



Independent Statistics & Analysis
U.S. Energy Information
Administration

The Availability and Price of Petroleum and Petroleum Products Produced in Countries Other Than Iran

Number 18 in a series of reports required by section 1245(d)(4)(A)
of the National Defense Authorization Act for Fiscal Year 2012

December 18, 2014



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This is the 18th in a series of reports prepared in fulfillment of section 1245(d)(4)(A) of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, as amended. The law requires the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy, to submit to Congress a report on the availability and price of petroleum and petroleum products produced in countries other than Iran in the two-month period preceding the submission of the report. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The views in this report, therefore, should not be construed as representing those of the U.S. Department of Energy or other federal agencies. However, EIA consulted with the U.S. Department of the Treasury, the U.S. Department of State, and the intelligence community in the process of developing this report. Readers may review early editions of this report for detailed background and contextual information not repeated here.

November – December 2014 Update

- The outlook on global oil markets has softened even more since the last edition of this report was released. Amid lowered expectations for global economic growth, reduced oil demand, and strong production growth, the Organization of the Petroleum Exporting Countries (OPEC) announced after its November meeting that it would maintain a production level of 30 million barrels per day (bbl/d). This appears to have accelerated the fall in crude oil prices in December.
- The U.S. Energy Information Administration (EIA) estimates that commercial oil inventories held by countries in the Organization for Economic Cooperation and Development (OECD) in November and December were 124 million barrels higher on average compared with the same time last year (**Table 1**), the largest year-over-year growth in November and December since 1997. Moreover, OECD oil inventories in the fourth quarter 2014 are 69 million barrels above the previous five-year, fourth quarter average, and EIA expects OECD inventories to continue to grow through 2015. Net changes to global oil inventories also show signs of a weakening market, as global inventories counter-seasonally built by almost 0.2 million bbl/d during the fourth quarter 2014 because of weakening oil demand (**Figure 1**).
- International oil prices moved lower in the past 60 days, marking the fifth straight month of declines, and are now at the lowest levels since mid-2009. The Brent front month futures contract averaged \$62 per barrel for the five-trading-days ending December 16, about \$24 per barrel below the average price for the five-trading-days ending October 28 (**Figure 2**). The average Brent price in November and December 2014 was about \$35 per barrel less than the same time last year.
- As global oil markets loosened further, contango (when near-term prices are less than longer-dated ones) in the Brent futures curve increased throughout November and December. The Brent 1st-13th month spread averaged -\$6 per barrel for the five-trading-days ending December 16, increasing the discount of front month prices to those for delivery one year out by \$2.50 per barrel compared with the average of the five-trading-day-period ending October 28 (**Figure 3**).
- Consistent with OPEC's announcement in November, Saudi Arabia has indicated its intention to maintain its export market share rather than cut production. Despite the recent fall in prices, Saudi Arabia is estimated to be producing 9.6 million bbl/d. The current values of futures and options contracts that expire in March 2015 suggest a very wide 95% confidence interval that runs from a low near \$40 per barrel and a high near \$80 per barrel for West Texas Intermediate (WTI) crude oil for the five-trading-days ending December 16, using the same methodology as EIA's [Short-term Energy Outlook](#). The wide confidence interval reflects numerous uncertainties, including the pace of Chinese economic and oil demand growth, the production outlook in countries like Iran, Iraq, Libya, Venezuela, and Russia, and the effects of lower prices on development of U.S. shale oil resources. In the past, Saudi Arabia often played the role of the swing producer, cutting its production to accommodate supply growth elsewhere or increasing its output level to make up for a supply shortfall. Saudi Arabia's role in the oil market going forward is highly uncertain.
- Global petroleum and other liquids¹ consumption in November and December averaged 92.5 million bbl/d, 1.1 million bbl/d higher than the same time last year. Global petroleum and other liquids

¹ The term "petroleum and other liquids" encompasses petroleum and petroleum products and close substitutes, including crude oil, lease condensate, natural gas liquids, biofuels, coal-to-liquids, gas-to-liquids, and refinery processing gain.

production,² which averaged 92.3 million bbl/d in November and December, grew by 1.3 million bbl/d compared with the same time last year, 0.2 million bbl/d more than global consumption. Non-OPEC production accounted for most of the year-ago growth in global supply, contributing 0.8 million bbl/d (**Table 2**).

