

Appendix G

Projections of Liquid Fuels and Other Petroleum Production in Five Cases:

- Reference
- High Price
- Low Price
- High Economic Growth
- Low Economic Growth

Table G1. World Total Liquids Production by Region and Country, Reference Case, 1990-2030
 (Million Barrels Oil Equivalent per Day)

Region/Country	History (Estimates)			Projections					Average Annual Percent Change, 2005-2030
	1990	2005	2006	2010	2015	2020	2025	2030	
OPEC^a	25.2	36.1	35.8	37.4	40.9	44.4	46.7	49.3	1.3
Asia (Indonesia)	1.5	1.1	1.1	0.9	0.9	0.9	1.0	1.0	-0.7
Middle East	16.1	23.8	23.6	23.7	26.2	28.8	30.2	31.8	1.2
Iran	3.1	4.2	4.1	4.1	4.0	4.0	4.2	4.5	0.2
Iraq	2.1	1.9	2.0	2.0	2.2	3.4	3.8	4.0	3.1
Kuwait	1.2	2.7	2.7	2.6	2.9	3.0	3.1	3.3	0.9
Qatar	0.4	1.1	1.1	1.6	2.2	2.7	2.9	3.2	4.3
Saudi Arabia	7.0	11.1	10.7	10.5	11.9	12.6	13.1	13.7	0.8
United Arab Emirates	2.3	2.8	2.9	2.9	2.9	3.0	3.1	3.1	0.3
North Africa	2.7	3.8	3.9	4.7	5.0	5.1	5.4	5.8	1.7
Algeria	1.3	2.1	2.1	2.7	3.1	3.4	3.6	4.0	2.6
Libya	1.4	1.7	1.8	2.0	1.8	1.8	1.7	1.7	0.1
West Africa	2.3	3.9	3.9	5.1	5.7	5.9	6.2	6.7	2.2
Angola	0.5	1.3	1.4	2.5	2.7	2.8	2.9	3.1	3.7
Nigeria	1.8	2.6	2.4	2.6	3.1	3.1	3.3	3.5	1.2
South America	2.5	3.4	3.3	3.0	3.1	3.6	3.9	4.1	0.8
Ecuador	0.3	0.5	0.5	0.4	0.5	0.5	0.5	0.6	0.5
Venezuela	2.3	2.9	2.8	2.5	2.6	3.1	3.4	3.5	0.9
Non-OPEC	41.1	48.2	48.4	51.8	54.7	57.0	59.8	63.2	1.1
OECD	20.0	21.8	21.4	21.5	21.7	21.5	22.0	22.3	0.1
OECD North America	14.7	15.1	15.2	16.2	17.0	17.2	17.7	18.0	0.7
United States	9.7	8.2	8.2	9.4	9.9	10.2	10.2	9.8	0.7
Canada	2.0	3.1	3.3	3.8	4.4	4.6	5.0	5.3	2.2
Mexico	3.0	3.8	3.7	3.0	2.7	2.4	2.6	2.8	-1.1
OECD Europe	4.5	5.9	5.5	4.5	3.9	3.5	3.4	3.4	-2.1
OECD Asia	0.8	0.7	0.7	0.8	0.8	0.8	0.9	0.9	0.8
Japan	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	1.4
South Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	5.8
Australia and New Zealand	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.4
Non-OECD	21.1	26.5	27.0	30.3	33.1	35.5	37.8	40.9	1.8
Non-OECD Europe and Eurasia	11.6	11.9	12.3	14.0	15.9	16.8	17.5	18.9	1.8
Russia	10.1	9.5	9.7	10.2	11.4	12.1	12.6	13.5	1.4
Caspian Area	1.1	2.1	2.3	3.5	4.2	4.5	4.7	5.1	3.6
Other	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.3	-0.9
Non-OECD Asia	4.4	6.5	6.5	6.9	7.1	7.4	7.6	7.7	0.7
China	2.8	3.7	3.8	3.8	3.9	4.0	4.0	4.1	0.4
India	0.7	0.8	0.8	1.1	1.1	1.2	1.4	1.3	1.8
Other	1.0	1.9	1.9	2.0	2.1	2.2	2.2	2.3	0.7
Middle East (Non-OPEC)	1.3	1.7	1.6	1.5	1.5	1.5	1.6	1.6	-0.2
Africa	1.7	2.6	2.6	3.0	3.3	3.7	4.1	4.5	2.3
Central and South America	2.1	3.8	3.9	4.9	5.2	6.0	7.0	8.2	3.1
Brazil	0.8	1.9	2.1	3.2	3.6	4.3	5.0	5.7	4.4
Other	1.3	1.8	1.9	1.7	1.6	1.7	2.0	2.5	1.2
Total World	66.3	84.3	84.2	89.2	95.7	101.3	106.5	112.5	1.2
OPEC Share of World Production	38%	43%	43%	42%	43%	44%	44%	44%	
Persian Gulf Share of World Production	24%	28%	28%	27%	27%	28%	28%	28%	

^aOPEC = Organization of the Petroleum Exporting Countries (OPEC-13).

Sources: **History:** Energy Information Administration (EIA), Office of Energy Markets and End Use. **Projections:** EIA, Generate World Oil Balance Model (2008).

Appendix G

Table G2. World Conventional Liquids Production by Region and Country, Reference Case, 1990-2030
 (Million Barrels Oil Equivalent per Day)

Region/Country	History (Estimates)			Projections					Average Annual Percent Change, 2005-2030
	1990	2005	2006	2010	2015	2020	2025	2030	
OPEC^a	25.2	35.3	35.1	36.5	39.8	43.0	45.3	47.7	1.2
Asia (Indonesia)	1.5	1.1	1.1	0.9	0.9	0.9	0.9	0.9	-0.9
Middle East	16.1	23.8	23.5	23.7	26.0	28.6	30.0	31.5	1.1
Iran	3.1	4.2	4.1	4.1	4.0	4.0	4.2	4.5	0.2
Iraq	2.1	1.9	2.0	2.0	2.2	3.4	3.8	4.0	3.1
Kuwait	1.2	2.7	2.7	2.6	2.9	3.0	3.1	3.3	0.9
Qatar	0.4	1.1	1.1	1.6	2.0	2.5	2.7	3.0	4.0
Saudi Arabia	7.0	11.0	10.6	10.5	11.9	12.6	13.1	13.7	0.9
United Arab Emirates	2.3	2.8	2.9	2.9	2.9	3.0	3.1	3.1	0.3
North Africa	2.7	3.8	3.9	4.7	5.0	5.1	5.4	5.8	1.7
Algeria	1.3	2.1	2.1	2.7	3.1	3.4	3.6	4.0	2.6
Libya	1.4	1.7	1.8	2.0	1.8	1.8	1.7	1.7	0.1
West Africa	2.3	3.9	3.9	5.1	5.7	5.9	6.2	6.7	2.2
Angola	0.5	1.3	1.4	2.5	2.7	2.8	2.9	3.1	3.7
Nigeria	1.8	2.6	2.4	2.6	3.0	3.1	3.3	3.5	1.2
South America	2.5	2.7	2.7	2.1	2.2	2.5	2.8	2.9	0.2
Ecuador	0.3	0.5	0.5	0.4	0.5	0.5	0.5	0.6	0.5
Venezuela	2.3	2.2	2.1	1.7	1.7	2.0	2.2	2.3	0.1
Non-OPEC	40.5	46.5	46.5	48.2	49.6	50.9	52.5	55.1	0.7
OECD	19.5	20.3	19.8	18.8	17.7	16.8	16.4	16.2	-0.9
OECD North America	14.3	13.7	13.6	13.6	13.2	12.6	12.3	12.1	-0.5
United States	9.6	7.9	7.8	8.7	8.9	8.9	8.6	8.2	0.1
Canada	1.7	2.0	2.1	1.9	1.6	1.3	1.2	1.1	-2.3
Mexico	3.0	3.8	3.7	3.0	2.7	2.4	2.5	2.8	-1.2
OECD Europe	4.5	5.9	5.5	4.5	3.8	3.4	3.3	3.3	-2.3
Denmark	0.1	0.4	0.3	0.3	0.2	0.2	0.1	0.1	-5.1
Norway	1.7	3.0	2.8	2.4	2.0	1.7	1.7	1.6	-2.4
United Kingdom	2.0	1.9	1.7	1.2	1.0	0.8	0.8	0.8	-3.1
Other	0.7	0.7	0.7	0.6	0.7	0.7	0.7	0.8	0.5
OECD Asia	0.8	0.7	0.7	0.7	0.8	0.8	0.8	0.9	0.6
Japan	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	1.4
South Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9
Australia and New Zealand	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.4

^aOPEC = Organization of the Petroleum Exporting Countries (OPEC-13).

