from October to November 2009. Resulting in a consumption level of 18.49 million b/d. Average consumption of oil in the US in 2009 up to November was 18.64 million b/d, versus 19.50 and 20.70 million b/d in respectively 2008 and 2007.

#### **Mexico oil consumption**

Oil consumption in Mexico decreased by 45,000 b/d from October to November 2009. Resulting in a consumption level of 1.84 million b/d. Average oil consumption in Mexico in 2009 up to November was 1.88 million b/d, versus 1.95 and 1.94 million b/d in respectively 2008 and 2007.

## **Canada oil consumption**

Oil consumption in Canada decreased by 15,000 b/d from October to November 2009. Resulting in a consumption level of 1.98 million b/d. Average consumption in Canada in 2009 up to November was 1.94 million b/d, versus 2.06 and 2.08 million b/d in respectively 2008 and 2007.

Chart 23: US Oil Consumption January 2004 - November 2009

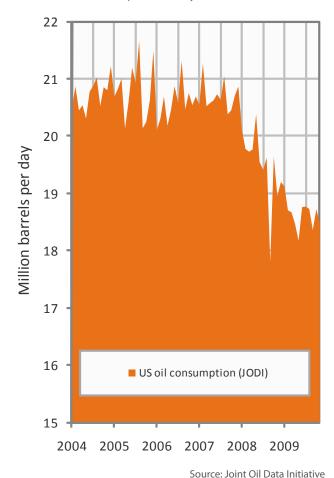


Chart 24: Mexico Oil Consumption Jan. 2004 - November 2009

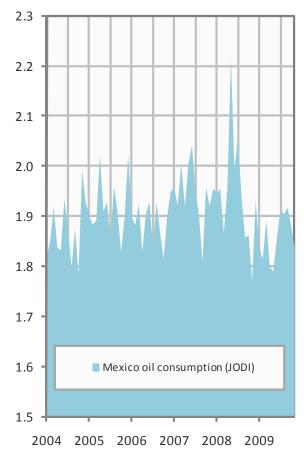
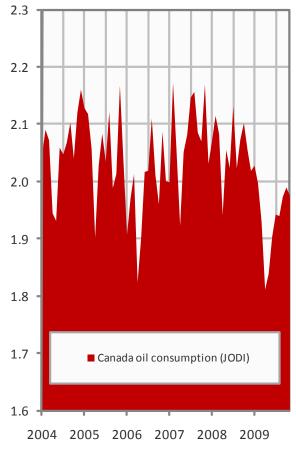


Chart 25: Canada Oil Consumption January 2004 - Nov. 2009



Source: Joint Oil Data Initiative

## France oil consumption

Oil consumption in France decreased by 140,000 b/d from October to November 2009. Resulting in a consumption level of 1.73 million b/d. Average consumption of oil in France in 2009 up to November was 1.83 million b/d, versus 1.94 and 1.94 million b/d in respectively 2008 and 2007.

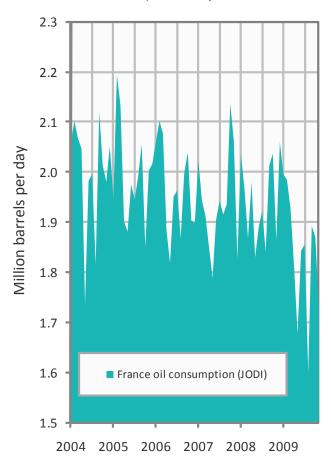
#### **Germany oil consumption**

Oil consumption in Germany decreased by 184,000 b/d from November 2009. Resulting in a consumption level of 2.31 million b/d. Average oil consumption in Germany in 2009 up to November was 2.43 million b/d, versus 2.56 and 2.47 million b/d in respectively 2008 and 2007.

# Italy oil consumption

Oil consumption in Italy increased by 105,000 b/d from October to November 2009. Resulting in a consumption level of 1.50 million. Average consumption in Italy in 2009 up to November was 1.53 million b/d, versus 1.60 and 1.67 million b/d in respectively 2008 and 2007.

Chart 26: France Oil Consumption January 2004 - Nov. 2009



Source: Joint Oil Data Initiative

Chart 27: Germany Oil Consumption Jan. 2004 - Nov. 2009

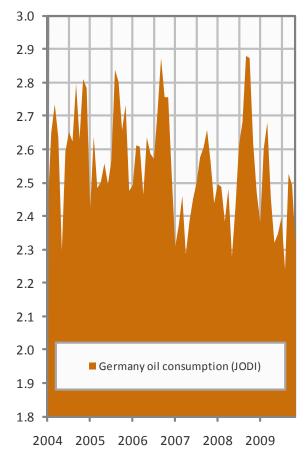
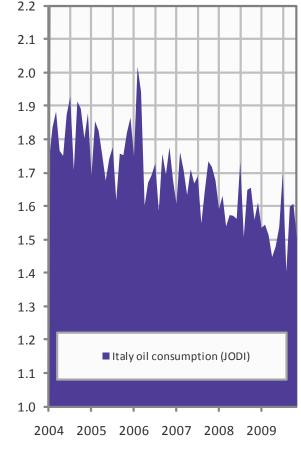


Chart 28: Italy Oil Consumption January 2004 - November 2009



# **Spain oil consumption**

Oil consumption in Spain decreased by 14,000 b/d from October to November 2009. Resulting in a consumption level of 1.43 million b/d. Average oil consumption in Spain in 2009 up to November was 1.43 million b/d, versus 1.54 and 1.59 million b/d in respectively 2008 and 2007.

## **United Kingdom oil consumption**

Oil consumption in the United Kingdom decreased by 76,000 b/d from October to November 2009. Resulting in a consumption level of 1.48 million b/d. Average oil consumption in the United Kingdom in 2009 up to November was 1.57 million b/d, versus 1.61 and 1.67 million b/d in respectively 2008 and 2007.

### **Poland oil consumption**

Oil consumption in Poland decreased by 71,000 from October to November 2009. Resulting in a consumption level of 542,000 b/d. Average consumption in Poland in 2009 up to November was 530,000 b/d, versus 527,000 and 507,000 b/d in respectively 2008 and 2007.

Chart 29: Spain Oil Consumption January 2004 - Nov. 2009

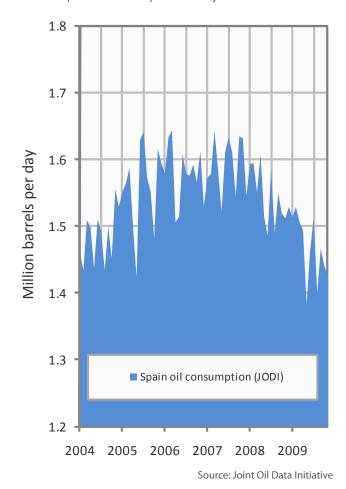


Chart 30: UK Oil Consumption Jan. 2004 - November 2009

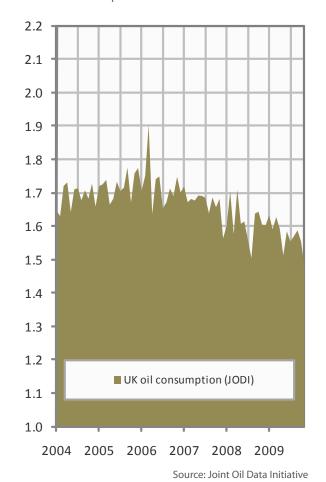
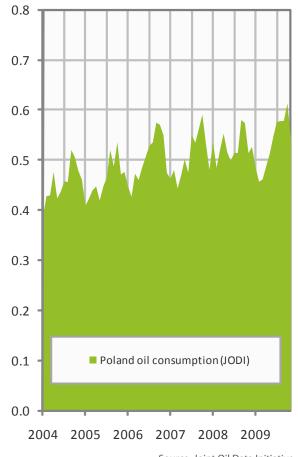


Chart 31: Poland Oil Consumption January 2004 - Nov. 2009



# **Netherlands oil consumption**

Oil consumption in the Netherlands remained stable from October to November at a consumption level of 952,000 b/d. Average oil consumption in the Netherlands in 2009 up to November was 905,000 b/d, versus 945,000 and 920,0000 b/d in respectively 2008 and 2007.