- Global surplus crude oil production capacity averaged 2.2 million bbl/d in November and December, 0.1 million bbl/d more than the previous two-month period and 0.3 million bbl/d more than this time last year (**Table 3**). Surplus production capacity tends to seasonally increase this time of year as Saudi Arabia, the only significant surplus capacity holder, reduces production in order to offset decreases in their own domestic consumption. Surplus capacity is typically an indication of market conditions, and surplus capacity below 2.5 million bbl/d is an indicator of a tight market. However, the current volume of OECD oil inventories and the fourth quarter 2014 global inventory build make the current low surplus capacity level less significant.
- Global unplanned supply disruptions averaged 3.3 million bbl/d in November and December, returning back to the higher levels seen in the second quarter 2014, which contributed to a higher crude oil price at that time. However, with continuous growth in non-OPEC production and the level of OPEC production, the current volume of supply disruptions has become less significant. Unplanned supply disruptions could still affect crude oil prices going forward, but the threshold that the market can bear has risen in light of robust OPEC and non-OPEC production as discussed above. Unplanned OPEC crude oil supply disruptions increased in November and December by 0.6 million bbl/d to 2.7 million bbl/d because of more outages in Libya and continued outages in the Neutral Zone shared by Kuwait and Saudi Arabia (**Figure 4**). Unplanned liquid fuels supply outages in non-OPEC countries were slightly more compared with the previous 60 days, averaging 0.6 million bbl/d (**Figure 5**).
- Iran's petroleum and other liquids production averaged 3.4 million bbl/d in November and December, of which 2.8 million bbl/d was crude oil. Iran's liquid fuels production remains below the previous three-year average of 3.6 million bbl/d, but 0.2 million bbl/d higher than the year-ago level of 3.2 million bbl/d (**Table 1**). EIA does not anticipate an impact on global liquid fuels supply following the second extension of the Joint Plan of Action announced on November 24, 2014. The seven-month extension does not include any further sanctions relief.
- EIA has revised the preliminary estimates of petroleum and other liquids production and consumption for September and October 2014 published in the previous edition of this report. Global petroleum and other liquids production was revised upward by 0.1 million bbl/d to average 93.2 million bbl/d, while global consumption was revised upward by 0.3 million bbl/d to average 92.7 million bbl/d. EIA now estimates that global oil inventories grew by an average of 0.5 million bbl/d during September and October.

² The growth rates referenced in this report may not exactly match corresponding values in tables as a result of independent rounding.

Tables

Table 1. Summary of Estimated Petroleum and Other Liquids Quantities and Prices

	November 2014	December 2014	November – December 2014 Average	November – December 2013 Average	2011 – 2013 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	92.4	92.2	92.3	90.9	89.3
Global Petroleum and Other Liquids Consumption (b)	92.8	92.2	92.5	91.4	89.4
Biofuels Production (c)	2.2	1.9	2.0	2.0	1.9
Biofuels Consumption (c)	2.0	1.9	2.0	2.0	1.8
Iran Liquid Fuels Production	3.4	3.4	3.4	3.2	3.6
Iran Liquid Fuels Consumption	1.7	1.8	1.7	1.9	1.7
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	86.8	86.9	86.9	85.7	83.7
Consumption (d)	89.1	88.5	88.8	87.6	85.8
Production minus Consumption	-2.2	-1.6	-1.9	-1.8	-2.1
World Inventory Net Withdrawals Including Iran	0.4	0.0	0.2	0.4	0.1
Estimated OECD Inventory Level (e) (million barrels)	2,701	2,691	2,696	2,572	2,658
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	2.2	2.2	2.2	2.0	2.4
Oil Price Level					
WTI Front Month Futures Price (g) (\$ per barrel)	75.81	62.78	70.77	95.96	95.77
Brent Front Month Futures Price (h) (\$ per barrel)	79.63	66.29	74.47	109.33	110.43
RBOB Front Month Futures Price (i) (\$ per gallon)	2.06	1.71	1.92	2.68	2.86
Oil Price Time Spread					
WTI 1st - 13th Month Futures Spread (\$ per barrel)	-0.77	-2.93	-1.61	4.96	0.41
Brent 1st - 13th Month Futures Spread (\$ per barrel)	-4.80	-5.98	-5.26	4.67	4.86

Note: The term "petroleum and other liquids" encompasses crude oil, lease condensate, natural gas liquids, biofuels, coal-to-liquids, gas-to-liquids, and refinery processing gains, which are important to consider in concert due to the inter-related supply, demand, and price dynamics of petroleum, petroleum products, and related fuels.

(a) Production includes crude oil (including lease condensates), natural gas liquids, other liquids, and refinery processing gains.

(b) Consumption of petroleum by the OECD countries is synonymous with "products supplied," defined in the glossary of the EIA Petroleum Supply Monthly, DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel, and loss, and bunkering.

(c) Biofuels production and consumption are based on EIA estimates as published in the International Energy Statistics. Biofuels production in the third quarter tends to be at its highest level in the year as ethanol production in Brazil reaches its seasonal peak and is typically lowest in the first quarter as seasonal production falls in the South/South-Central region of Brazil.