Table G2. World Conventional Liquids Production by Region and Country, Reference Case, 1990-2030
(Continued)
(Million Barrels Oil Equivalent per Day)

Region/Country	History (Estimates)			Projections					Average Annual Percent Change, 2005-2030
	1990	2005	2006	2010	2015	2020	2025	2030	
Non-OECD	21.0	26.2	26.7	29.4	31.9	34.1	36.1	38.9	1.6
Non-OECD Europe and Eurasia	11.6	11.9	12.3	14.0	15.9	16.8	17.5	18.9	1.8
Russia	10.1	9.5	9.7	10.2	11.4	12.1	12.6	13.5	1.4
Caspian Area	1.1	2.1	2.3	3.5	4.2	4.5	4.7	5.1	3.6
Azerbaijan	0.3	0.4	0.6	1.3	1.3	1.2	1.1	1.0	3.5
Kazakhstan	0.6	1.3	1.4	1.9	2.6	2.9	3.1	3.6	4.0
Turkmenistan	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.4	2.5
Uzbekistan	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-1.2
Other	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.3	-1.0
Non-OECD Asia	4.4	6.5	6.6	6.6	6.8	7.1	7.1	7.0	0.3
China.....	2.8	3.8	3.8	3.7	3.7	3.8	3.7	3.8	0.0
India	0.7	0.8	0.9	1.0	1.0	1.1	1.2	1.1	1.1
Brunei	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.6
Malaysia	0.6	0.7	0.7	0.6	0.6	0.7	0.7	0.7	0.0
Thailand	0.1	0.3	0.3	0.4	0.4	0.4	0.4	0.4	1.4
Vietnam.....	0.1	0.4	0.4	0.5	0.5	0.5	0.5	0.5	1.1
Other.....	0.1	0.3	0.3	0.3	0.3	0.3	0.2	0.2	-0.5
Middle East (Non-OPEC)	1.3	1.7	1.6	1.5	1.5	1.5	1.6	1.6	-0.2
Oman	0.7	0.8	0.7	0.7	0.8	0.8	0.8	0.9	0.4
Syria	0.4	0.5	0.4	0.4	0.4	0.4	0.3	0.3	-1.5
Yemen.....	0.2	0.4	0.4	0.3	0.3	0.3	0.4	0.4	-0.1
Other.....	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0
Africa	1.6	2.4	2.4	2.8	2.9	3.3	3.6	4.0	2.0
Chad	0.0	0.2	0.2	0.2	0.2	0.2	0.3	0.4	2.8
Congo (Brazzaville).....	0.2	0.2	0.2	0.2	0.3	0.4	0.5	0.6	3.7
Egypt.....	0.9	0.7	0.7	0.6	0.6	0.7	0.8	0.8	0.4
Equatorial Guinea	0.0	0.4	0.4	0.5	0.4	0.4	0.5	0.4	0.5
Gabon	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.0
Sao Tome and Principe.....	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	—
Sudan	0.0	0.4	0.4	0.7	0.7	0.7	0.8	0.9	4.0
Other.....	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.6	2.7
Central and South America	2.0	3.6	3.7	4.6	4.8	5.4	6.3	7.3	2.9
Brazil	0.7	1.8	1.9	2.9	3.2	3.7	4.3	5.0	4.2
Argentina.....	0.5	0.8	0.8	0.7	0.5	0.4	0.4	0.4	-2.7
Colombia.....	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	-2.4
Peru.....	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.4	4.8
Trinidad and Tobago.....	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	-0.7
Other.....	0.1	0.2	0.2	0.2	0.4	0.5	0.8	1.2	7.1
Total World	65.7	81.9	81.6	84.8	89.4	93.9	97.8	102.9	0.9
OPEC Share of World Production.....	38%	43%	43%	43%	44%	46%	46%	46%	
Persian Gulf Share of World Production ..	25%	29%	29%	28%	29%	30%	31%	31%	

Note: Conventional liquids include crude oil and lease condensates, natural gas plant liquids, and refinery gains.

Sources: **History:** Energy Information Administration (EIA), Office of Energy Markets and End Use. **Projections:** EIA, Generate World Oil Balance Model (2008).

Appendix G

Table G3. World Unconventional Liquids Production by Region and Country, Reference Case, 1990-2030
 (Million Barrels Oil Equivalent per Day)

Region/Country	History (Estimates)			Projections					Average Annual Percent Change, 2005-2030
	1990	2005	2006	2010	2015	2020	2025	2030	
OPEC^a	0.0	0.8	0.7	0.9	1.2	1.3	1.5	1.6	3.1
Biofuels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Ultra-Heavy Oil (Venezuela)	0.0	0.6	0.6	0.9	0.9	1.0	1.1	1.3	3.0
Coal-to-Liquids	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Gas-to-Liquids (primarily Qatar)	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.3	—
Non-OPEC	0.6	1.7	1.9	3.6	5.1	6.1	7.3	8.1	6.4
OECD	0.5	1.5	1.6	2.7	3.9	4.7	5.5	6.1	5.9
Biofuels	0.0	0.2	0.3	0.6	0.8	1.0	1.3	1.4	7.7
Oil Sands/Bitumen (Canada)	0.4	1.1	1.2	1.9	2.8	3.3	3.8	4.2	5.5
Ultra-Heavy Oil (Mexico)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	—
Coal-to-Liquids	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.3	25.0
Gas-to-Liquids	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Shale Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Non-OECD	0.1	0.2	0.3	0.9	1.2	1.4	1.7	2.0	8.7
Biofuels	0.1	0.3	0.4	0.6	0.8	1.0	1.1	1.3	5.7
Ultra-Heavy Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Coal-to-Liquids	0.1	0.1	0.1	0.2	0.2	0.3	0.5	0.7	6.7
Gas-to-Liquids	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	—
Shale Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7
World									
Biofuels	0.2	0.5	0.6	1.3	1.7	2.1	2.5	2.7	6.7
Oil Sands/Bitumen	0.4	1.1	1.2	1.9	2.8	3.3	3.8	4.2	5.5
Ultra-Heavy Oil	0.0	0.6	0.6	0.9	1.0	1.1	1.2	1.3	3.2
Coal-to-Liquids	0.1	0.1	0.1	0.2	0.3	0.5	0.7	1.0	8.2
Gas-to-Liquids	0.0	0.0	0.0	0.1	0.2	0.3	0.3	0.3	—
Shale Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7
World Total	0.6	2.5	2.6	4.5	6.2	7.4	8.7	9.7	5.6
Selected Country Highlights									
Biofuels									
Brazil	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.7	5.4
China	0.0	0.1	0.1	0.2	0.2	0.2	0.1	0.1	2.6
India	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	3.6
United States	0.0	0.2	0.2	0.5	0.7	0.9	1.2	1.2	8.1
Coal-to-Liquids									
Australia and New Zealand	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
China	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	—
Germany	0.0	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	0.1	0.1	—
South Africa	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	3.9
United States	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	—
Gas-to-Liquids									
Qatar	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	—
South Africa	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	—

^aOPEC = Organization of the Petroleum Exporting Countries (OPEC-13).

Sources: **History:** Energy Information Administration (EIA), Office of Energy Markets and End Use. **Projections:** EIA, Generate World Oil Balance Model (2008).

Table G4. World Total Liquids Production by Region and Country, High Price Case, 1990-2030
 (Million Barrels Oil Equivalent per Day)

Region/Country	History (Estimates)			Projections					Average Annual Percent Change, 2005-2030
	1990	2005	2006	2010	2015	2020	2025	2030	
OPEC^a	25.2	36.1	35.8	37.3	35.4	35.0	34.9	35.5	-0.1
Asia (Indonesia)	1.5	1.1	1.1	0.9	0.8	0.7	0.7	0.7	-1.8
Middle East	16.1	23.8	23.6	23.7	22.4	22.3	22.0	22.1	-0.3
Iran	3.1	4.2	4.1	4.1	3.4	3.0	2.9	2.9	-1.5
Iraq	2.1	1.9	2.0	2.0	1.8	2.5	2.6	2.6	1.3
Kuwait	1.2	2.7	2.7	2.6	2.5	2.3	2.2	2.2	-0.7
Qatar	0.4	1.1	1.1	1.6	2.0	2.4	2.6	2.8	3.7
Saudi Arabia	7.0	11.1	10.7	10.5	10.2	9.7	9.4	9.4	-0.7
United Arab Emirates	2.3	2.8	2.9	2.9	2.5	2.4	2.3	2.2	-1.0
North Africa	2.7	3.8	3.9	4.7	4.3	4.0	3.9	4.1	0.2
Algeria	1.3	2.1	2.1	2.7	2.7	2.6	2.7	2.8	1.2
Libya	1.4	1.7	1.8	2.0	1.6	1.3	1.2	1.2	-1.4
West Africa	2.3	3.9	3.9	5.0	4.8	4.5	4.4	4.5	0.5
Angola	0.5	1.3	1.4	2.4	2.2	2.1	2.0	2.0	1.9
Nigeria	1.8	2.6	2.4	2.6	2.6	2.4	2.4	2.4	-0.3
South America	2.5	3.4	3.3	3.0	3.0	3.5	3.9	4.1	0.8
Ecuador	0.3	0.5	0.5	0.4	0.4	0.4	0.4	0.4	-1.3
Venezuela	2.3	2.9	2.8	2.5	2.6	3.1	3.5	3.8	1.1
Non-OPEC	41.1	48.2	48.4	51.4	54.3	56.7	60.3	63.7	1.1
OECD	20.0	21.8	21.4	21.5	22.4	23.8	25.7	27.6	1.0
OECD North America	14.7	15.1	15.2	16.2	17.9	19.9	21.8	23.8	1.8
United States	9.7	8.2	8.2	9.2	9.7	10.3	10.9	11.5	1.3
Canada	2.0	3.1	3.3	3.9	5.6	7.3	8.6	9.8	4.7
Mexico	3.0	3.8	3.7	3.1	2.6	2.3	2.4	2.5	-1.6
OECD Europe	4.5	5.9	5.5	4.5	3.8	3.2	3.1	3.0	-2.7
OECD Asia	0.8	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.4
Japan	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5
South Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	8.4
Australia and New Zealand	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	-0.1
Non-OECD	21.1	26.5	26.9	29.9	31.9	32.9	34.7	36.1	1.3
Non-OECD Europe and Eurasia	11.6	11.9	12.3	14.2	15.1	14.9	15.2	15.5	1.0
Russia	10.1	9.5	9.7	10.4	10.8	10.7	10.9	11.0	0.6
Caspian Area	1.1	2.1	2.3	3.5	4.0	4.0	4.1	4.2	2.8
Other	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	-1.4
Non-OECD Asia	4.4	6.5	6.5	6.4	6.9	7.0	7.2	7.2	0.4
China	2.8	3.7	3.8	3.6	3.8	3.7	3.8	3.8	0.1
India	0.7	0.8	0.8	1.0	1.1	1.2	1.4	1.3	2.0
Other	1.0	1.9	1.9	1.9	2.0	2.0	2.0	2.1	0.3
Middle East (Non-OPEC)	1.3	1.7	1.6	1.5	1.5	1.4	1.4	1.4	-0.9
Africa	1.7	2.6	2.6	2.9	3.3	3.7	4.0	4.3	2.1
Central and South America	2.1	3.8	3.9	5.0	5.2	5.9	6.9	7.8	2.9
Brazil	0.8	1.9	2.1	3.2	3.6	4.3	5.0	5.5	4.2
Other	1.3	1.8	1.9	1.7	1.6	1.6	1.9	2.3	0.8
Total World	66.3	84.3	84.2	88.7	89.7	91.7	95.2	99.3	0.7
OPEC Share of World Production	38%	43%	43%	42%	39%	38%	37%	36%	
Persian Gulf Share of World Production	24%	28%	28%	27%	25%	24%	23%	22%	

^aOPEC = Organization of the Petroleum Exporting Countries (OPEC-13).