#### Japan oil consumption

Oil consumption in Japan increased by 66,000 b/d from October to November 2009. Resulting in a consumption level of 4.46 million b/d. Average oil consumption in Japan in 2009 up to November was 4.37 million b/d, versus 4.92 and 5.13 million b/d in respectively 2008 and 2007.

# **South Korea oil consumption**

Oil consumption in South Korea increased by 73,000 b/d from October to November 2009. Resulting in a consumption level of 2.3 million b/d. Average consumption in South Korea in 2009 up to November was 2.23 million b/d, versus 2.21 and 2.29 million b/d in respectively 2008 and 2007.

Chart 32: Netherlands Oil Consumption Jan. 2004 - Nov. 2009

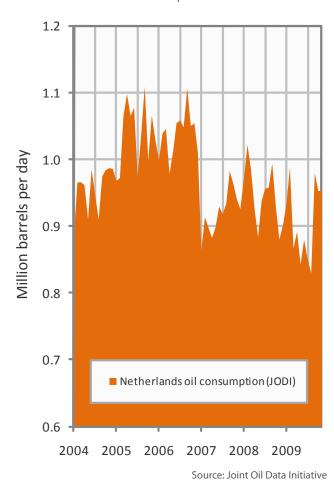


Chart 33: Japan Oil Consumption Jan. 2004 - November 2009

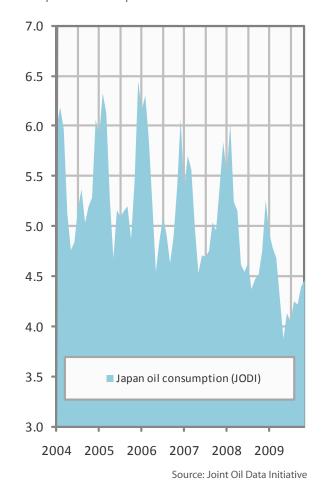
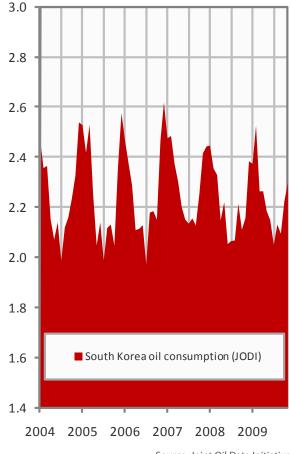


Chart 34: South Korea Oil Consumption Jan. 2004 - Nov. 2009



# China oil consumption

Oil consumption in China decreased by 840,000 b/d from October to November 2009. Resulting in a consumption level of 8.14 million b/d according to JODI statistics. Average oil consumption in China in 2009 up to November was 8.03 million b/d, versus 6.92 and 7.29 million b/d in respectively 2008 and 2007.

#### **India oil consumption**

Oil consumption in India increased by 103,000 b/d from September to October 2009. Resulting in a consumption level of 2.82 million b/d. Average oil consumption in India in 2009 up to October was 2.84 million b/d, versus 2.60 and 2.43 million b/d in respectively 2008 and 2007.

# **Taiwan oil consumption**

Oil consumption in Taiwan decreased by 42,000 b/d from October to November 2009. Resulting in a consumption level of 947,000 b/d. Average consumption in Taiwan in 2009 up to October was 971,000 b/d, versus 978,000 and 958,000 b/d in respectively 2008 and 2007.

Chart 35: China Oil Consumption January 2004 - Nov. 2009

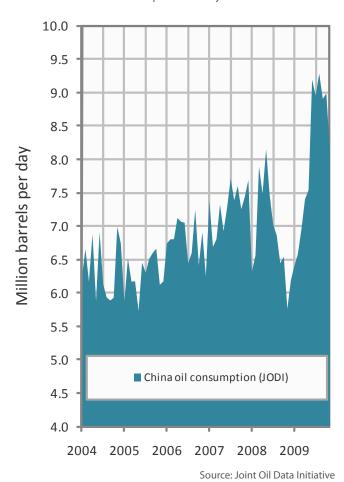


Chart 36: India Oil Consumption Jan. 2004 - November 2009

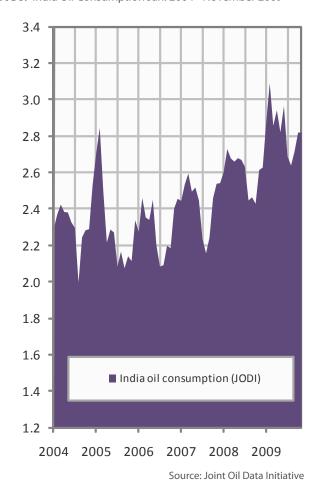
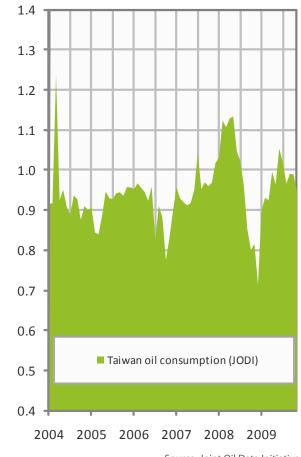


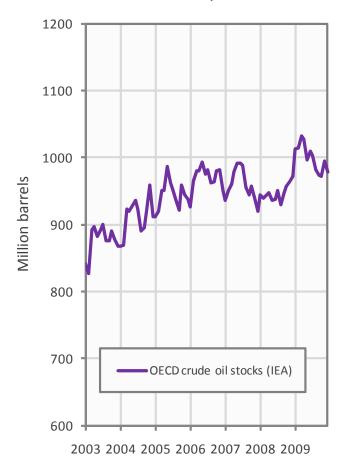
Chart 37: Taiwan Oil Consumption January 2004 - Nov. 2009



#### **OECD** crude oil stocks

Industrial inventories of crude oil in the OECD in December 2009 decreased to 979 million from 994 million barrels in November according to the latest IEA statistics. Current OECD crude oil stocks are 16 million barrels higher than the five year average of 963 million barrels. In the January Oil Market Report of the IEA a total stock level of 984 million barrels was tabulated for November which has been revised upwards to 994 million barrels in the February edition.

Chart 38: OECD Crude Oil Stocks January 2004 - Dec. 2009

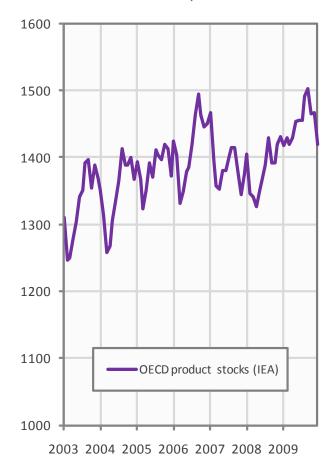


Source: International Energy Agency

#### **OECD** product stocks

Industrial product stocks in the OECD in December 2009 decreased to 1420 million from 1467 million barrels in November according to the latest IEA Statistics. Current OECD product stocks are 16 million barrels higher than the five year average of 1404 million barrels. In the January Oil Market Report of the IEA a total stock level of 1466 million barrels was tabulated for October which has been revised upwards to 1467 million barrels in the February edition.