(d) Global production of petroleum and petroleum products outside of Iran is derived by subtracting biofuels production and Iran liquid fuels production from global liquid fuels production. The same method is used to calculate global consumption outside of Iran.

(e) Estimated inventory level is for OECD countries only.

(f) EIA defines surplus oil production capacity as potential oil production that could be brought online within 30 days and sustained for at least 90 days, consistent with sound business practices. This does not include oil production increases that could not be sustained without degrading the future production capacity of a field. It also does not include additional capacity that may be available in Iran, but which is currently offline due to the impacts of U.S. and EU sanctions on Iran's ability to sell its oil.

(g) WTI refers to West Texas Intermediate crude oil traded on the New York Mercantile Exchange (NYMEX), owned by Chicago Mercantile Exchange (CME) Group.

(h) Brent refers to Brent crude oil traded on the Intercontinental Exchange (ICE).

(i) RBOB refers to reformulated blendstock for oxygenate blending traded on the NYMEX.

Note: December prices include data through market close on December 16, 2014.

Source: U.S. Energy Information Administration.

Table 2. Global Petroleum and Other Liquids Production, Consumption, and Inventory Estimates

	November 2014	December 2014	November – December 2014 Average	November – December 2013 Average	2011 – 2013 Average
Production (million barrels per day) (a)					
OECD (b)	25.9	26.0	26.0	24.8	22.6
U.S. (50 States)	14.5	14.5	14.5	13.0	11.2
Canada	4.4	4.4	4.4	4.4	3.9
Mexico	2.8	2.8	2.8	2.9	2.9
North Sea (c)	2.7	2.7	2.7	2.9	3.1
Other OECD	1.6	1.6	1.6	1.5	1.6
Non-OECD	66.5	66.1	66.3	66.2	66.7
OPEC (d)	35.8	36.0	35.9	35.3	36.2
Crude Oil Portion	29.7	29.9	29.8	29.2	30.2
Non-crude liquids	6.1	6.1	6.1	6.1	6.0
Eurasia (e)	13.5	13.5	13.5	13.8	13.4
China	4.6	4.4	4.5	4.5	4.4
Other non-OECD	12.6	12.2	12.4	12.5	12.6
Total World Production	92.4	92.2	92.3	90.9	89.3
Non-OPEC Production	56.6	56.2	56.4	55.6	53.1
Consumption (million barrels per day) (f)					
OECD	46.8	46.8	46.8	46.6	46.1
U.S. (50 States)	19.3	19.1	19.2	19.2	18.8
U.S. territories	0.3	0.3	0.3	0.3	0.3
Canada	2.4	2.3	2.4	2.4	2.4
Europe	13.7	13.4	13.5	13.3	13.9
Japan	4.5	5.0	4.7	5.0	4.6
Other OECD	6.6	6.8	6.7	6.3	6.2
Non-OECD	45.9	45.3	45.6	44.8	43.3
Eurasia	4.7	4.8	4.8	4.7	4.5
Europe	0.7	0.7	0.7	0.7	0.7
China	11.3	10.9	11.1	10.9	10.2
Other Asia	11.5	11.5	11.5	11.3	11.0
Other non-OECD	17.7	17.4	17.5	17.1	16.9
Total World Consumption	92.8	92.2	92.5	91.4	89.4
Inventory Net Withdrawals (million barrels per day)					
U.S. (50 States)	0.2	0.5	0.4	0.8	0.0
Other OECD	0.1	-0.2	-0.1	0.8	0.1
Other Stock Draws and Balance	0.1	-0.3	-0.1	-1.2	0.0
Total Stock Draw	0.4	0.0	0.2	0.4	0.1
End-of-period Inventories (million barrels)					
U.S. Commercial Inventory	1,129	1,114	1,121	1,079	--
OECD Commercial Inventory	2,701	2,691	2,696	2,572	2,658

- a) Production includes production of crude oil (including lease condensates), natural gas liquids, biofuels, other liquids, and refinery processing gains.
- b) OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States.
- c) North Sea includes offshore supply from Denmark, Germany, the Netherlands, Norway, and the United Kingdom.
- d) OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Ecuador, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.
- e) Eurasia = Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan. Estonia is included in "Other OECD" totals.
- f) Consumption of petroleum by the OECD countries is synonymous with "products supplied," defined in the glossary of the EIA Petroleum Supply Monthly, DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

Note: The sum of individual countries or regions may not add to the totals because of independent rounding.

Source: U.S. Energy Information Administration.