Sources: **History:** Energy Information Administration (EIA), Office of Energy Markets and End Use. **Projections:** EIA, Generate World Oil Balance Model (2008).

Appendix G

Table G5. World Conventional Liquids Production by Region and Country, High Price Case, 1990-2030
 (Million Barrels Oil Equivalent per Day)

Region/Country	History (Estimates)			Projections					Average Annual Percent Change, 2005-2030
	1990	2005	2006	2010	2015	2020	2025	2030	
OPEC^a	25.2	35.3	35.1	36.3	34.0	33.0	32.5	32.8	-0.3
Asia (Indonesia)	1.5	1.1	1.1	0.9	0.8	0.7	0.7	0.6	-2.3
Middle East	16.1	23.8	23.5	23.6	22.3	22.0	21.6	21.7	-0.4
Iran	3.1	4.2	4.1	4.1	3.4	3.0	2.9	2.9	-1.5
Iraq	2.1	1.9	2.0	2.0	1.8	2.5	2.6	2.6	1.3
Kuwait	1.2	2.7	2.7	2.6	2.5	2.3	2.2	2.2	-0.7
Qatar	0.4	1.1	1.1	1.6	1.8	2.1	2.2	2.4	3.1
Saudi Arabia	7.0	11.0	10.6	10.4	10.2	9.7	9.4	9.4	-0.6
United Arab Emirates	2.3	2.8	2.9	2.9	2.5	2.4	2.3	2.2	-1.0
North Africa	2.7	3.8	3.9	4.7	4.3	4.0	3.9	4.1	0.2
Algeria	1.3	2.1	2.1	2.7	2.7	2.6	2.7	2.8	1.2
Libya	1.4	1.7	1.8	2.0	1.6	1.3	1.2	1.2	-1.4
West Africa	2.3	3.9	3.9	5.0	4.8	4.4	4.3	4.4	0.5
Angola	0.5	1.3	1.4	2.4	2.2	2.1	2.0	2.0	1.9
Nigeria	1.8	2.6	2.4	2.6	2.6	2.4	2.3	2.4	-0.4
South America	2.5	2.7	2.7	2.1	1.9	1.9	2.0	2.0	-1.3
Ecuador	0.3	0.5	0.5	0.4	0.4	0.4	0.4	0.4	-1.3
Venezuela	2.3	2.2	2.1	1.7	1.5	1.6	1.6	1.6	-1.2
Non-OPEC	40.5	46.5	46.5	48.5	47.3	46.3	47.1	47.5	0.1
OECD	19.5	20.3	19.8	18.7	17.0	16.0	15.9	15.6	-1.1
OECD North America	14.3	13.7	13.6	13.5	12.7	12.3	12.3	12.1	-0.5
United States	9.6	7.9	7.8	8.5	8.6	8.9	8.9	8.6	0.4
Canada	1.7	2.0	2.1	1.9	1.5	1.2	1.1	1.0	-2.7
Mexico	3.0	3.8	3.7	3.1	2.6	2.2	2.3	2.4	-1.8
OECD Europe	4.5	5.9	5.5	4.5	3.6	3.0	2.9	2.8	-3.0
Denmark	0.1	0.4	0.3	0.3	0.2	0.1	0.1	0.1	-5.9
Norway	1.7	3.0	2.8	2.4	1.9	1.6	1.5	1.4	-3.0
United Kingdom	2.0	1.9	1.7	1.2	1.0	0.7	0.7	0.7	-3.8
Other	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	-0.5
OECD Asia	0.8	0.7	0.7	0.8	0.7	0.7	0.7	0.7	0.0
Japan	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5
South Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
Australia and New Zealand	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	-0.1

^aOPEC = Organization of the Petroleum Exporting Countries (OPEC-13).

**Table G5. World Conventional Liquids Production by Region and Country, High Price Case, 1990-2030
(Continued)**
(Million Barrels Oil Equivalent per Day)

Region/Country	History (Estimates)			Projections					Average Annual Percent Change, 2005-2030
	1990	2005	2006	2010	2015	2020	2025	2030	
Non-OECD	21.0	26.2	26.7	29.8	30.2	30.3	31.2	31.9	0.8
Non-OECD Europe and Eurasia	11.6	11.9	12.3	14.2	15.0	14.9	15.2	15.5	1.0
Russia	10.1	9.5	9.7	10.4	10.8	10.7	10.9	11.0	0.6
Caspian Area	1.1	2.1	2.3	3.5	4.0	4.0	4.1	4.2	2.8
Azerbaijan	0.3	0.4	0.6	1.3	1.2	1.1	0.9	0.8	2.6
Kazakhstan	0.6	1.3	1.4	1.9	2.5	2.6	2.7	3.0	3.2
Turkmenistan	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	1.7
Uzbekistan	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-1.7
Other	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	-1.7
Non-OECD Asia	4.4	6.5	6.6	6.7	6.5	6.3	6.2	5.8	-0.5
China.....	2.8	3.8	3.8	3.7	3.5	3.3	3.2	3.0	-0.9
India	0.7	0.8	0.9	1.0	1.0	1.0	1.1	0.9	0.5
Brunei	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-0.2
Malaysia	0.6	0.7	0.7	0.6	0.6	0.7	0.6	0.6	-0.6
Thailand	0.1	0.3	0.3	0.4	0.4	0.4	0.4	0.4	1.0
Vietnam.....	0.1	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.5
Other.....	0.1	0.3	0.3	0.3	0.3	0.2	0.2	0.2	-1.4
Middle East (Non-OPEC)	1.3	1.7	1.6	1.5	1.5	1.4	1.4	1.4	-0.9
Oman	0.7	0.8	0.7	0.7	0.8	0.7	0.7	0.7	-0.4
Syria	0.4	0.5	0.4	0.4	0.4	0.3	0.3	0.3	-2.0
Yemen.....	0.2	0.4	0.4	0.3	0.3	0.3	0.3	0.3	-0.9
Other.....	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	-0.7
Africa	1.6	2.4	2.4	2.8	2.8	2.9	3.1	3.3	1.2
Chad	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.3	1.9
Congo (Brazzaville).....	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.5	2.8
Egypt.....	0.9	0.7	0.7	0.6	0.6	0.7	0.7	0.6	-0.3
Equatorial Guinea	0.0	0.4	0.4	0.5	0.4	0.4	0.4	0.4	-0.2
Gabon	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	-0.9
Sao Tome and Principe.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	—
Sudan	0.0	0.4	0.4	0.7	0.6	0.6	0.7	0.7	3.0
Other.....	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	1.8
Central and South America	2.0	3.6	3.7	4.7	4.5	4.8	5.4	6.0	2.1
Brazil	0.7	1.8	1.9	2.9	3.0	3.3	3.7	4.0	3.4
Argentina.....	0.5	0.8	0.8	0.7	0.5	0.4	0.4	0.3	-3.3
Colombia.....	0.5	0.5	0.5	0.5	0.3	0.3	0.3	0.2	-3.2
Peru.....	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	4.1
Trinidad and Tobago.....	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	-1.0
Other.....	0.1	0.2	0.2	0.2	0.3	0.5	0.7	0.9	6.2
Total World	65.7	81.9	81.6	84.9	81.3	79.4	79.7	80.3	-0.1
OPEC Share of World Production.....	38%	43%	43%	43%	42%	42%	41%	41%	
Persian Gulf Share of World Production ..	25%	29%	29%	28%	27%	28%	27%	27%	

Note: Conventional liquids include crude oil and lease condensates, natural gas plant liquids, and refinery gains.

Sources: **History:** Energy Information Administration (EIA), Office of Energy Markets and End Use. **Projections:** EIA, Generate World Oil Balance Model (2008).