Chart 39: OECD Product Stocks January 2004 - December 2009

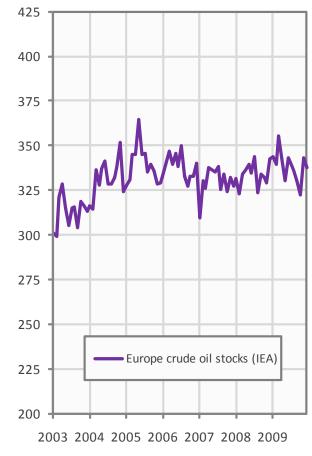


Source: International Energy Agency

# **Europe crude oil stocks**

Industrial inventories of crude oil in OECD Europe in December 2009 decreased to 337 from 343 million barrels in November according to the latest IEA statistics. Current OECD Europe crude oil stocks are 1 million barrels higher than the five year average of 336 million barrels. In the January Oil Market Report of the IEA a total stock level of 342 million barrels was tabulated for November which has been revised upwards to 343 million barrels in the February edition.

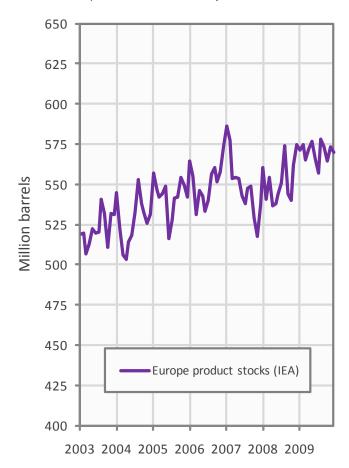
Chart 40: Europe Crude Oil Stocks January 2004 - Dec. 2009



# **Europe product stocks**

Industrial product stocks in OECD Europe in December 2009 decreased to 570 million from 573 million barrels in November according to the latest IEA statistics. Current OECD Europe product stocks are 17 million barrels higher than the five year average of 553 million barrels. In the January Oil Market Report of the IEA a total stock level of 570 million barrels was tabulated for November which has been revised upwards to 573 million barrels in the February edition.

Chart 41: Europe Product Stocks January 2004 - December 2009

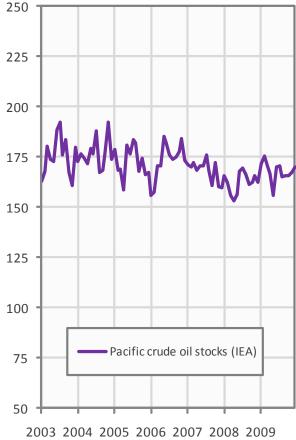


Source: International Energy Agency

#### Pacific crude oil stocks

Industrial inventories of crude oil in OECD Pacific in December 2009 increased to a level of 170 million from 167 million barrels in November according to the latest IEA statistics. Current OECD Pacific crude oil stocks are 1 million barrels higher than the five year average of 170 million barrels. In the January Oil Market Report of the IEA a total stock level of 164 million barrels was tabulated for November which has been revised upwards to 167 million barrels in the February edition.

Chart 42: Pacific Crude Oil Stocks January 2004 - Dec. 2009

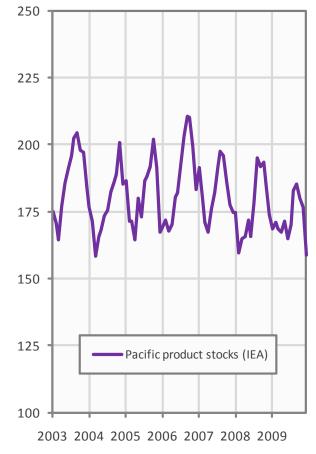


Source: International Energy Agency

# **Pacific product stocks**

Industrial product stocks in OECD Pacific in December 2009 decreased to 159 million from 177 million barrels in November according to the latest IEA Statistics. Current OECD Pacific product stocks are 21 million barrels lower than the five year average of 180 million barrels.

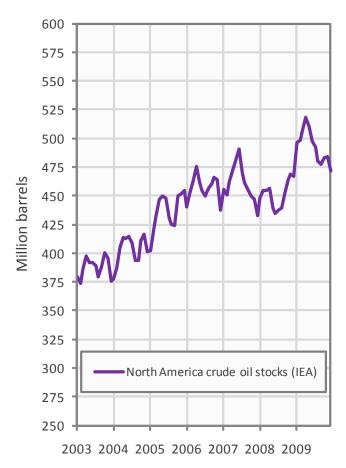
Chart 43: Pacific Product Stocks January 2004 - December 2009



#### North America crude oil stocks

Industrial inventories of crude oil in OECD North America in December 2009 decreased to 472 million from 484 million barrels in November according to the latest IEA statistics. Current OECD North America crude oil stocks are 13 million barrels higher than the five year average of 459 million barrels. In the January Oil Market Report of the IEA a total stock level of 474 million barrels was tabulated for November which has been revised upwards to 484 million barrels in the February edition.

Chart 44: North America Crude Oil Stocks Jan. 2004 - Dec. 2009

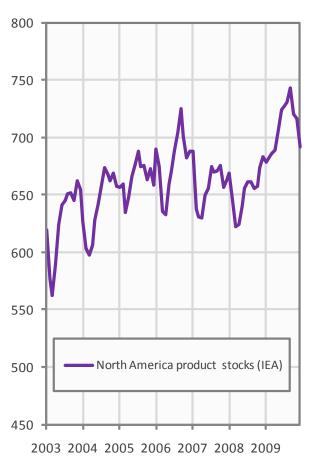


Source: International Energy Agency

#### **North America product stocks**

Industrial product stocks in North America in December 2009 decreased to 691 million from 717 million barrels in November according to the latest IEA Statistics. Current North American product stocks are 18 million barrels higher than the five year average of 673 million barrels. In the January Oil Market Report of the IEA a total stock level of 719 million barrels was tabulated for November which has been revised downwards to 717 million barrels in the February edition.

Chart 45: North America Product Stocks Jan. 2004 - Dec. 2009

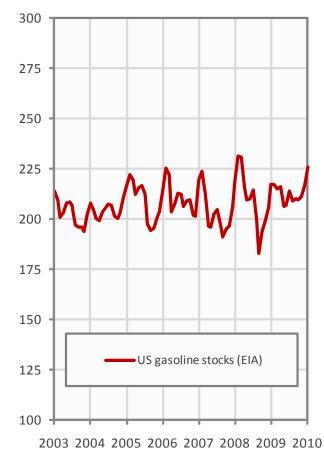


Source: International Energy Agency

## **US** gasoline stocks

Gasoline stocks in the United States in January 2010 increased to 226 million from 216 million barrels in December according to the latest EIA Statistics. Current Gasoline stocks are 17 million barrels higher than the five year average of 209 million barrels.

Chart 46: United States Gasoline Stocks Jan. 2004 - Jan. 2010

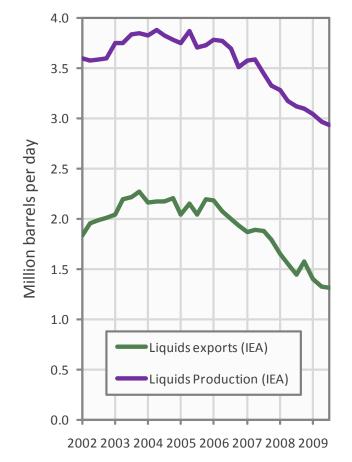


Source: Energy Information Administration

# **Mexico oil exports**

Crude oil exports from Mexico decreased by 10,000 b/d from 2nd grt. 2009 to 3rd grt. 2009 to a level of 1.32 million b/d. Average oil export from Mexico in 2009 up to the 3rd grt. was 1.35 million b/d, versus 1.55, 1.85, and 2.04 million b/d in respectively 2008, 2007 and 2006.