Table 3. OPEC Crude Oil (Excluding Condensates) and Other Liquids Production Estimates

Production (million barrels per day)	November 2014	December 2014	November – December 2014 Average	November – December 2013 Average	2011 – 2013 Average
Crude Oil					
Algeria	1.2	1.2	1.2	1.2	1.2
Angola	1.7	1.7	1.7	1.7	1.7
Ecuador	0.6	0.6	0.6	0.5	0.5
Iran	2.8	2.8	2.8	2.7	3.1
Iraq	3.5	3.5	3.5	2.9	2.9
Kuwait	2.5	2.6	2.5	2.6	2.6
Libya	0.6	0.5	0.6	0.2	0.9
Nigeria	1.9	1.9	1.9	1.9	2.1
Qatar	0.8	0.8	0.8	0.7	0.8
Saudi Arabia	9.6	9.6	9.6	9.8	9.6
United Arab Emirates	2.6	2.6	2.6	2.7	2.6
Venezuela	2.2	2.2	2.2	2.2	2.2
OPEC Total	29.7	29.9	29.8	29.2	30.2
Non-crude liquids	6.1	6.1	6.1	6.1	6.0
Total OPEC Supply	35.8	36.0	35.9	35.3	36.2
Crude Oil Production Capacity					
Africa	5.3	5.3	5.3	5.0	5.9
South America	2.7	2.8	2.8	2.7	2.7
Middle East	23.9	24.1	24.0	23.4	24.0
OPEC Total	32.0	32.1	32.0	31.2	32.6
Surplus Crude Oil Production Capacity (a)					
Africa	0.0	0.0	0.0	0.0	0.0
South America	0.0	0.0	0.0	0.0	0.0
Middle East	2.2	2.2	2.2	2.0	2.4
OPEC Total	2.2	2.2	2.2	2.0	2.4

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Libya, and Nigeria (Africa); Ecuador and Venezuela (South America); Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates (Middle East).

a) EIA defines surplus crude oil production capacity as potential oil production that could be brought online within 30 days and sustained for at least 90 days, consistent with sound business practices. This does not include oil production increases that could not be sustained without degrading the future production capacity of a field. It also does not include additional capacity that may be available in Iran, but which is currently offline because of the effects of U.S. and EU sanctions on Iran's ability to sell its oil.

Note: The sum of individual countries may not add to the totals because of independent rounding.

Source: U.S. Energy Information Administration.

Table 4. Non-OPEC Petroleum and Other Liquids Production Estimates

Production (million barrels per day)	November 2014	December 2014	November – December 2014 Average	November – December 2013 Average	2011 – 2013 Average
North America	21.7	21.8	21.7	20.3	18.0
Canada	4.4	4.4	4.4	4.4	3.9
Mexico	2.8	2.8	2.8	2.9	2.9
United States	14.5	14.5	14.5	13.0	11.2
Central and South America	5.1	4.8	5.0	5.0	4.9
Argentina	0.7	0.7	0.7	0.7	0.7
Brazil	2.9	2.6	2.8	2.7	2.7
Colombia	1.0	1.0	1.0	1.0	1.0
Other Central and South America	0.5	0.5	0.5	0.5	0.5
Europe	3.7	3.7	3.7	3.9	4.0
Norway	1.8	1.8	1.8	1.8	1.9
United Kingdom (offshore)	0.7	0.7	0.7	0.9	0.9
Other North Sea	0.2	0.2	0.2	0.2	0.2
Eurasia (a)	13.5	13.5	13.5	13.8	13.4
Azerbaijan	0.8	0.8	0.8	0.9	0.9
Kazakhstan	1.7	1.6	1.6	1.8	1.6
Russia	10.6	10.6	10.6	10.7	10.4
Turkmenistan	0.3	0.3	0.3	0.3	0.2
Other Eurasia	0.2	0.2	0.2	0.2	0.2
Middle East	1.2	1.2	1.2	1.2	1.4
Oman	1.0	1.0	1.0	0.9	0.9
Syria (b)	0.0	0.0	0.0	0.0	0.2
Yemen	0.1	0.1	0.1	0.1	0.2
Asia and Oceania	9.1	8.9	9.0	9.0	9.0
Australia	0.5	0.5	0.5	0.4	0.5
China	4.6	4.4	4.5	4.5	4.4
India	1.0	1.0	1.0	1.0	1.0
Indonesia	0.9	0.9	0.9	0.9	1.0
Malaysia	0.7	0.7	0.7	0.7	0.7
Vietnam	0.3	0.3	0.3	0.4	0.3
Africa	2.3	2.3	2.3	2.5	2.4
Egypt	0.6	0.6	0.6	0.7	0.7
Equatorial Guinea	0.3	0.3	0.3	0.3	0.3
Gabon	0.2	0.2	0.2	0.2	0.2
Sudan and South Sudan	0.3	0.3	0.3	0.4	0.3
Total non-OPEC liquids	56.6	56.2	56.4	55.6	53.1
OPEC non-crude liquids (c)	6.1	6.1	6.1	6.1	6.0
Non-OPEC + OPEC non-crude liquids	62.7	62.3	62.5	61.7	59.1

- a) Eurasia = Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.
- b) The estimates are 0.03 million bbl/d in both months.
- c) OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Ecuador, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.
- Note: The sum of individual countries may not add to regional totals because of independent rounding.
- Source: U.S. Energy Information Administration.

