

Appendix G

Projections of petroleum and other liquids production in three cases

- *Reference*
- *High Oil Price*
- *Low Oil Price*

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Table G1. World petroleum and other liquids production by region and country, Reference case, 2011–40
(million barrels per day, unless otherwise noted)

Region/country	History (estimates)		Projections					Average annual percent change, 2012–40
	2011	2012	2020	2025	2030	2035	2040	
OPEC^a	36.0	37.4	39.2	41.4	44.6	48.7	52.2	1.2
Middle East	26.2	26.6	29.8	31.7	34.3	37.7	40.1	1.5
North Africa	2.4	3.3	2.0	2.1	2.3	2.6	3.0	-0.4
West Africa	4.3	4.3	4.3	4.4	4.6	4.8	5.2	0.7
South America	3.2	3.2	3.0	3.1	3.4	3.6	3.9	0.7
Non-OPEC	52.4	53.0	61.1	63.1	64.4	65.9	68.7	0.9
OECD	21.6	22.5	29.2	28.8	28.6	28.2	28.9	0.9
OECD Americas	16.7	17.9	24.9	24.7	24.7	24.5	25.2	1.2
United States	10.1	11.1	17.0	16.7	16.5	15.8	15.9	1.3
Canada	3.6	3.9	5.4	5.4	5.5	5.7	6.0	1.6
Mexico and Chile	3.0	3.0	2.5	2.6	2.6	2.9	3.3	0.4
OECD Europe	4.1	3.8	3.5	3.3	3.1	2.9	2.8	-1.1
North Sea	3.3	3.0	2.5	2.3	2.1	1.9	1.7	-2.0
Other	0.8	0.8	1.0	1.0	1.0	1.0	1.1	0.9
OECD Asia	0.8	0.8	0.8	0.8	0.8	0.9	1.0	0.8
Australia and New Zealand	0.6	0.6	0.7	0.6	0.6	0.7	0.8	1.0
Other	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-0.2
Non-OECD	30.9	30.5	31.9	34.3	35.9	37.7	39.8	1.0
Non-OECD Europe and Eurasia	13.7	13.8	13.8	15.2	15.9	16.4	17.1	0.8
Russia	10.4	10.6	10.1	10.9	11.3	11.8	12.5	0.6
Caspian Area	3.0	2.9	3.4	4.1	4.4	4.4	4.4	1.5
Kazakhstan	1.6	1.6	2.3	2.9	3.2	3.3	3.2	2.5
Other	1.3	1.3	1.2	1.2	1.2	1.2	1.2	-0.3
Other	0.3	0.3	0.3	0.3	0.2	0.2	0.2	-1.0
Non-OECD Asia	8.2	8.3	8.9	9.1	9.2	9.6	9.9	0.6
China	4.4	4.4	4.9	5.2	5.5	6.0	6.3	1.2
India	1.0	1.0	1.1	1.1	1.1	1.1	1.1	0.5
Other	2.8	2.9	2.9	2.7	2.6	2.5	2.5	-0.5
Middle East (Non-OPEC)	1.5	1.3	1.0	0.9	0.8	0.8	0.7	-2.3
Oman	0.9	0.9	0.8	0.7	0.6	0.6	0.5	-2.1
Other	0.6	0.4	0.2	0.2	0.2	0.2	0.2	-2.7
Africa	2.6	2.3	2.4	2.5	2.6	2.7	2.8	0.7
Ghana	0.1	0.1	0.2	0.2	0.2	0.2	0.2	2.9
Other	2.5	2.2	2.2	2.3	2.5	2.5	2.6	0.6
Non-OECD Americas	4.8	4.8	5.7	6.6	7.3	8.2	9.3	2.4
Brazil	2.7	2.7	3.6	4.5	5.1	5.6	6.3	3.1
Other	2.1	2.1	2.1	2.1	2.2	2.6	3.0	1.2
Total World	88.5	90.4	100.3	104.5	109.1	114.6	120.9	1.0
OPEC share of world production	41%	41%	39%	40%	41%	42%	43%	
Persian Gulf share of world production	30%	29%	30%	30%	31%	33%	33%	

^aOPEC=Organization of the Petroleum Exporting Countries (OPEC-12). Indonesia reactivated its OPEC membership on January 1, 2016, but this is not reflected in the IEO2016 projections. Indonesia is reported as part of non-OPEC, non-OECD Asia.

Notes: Totals may not equal sum of components due to independent rounding.

Source File: \\nem6\D\IEO2015_GWOB\Final_Files\GWOB_BaseCase-IEO.xlsm]A4. Petroleum & Other Liquids.