Appendix G

Table G6. World Unconventional Liquids Production by Region and Country, High Price Case, 1990-2030
 (Million Barrels per Day)

Region/Country	History (Estimates)			Projections					Average Annual Percent Change, 2005-2030
	1990	2005	2006	2010	2015	2020	2025	2030	
OPEC^a	0.0	0.8	0.7	1.0	1.4	2.0	2.4	2.7	5.2
Biofuels	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	—
Ultra-Heavy Oil (Venezuela)	0.0	0.6	0.6	0.9	1.1	1.5	1.8	2.1	5.2
Coal-to-Liquids	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Gas-to-Liquids (primarily Qatar)	0.0	0.0	0.0	0.0	0.2	0.4	0.4	0.5	—
Non-OPEC	0.6	1.7	1.9	2.9	7.0	10.4	13.2	16.3	9.4
OECD	0.5	1.5	1.6	2.7	5.3	7.8	9.8	12.0	8.8
Biofuels	0.0	0.2	0.3	0.6	0.9	1.1	1.4	1.5	8.0
Oil Sands/Bitumen (Canada)	0.4	1.1	1.2	2.0	4.1	6.1	7.5	8.7	8.7
Ultra-Heavy Oil (Mexico)	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	—
Coal-to-Liquids	0.0	0.0	0.0	0.0	0.1	0.2	0.4	1.2	32.9
Gas-to-Liquids	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	—
Shale Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	—
Non-OECD	0.1	0.2	0.2	0.2	1.7	2.6	3.4	4.2	12.0
Biofuels	0.1	0.3	0.4	0.7	1.2	1.8	2.3	2.7	8.9
Ultra-Heavy Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Coal-to-Liquids	0.1	0.1	0.1	0.2	0.4	0.6	1.0	1.4	9.9
Gas-to-Liquids	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	—
Shale Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7
World									
Biofuels	0.2	0.5	0.6	1.3	2.1	3.0	3.7	4.2	8.6
Oil Sands/Bitumen	0.4	1.1	1.2	2.0	4.1	6.1	7.5	8.7	8.7
Ultra-Heavy Oil	0.0	0.6	0.6	0.9	1.2	1.6	1.9	2.3	5.4
Coal-to-Liquids	0.1	0.1	0.1	0.2	0.4	0.8	1.5	2.7	12.8
Gas-to-Liquids	0.0	0.0	0.0	0.1	0.4	0.6	0.7	0.7	—
Shale Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	13.6
World Total	0.6	2.5	2.6	3.8	8.4	12.3	15.6	19.0	8.5
Selected Country Highlights									
Biofuels									
Brazil	0.1	0.2	0.2	0.3	0.6	1.0	1.3	1.5	8.5
China	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.3	5.7
India	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	6.7
United States	0.0	0.2	0.2	0.5	0.7	0.9	1.1	1.2	7.9
Coal-to-Liquids									
Australia and New Zealand	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
China	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.5	—
Germany	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
India	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	—
South Africa	0.1	0.1	0.1	0.2	0.3	0.5	0.6	0.7	7.0
United States	0.0	0.0	0.0	0.0	0.0	0.2	0.4	1.2	—
Gas-to-Liquids									
Qatar	0.0	0.0	0.0	0.0	0.2	0.3	0.4	0.4	—
South Africa	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	—

^aOPEC = Organization of the Petroleum Exporting Countries (OPEC-13).

Sources: **History:** Energy Information Administration (EIA), Office of Energy Markets and End Use. **Projections:** EIA, Generate World Oil Balance Model (2008).

Table G7. World Total Liquids Production by Region and Country, Low Price Case, 1990-2030
 (Million Barrels Oil Equivalent per Day)

Region/Country	History (Estimates)			Projections					Average Annual Percent Change, 2005-2030
	1990	2005	2006	2010	2015	2020	2025	2030	
OPEC^a	25.2	36.1	35.8	38.4	45.3	51.5	55.8	60.0	2.1
Asia (Indonesia)	1.5	1.1	1.1	1.0	1.0	1.1	1.1	1.2	0.0
Middle East	16.1	23.8	23.6	24.4	29.1	33.7	36.4	39.0	2.0
Iran	3.1	4.2	4.1	4.2	4.4	4.7	5.1	5.5	1.0
Iraq	2.1	1.9	2.0	2.1	2.4	4.0	4.5	5.0	4.0
Kuwait	1.2	2.7	2.7	2.7	3.3	3.5	3.7	4.1	1.7
Qatar	0.4	1.1	1.1	1.6	2.4	3.1	3.5	3.9	5.1
Saudi Arabia	7.0	11.1	10.7	10.8	13.3	14.8	15.8	16.8	1.7
United Arab Emirates	2.3	2.8	2.9	3.0	3.3	3.6	3.8	3.8	1.2
North Africa	2.7	3.8	3.9	4.8	5.5	6.0	6.5	7.1	2.5
Algeria	1.3	2.1	2.1	2.8	3.5	3.9	4.4	4.9	3.5
Libya	1.4	1.7	1.8	2.0	2.0	2.1	2.1	2.1	0.9
West Africa	2.3	3.9	3.9	5.2	6.3	6.9	7.5	8.2	3.0
Angola	0.5	1.3	1.4	2.5	2.9	3.3	3.5	3.9	4.6
Nigeria	1.8	2.6	2.4	2.6	3.4	3.6	4.0	4.3	2.0
South America	2.5	3.4	3.3	3.0	3.3	3.9	4.3	4.6	1.2
Ecuador	0.3	0.5	0.5	0.5	0.5	0.6	0.7	0.7	1.3
Venezuela	2.3	2.9	2.8	2.6	2.7	3.3	3.7	3.9	1.2
Non-OPEC	41.1	48.2	48.4	51.3	53.9	56.2	58.8	62.0	1.0
OECD	20.0	21.8	21.4	21.4	20.6	19.9	19.7	19.4	-0.5
OECD North America	14.7	15.1	15.2	16.1	15.8	15.5	15.2	14.8	-0.1
United States	9.7	8.2	8.2	9.4	10.1	10.2	9.8	9.2	0.5
Canada	2.0	3.1	3.3	3.6	2.9	2.7	2.6	2.6	-0.7
Mexico	3.0	3.8	3.7	3.1	2.8	2.5	2.7	3.0	-0.9
OECD Europe	4.5	5.9	5.5	4.5	4.0	3.6	3.6	3.7	-1.9
OECD Asia	0.8	0.7	0.7	0.8	0.8	0.8	0.9	1.0	1.0
Japan	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	1.9
South Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
Australia and New Zealand	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7
Non-OECD	21.1	26.5	26.9	29.9	33.3	36.2	39.1	42.6	1.9
Non-OECD Europe and Eurasia	11.6	11.9	12.3	14.2	16.3	17.5	18.7	20.3	2.2
Russia	10.1	9.5	9.7	10.4	11.7	12.6	13.5	14.6	1.7
Caspian Area	1.1	2.1	2.3	3.5	4.3	4.7	5.0	5.5	3.9
Other	0.4	0.3	0.3	0.3	0.3	0.2	0.3	0.3	-0.7
Non-OECD Asia	4.4	6.5	6.5	6.4	7.2	7.6	7.8	7.8	0.8
China	2.8	3.7	3.8	3.5	3.9	4.1	4.1	4.2	0.5
India	0.7	0.8	0.8	1.0	1.1	1.2	1.3	1.2	1.7
Other	1.0	1.9	1.9	1.9	2.1	2.3	2.3	2.4	0.9
Middle East (Non-OPEC)	1.3	1.7	1.6	1.5	1.6	1.6	1.7	1.8	0.1
Africa	1.7	2.6	2.6	2.9	3.2	3.6	4.0	4.5	2.3
Central and South America	2.1	3.8	3.9	4.9	5.1	5.9	6.9	8.2	3.1
Brazil	0.8	1.9	2.1	3.2	3.4	4.1	4.8	5.6	4.3
Other	1.3	1.8	1.9	1.7	1.7	1.8	2.1	2.6	1.4
Total World	66.3	84.3	84.2	89.7	99.2	107.7	114.6	122.0	1.5
OPEC Share of World Production	38%	43%	43%	43%	46%	48%	49%	49%	
Persian Gulf Share of World Production	24%	28%	28%	27%	29%	31%	32%	32%	

^aOPEC = Organization of the Petroleum Exporting Countries (OPEC-13).

Sources: **History:** Energy Information Administration (EIA), Office of Energy Markets and End Use. **Projections:** EIA, Generate World Oil Balance Model (2008).

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Table G8. World Conventional Liquids Production by Region and Country, Low Price Case, 1990-2030
 (Million Barrels Oil Equivalent per Day)

Region/Country	History (Estimates)			Projections					Average Annual Percent Change, 2005-2030
	1990	2005	2006	2010	2015	2020	2025	2030	
OPEC^a	25.2	35.3	35.1	37.4	44.3	50.3	54.5	58.6	2.0
Asia (Indonesia)	1.5	1.1	1.1	1.0	1.0	1.0	1.1	1.1	-0.1
Middle East	16.1	23.8	23.5	24.3	29.0	33.5	36.1	38.8	2.0
Iran	3.1	4.2	4.1	4.2	4.4	4.7	5.1	5.5	1.0
Iraq	2.1	1.9	2.0	2.1	2.4	4.0	4.5	5.0	4.0
Kuwait	1.2	2.7	2.7	2.7	3.3	3.5	3.7	4.1	1.7
Qatar	0.4	1.1	1.1	1.6	2.3	2.9	3.3	3.7	4.9
Saudi Arabia	7.0	11.0	10.6	10.7	13.3	14.8	15.8	16.8	1.7
United Arab Emirates	2.3	2.8	2.9	3.0	3.3	3.6	3.8	3.8	1.2
North Africa	2.7	3.8	3.9	4.8	5.5	6.0	6.5	7.1	2.5
Algeria	1.3	2.1	2.1	2.8	3.5	3.9	4.4	4.9	3.5
Libya	1.4	1.7	1.8	2.0	2.0	2.1	2.1	2.1	0.9
West Africa	2.3	3.9	3.9	5.2	6.3	6.9	7.5	8.2	3.0
Angola	0.5	1.3	1.4	2.5	2.9	3.3	3.5	3.9	4.6
Nigeria	1.8	2.6	2.4	2.7	3.4	3.6	3.9	4.3	2.0
South America	2.5	2.7	2.7	2.2	2.4	2.9	3.3	3.5	1.0
Ecuador	0.3	0.5	0.5	0.5	0.5	0.6	0.7	0.7	1.3
Venezuela	2.3	2.2	2.1	1.7	1.9	2.3	2.7	2.8	1.0
Non-OPEC	40.5	46.5	46.5	48.9	51.0	53.0	55.2	58.4	0.9
OECD	19.5	20.3	19.8	19.0	18.2	17.3	16.8	16.5	-0.8
OECD North America	14.3	13.7	13.6	13.7	13.5	12.9	12.3	11.9	-0.5
United States	9.6	7.9	7.8	8.7	9.1	9.1	8.4	7.7	-0.1
Canada	1.7	2.0	2.1	1.9	1.6	1.4	1.3	1.2	-2.0
Mexico	3.0	3.8	3.7	3.1	2.8	2.5	2.7	3.0	-0.9
OECD Europe	4.5	5.9	5.5	4.5	4.0	3.6	3.6	3.6	-1.9
Denmark	0.1	0.4	0.3	0.3	0.2	0.2	0.1	0.1	-4.8
Norway	1.7	3.0	2.8	2.4	2.0	1.8	1.8	1.7	-2.1
United Kingdom	2.0	1.9	1.7	1.2	1.0	0.9	0.9	0.9	-2.8
Other	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.9
OECD Asia	0.8	0.7	0.7	0.8	0.8	0.8	0.9	0.9	1.0
Japan	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	1.9
South Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4
Australia and New Zealand	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7