# Chart 47: Mexico oil exports 1st qrt. 2002 - 3rd qrt. 2009

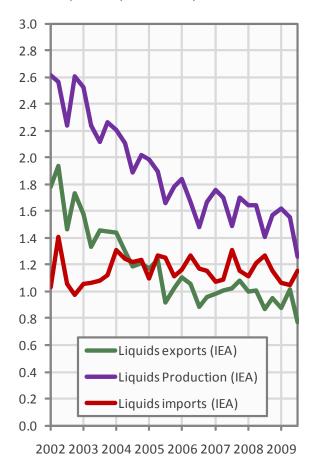


Source: International Energy Agency

## **United Kingdom oil exports**

Crude oil exports from the United Kingdom decreased by 246,000 b/d from 2nd grt. 2009 to 3rd grt. 2009 to a level of 768,000 b/d. Average oil export from the United Kingdom in 2009 up to the 3rd qrt. was 886,000 b/d, versus 957,000 b/d, 1.02, and 1.0 million b/d in respectively 2008, 2007 and 2006. Since 2004 the United Kingdom became a net importer of oil. Net imports were 387,000 b/d in 3rd grt. 2009.

Chart 48: UK oil exports 1st grt. 2002 - 3rd grt. 2009

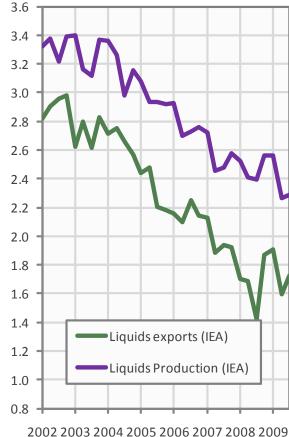


Source: International Energy Agency

# **Norway oil exports**

Oil exports from Norway increased by 130,000 b/d from 2nd qrt. 2009 to 3rd grt. 2009 to a level of 1.73 million b/d. Average oil export from Norway in 2009 up to the 3rd grt. was 1.74 million b/d, versus 1.67, 1.97, and 2.17 million b/d in respectively 2008, 2007 and 2006.

Chart 49: Norway oil exports 1st grt. 2002 - 3rd grt. 2009



# **Denmark oil exports**

Oil exports from Denmark increased by 29,000 b/d from 2nd qrt. to 3rd qrt. 2009 to a level of 212,000 b/d. Average oil export from Denmark in 2009 up to 3rd qrt. was 187,000 b/d, versus,184,000, 191,000 and 233,000 b/d in respectively 2008, 2007, and 2006.

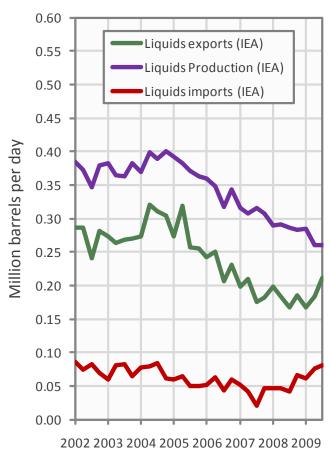
#### **Australia oil exports**

Oil exports from Australia increased by 14,000 b/d from 2nd qrt. to 3rd qrt. 2009 to a level of 255,000 b/d. Average oil export from Australia in 2009 up to 3rd qrt. was 252,000 b/d, versus 270,000, 252,000 b/d and 217,000 b/d in respectively 2008, 2007, and 2006.

#### Japan oil imports

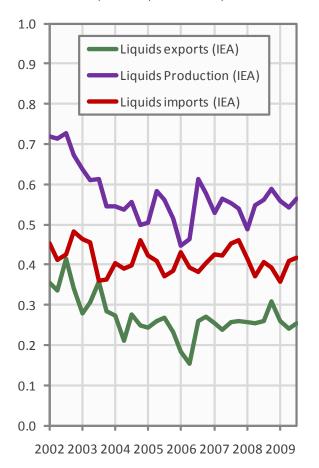
Oil imports in Japan remained stable at 3.43 million b/d from 2nd qrt. to 3rd qrt. 2009. Average oil import in Japan in 2009 up to 3rd qrt. was 3.58 million b/d, versus 4.12, 4.09 and 4.15 million b/d in respectively 2008, 2007, and 2006.

Chart 50: Denmark oil exports 1st grt. 2002 - 3rd grt. 2009



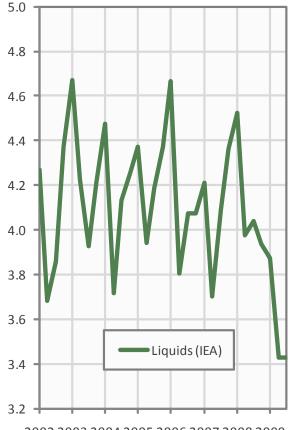
Source: International Energy Agency

Chart 51: Australia oil exports 1st qrt. 2002 - 3rd qrt. 2009



Source: International Energy Agency

Chart 52: Japan Oil Imports 1st qrt. 2002 - 3rd qrt. 2009



2002 2003 2004 2005 2006 2007 2008 2009

# **OECD** oil imports

Oil imports in the group of OECD countries increased by 395,000 million b/d from 2nd grt. to 3rd grt. 2009 to a level of 29.84 million b/d. Average oil import in OECD countries in 2009 up to 3rd grt. was 29.91 million b/d, versus 32.19, 32.47 and 32.7 million b/d in respectively 2008, 2007, and 2006.

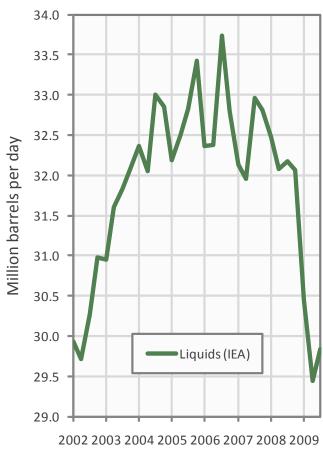
#### **United States oil imports**

Oil imports in the United States increased by 78,000 b/d from 2nd grt. to 3rd grt. 2009 to a level of 10.64 million b/d. Average oil import in the United States in 2009 up to 3rd grt. was 10.68 million b/d, versus 11.43, 11.55 and 11.77 million b/d in respectively 2008, 2007, and 2006.

## **OECD Europe oil imports**

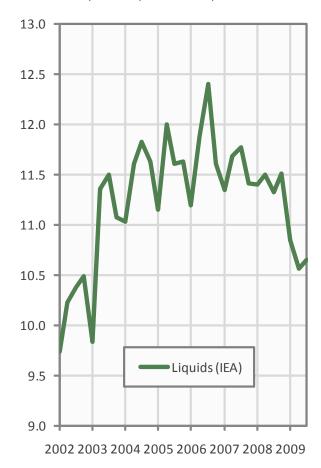
Oil imports from OECD Europe decreased by 14,000 b/d from 2nd grt. to 3rd grt. 2009 to a level of 12.02 million b/d. Average oil import in OECD Europe in 2009 up to 3rd qrt. was 12.01 million b/d, versus 12.98, 13.05 and 13.18 million b/d in respectively 2008, 2007, and 2006.

Chart 53: OECD Oil Imports 1st qrt. 2002 - 3rd qrt. 2009



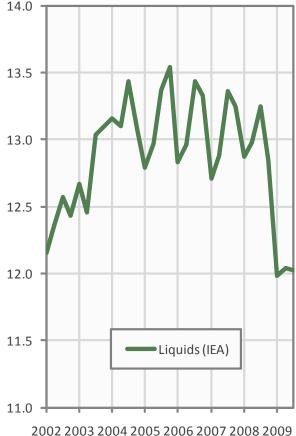
Source: International Energy Agency

Chart 54: USA Oil Imports 1st qrt. 2002 - 3rd qrt. 2009



Source: International Energy Agency

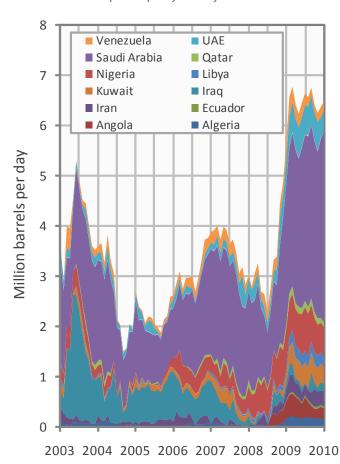
Chart 55: OECD Europe Oil Imports 1st qrt. 2002 - 3rd qrt. 2009



#### **IEA OPEC spare capacity**

According to the International Energy Agency total effective spare capacity (excluding Iraq, Venezuela and Nigeria) increased from December 2009 to January 2010 by 17,000 b/d to a level of 5.54 million b/d. Of total effective spare capacity an additional 3.80 million b/d is estimated to be producible by Saudi Arabia within 90 days, the United Arab Emirates 0.40 million b/d, Angola 0.21 million b/d, Iran 0.30 million b/d, Libya 0.18 million b/d, Qatar 0.10 million b/d, and the other remaining countries 0.55 million b/d.