Table G2. World crude oil^a production by region and country, Reference case, 2011–40
(million barrels per day, unless otherwise noted)

Region/country	History (estimates)		Projections					Average annual percent change, 2012–40
	2011	2012	2020	2025	2030	2035	2040	
OPEC^b	32.2	33.4	34.9	36.8	39.7	43.4	46.6	1.2
Middle East	22.9	23.2	26.2	27.9	30.3	33.4	35.6	1.5
North Africa	2.0	2.9	1.6	1.7	1.8	2.0	2.2	-1.0
West Africa	4.3	4.3	4.3	4.3	4.5	4.7	5.1	0.6
South America	3.0	3.0	2.8	2.9	3.1	3.4	3.6	0.7
Non-OPEC	42.5	42.8	47.9	49.1	49.7	50.7	52.9	0.8
OECD	14.9	15.7	20.3	19.6	19.2	18.9	19.5	0.8
OECD Americas	11.2	12.2	17.4	16.9	16.9	16.7	17.4	1.3
United States	5.7	6.5	10.6	10.3	10.0	9.4	9.4	1.3
Canada	2.9	3.1	4.6	4.4	4.5	4.7	5.0	1.6
Mexico and Chile	2.6	2.6	2.2	2.2	2.3	2.6	3.0	0.5
OECD Europe	3.3	3.0	2.4	2.1	1.9	1.6	1.5	-2.5
North Sea	2.8	2.5	2.0	1.8	1.6	1.4	1.3	-2.4
Other	0.5	0.5	0.4	0.3	0.2	0.2	0.2	-3.0
OECD Asia	0.5	0.5	0.5	0.5	0.5	0.6	0.6	1.2
Australia and New Zealand	0.5	0.5	0.5	0.5	0.5	0.6	0.6	1.2
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2
Non-OECD	27.6	27.1	27.6	29.5	30.5	31.8	33.4	0.8
Non-OECD Europe and Eurasia	12.8	12.9	12.8	14.2	14.9	15.5	16.2	0.8
Russia	9.8	9.9	9.3	10.1	10.6	11.0	11.8	0.6
Caspian Area	2.8	2.7	3.2	3.9	4.2	4.3	4.2	1.6
Kazakhstan	1.6	1.5	2.2	2.8	3.1	3.2	3.1	2.6
Other	1.2	1.2	1.1	1.1	1.1	1.1	1.1	-0.3
Other	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-1.3
Non-OECD Asia	7.2	7.2	7.4	7.2	7.0	7.1	6.9	-0.2
China	4.1	4.1	4.3	4.5	4.4	4.7	4.7	0.5
India	0.8	0.8	0.8	0.7	0.7	0.7	0.7	-0.4
Other	2.4	2.4	2.3	2.0	1.9	1.7	1.6	-1.4
Middle East (Non-OPEC)	1.5	1.3	1.0	0.9	0.8	0.7	0.7	-2.3
Africa	2.2	1.9	1.9	2.0	2.2	2.2	2.3	0.7
Non-OECD Americas	3.9	3.8	4.5	5.2	5.6	6.3	7.3	2.3
Brazil	2.1	2.1	2.8	3.5	3.9	4.2	4.8	3.1
Other	1.8	1.8	1.7	1.6	1.7	2.1	2.5	1.3
Total World	74.7	76.2	82.7	85.8	89.5	94.1	99.5	1.0
OPEC share of world production	43%	44%	42%	43%	44%	46%	47%	
Persian Gulf share of world production	31%	30%	32%	32%	34%	35%	36%	

^aCrude oil production also includes tight oil, shale oil, extra-heavy oil, field condensate, and bitumen.

^bOPEC=Organization of the Petroleum Exporting Countries (OPEC-12). Indonesia reactivated its OPEC membership on January 1, 2016, but this is not reflected in the IEO2016 projections. Indonesia is reported as part of non-OPEC, non-OECD Asia.

Notes: Totals may not equal sum of components due to independent rounding.

Source File: \\nem6\D\IEO2015_GWOB\Final_Files\GWOB_BaseCase-IEO.xlsm]A5. Crude & LC Production.

Table G3. International other liquid fuels^a production by region and country, Reference case, 2011–40
(million barrels per day, unless otherwise noted)