^aOPEC = Organization of the Petroleum Exporting Countries (OPEC-13).

**Table G8. World Conventional Liquids Production by Region and Country, Low Price Case, 1990-2030
(Continued)**
(Million Barrels Oil Equivalent per Day)

Region/Country	History (Estimates)			Projections					Average Annual Percent Change, 2005-2030
	1990	2005	2006	2010	2015	2020	2025	2030	
Non-OECD	21.0	26.2	26.7	29.9	32.7	35.6	38.5	41.9	1.9
Non-OECD Europe and Eurasia	11.6	11.9	12.3	14.2	16.3	17.5	18.7	20.3	2.2
Russia	10.1	9.5	9.7	10.4	11.7	12.6	13.5	14.6	1.7
Caspian Area	1.1	2.1	2.3	3.5	4.3	4.7	5.0	5.5	3.9
Azerbaijan	0.3	0.4	0.6	1.3	1.3	1.2	1.2	1.1	3.8
Kazakhstan	0.6	1.3	1.4	1.9	2.7	3.0	3.3	3.9	4.3
Turkmenistan	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.4	2.8
Uzbekistan	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-1.0
Other	0.4	0.3	0.3	0.3	0.2	0.2	0.3	0.3	-0.6
Non-OECD Asia	4.4	6.5	6.6	6.7	7.0	7.4	7.6	7.6	0.6
China.....	2.8	3.8	3.8	3.7	3.8	4.0	4.0	4.1	0.3
India	0.7	0.8	0.9	1.0	1.0	1.2	1.3	1.2	1.4
Brunei	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.9
Malaysia	0.6	0.7	0.7	0.6	0.7	0.8	0.8	0.8	0.3
Thailand	0.1	0.3	0.3	0.4	0.4	0.4	0.4	0.5	1.7
Vietnam.....	0.1	0.4	0.4	0.5	0.5	0.5	0.5	0.6	1.4
Other.....	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	-0.2
Middle East (Non-OPEC)	1.3	1.7	1.6	1.5	1.6	1.6	1.7	1.8	0.1
Oman	0.7	0.8	0.7	0.7	0.8	0.8	0.9	0.9	0.7
Syria	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	-1.2
Yemen.....	0.2	0.4	0.4	0.3	0.3	0.4	0.4	0.4	0.2
Other.....	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3
Africa	1.6	2.4	2.4	2.8	3.0	3.5	3.9	4.3	2.3
Chad	0.0	0.2	0.2	0.2	0.2	0.3	0.3	0.4	3.1
Congo (Brazzaville).....	0.2	0.2	0.2	0.2	0.3	0.4	0.5	0.6	4.0
Egypt.....	0.9	0.7	0.7	0.6	0.6	0.8	0.8	0.8	0.7
Equatorial Guinea	0.0	0.4	0.4	0.5	0.4	0.4	0.5	0.5	0.8
Gabon	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3
Sao Tome and Principe.....	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	—
Sudan	0.0	0.4	0.4	0.7	0.7	0.7	0.8	1.0	4.3
Other.....	0.3	0.3	0.4	0.4	0.4	0.5	0.6	0.6	3.0
Central and South America	2.0	3.6	3.7	4.7	4.9	5.6	6.7	7.9	3.2
Brazil	0.7	1.8	1.9	2.9	3.3	3.9	4.6	5.4	4.6
Argentina.....	0.5	0.8	0.8	0.7	0.5	0.5	0.4	0.4	-2.4
Colombia.....	0.5	0.5	0.5	0.5	0.4	0.3	0.3	0.3	-2.1
Peru.....	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.4	5.1
Trinidad and Tobago.....	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-0.4
Other.....	0.1	0.2	0.2	0.2	0.4	0.5	0.8	1.2	7.5
Total World	65.7	81.9	81.6	86.3	95.2	103.3	109.8	117.1	1.4
OPEC Share of World Production.....	38%	43%	43%	43%	46%	49%	50%	50%	
Persian Gulf Share of World Production ..	25%	29%	29%	28%	30%	32%	33%	33%	

Note: Conventional liquids include crude oil and lease condensates, natural gas plant liquids, and refinery gains.

Sources: **History:** Energy Information Administration (EIA), Office of Energy Markets and End Use. **Projections:** EIA, Generate World Oil Balance Model (2008).

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Table G9. World Unconventional Liquids Production by Region and Country, Low Price Case, 1990-2030
 (Million Barrels Oil Equivalent per Day)

Region/Country	History (Estimates)			Projections					Average Annual Percent Change, 2005-2030
	1990	2005	2006	2010	2015	2020	2025	2030	
OPEC^a	0.0	0.8	0.7	1.0	1.1	1.2	1.3	1.4	2.4
Biofuels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Ultra-Heavy Oil (Venezuela)	0.0	0.6	0.6	0.8	0.9	0.9	1.0	1.1	2.4
Coal-to-Liquids	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Gas-to-Liquids (primarily Qatar)	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	—
Non-OPEC	0.6	1.7	1.9	2.4	2.9	3.2	3.5	3.6	3.0
OECD	0.5	1.5	1.6	2.4	2.4	2.6	2.9	2.9	2.9
Biofuels	0.0	0.2	0.3	0.6	0.8	1.0	1.3	1.3	7.4
Oil Sands/Bitumen (Canada)	0.4	1.1	1.2	1.7	1.3	1.4	1.3	1.4	1.0
Ultra-Heavy Oil (Mexico)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Coal-to-Liquids	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.7
Gas-to-Liquids	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Shale Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Non-OECD	0.1	0.2	0.2	0.0	0.5	0.6	0.6	0.7	4.0
Biofuels	0.1	0.3	0.4	0.6	0.4	0.4	0.4	0.4	1.1
Ultra-Heavy Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Coal-to-Liquids	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	2.1
Gas-to-Liquids	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	—
Shale Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.7
World									
Biofuels	0.2	0.5	0.6	1.2	1.2	1.4	1.7	1.7	4.8
Oil Sands/Bitumen	0.4	1.1	1.2	1.7	1.3	1.4	1.3	1.4	1.0
Ultra-Heavy Oil	0.0	0.6	0.6	0.9	0.9	0.9	1.0	1.1	2.5
Coal-to-Liquids	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	3.2
Gas-to-Liquids	0.0	0.0	0.0	0.1	0.2	0.2	0.3	0.3	—
Shale Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.7
World Total	0.6	2.5	2.6	3.4	4.0	4.3	4.8	5.0	2.9
Selected Country Highlights									
Biofuels									
Brazil	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.8
China	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	-1.8
India	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	-0.9
United States	0.0	0.2	0.2	0.5	0.7	0.9	1.2	1.2	8.1
Coal-to-Liquids									
Australia and New Zealand	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
China	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	—
Germany	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.3
India	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
South Africa	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-0.6
United States	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Gas-to-Liquids									
Qatar	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	—
South Africa	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	—

^aOPEC = Organization of the Petroleum Exporting Countries (OPEC-13).

Sources: **History:** Energy Information Administration (EIA), Office of Energy Markets and End Use. **Projections:** EIA, Generate World Oil Balance Model (2008).