Chart 56: IEA OPEC Spare Capacity January 2003 - Jan. 2010

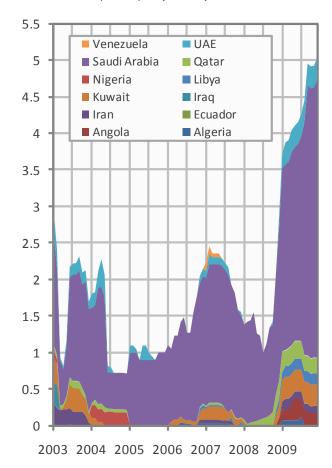


Source: International Energy Agency

## **EIA OPEC spare capacity**

Total OPEC spare production capacity has not yet been updated for January 2010 by the Energy Information Administration at the time of writing. In December 2009 spare capacity increased by 10,000 b/d to a level of 5.03 million b/d from 4.93 million b/d in November according to the Energy Information Administration.

Chart 57: EIA OPEC Spare Capacity January 2003 - Dec. 2009



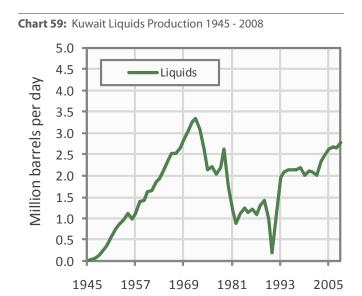
Source: Energy Information Administration

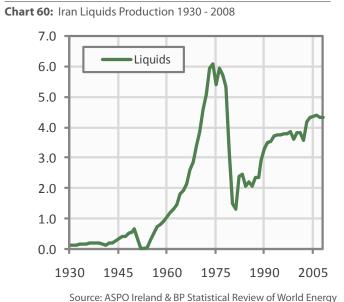
## Saudi Arabia spare capacity

Spare capacity for Saudi Arabiahas not yet been updated for January 2010 by the Energy Information Administration at the time of writing. Statistics from the International Energy Agency show an increase in Saudi spare capacity to 3.8 million from 3.35 million b/d from December 2009 to January 2010.

Chart 58: Saudi Arabia Spare Capacity Jan. 2003 - Jan. 2010







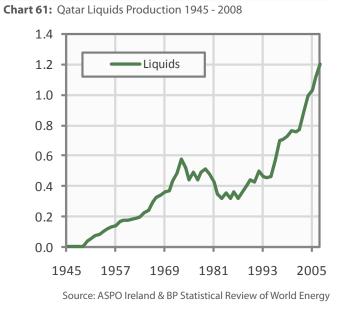
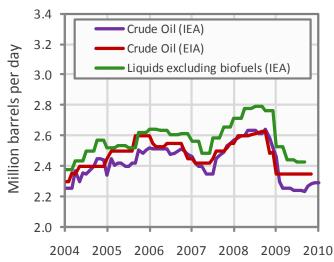
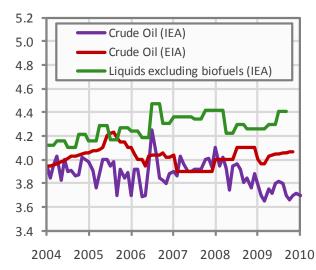


Chart 62: Kuwait Oil Production January 2004 - January 2010



Source: International Energy Agency & Energy Information Administration

Chart 63: Iran Oil Production January 2004 - January 2010



Source: International Energy Agency & Energy Information Administration

Chart 64: Qatar Oil Production January 2004 - January 2010

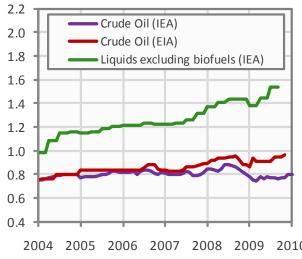
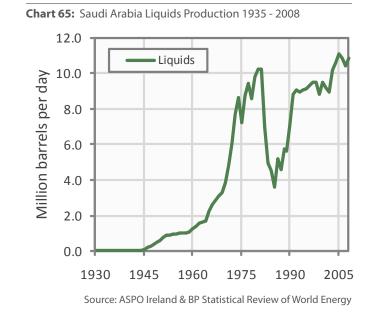
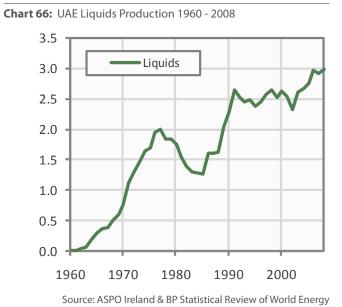
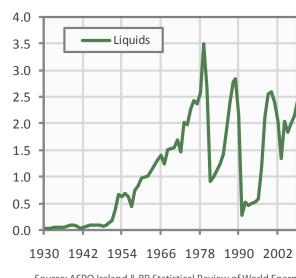


Chart 67: Iraq Liquids Production 1930 - 2008

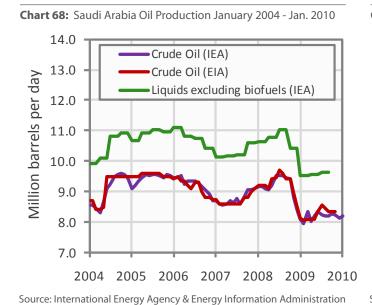


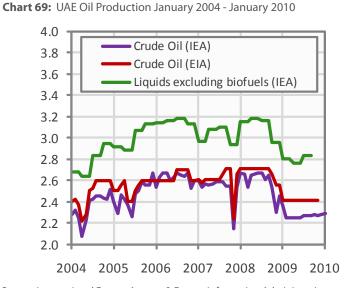




Source: ASPO Ireland & BP Statistical Review of World Energy

**Chart 70:** Iraq Oil Production January 2004 - January 2010





Crude Oil (IEA) 3.2 Crude Oil (EIA) 3.0 Liquids excluding biofuels (IEA) 2.8 2.6 2.4 1.6 2008 2004 2005 2006 2007 2009

Source: International Energy Agency & Energy Information Administration

Chart 71: Oman Liquids Production 1965 - 2008

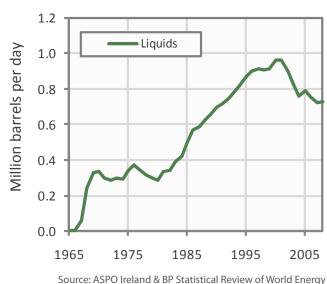


Chart 72: Yemen Liquids Production 1985 - 2008

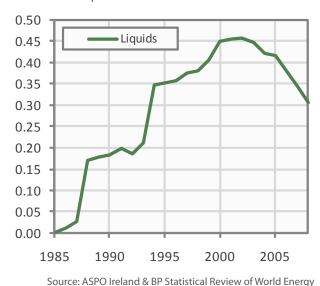
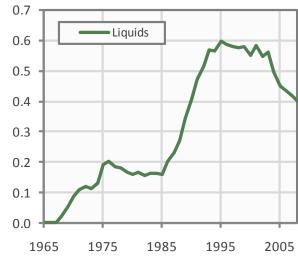