Region/country	History (estimates)		Projections					Average annual percent change, 2012–40
	2011	2012	2020	2025	2030	2035	2040	
OPEC^b	3.7	3.8	4.3	4.6	4.8	5.2	5.6	1.3
Natural gas plant liquids	3.6	3.7	4.0	4.3	4.5	4.8	5.1	1.2
Liquids from renewable sources ^c	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Liquids from coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Liquids from natural gas	0.1	0.1	0.3	0.3	0.4	0.4	0.4	5.5
Refinery gain	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Non-OPEC	9.9	10.2	13.2	14.0	14.7	15.2	15.8	1.6
OECD	6.6	6.8	8.9	9.2	9.3	9.4	9.4	1.2
Natural gas plant liquids	3.6	3.8	5.5	5.7	5.8	5.7	5.6	1.4
Liquids from renewable sources ^c	1.3	1.3	1.5	1.5	1.6	1.6	1.8	1.2
Liquids from coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Liquids from natural gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Liquids from kerogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
Refinery processing gain	1.7	1.7	1.9	2.0	2.0	2.0	2.1	0.6
Non-OECD	3.3	3.4	4.3	4.8	5.4	5.9	6.4	2.3
Natural gas plant liquids	1.8	1.8	2.2	2.2	2.2	2.1	2.1	0.5
Liquids from renewable sources ^c	0.6	0.7	1.0	1.3	1.7	2.1	2.4	4.7
Liquids from coal	0.2	0.2	0.3	0.2	0.3	0.4	0.5	3.5
Liquids from natural gas	0.1	0.0	0.1	0.2	0.2	0.2	0.2	6.2
Refinery gain	0.6	0.7	0.8	0.9	1.0	1.1	1.1	2.0
Total World	13.7	14.0	17.5	18.6	19.6	20.5	21.4	1.5
Natural gas plant liquids	9.0	9.4	11.7	12.2	12.4	12.6	12.9	1.1
United States	2.2	2.4	4.0	4.2	4.2	4.1	4.1	1.9
Russia	0.6	0.6	0.8	0.7	0.7	0.7	0.7	0.1
Liquids from renewable sources^c	1.9	1.9	2.5	2.9	3.3	3.7	4.1	2.8
Brazil	0.4	0.4	0.6	0.8	1.0	1.1	1.2	3.9
China	0.0	0.0	0.1	0.2	0.3	0.4	0.5	9.9
India	0.0	0.0	0.0	0.0	0.0	0.0	0.1	5.8
United States	0.9	0.9	1.0	1.0	1.0	1.0	1.1	0.7
Liquids from coal	0.2	0.2	0.3	0.2	0.3	0.4	0.5	3.4
Australia and New Zealand	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
China	0.0	0.0	0.1	0.2	0.3	0.4	0.5	10.2
Germany	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
India	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
South Africa	0.2	0.2	0.2	0.0	0.0	0.0	0.0	—
United States	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Liquids from natural gas	0.1	0.1	0.3	0.5	0.6	0.6	0.7	5.7
Qatar	0.1	0.1	0.2	0.3	0.3	0.4	0.4	5.0
South Africa	0.0	0.0	0.0	0.2	0.2	0.2	0.2	7.4
Refinery processing gain	2.4	2.4	2.7	2.9	3.0	3.1	3.2	1.1
United States	1.1	1.1	1.3	1.3	1.3	1.3	1.3	0.7
China	0.3	0.3	0.4	0.4	0.5	0.5	0.5	2.3

^aOther liquid fuels include natural gas plant liquids, liquids from renewable sources (biofuels, including ethanol, biodiesel, and biomass-to-liquids [BTL]), liquids from natural gas (gas-to-liquids [GTL]), liquids from coal (coal-to-liquids [CTL]), and liquids from kerogen (oil shale).

^bOPEC=Organization of the Petroleum Exporting Countries (OPEC-12). Indonesia reactivated its OPEC membership on January 1, 2016, but this is not reflected in the IEO2016 projections. Indonesia is reported as part of non-OPEC, non-OECD Asia.

^cLiquids from renewable sources (biofuels) include ethanol, biodiesel, and biomass-to-liquids (BTL). All values, including ethanol, are reported on a volume basis.

Notes: Totals may not equal sum of components due to independent rounding.

Source File: \\nem6\D\IEO2015_GWOB\Final_Files\GWOB_BaseCase-IEO.xlsm\A6. Other Liquids.

Table G4. World petroleum and other liquids production by region and country, High Oil Price case, 2011–40
(million barrels per day, unless otherwise noted)