Table 5. Crude Oil and Petroleum Product Price Data

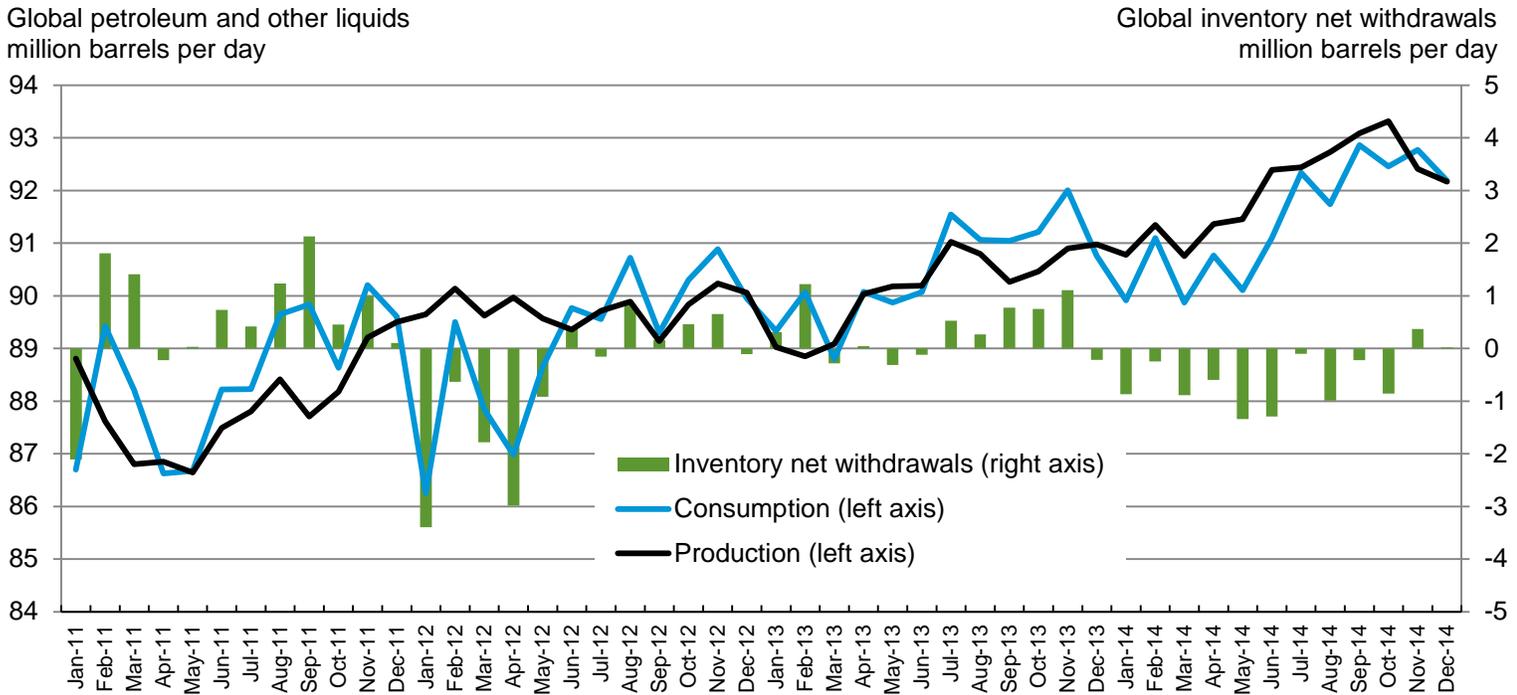
Item	November 2014	December 2014	November – December 2014 Average	November – December 2013 Average	2011 – 2013 Average
Brent Front Month Futures Price (\$ per barrel)	79.63	66.29	74.47	109.33	110.43
WTI Front Month Futures Price (\$ per barrel)	75.81	62.78	70.77	95.96	95.77
Dubai Front Month Futures Price (\$ per barrel)	78.16	65.04	73.08	107.05	107.21
Brent 1st - 13th Month Futures Spread (\$ per barrel)	-4.80	-5.98	-5.26	4.67	4.86
WTI 1st - 13th Month Futures Spread (\$ per barrel)	-0.77	-2.93	-1.61	4.96	0.41
RBOB Front Month Futures Price (\$ per gallon)	2.06	1.71	1.92	2.68	2.86
Heating Oil Front Month Futures Price (\$ per gallon)	2.41	2.08	2.28	2.99	2.99
RBOB - Brent Futures Crack Spread (\$ per gallon)	0.16	0.13	0.15	0.07	0.23
Heating Oil - Brent Futures Crack Spread (\$ per gallon)	0.52	0.50	0.51	0.39	0.36

Note: December prices include data through market close on December 16, 2014.