Table G10. World Total Liquids Production by Region and Country, High Economic Growth Case, 1990-2030
 (Million Barrels Oil Equivalent per Day)

Region/Country	History (Estimates)			Projections					Average Annual Percent Change, 2005-2030
	1990	2005	2006	2010	2015	2020	2025	2030	
OPEC^a	25.2	36.1	35.8	38.2	42.2	46.8	50.8	55.0	1.7
Asia (Indonesia)	1.5	1.1	1.1	1.0	1.0	1.0	1.1	1.1	-0.3
Middle East	16.1	23.8	23.6	24.2	26.8	30.1	32.5	35.0	1.5
Iran	3.1	4.2	4.1	4.2	4.0	4.2	4.5	4.9	0.6
Iraq	2.1	1.9	2.0	2.1	2.2	3.5	4.0	4.4	3.5
Kuwait	1.2	2.7	2.7	2.7	3.0	3.1	3.3	3.6	1.2
Qatar	0.4	1.1	1.1	1.6	2.3	2.9	3.3	3.7	4.9
Saudi Arabia	7.0	11.1	10.7	10.8	12.3	13.3	14.0	15.0	1.2
United Arab Emirates	2.3	2.8	2.9	3.0	3.0	3.2	3.3	3.4	0.7
North Africa	2.7	3.8	3.9	4.8	5.1	5.3	5.7	6.3	2.0
Algeria	1.3	2.1	2.1	2.8	3.2	3.5	3.9	4.4	3.0
Libya	1.4	1.7	1.8	2.0	1.9	1.8	1.8	1.9	0.4
West Africa	2.3	3.9	3.9	5.1	5.8	6.2	6.7	7.4	2.6
Angola	0.5	1.3	1.4	2.5	2.7	2.9	3.1	3.4	4.1
Nigeria	1.8	2.6	2.4	2.6	3.1	3.3	3.5	3.9	1.6
South America	2.5	3.4	3.3	3.1	3.5	4.2	4.9	5.3	1.8
Ecuador	0.3	0.5	0.5	0.5	0.5	0.5	0.6	0.7	0.8
Venezuela	2.3	2.9	2.8	2.6	3.0	3.7	4.3	4.6	1.9
Non-OPEC	41.1	48.2	48.4	51.9	57.0	60.6	64.8	70.0	1.5
OECD	20.0	21.8	21.4	21.7	22.5	22.4	22.8	23.2	0.2
OECD North America	14.7	15.1	15.2	16.4	17.5	17.8	18.0	18.2	0.7
United States	9.7	8.2	8.2	9.4	10.1	10.2	9.8	9.2	0.5
Canada	2.0	3.1	3.3	3.9	4.6	4.9	5.3	5.7	2.5
Mexico	3.0	3.8	3.7	3.1	2.8	2.6	2.9	3.3	-0.6
OECD Europe	4.5	5.9	5.5	4.6	4.1	3.8	3.8	3.9	-1.6
OECD Asia	0.8	0.7	0.7	0.8	0.8	0.9	1.0	1.0	1.3
Japan	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	1.8
South Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	6.2
Australia and New Zealand	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.8	1.0
Non-OECD	21.1	26.5	26.9	30.2	34.5	38.2	42.0	46.8	2.3
Non-OECD Europe and Eurasia	11.6	11.9	12.3	14.3	16.6	18.1	19.5	21.7	2.4
Russia	10.1	9.5	9.7	10.5	11.9	13.0	14.1	15.6	2.0
Caspian Area	1.1	2.1	2.3	3.5	4.4	4.8	5.2	5.9	4.2
Other	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	-0.4
Non-OECD Asia	4.4	6.5	6.5	6.5	7.5	8.0	8.5	8.8	1.2
China	2.8	3.7	3.8	3.6	4.1	4.3	4.5	4.7	0.9
India	0.7	0.8	0.8	1.0	1.2	1.3	1.5	1.5	2.3
Other	1.0	1.9	1.9	1.9	2.2	2.4	2.5	2.6	1.3
Middle East (Non-OPEC)	1.3	1.7	1.6	1.5	1.6	1.7	1.8	1.9	0.4
Africa	1.7	2.6	2.6	2.9	3.4	4.0	4.5	5.1	2.8
Central and South America	2.1	3.8	3.9	5.0	5.5	6.5	7.8	9.3	3.7
Brazil	0.8	1.9	2.1	3.3	3.7	4.6	5.5	6.5	4.9
Other	1.3	1.8	1.9	1.7	1.7	1.9	2.3	2.9	1.8
Total World	66.3	84.3	84.2	90.1	99.2	107.4	115.6	125.0	1.6
OPEC Share of World Production	38%	43%	43%	42%	43%	44%	44%	44%	
Persian Gulf Share of World Production	24%	28%	28%	27%	27%	28%	28%	28%	

^aOPEC = Organization of the Petroleum Exporting Countries (OPEC-13).

Sources: **History:** Energy Information Administration (EIA), Office of Energy Markets and End Use. **Projections:** EIA, Generate World Oil Balance Model (2008).

Appendix G

Table G11. World Conventional Liquids Production by Region and Country, High Economic Growth Case, 1990-2030
 (Million Barrels Oil Equivalent per Day)

Region/Country	History (Estimates)			Projections					Average Annual Percent Change, 2005-2030
	1990	2005	2006	2010	2015	2020	2025	2030	
OPEC^a	25.2	35.3	35.1	37.2	40.6	44.8	48.3	52.3	1.6
Asia (Indonesia)	1.5	1.1	1.1	1.0	0.9	0.9	1.0	1.0	-0.6
Middle East	16.1	23.8	23.5	24.1	26.6	29.8	32.1	34.6	1.5
Iran	3.1	4.2	4.1	4.2	4.0	4.2	4.5	4.9	0.6
Iraq	2.1	1.9	2.0	2.1	2.2	3.5	4.0	4.4	3.5
Kuwait	1.2	2.7	2.7	2.7	3.0	3.1	3.3	3.6	1.2
Qatar	0.4	1.1	1.1	1.6	2.1	2.6	2.9	3.3	4.4
Saudi Arabia	7.0	11.0	10.6	10.7	12.3	13.3	14.0	15.0	1.2
United Arab Emirates	2.3	2.8	2.9	3.0	3.0	3.2	3.3	3.4	0.7
North Africa	2.7	3.8	3.9	4.8	5.1	5.3	5.7	6.3	2.0
Algeria	1.3	2.1	2.1	2.8	3.2	3.5	3.9	4.4	3.0
Libya	1.4	1.7	1.8	2.0	1.9	1.8	1.8	1.9	0.4
West Africa	2.3	3.9	3.9	5.2	5.8	6.1	6.6	7.3	2.5
Angola	0.5	1.3	1.4	2.5	2.7	2.9	3.1	3.4	4.1
Nigeria	1.8	2.6	2.4	2.6	3.1	3.2	3.5	3.8	1.5
South America	2.5	2.7	2.7	2.2	2.2	2.6	3.0	3.1	0.6
Ecuador	0.3	0.5	0.5	0.5	0.5	0.5	0.6	0.7	0.8
Venezuela	2.3	2.2	2.1	1.7	1.7	2.1	2.4	2.5	0.5
Non-OPEC	40.5	46.5	46.5	49.1	51.8	54.3	57.3	61.7	1.1
OECD	19.5	20.3	19.8	19.1	18.4	17.6	17.1	17.0	-0.7
OECD North America	14.3	13.7	13.6	13.7	13.6	13.1	12.5	12.2	-0.5
United States	9.6	7.9	7.8	8.7	9.1	9.1	8.4	7.7	-0.1
Canada	1.7	2.0	2.1	1.9	1.7	1.4	1.3	1.3	-1.8
Mexico	3.0	3.8	3.7	3.1	2.8	2.6	2.8	3.2	-0.7
OECD Europe	4.5	5.9	5.5	4.5	4.0	3.7	3.7	3.8	-1.7
Denmark	0.1	0.4	0.3	0.3	0.2	0.2	0.1	0.1	-4.6
Norway	1.7	3.0	2.8	2.4	2.1	1.9	1.9	1.9	-1.9
United Kingdom	2.0	1.9	1.7	1.2	1.1	0.9	0.9	1.0	-2.6
Other	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.9	0.9
OECD Asia	0.8	0.7	0.7	0.8	0.8	0.9	0.9	1.0	1.1
Japan	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	1.8
South Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3
Australia and New Zealand	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.8	1.0

^aOPEC = Organization of the Petroleum Exporting Countries (OPEC-13).

Table G11. World Conventional Liquids Production by Region and Country, High Economic Growth Case, 1990-2030 (Continued)
 (Million Barrels Oil Equivalent per Day)

Region/Country	History (Estimates)			Projections					Average Annual Percent Change, 2005-2030
	1990	2005	2006	2010	2015	2020	2025	2030	
Non-OECD	21.0	26.2	26.7	30.1	33.3	36.7	40.2	44.7	2.2
Non-OECD Europe and Eurasia	11.6	11.9	12.3	14.3	16.6	18.1	19.5	21.7	2.4
Russia	10.1	9.5	9.7	10.5	11.9	13.0	14.1	15.6	2.0
Caspian Area	1.1	2.1	2.3	3.5	4.4	4.8	5.2	5.9	4.2
Azerbaijan	0.3	0.4	0.6	1.4	1.3	1.3	1.2	1.2	4.1
Kazakhstan	0.6	1.3	1.4	1.9	2.7	3.1	3.5	4.1	4.6
Turkmenistan	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.4	3.1
Uzbekistan	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-0.7
Other	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	-0.4
Non-OECD Asia	4.4	6.5	6.6	6.8	7.1	7.6	7.9	8.1	0.8
China.....	2.8	3.8	3.8	3.7	3.9	4.1	4.2	4.3	0.5
India	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.3	1.6
Brunei	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	1.1
Malaysia	0.6	0.7	0.7	0.6	0.7	0.8	0.8	0.9	0.6
Thailand	0.1	0.3	0.3	0.4	0.4	0.4	0.5	0.5	1.9
Vietnam.....	0.1	0.4	0.4	0.5	0.5	0.6	0.6	0.6	1.7
Other.....	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0
Middle East (Non-OPEC)	1.3	1.7	1.6	1.5	1.6	1.7	1.8	1.9	0.4
Oman	0.7	0.8	0.7	0.7	0.8	0.9	0.9	1.0	0.9
Syria	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	-0.9
Yemen.....	0.2	0.4	0.4	0.3	0.3	0.4	0.4	0.5	0.5
Other.....	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5
Africa	1.6	2.4	2.4	2.8	3.1	3.6	4.0	4.6	2.6
Chad	0.0	0.2	0.2	0.2	0.2	0.3	0.3	0.4	3.4
Congo (Brazzaville).....	0.2	0.2	0.2	0.2	0.3	0.5	0.6	0.7	4.3
Egypt.....	0.9	0.7	0.7	0.6	0.7	0.8	0.8	0.9	1.0
Equatorial Guinea	0.0	0.4	0.4	0.5	0.4	0.5	0.5	0.5	1.0
Gabon	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.6
Sao Tome and Principe.....	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	—
Sudan	0.0	0.4	0.4	0.7	0.7	0.8	0.9	1.1	4.5
Other.....	0.3	0.3	0.4	0.4	0.4	0.5	0.6	0.7	3.2
Central and South America	2.0	3.6	3.7	4.7	5.0	5.8	7.0	8.4	3.5
Brazil	0.7	1.8	1.9	3.0	3.3	4.0	4.8	5.7	4.8
Argentina.....	0.5	0.8	0.8	0.8	0.6	0.5	0.5	0.5	-2.2
Colombia.....	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.3	-1.8
Peru.....	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.4	5.4
Trinidad and Tobago.....	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-0.2
Other.....	0.1	0.2	0.2	0.2	0.4	0.6	0.9	1.3	7.7
Total World	65.7	81.9	81.6	86.3	92.4	99.1	105.7	114.0	1.3
OPEC Share of World Production.....	38%	43%	43%	43%	44%	45%	46%	46%	
Persian Gulf Share of World Production ..	25%	29%	29%	28%	29%	30%	30%	30%	