Region/country	History (estimates)		Projections					Average annual percent change, 2012–40
	2011	2012	2020	2025	2030	2035	2040	
OPEC^a	36.0	37.4	35.3	35.8	37.7	39.3	40.4	0.3
Middle East	26.2	26.6	26.5	27.0	28.6	29.8	30.6	0.5
North Africa	2.4	3.3	2.1	1.9	2.1	2.2	2.3	-1.4
West Africa	4.3	4.3	4.0	4.0	4.0	4.0	4.0	-0.2
South America	3.2	3.2	2.8	2.9	3.0	3.2	3.5	0.3
Non-OPEC	52.4	53.0	61.5	65.4	68.1	72.6	78.1	1.4
OECD	21.6	22.5	31.7	33.6	34.2	35.3	36.9	1.8
OECD Americas	16.7	17.9	27.4	29.3	29.9	31.0	32.4	2.1
United States	10.1	11.1	19.0	20.0	19.8	19.2	18.2	1.8
Canada	3.6	3.9	5.5	6.0	6.5	7.6	8.8	3.0
Mexico and Chile	3.0	3.0	2.9	3.3	3.6	4.2	5.4	2.2
OECD Europe	4.1	3.8	3.4	3.2	3.0	2.8	2.8	-1.1
North Sea	3.3	3.0	2.4	2.2	2.0	1.8	1.7	-2.0
Other	0.8	0.8	1.0	1.0	1.0	1.1	1.1	1.0
OECD Asia	0.8	0.8	0.9	1.1	1.2	1.5	1.7	2.9
Australia and New Zealand	0.6	0.6	0.7	0.9	1.1	1.3	1.5	3.6
Other	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-0.4
Non-OECD	30.9	30.5	29.9	31.8	33.9	37.2	41.2	1.1
Non-OECD Europe and Eurasia	13.7	13.8	12.4	12.8	13.4	15.1	16.9	0.7
Russia	10.4	10.6	9.2	9.4	9.3	10.3	11.1	0.2
Caspian Area	3.0	2.9	2.9	3.1	3.8	4.5	5.5	2.3
Kazakhstan	1.6	1.6	1.7	2.0	2.6	3.4	4.3	3.6
Other	1.3	1.3	1.1	1.2	1.2	1.2	1.2	-0.3
Other	0.3	0.3	0.3	0.3	0.3	0.2	0.2	-0.9
Non-OECD Asia	8.2	8.3	8.7	9.0	9.3	9.9	10.4	0.8
China	4.4	4.4	4.8	5.2	5.6	6.2	6.7	1.5
India	1.0	1.0	1.0	1.1	1.1	1.1	1.2	0.6
Other	2.8	2.9	2.8	2.7	2.6	2.5	2.6	-0.4
Middle East (Non-OPEC)	1.5	1.3	1.0	0.9	0.8	0.8	0.7	-2.3
Oman	0.9	0.9	0.8	0.7	0.6	0.6	0.5	-2.1
Other	0.6	0.4	0.2	0.2	0.2	0.2	0.2	-2.6
Africa	2.6	2.3	2.4	2.5	2.7	2.8	3.0	1.0
Ghana	0.1	0.1	0.2	0.2	0.2	0.2	0.2	3.3
Other	2.5	2.2	2.2	2.3	2.5	2.6	2.8	0.9
Non-OECD Americas	4.8	4.8	5.5	6.6	7.7	8.7	10.2	2.7
Brazil	2.7	2.7	3.2	4.1	4.7	5.1	5.9	2.9
Other	2.1	2.1	2.2	2.5	3.0	3.5	4.3	2.5
Total World	88.5	90.4	96.9	101.2	105.8	111.8	118.5	1.0
OPEC share of world production	41%	41%	36%	35%	36%	35%	34%	
Persian Gulf share of world production	30%	29%	27%	27%	27%	27%	26%	

^aOPEC=Organization of the Petroleum Exporting Countries (OPEC-12). Indonesia reactivated its OPEC membership on January 1, 2016, but this is not reflected in the IEO2016 projections. Indonesia is reported as part of non-OPEC, non-OECD Asia.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: \\nem6\D\IEO2015_GWOB\Final_Files\[GWOB_HighPriceCase-IEO.xlsm]A4. Petroleum & Other Liquids

Table G5. World crude oil^a production by region and country, High Oil Price case, 2011–40
(million barrels per day, unless otherwise noted)

Region/country	History (estimates)		Projections					Average annual percent change, 2012–40
	2011	2012	2020	2025	2030	2035	2040	
OPEC^b	32.2	33.4	30.7	30.9	32.4	33.4	34.4	0.1
Middle East	22.9	23.2	22.7	23.0	24.4	25.2	25.9	0.4
North Africa	2.0	2.9	1.6	1.4	1.4	1.4	1.4	-2.5
West Africa	4.3	4.3	3.9	3.8	3.8	3.8	3.8	-0.4
South America	3.0	3.0	2.5	2.6	2.7	2.9	3.2	0.2
Non-OPEC	42.5	42.8	47.8	50.3	51.5	54.2	57.8	1.1
OECD	14.9	15.7	22.5	24.0	24.2	24.7	25.8	1.8
OECD Americas	11.2	12.2	19.6	21.2	21.5	22.0	23.0	2.3
United States	5.7	6.5	12.3	13.0	12.5	11.4	9.9	1.5
Canada	2.9	3.1	4.6	5.2	5.7	6.8	8.0	3.4
Mexico and Chile	2.6	2.6	2.6	3.0	3.3	3.8	5.1	2.4
OECD Europe	3.3	3.0	2.3	2.1	1.8	1.6	1.4	-2.6
North Sea	2.8	2.5	1.9	1.8	1.5	1.4	1.2	-2.5
Other	0.5	0.5	0.4	0.3	0.2	0.2	0.2	-3.0
OECD Asia	0.5	0.5	0.6	0.8	1.0	1.2	1.4	4.1
Australia and New Zealand	0.5	0.5	0.6	0.8	1.0	1.2	1.4	4.1
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2
Non-OECD	27.6	27.1	25.3	26.3	27.2	29.4	32.0	0.6
Non-OECD Europe and Eurasia	12.8	12.9	11.2	11.3	11.6	12.9	14.2	0.3
Russia	9.8	9.9	8.3	8.3	8.0	8.6	9.1	-0.3
Caspian Area	2.8	2.7	2.7	2.9	3.5	4.1	5.0	2.2
Kazakhstan	1.6	1.5	1.6	1.8	2.4	3.0	3.9	3.4
Other	1.2	1.2	1.1	1.1	1.1	1.1	1.1	-0.3
Other	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-1.3
Non-OECD Asia	7.2	7.2	7.2	7.0	6.8	6.8	6.7	-0.3
China	4.1	4.1	4.2	4.3	4.2	4.4	4.4	0.3
India	0.8	0.8	0.7	0.7	0.7	0.7	0.7	-0.4
Other	2.4	2.4	2.2	2.0	1.9	1.7	1.6	-1.4
Middle East (Non-OPEC)	1.5	1.3	1.0	0.9	0.8	0.7	0.7	-2.3
Africa	2.2	1.9	1.9	2.0	2.1	2.2	2.3	0.8
Non-OECD Americas	3.9	3.8	4.2	5.1	5.9	6.7	8.2	2.7
Brazil	2.1	2.1	2.4	3.0	3.4	3.7	4.4	2.7
Other	1.8	1.8	1.8	2.1	2.5	3.1	3.8	2.8
Total World	74.7	76.2	78.5	81.2	83.9	87.6	92.2	0.7
OPEC share of world production	43%	44%	39%	38%	39%	38%	37%	
Persian Gulf share of world production	31%	30%	29%	28%	29%	29%	28%	