Chart 73: Syria Liquids Production 1930 - 2008



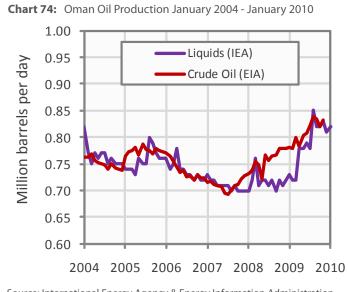
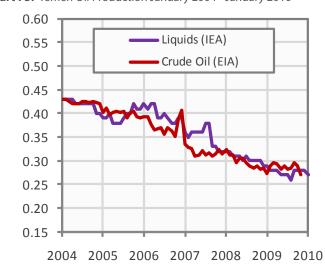
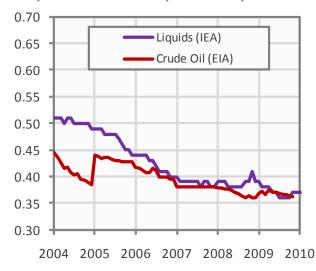


Chart 75: Yemen Oil Production January 2004 - January 2010



**Chart 76:** Syria Oil Production January 2004 - January 2010



Source: International Energy Agency & Energy Information Administration

Chart 77: Denmark Liquids Production 1970 - 2008

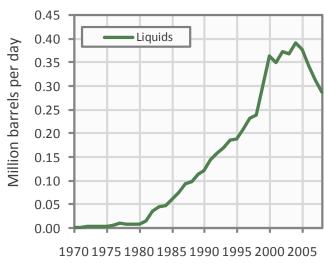
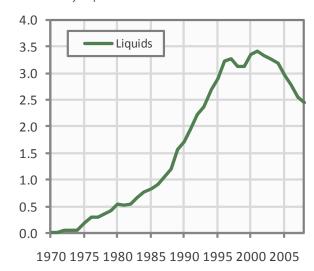
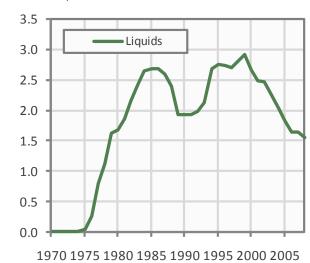


Chart 78: Norway Liquids Production 1970 - 2008



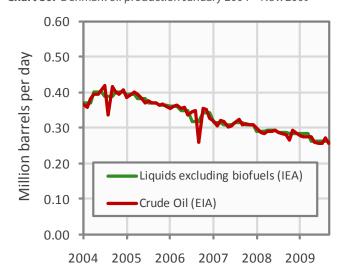
Source: ASPO Ireland & BP Statistical Review of World Energy

Chart 79: UK Liquids Production 1970 - 2008



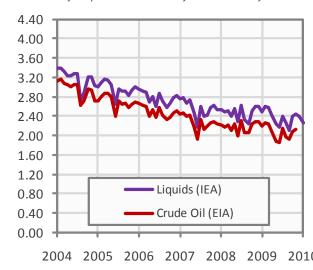
Source: ASPO Ireland & BP Statistical Review of World Energy

Chart 80: Denmark oil production January 2004 - Nov. 2009



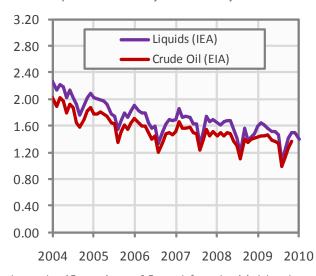
Source: International Energy Agency & Energy Information Administration

Chart 81: Norway oil production January 2004 - January 2010



Source: International Energy Agency & Energy Information Administration

Chart 82: UK oil production January 2004 - January 2010





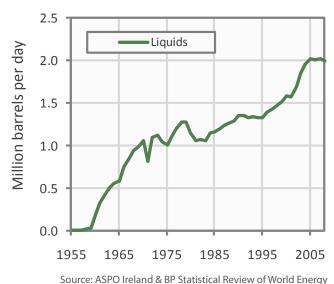
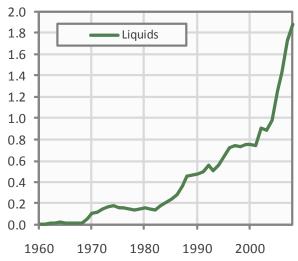
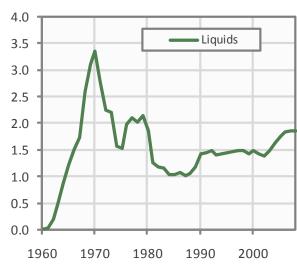


Chart 84: Angola Liquids Production 1960 - 2008



Source: ASPO Ireland & BP Statistical Review of World Energy

Chart 85: Libya Liquids Production 1970 - 2008



Source: ASPO Ireland & BP Statistical Review of World Energy

**Chart 86:** Algeria Oil Production January 2004 - January 2010

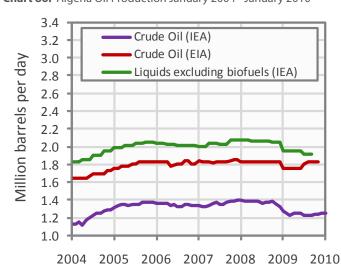
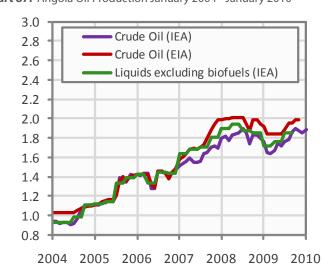


Chart 87: Angola Oil Production January 2004 - January 2010



Source: International Energy Agency & Energy Information Administration

Chart 88: Libya Oil Production January 2004 - January 2010

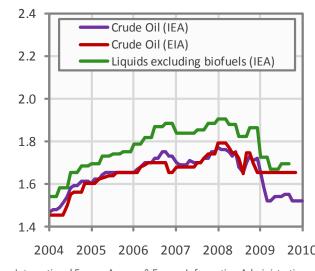
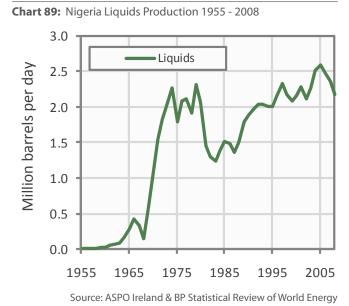
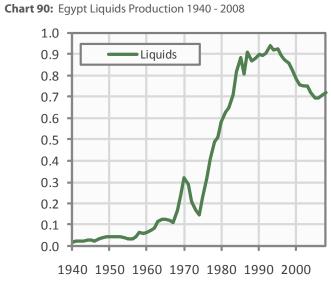
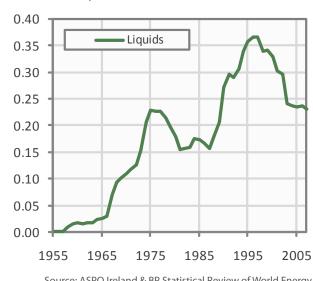