Note: Conventional liquids include crude oil and lease condensates, natural gas plant liquids, and refinery gains.

Sources: **History:** Energy Information Administration (EIA), Office of Energy Markets and End Use. **Projections:** EIA, Generate World Oil Balance Model (2008).

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Table G12. World Unconventional Liquids Production by Region and Country, High Economic Growth Case, 1990-2030
 (Million Barrels Oil Equivalent per Day)

Region/Country	History (Estimates)			Projections					Average Annual Percent Change, 2005-2030
	1990	2005	2006	2010	2015	2020	2025	2030	
OPEC^a	0.0	0.8	0.7	1.0	1.6	2.0	2.4	2.7	5.2
Biofuels	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	—
Ultra-Heavy Oil (Venezuela)	0.0	0.6	0.6	0.9	1.3	1.6	1.9	2.1	5.2
Coal-to-Liquids	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Gas-to-Liquids (primarily Qatar)	0.0	0.0	0.0	0.0	0.3	0.4	0.4	0.5	—
Non-OPEC	0.6	1.7	1.9	2.8	5.2	6.3	7.5	8.3	6.5
OECD	0.5	1.5	1.6	2.7	4.0	4.8	5.7	6.2	5.9
Biofuels	0.0	0.2	0.3	0.6	0.9	1.1	1.4	1.4	7.7
Oil Sands/Bitumen (Canada)	0.4	1.1	1.2	1.9	2.9	3.5	4.0	4.4	5.8
Ultra-Heavy Oil (Mexico)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	—
Coal-to-Liquids	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	18.0
Gas-to-Liquids	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Shale Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Non-OECD	0.1	0.2	0.2	0.1	1.2	1.5	1.8	2.1	9.0
Biofuels	0.1	0.3	0.4	0.6	0.9	1.1	1.2	1.4	6.0
Ultra-Heavy Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Coal-to-Liquids	0.1	0.1	0.1	0.2	0.3	0.3	0.6	0.7	7.0
Gas-to-Liquids	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	—
Shale Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9
World									
Biofuels	0.2	0.5	0.6	1.3	1.8	2.2	2.6	2.8	6.9
Oil Sands/Bitumen	0.4	1.1	1.2	1.9	2.9	3.5	4.0	4.4	5.8
Ultra-Heavy Oil	0.0	0.6	0.6	0.9	1.3	1.6	1.9	2.2	5.3
Coal-to-Liquids	0.1	0.1	0.1	0.2	0.3	0.4	0.7	0.8	7.6
Gas-to-Liquids	0.0	0.0	0.0	0.1	0.3	0.4	0.5	0.5	—
Shale Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9
World Total	0.6	2.5	2.6	3.8	6.8	8.3	9.9	11.0	6.2
Selected Country Highlights									
Biofuels									
Brazil	0.1	0.2	0.2	0.3	0.4	0.6	0.7	0.7	5.6
China	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.1	2.9
India	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	3.9
United States	0.0	0.2	0.2	0.5	0.7	0.9	1.2	1.2	8.1
Coal-to-Liquids									
Australia and New Zealand	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
China	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	—
Germany	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
India	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	—
South Africa	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.4	4.2
United States	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Gas-to-Liquids									
Qatar	0.0	0.0	0.0	0.0	0.2	0.3	0.4	0.4	—
South Africa	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	—

^aOPEC = Organization of the Petroleum Exporting Countries (OPEC-13).

Sources: **History:** Energy Information Administration (EIA), Office of Energy Markets and End Use. **Projections:** EIA, Generate World Oil Balance Model (2008).

Table G13. World Total Liquids Production by Region and Country, Low Economic Growth Case, 1990-2030
 (Million Barrels Oil Equivalent per Day)

Region/Country	History (Estimates)			Projections					Average Annual Percent Change, 2005-2030
	1990	2005	2006	2010	2015	2020	2025	2030	
OPEC^a	25.2	36.1	35.8	37.8	40.6	43.1	44.1	45.0	0.9
Asia (Indonesia)	1.5	1.1	1.1	1.0	0.9	0.9	0.9	0.9	-1.1
Middle East	16.1	23.8	23.6	24.0	25.9	27.9	28.5	29.0	0.8
Iran	3.1	4.2	4.1	4.1	4.0	4.0	4.0	4.0	-0.2
Iraq	2.1	1.9	2.0	2.1	2.2	3.3	3.6	3.7	2.7
Kuwait	1.2	2.7	2.7	2.6	3.0	2.9	3.0	3.0	0.5
Qatar	0.4	1.1	1.1	1.6	2.2	2.7	2.9	3.0	4.1
Saudi Arabia	7.0	11.1	10.7	10.6	11.6	12.0	12.1	12.4	0.4
United Arab Emirates	2.3	2.8	2.9	3.0	3.0	3.0	3.0	2.9	0.0
North Africa	2.7	3.8	3.9	4.8	5.0	5.1	5.1	5.3	1.3
Algeria	1.3	2.1	2.1	2.7	3.2	3.3	3.5	3.7	2.3
Libya	1.4	1.7	1.8	2.0	1.9	1.7	1.7	1.6	-0.3
West Africa	2.3	3.9	3.9	5.1	5.7	5.8	5.9	6.1	1.8
Angola	0.5	1.3	1.4	2.5	2.7	2.7	2.8	2.8	3.3
Nigeria	1.8	2.6	2.4	2.6	3.1	3.1	3.1	3.2	0.8
South America	2.5	3.4	3.3	3.0	3.0	3.4	3.7	3.8	0.4
Ecuador	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0
Venezuela	2.3	2.9	2.8	2.5	2.5	2.9	3.2	3.2	0.5
Non-OPEC	41.1	48.2	48.4	50.9	51.7	52.6	54.1	56.3	0.6
OECD	20.0	21.8	21.4	21.1	19.7	19.2	19.8	20.7	-0.2
OECD North America	14.7	15.1	15.2	15.9	15.1	15.2	15.9	16.8	0.4
United States	9.7	8.2	8.2	9.2	9.7	10.3	10.9	11.5	1.3
Canada	2.0	3.1	3.3	3.6	2.8	2.6	2.6	2.7	-0.5
Mexico	3.0	3.8	3.7	3.0	2.7	2.3	2.4	2.6	-1.5
OECD Europe	4.5	5.9	5.5	4.5	3.8	3.3	3.1	3.1	-2.6
OECD Asia	0.8	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.4
Japan	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.9
South Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
Australia and New Zealand	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.1
Non-OECD	21.1	26.5	26.9	29.7	32.0	33.3	34.3	35.6	1.2
Non-OECD Europe and Eurasia	11.6	11.9	12.3	14.1	15.7	16.1	16.3	16.9	1.4
Russia	10.1	9.5	9.7	10.3	11.3	11.6	11.8	12.1	1.0
Caspian Area	1.1	2.1	2.3	3.5	4.2	4.3	4.4	4.6	3.2
Other	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	-1.4
Non-OECD Asia	4.4	6.5	6.5	6.4	6.9	6.9	6.8	6.6	0.1
China	2.8	3.7	3.8	3.5	3.8	3.7	3.6	3.5	-0.3
India	0.7	0.8	0.8	1.0	1.1	1.1	1.2	1.1	1.1
Other	1.0	1.9	1.9	1.9	2.0	2.1	2.1	2.0	0.3
Middle East (Non-OPEC)	1.3	1.7	1.6	1.5	1.5	1.5	1.5	1.5	-0.6
Africa	1.7	2.6	2.6	2.9	3.0	3.3	3.5	3.8	1.6
Central and South America	2.1	3.8	3.9	4.9	4.9	5.4	6.1	6.9	2.4
Brazil	0.8	1.9	2.1	3.2	3.3	3.8	4.3	4.7	3.6
Other	1.3	1.8	1.9	1.7	1.6	1.6	1.9	2.2	0.7
Total World	66.3	84.3	84.2	88.7	92.3	95.6	98.3	101.3	0.7
OPEC Share of World Production	38%	43%	43%	43%	44%	45%	45%	44%	
Persian Gulf Share of World Production ..	24%	28%	28%	27%	28%	29%	29%	29%	

^aOPEC = Organization of the Petroleum Exporting Countries (OPEC-13).