^aCrude oil production also includes tight oil, shale oil, extra-heavy oil, field condensate, and bitumen.

^bOPEC=Organization of the Petroleum Exporting Countries (OPEC-12). Indonesia reactivated its OPEC membership on January 1, 2016, but this is not reflected in the IEO2016 projections. Indonesia is reported as part of non-OPEC, non-OECD Asia.

Notes: Totals may not equal sum of components due to independent rounding.

Source File: \\nem6\D\IEO2015_GWOB\Final_Files\GWOB_HighPriceCase-IEO.xlsm]A5. Crude & LC Production.

Table G6. World other liquid fuels^a production by region and country, High Oil Price case, 2011–40
(million barrels per day, unless otherwise noted)

Region/country	History (estimates)		Projections					Average annual percent change, 2012–40
	2011	2012	2020	2025	2030	2035	2040	
OPEC^b	3.7	3.8	4.6	4.9	5.3	5.8	5.9	1.6
Natural gas plant liquids	3.6	3.7	4.3	4.6	4.9	5.3	5.3	1.3
Liquids from renewable sources ^c	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Liquids from coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Liquids from natural gas	0.1	0.1	0.3	0.3	0.4	0.5	0.6	6.9
Refinery gain	0.0	0.0	0.0	0.0	0.0	0.0	0.1	
Non-OPEC	9.9	10.2	13.7	15.1	16.6	18.4	20.3	2.5
OECD	6.6	6.8	9.2	9.6	10.0	10.6	11.1	1.8
Natural gas plant liquids	3.6	3.8	5.7	6.0	6.0	6.1	5.9	1.6
Liquids from renewable sources ^c	1.3	1.3	1.5	1.5	1.6	1.7	1.9	1.4
Liquids from coal	0.0	0.0	0.0	0.0	0.2	0.4	0.7	26.4
Liquids from natural gas	0.0	0.0	0.0	0.0	0.1	0.3	0.5	—
Liquids from kerogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
Refinery processing gain	1.7	1.7	2.0	2.0	2.0	2.1	2.1	0.8
Non-OECD	3.3	3.4	4.5	5.5	6.7	7.8	9.2	3.6
Natural gas plant liquids	1.8	1.8	2.4	2.7	3.1	3.4	4.0	2.8
Liquids from renewable sources ^c	0.6	0.7	1.0	1.3	1.7	2.1	2.4	4.7
Liquids from coal	0.2	0.2	0.3	0.3	0.6	0.9	1.2	6.7
Liquids from natural gas	0.1	0.0	0.1	0.2	0.3	0.3	0.4	8.8
Refinery gain	0.6	0.7	0.8	0.9	1.0	1.1	1.2	2.1
Total World	13.7	14.0	18.4	20.0	22.0	24.2	26.3	2.3
Natural gas plant liquids	9.0	9.4	12.4	13.4	14.0	14.8	15.2	1.7
United States	2.2	2.4	4.3	4.6	4.6	4.7	4.6	2.3
Russia	0.6	0.6	0.9	1.1	1.3	1.6	2.0	4.2
Liquids from renewable sources^c	1.9	1.9	2.5	2.9	3.3	3.7	4.2	2.9
Brazil	0.4	0.4	0.6	0.8	1.0	1.1	1.2	3.9
China	0.0	0.0	0.1	0.2	0.3	0.4	0.5	9.9
India	0.0	0.0	0.0	0.0	0.0	0.0	0.1	5.8
United States	0.9	0.9	1.0	1.0	1.0	1.1	1.2	1.0
Liquids from coal	0.2	0.2	0.3	0.4	0.9	1.4	1.9	8.5
Australia and New Zealand	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
China	0.0	0.0	0.1	0.3	0.6	0.9	1.2	13.7
Germany	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
India	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
South Africa	0.2	0.2	0.2	0.0	0.0	0.0	0.0	—
United States	0.0	0.0	0.0	0.0	0.2	0.4	0.7	—
Liquids from natural gas	0.1	0.1	0.3	0.5	0.7	1.1	1.5	9.0
Qatar	0.1	0.1	0.2	0.3	0.3	0.4	0.6	6.5
South Africa	0.0	0.0	0.0	0.2	0.2	0.3	0.4	10.0
Refinery processing gain	2.4	2.4	2.8	2.8	3.0	3.2	3.4	1.2
United States	1.1	1.1	1.4	1.3	1.3	1.3	1.4	0.9
China	0.3	0.3	0.3	0.4	0.4	0.5	0.5	2.3