Chart 91: Gabon Liquids Production 1955 - 2008

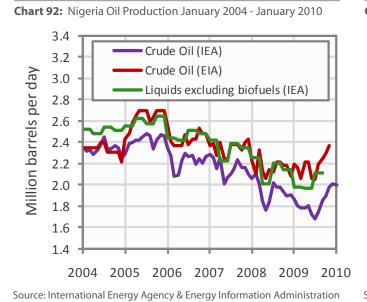


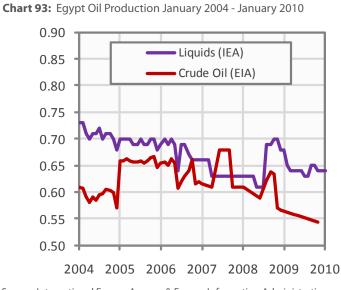


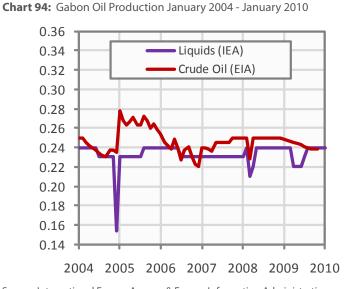


Source: ASPO Ireland & BP Statistical Review of World Energy

Source: ASPO Ireland & BP Statistical Review of World Energy







Source: International Energy Agency & Energy Information Administration

Chart 95: Eq. Guinea Oil Production January 2004 - Nov. 2009

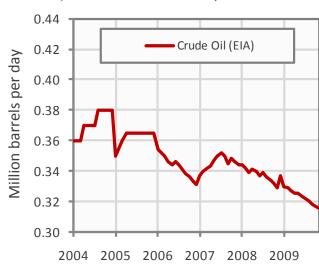
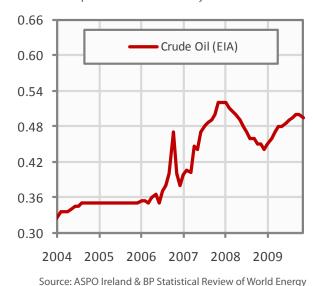


Chart 96: Sudan Liquids Production January 2002 - Nov. 2009



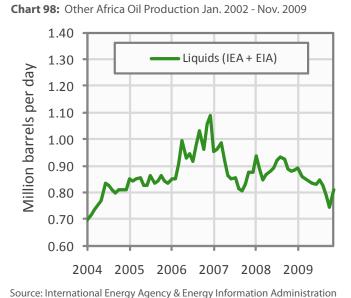
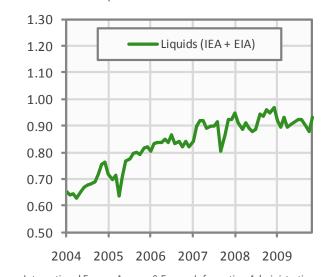
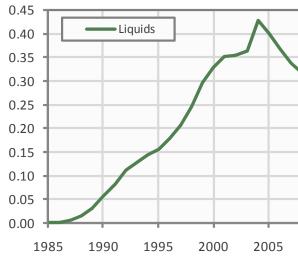


Chart 99: Other Asia liquids Production Jan. 2002 - Nov. 2009



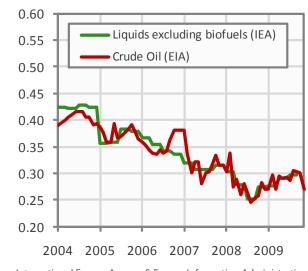
Source: International Energy Agency & Energy Information Administration

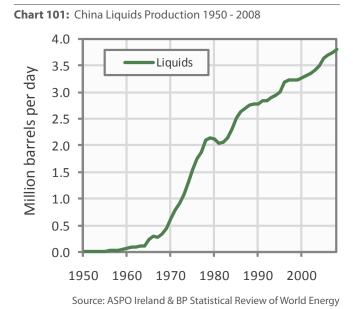
Chart 97: Vietnam Liquids Production 1985 - 2008

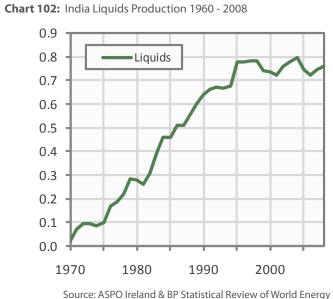


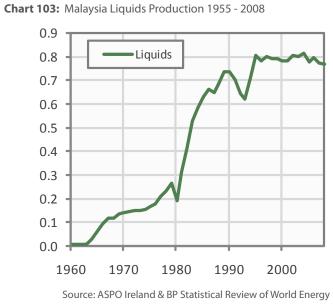
Source: ASPO Ireland & BP Statistical Review of World Energy

Chart 100: Vietnam Oil Production January 2004 - Nov. 2009

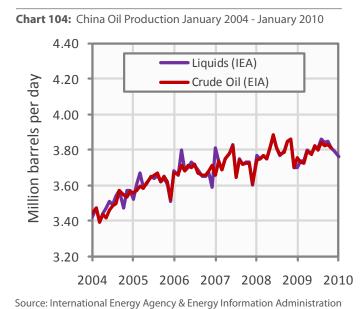


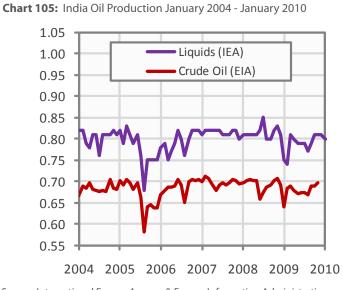


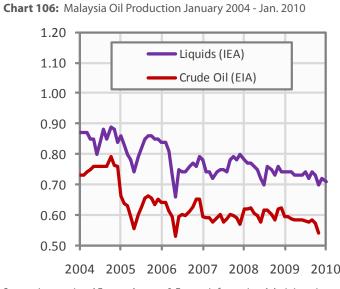




Source. ASPO fielding & br Statistical neview of world Effergy







Source: International Energy Agency & Energy Information Administration

Chart 107: Azerbaijan Liquids Production 1930 - 2008

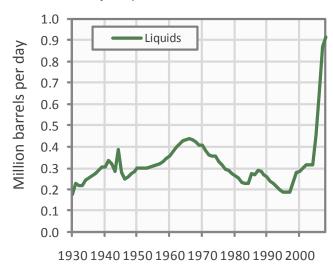
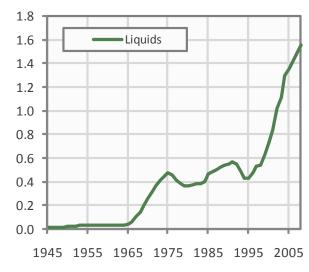
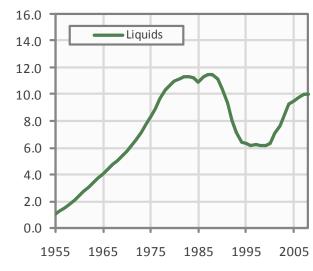


Chart 108: Kazakhstan Liquids Production 1945 - 2008



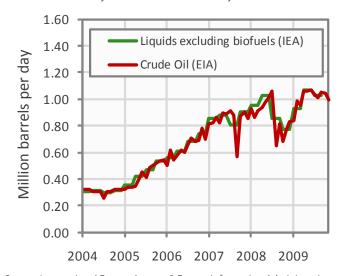
Source: ASPO Ireland & BP Statistical Review of World Energy

Chart 109: Russia Liquids Production 1955 - 2008



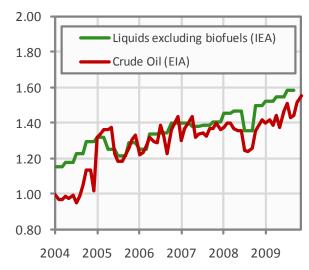
Source: ASPO Ireland & BP Statistical Review of World Energy

Chart 110: Azerbaijan Oil Production January 2004 - Nov. 2009



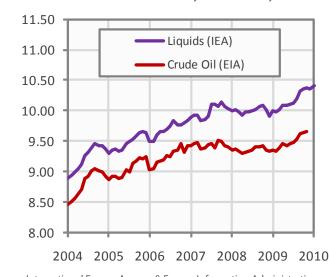
Source: International Energy Agency & Energy Information Administration

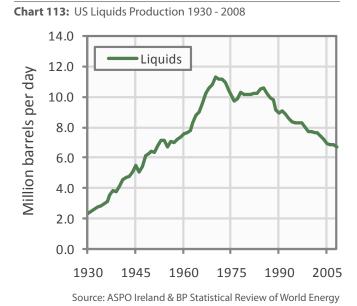
Chart 111: Kazakhstan Oil Production January 2004 - Nov. 2009