Source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME), Intercontinental Exchange (ICE), and Dubai Mercantile Exchange (DME).

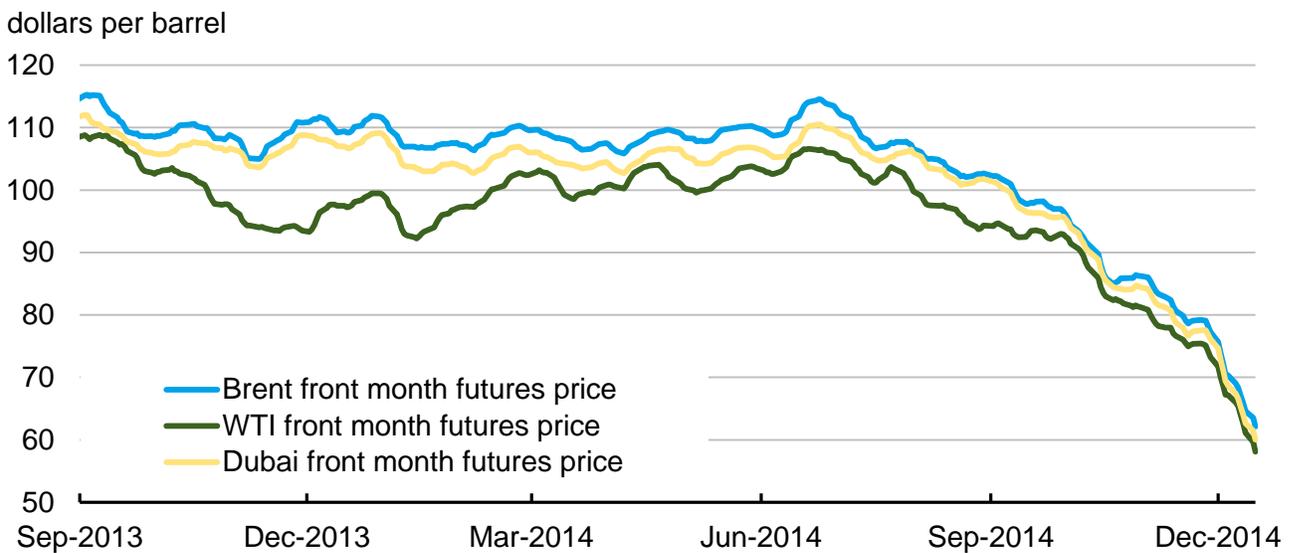
Figures

Figure 1. Global Petroleum and Other Liquids Production, Consumption, and Inventory Net Withdrawals, January 2011 – December 2014



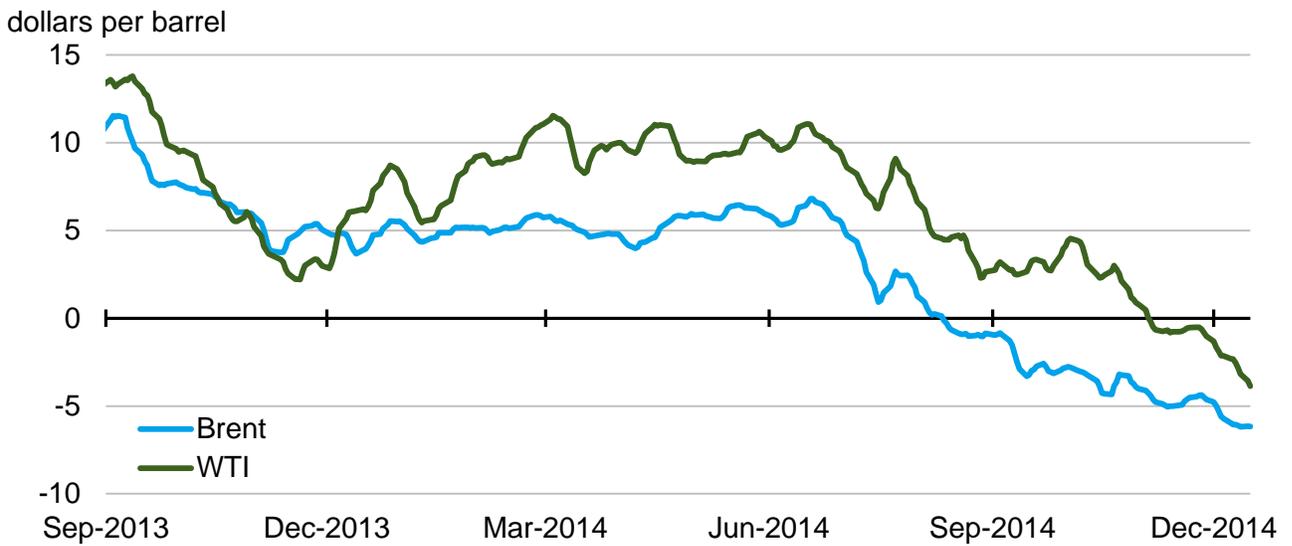
Note: See Table 1 footnotes for definitions of petroleum and other liquids, production, and consumption.
 Source: U.S. Energy Information Administration.