^aOther liquid fuels include natural gas plant liquids, liquids from renewable sources (biofuels, including ethanol, biodiesel, and biomass-to-liquids [BTL]), liquids from natural gas (gas-to-liquids [GTL]), liquids from coal (coal-to-liquids [CTL]), and liquids from kerogen (oil shale).

^bOPEC=Organization of the Petroleum Exporting Countries (OPEC-12). Indonesia reactivated its OPEC membership on January 1, 2016, but this is not reflected in the IEQ2016 projections. Indonesia is reported as part of non-OPEC, non-OECD Asia.

^cLiquids from renewable sources (biofuels) include ethanol, biodiesel, and biomass-to-liquids (BTL). All values, including ethanol, are reported on a volume basis.

Notes: Totals may not equal sum of components due to independent rounding.

Source File: \\nem6\D\IEO2015_GWOB\Final_Files\GWOB_HighPriceCase-IEO.xlsm]A6. Other Liquids.

Table G7. World petroleum and other liquids production by region and country, Low Oil Price case, 2011–40
(million barrels per day, unless otherwise noted)

Region/country	History (estimates)		Projections					Average annual percent change, 2012–40
	2011	2012	2020	2025	2030	2035	2040	
OPEC^a	36.0	37.4	43.2	45.6	49.9	54.7	59.4	1.7
Middle East	26.2	26.6	31.1	32.3	35.5	39.2	42.0	1.7
North Africa	2.4	3.3	3.4	3.6	3.7	3.9	4.2	0.8
West Africa	4.3	4.3	4.5	4.7	5.0	5.6	6.4	1.4
South America	3.2	3.2	4.1	5.0	5.5	5.9	6.8	2.7
Non-OPEC	52.4	53.0	59.5	61.0	61.5	62.2	63.5	0.6
OECD	21.6	22.5	27.9	27.1	26.0	24.9	24.3	0.3
OECD Americas	16.7	17.9	23.7	23.1	22.2	21.3	20.9	0.5
United States	10.1	11.1	16.1	15.7	14.9	13.9	13.1	0.6
Canada	3.6	3.9	5.1	4.8	4.7	4.6	4.6	0.7
Mexico and Chile	3.0	3.0	2.5	2.5	2.6	2.8	3.2	0.2
OECD Europe	4.1	3.8	3.4	3.2	3.0	2.9	2.8	-1.1
North Sea	3.3	3.0	2.4	2.3	2.1	1.9	1.8	-1.8
Other	0.8	0.8	1.0	1.0	1.0	1.0	1.0	0.7
OECD Asia	0.8	0.8	0.8	0.8	0.7	0.7	0.7	-0.4
Australia and New Zealand	0.6	0.6	0.6	0.6	0.6	0.6	0.5	-0.1
Other	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-1.0
Non-OECD	30.9	30.5	31.6	34.0	35.5	37.3	39.1	0.9
Non-OECD Europe and Eurasia	13.7	13.8	13.8	15.2	16.1	16.9	17.7	0.9
Russia	10.4	10.6	10.1	10.8	11.3	11.9	12.6	0.6
Caspian Area	3.0	2.9	3.4	4.2	4.6	4.8	4.9	1.9
Kazakhstan	1.6	1.6	2.3	3.0	3.4	3.6	3.7	3.1
Other	1.3	1.3	1.1	1.2	1.2	1.2	1.2	-0.3
Other	0.3	0.3	0.3	0.3	0.3	0.2	0.2	-0.9
Non-OECD Asia	8.2	8.3	8.8	9.0	9.0	9.3	9.4	0.5
China	4.4	4.4	4.8	5.1	5.3	5.6	5.8	1.0
India	1.0	1.0	1.1	1.1	1.2	1.2	1.2	0.8
Other	2.8	2.9	2.8	2.6	2.5	2.4	2.4	-0.7
Middle East (Non-OPEC)	1.5	1.3	1.0	0.9	0.8	0.8	0.7	-2.2
Oman	0.9	0.9	0.8	0.7	0.6	0.6	0.5	-2.1
Other	0.6	0.4	0.2	0.2	0.2	0.2	0.2	-2.5
Africa	2.6	2.3	2.4	2.3	2.5	2.5	2.6	0.4
Ghana	0.1	0.1	0.2	0.2	0.2	0.2	0.2	2.9
Other	2.5	2.2	2.2	2.2	2.3	2.3	2.4	0.3
Non-OECD Americas	4.8	4.8	5.6	6.5	7.1	7.8	8.7	2.2
Brazil	2.7	2.7	3.5	4.4	5.0	5.7	6.5	3.3
Other	2.1	2.1	2.1	2.1	2.1	2.1	2.2	0.1
Total World	88.5	90.4	102.6	106.7	111.4	116.9	122.8	1.1
OPEC share of world production	41%	41%	42%	43%	45%	47%	48%	
Persian Gulf share of world production	30%	29%	30%	30%	32%	34%	34%	