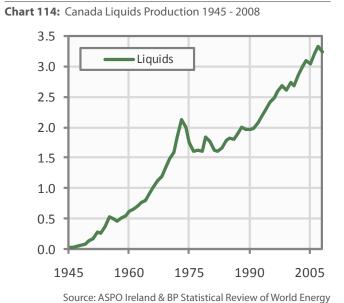


Source: International Energy Agency & Energy Information Administration

**Chart 112:** Russia Oil Production January 2004 - January 2010







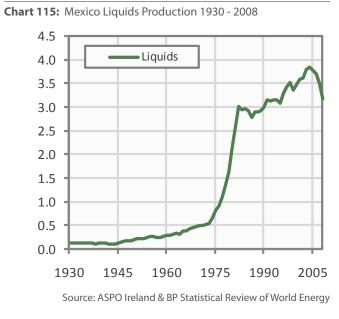


Chart 116: US Oil Production January 2004 - January 2010

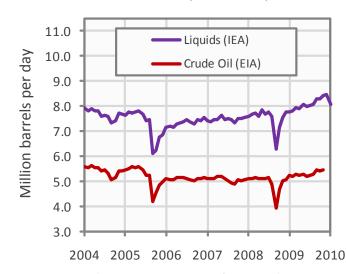
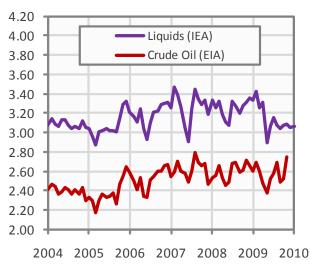


Chart 117: Canada Oil Production January 2004 - January 2010



Source: International Energy Agency & Energy Information Administration

4.60
4.40
4.20
4.00
3.80
3.60
3.40

3.20

3.00

2.80

**Chart 118:** Mexico Oil Production January 2004 - January 2010

2.60 2.40 2004 2005 2006 2007 2008 2009

Chart 119: Argentina Liquids Production 1930 - 2008

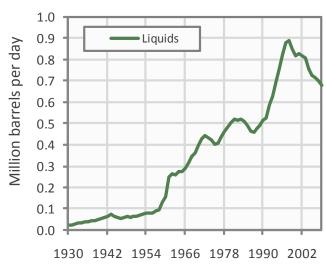
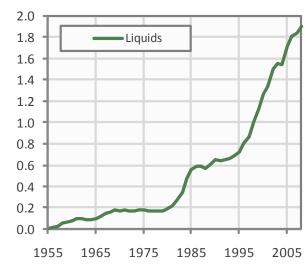
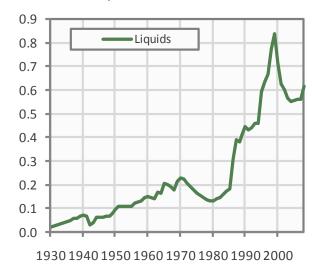


Chart 120: Brazil Liquids Production 1955 - 2008



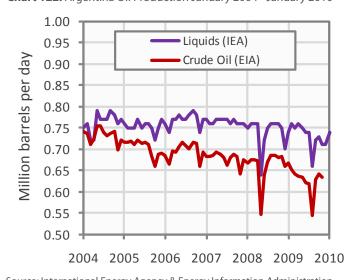
Source: ASPO Ireland & BP Statistical Review of World Energy

Chart 121: Colombia Liquids Production 1930 - 2008



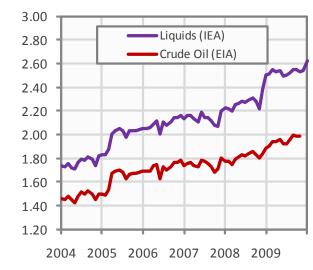
Source: ASPO Ireland & BP Statistical Review of World Energy

Chart 122: Argentina Oil Production January 2004 - January 2010



Source: International Energy Agency & Energy Information Administration

Chart 123: Brazil Oil Production January 2004 - January 2010



Source: International Energy Agency & Energy Information Administration

Chart 124: Colombia Oil Production January 2004 - Jan. 2010

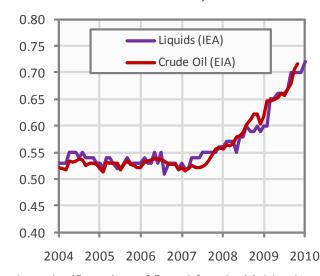


Chart 125: Ecuador Liquids Production 1970 - 2008

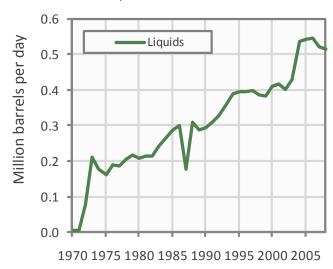
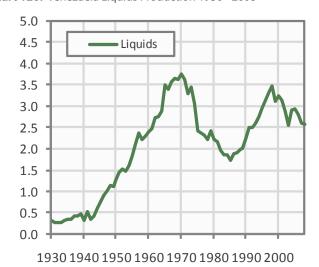
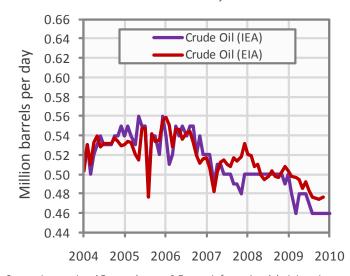


Chart 126: Venezuela Liquids Production 1930 - 2008



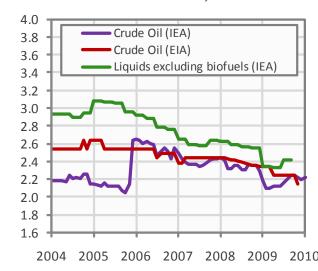
Source: ASPO Ireland & BP Statistical Review of World Energy

Chart 127: Ecuador Oil Production January 2004 - Jan. 2010



Source: International Energy Agency & Energy Information Administration

Chart 128: Venezuela Oil Production January 2004 - Jan. 2010



Source: International Energy Agency & Energy Information Administration

Chart 129 Other S. America oil production Jan. 2004 - Jan. 2010

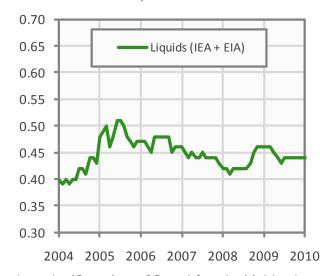
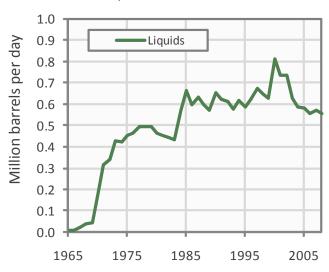
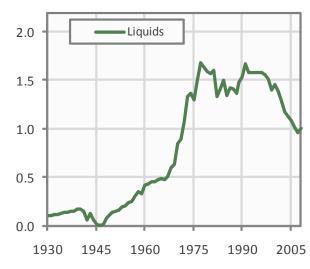


Chart 130: Australia Liquids Production 1970 - 2008



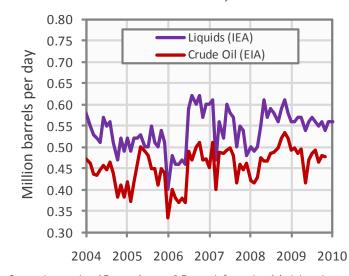
Source: ASPO Ireland & BP Statistical Review of World Energy

Chart 131: Indonesia Liquids Production 1930 - 2008



Source: ASPO Ireland & BP Statistical Review of World Energy

Chart 132: Australia Oil Production January 2004 - Jan. 2010



Source: International Energy Agency & Energy Information Administration

Chart 133: Indonesia Oil Production January 2004 - Jan. 2010