Figure 2. Front Month Crude Oil Futures Prices



Note: All prices represent rolling 5-day averages.
 Source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME), Intercontinental Exchange (ICE) and Dubai Mercantile Exchange (DME).

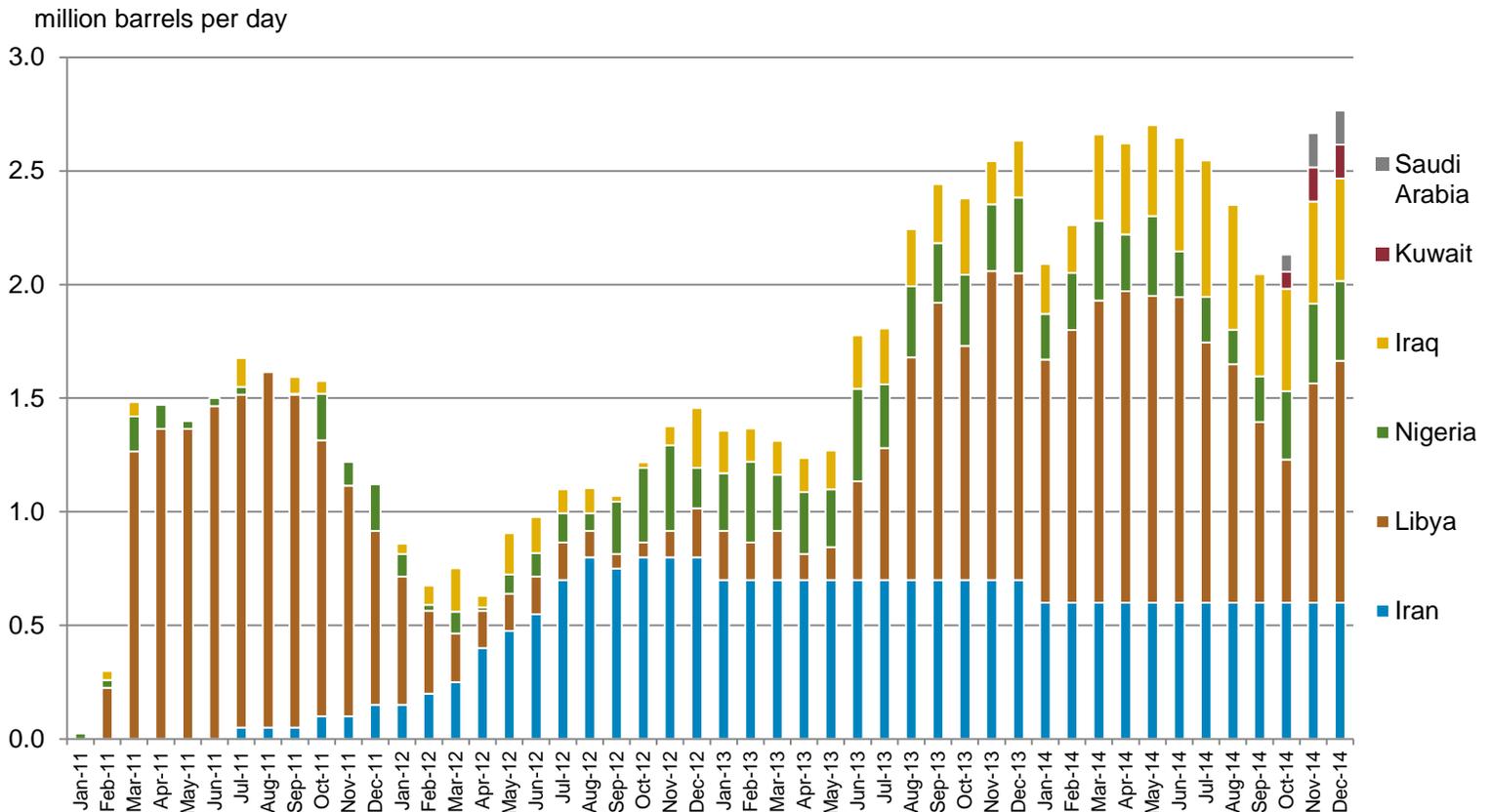
Figure 3. Crude Oil 1st - 13th Month Futures Price Spread



Note: All prices represent rolling 5-day averages.