^aOPEC=Organization of the Petroleum Exporting Countries (OPEC-12). Indonesia reactivated its OPEC membership on January 1, 2016, but this is not reflected in the IEO2016 projections. Indonesia is reported as part of non-OPEC, non-OECD Asia.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: \\nem6\D\IEO2015_GWOB\Final_Files\[GWOB_LowPriceCase-IEO.xlsm]A4. Petroleum & Other Liquids.

Table G8. World crude oil^a production by region and country, Low Oil Price case, 2011–40
(million barrels per day, unless otherwise noted)

Region/country	History (estimates)		Projections					Average annual percent change, 2012–40
	2011	2012	2020	2025	2030	2035	2040	
OPEC^b	32.2	33.4	38.9	41.1	45.3	49.7	54.5	1.8
Middle East	22.9	23.2	27.8	28.9	32.2	35.6	38.5	1.8
North Africa	2.0	2.9	2.9	3.0	3.0	3.0	3.3	0.5
West Africa	4.3	4.3	4.4	4.5	4.9	5.5	6.3	1.3
South America	3.0	3.0	3.8	4.7	5.1	5.6	6.5	2.8
Non-OPEC	42.5	42.8	46.7	47.7	47.6	47.8	48.4	0.4
OECD	14.9	15.7	19.3	18.4	17.3	16.3	15.7	0.0
OECD Americas	11.2	12.2	16.4	15.8	14.9	14.1	13.8	0.4
United States	5.7	6.5	9.9	9.5	8.7	7.8	7.1	0.3
Canada	2.9	3.1	4.4	4.1	3.9	3.9	3.9	0.8
Mexico and Chile	2.6	2.6	2.1	2.2	2.3	2.5	2.8	0.3
OECD Europe	3.3	3.0	2.3	2.1	1.9	1.7	1.5	-2.4
North Sea	2.8	2.5	2.0	1.8	1.6	1.5	1.3	-2.3
Other	0.5	0.5	0.4	0.3	0.2	0.2	0.2	-3.0
OECD Asia	0.5	0.5	0.5	0.5	0.5	0.4	0.4	-0.3
Australia and New Zealand	0.5	0.5	0.5	0.5	0.5	0.4	0.4	-0.3
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2
Non-OECD	27.6	27.1	27.4	29.3	30.3	31.5	32.7	0.7
Non-OECD Europe and Eurasia	12.8	12.9	12.9	14.2	14.9	15.4	15.8	0.7
Russia	9.8	9.9	9.5	10.1	10.5	10.9	11.3	0.5
Caspian Area	2.8	2.7	3.2	3.9	4.2	4.4	4.3	1.7
Kazakhstan	1.6	1.5	2.1	2.8	3.1	3.3	3.2	2.7
Other	1.2	1.2	1.1	1.1	1.1	1.1	1.1	-0.3
Other	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-1.3
Non-OECD Asia	7.2	7.2	7.3	7.2	7.0	7.1	7.1	-0.1
China	4.1	4.1	4.3	4.4	4.5	4.7	4.8	0.6
India	0.8	0.8	0.8	0.7	0.7	0.7	0.7	-0.4
Other	2.4	2.4	2.2	2.0	1.9	1.7	1.6	-1.4
Middle East (Non-OPEC)	1.5	1.3	1.0	0.9	0.8	0.7	0.7	-2.3
Africa	2.2	1.9	1.9	2.0	2.2	2.2	2.3	0.7
Non-OECD Americas	3.9	3.8	4.4	5.1	5.5	6.1	6.9	2.1
Brazil	2.1	2.1	2.7	3.4	3.9	4.4	5.2	3.3
Other	1.8	1.8	1.7	1.6	1.6	1.6	1.7	-0.1
Total World	74.7	76.2	85.6	88.8	92.9	97.6	102.9	1.1
OPEC share of world production	43%	44%	45%	46%	49%	51%	53%	
Persian Gulf share of world production	31%	30%	33%	33%	35%	37%	37%	

^aCrude oil production also includes tight oil, shale oil, extra-heavy oil, field condensate, and bitumen.

^bOPEC=Organization of the Petroleum Exporting Countries (OPEC-12). Indonesia reactivated its OPEC membership on January 1, 2016, but this is not reflected in the IEO2016 projections. Indonesia is reported as part of non-OPEC, non-OECD Asia.

Notes: Totals may not equal sum of components due to independent rounding.

Source File: \\nem6\D\IEO2015_GWOB\Final_Files\GWOB_LowPriceCase-IEO.xlsm]A5. Crude & LC Production.

Table G9. World other liquid fuels^a production by region and country, Low Oil Price case, 2011–40
(million barrels per day, unless otherwise noted)

Region/country	History (estimates)		Projections					Average annual percent change, 2012–40
	2011	2012	2020	2025	2030	2035	2040	
OPEC^b	3.7	3.8	4.3	4.5	4.5	4.9	4.8	0.8
Natural gas plant liquids	3.6	3.7	4.0	4.2	4.4	4.8	4.7	0.8
Liquids from renewable sources ^c	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Liquids from coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Liquids from natural gas	0.1	0.1	0.3	0.3	0.1	0.1	0.1	0.3
Refinery gain	0.0	0.0	0.0	0.0	0.1	0.1	0.1	—
Non-OPEC	9.9	10.2	12.8	13.3	13.9	14.4	15.0	1.4
OECD	6.6	6.8	8.6	8.7	8.8	8.7	8.6	0.9
Natural gas plant liquids	3.6	3.8	5.3	5.3	5.3	5.2	5.0	1.0
Liquids from renewable sources ^c	1.3	1.3	1.5	1.5	1.6	1.6	1.6	0.9
Liquids from coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Liquids from natural gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Liquids from kerogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
Refinery processing gain	1.7	1.7	1.8	1.9	1.9	1.9	2.0	0.5
Non-OECD	3.3	3.4	4.1	4.6	5.2	5.8	6.4	2.3
Natural gas plant liquids	1.8	1.8	2.1	2.4	2.6	2.9	3.3	2.1
Liquids from renewable sources ^c	0.6	0.7	0.9	1.1	1.4	1.7	1.9	3.9
Liquids from coal	0.2	0.2	0.3	0.1	0.0	0.0	0.0	—
Liquids from natural gas	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-3.8
Refinery gain	0.6	0.7	0.9	1.0	1.1	1.2	1.2	2.2
Total World	13.7	14.0	17.1	17.9	18.5	19.3	19.9	1.3
Natural gas plant liquids	9.0	9.4	11.3	11.9	12.3	12.8	13.0	1.2
United States	2.2	2.4	3.9	4.0	4.0	3.9	3.7	1.5
Russia	0.6	0.6	0.6	0.7	0.8	1.0	1.2	2.3
Liquids from renewable sources^c	1.9	1.9	2.4	2.7	3.0	3.3	3.5	2.2
Brazil	0.4	0.4	0.5	0.7	0.8	0.9	1.0	3.1
China	0.0	0.0	0.1	0.2	0.3	0.4	0.4	9.0
India	0.0	0.0	0.0	0.0	0.0	0.0	0.1	5.8
United States	0.9	0.9	1.0	1.0	1.0	1.0	1.0	0.4
Liquids from coal	0.2	0.2	0.3	0.1	0.0	0.0	0.0	—
Australia and New Zealand	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
China	0.0	0.0	0.1	0.1	0.0	0.0	0.0	—
Germany	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
India	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
South Africa	0.2	0.2	0.2	0.0	0.0	0.0	0.0	—
United States	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Liquids from natural gas	0.1	0.1	0.3	0.3	0.1	0.1	0.1	-0.5
Qatar	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.3
South Africa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Refinery processing gain	2.4	2.4	2.8	2.9	3.0	3.1	3.2	1.0
United States	1.1	1.1	1.2	1.2	1.2	1.3	1.3	0.7
China	0.3	0.3	0.4	0.4	0.5	0.5	0.6	2.4

^aOther liquid fuels include natural gas plant liquids, liquids from renewable sources (biofuels, including ethanol, biodiesel, and biomass-to-liquids [BTL]), liquids from natural gas (gas-to-liquids [GTL]), liquids from coal (coal-to-liquids [CTL]), and liquids from kerogen (oil shale).

^bOPEC=Organization of the Petroleum Exporting Countries (OPEC-12). Indonesia reactivated its OPEC membership on January 1, 2016, but this is not reflected in the IEQ2016 projections. Indonesia is reported as part of non-OPEC, non-OECD Asia.

^cLiquids from renewable sources (biofuels) include ethanol, biodiesel, and biomass-to-liquids (BTL). All values, including ethanol, are reported on a volume basis.

Notes: Totals may not equal sum of components due to independent rounding.

Source File: \\nem6\D\IEO2015_GWOB\Final_Files\GWOB_HighPriceCase-IEO.xlsm]A6. Other Liquids.