Source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME) and Intercontinental Exchange (ICE).

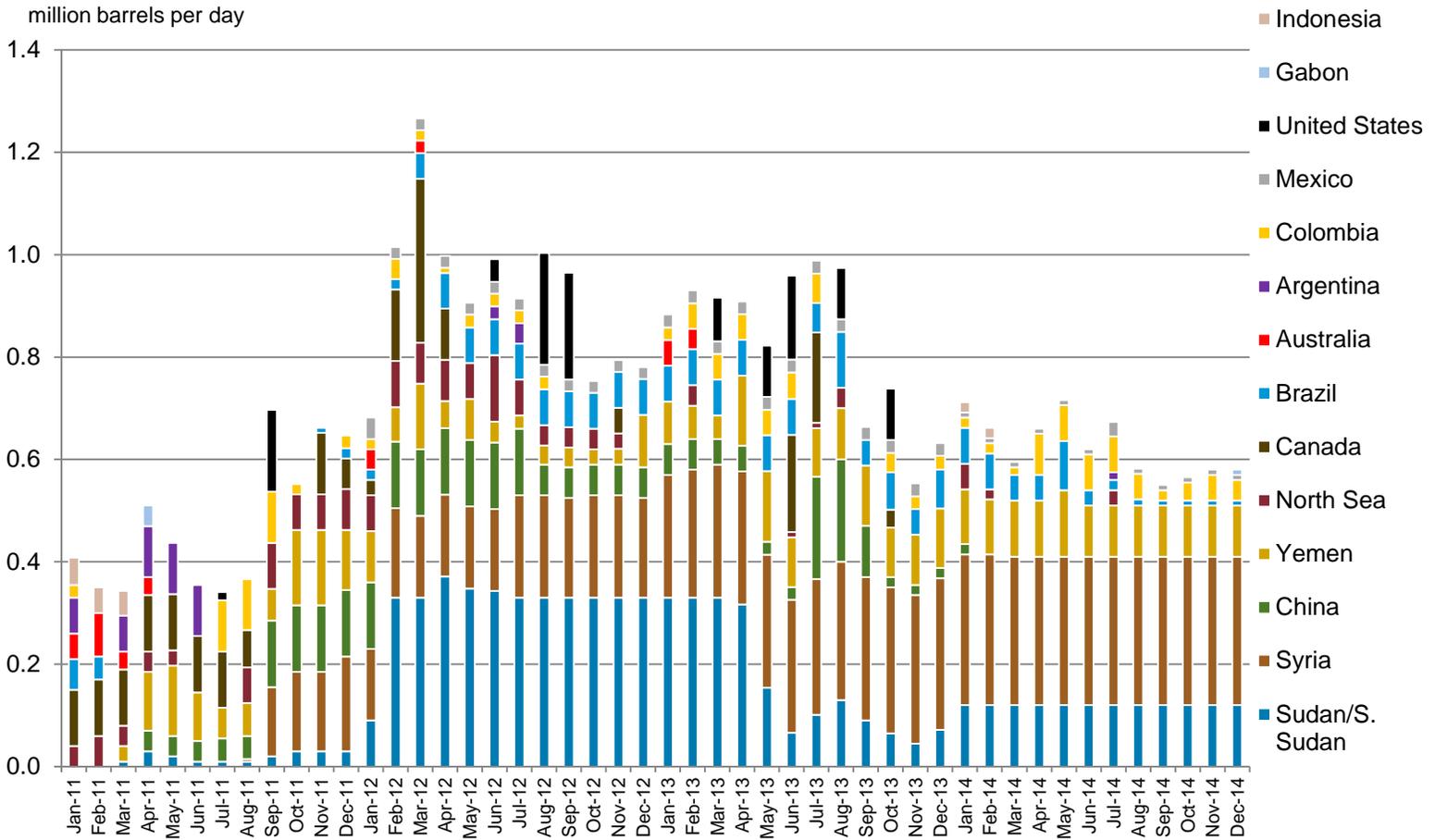
Figure 4. Estimated Unplanned Crude Oil Production Disruptions Among OPEC Producers, January 2011 – December 2014



Note: Estimated unplanned disruptions reflect the level of volumes shut in, accounting for effective production capacity.

Source: U.S. Energy Information Administration.

Figure 5. Estimated Unplanned Petroleum and Other Liquids Production Disruptions Among Non-OPEC Producers, January 2011 – December 2014



Note: Estimated unplanned disruptions reflect the level of volumes shut in, accounting for effective production capacity.

Source: U.S. Energy Information Administration.