Sources: **History:** Energy Information Administration (EIA), Office of Energy Markets and End Use. **Projections:** EIA, Generate World Oil Balance Model (2008).

Appendix G

Table G14. World Conventional Liquids Production by Region and Country, Low Economic Growth Case, 1990-2030
 (Million Barrels Oil Equivalent per Day)

Region/Country	History (Estimates)			Projections					Average Annual Percent Change, 2005-2030
	1990	2005	2006	2010	2015	2020	2025	2030	
OPEC^a	25.2	35.3	35.1	36.9	39.6	41.9	42.8	43.6	0.8
Asia (Indonesia)	1.5	1.1	1.1	0.9	0.9	0.9	0.9	0.8	-1.2
Middle East	16.1	23.8	23.5	23.9	25.7	27.7	28.3	28.8	0.8
Iran	3.1	4.2	4.1	4.1	4.0	4.0	4.0	4.0	-0.2
Iraq	2.1	1.9	2.0	2.1	2.2	3.3	3.6	3.7	2.7
Kuwait	1.2	2.7	2.7	2.6	3.0	2.9	3.0	3.0	0.5
Qatar	0.4	1.1	1.1	1.6	2.1	2.5	2.6	2.8	3.8
Saudi Arabia	7.0	11.0	10.6	10.6	11.6	12.0	12.1	12.4	0.5
United Arab Emirates	2.3	2.8	2.9	3.0	3.0	3.0	3.0	2.9	0.0
North Africa	2.7	3.8	3.9	4.8	5.0	5.1	5.1	5.3	1.3
Algeria	1.3	2.1	2.1	2.7	3.2	3.3	3.5	3.7	2.3
Libya	1.4	1.7	1.8	2.0	1.9	1.7	1.7	1.6	-0.3
West Africa	2.3	3.9	3.9	5.1	5.7	5.8	5.9	6.1	1.8
Angola	0.5	1.3	1.4	2.5	2.7	2.7	2.8	2.8	3.3
Nigeria	1.8	2.6	2.4	2.6	3.0	3.1	3.1	3.2	0.8
South America	2.5	2.7	2.7	2.2	2.2	2.5	2.7	2.6	-0.1
Ecuador	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0
Venezuela	2.3	2.2	2.1	1.7	1.7	2.0	2.1	2.1	-0.2
Non-OPEC	40.5	46.5	46.5	48.4	48.8	49.2	49.9	50.9	0.4
OECD	19.5	20.3	19.8	18.7	17.3	16.5	16.3	16.1	-0.9
OECD North America	14.3	13.7	13.6	13.5	12.8	12.5	12.5	12.3	-0.4
United States	9.6	7.9	7.8	8.5	8.6	8.9	8.9	8.6	0.4
Canada	1.7	2.0	2.1	1.9	1.5	1.3	1.1	1.1	-2.5
Mexico	3.0	3.8	3.7	3.0	2.7	2.3	2.4	2.6	-1.5
OECD Europe	4.5	5.9	5.5	4.5	3.8	3.2	3.1	3.0	-2.6
Denmark	0.1	0.4	0.3	0.3	0.2	0.2	0.1	0.1	-5.6
Norway	1.7	3.0	2.8	2.4	1.9	1.7	1.6	1.5	-2.8
United Kingdom	2.0	1.9	1.7	1.2	1.0	0.8	0.7	0.8	-3.5
Other	0.7	0.7	0.7	0.6	0.6	0.6	0.7	0.7	0.0
OECD Asia	0.8	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.3
Japan	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.9
South Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
Australia and New Zealand	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.1

^aOPEC = Organization of the Petroleum Exporting Countries (OPEC-13).

Table G14. World Conventional Liquids Production by Region and Country, Low Economic Growth Case, 1990-2030 (Continued)
 (Million Barrels Oil Equivalent per Day)

Region/Country	History (Estimates)			Projections					Average Annual Percent Change, 2005-2030
	1990	2005	2006	2010	2015	2020	2025	2030	
Non-OECD	21.0	26.2	26.7	29.7	31.5	32.8	33.6	34.8	1.1
Non-OECD Europe and Eurasia	11.6	11.9	12.3	14.1	15.7	16.1	16.3	16.9	1.4
Russia	10.1	9.5	9.7	10.3	11.3	11.6	11.8	12.1	1.0
Caspian Area	1.1	2.1	2.3	3.5	4.2	4.3	4.4	4.6	3.2
Azerbaijan	0.3	0.4	0.6	1.3	1.3	1.1	1.0	0.9	3.0
Kazakhstan	0.6	1.3	1.4	1.9	2.6	2.8	2.9	3.2	3.6
Turkmenistan	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	2.0
Uzbekistan	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-1.5
Other	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	-1.4
Non-OECD Asia	4.4	6.5	6.6	6.7	6.7	6.8	6.6	6.3	-0.1
China.....	2.8	3.8	3.8	3.7	3.7	3.6	3.4	3.3	-0.5
India	0.7	0.8	0.9	1.0	1.0	1.1	1.1	1.0	0.8
Brunei	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.1
Malaysia	0.6	0.7	0.7	0.6	0.6	0.7	0.7	0.7	-0.3
Thailand	0.1	0.3	0.3	0.4	0.4	0.4	0.4	0.4	1.2
Vietnam.....	0.1	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.8
Other.....	0.1	0.3	0.3	0.3	0.3	0.2	0.2	0.2	-1.0
Middle East (Non-OPEC)	1.3	1.7	1.6	1.5	1.5	1.5	1.5	1.5	-0.6
Oman	0.7	0.8	0.7	0.7	0.8	0.8	0.8	0.8	0.0
Syria	0.4	0.5	0.4	0.4	0.4	0.3	0.3	0.3	-1.8
Yemen.....	0.2	0.4	0.4	0.3	0.3	0.3	0.3	0.3	-0.6
Other.....	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	-0.4
Africa	1.6	2.4	2.4	2.8	2.9	3.2	3.4	3.6	1.6
Chad	0.0	0.2	0.2	0.2	0.2	0.2	0.3	0.3	2.3
Congo (Brazzaville).....	0.2	0.2	0.2	0.2	0.3	0.4	0.5	0.5	3.2
Egypt.....	0.9	0.7	0.7	0.6	0.6	0.7	0.7	0.7	0.0
Equatorial Guinea	0.0	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.1
Gabon	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	-0.5
Sao Tome and Principe.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	—
Sudan	0.0	0.4	0.4	0.7	0.7	0.7	0.7	0.8	3.4
Other.....	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	2.2
Central and South America	2.0	3.6	3.7	4.6	4.7	5.2	5.8	6.6	2.4
Brazil	0.7	1.8	1.9	2.9	3.1	3.6	4.0	4.4	3.7
Argentina.....	0.5	0.8	0.8	0.7	0.5	0.4	0.4	0.4	-3.0
Colombia.....	0.5	0.5	0.5	0.5	0.4	0.3	0.3	0.3	-2.8
Peru.....	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	4.4
Trinidad and Tobago.....	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	-0.9
Other.....	0.1	0.2	0.2	0.2	0.4	0.5	0.7	1.0	6.6
Total World	65.7	81.9	81.6	85.3	88.3	91.1	92.8	94.5	0.6
OPEC Share of World Production.....	38%	43%	43%	43%	45%	46%	46%	46%	
Persian Gulf Share of World Production ..	25%	29%	29%	28%	29%	30%	30%	30%	

Note: Conventional liquids include crude oil and lease condensates, natural gas plant liquids, and refinery gains.

Sources: **History:** Energy Information Administration (EIA), Office of Energy Markets and End Use. **Projections:** EIA, Generate World Oil Balance Model (2008).

Appendix G

Table G15. World Unconventional Liquids Production by Region and Country, Low Economic Growth Case, 1990-2030
 (Million Barrels Oil Equivalent per Day)

Region/Country	History (Estimates)			Projections					Average Annual Percent Change, 2005-2030
	1990	2005	2006	2010	2015	2020	2025	2030	
OPEC^a	0.0	0.8	0.7	1.0	1.0	1.2	1.3	1.4	2.5
Biofuels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Ultra-Heavy Oil (Venezuela)	0.0	0.6	0.6	0.8	0.8	0.9	1.0	1.1	2.5
Coal-to-Liquids	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Gas-to-Liquids (primarily Qatar)	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	—
Non-OPEC	0.6	1.7	1.9	2.4	2.9	3.3	4.2	5.4	4.7
OECD	0.5	1.5	1.6	2.4	2.4	2.8	3.5	4.6	4.7
Biofuels	0.0	0.2	0.3	0.6	0.8	1.0	1.2	1.2	7.2
Oil Sands/Bitumen (Canada)	0.4	1.1	1.2	1.7	1.2	1.3	1.5	1.7	1.7
Ultra-Heavy Oil (Mexico)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Coal-to-Liquids	0.0	0.0	0.0	0.0	0.1	0.2	0.4	1.2	32.7
Gas-to-Liquids	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	—
Shale Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	—
Non-OECD	0.1	0.2	0.2	0.0	0.5	0.5	0.7	0.8	4.8
Biofuels	0.1	0.3	0.4	0.6	0.4	0.4	0.5	0.5	1.9
Ultra-Heavy Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
Coal-to-Liquids	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.3	2.9
Gas-to-Liquids	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	—
Shale Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.0
World									
Biofuels	0.2	0.5	0.6	1.2	1.2	1.4	1.7	1.8	4.9
Oil Sands/Bitumen	0.4	1.1	1.2	1.7	1.2	1.3	1.5	1.7	1.7
Ultra-Heavy Oil	0.0	0.6	0.6	0.8	0.9	0.9	1.0	1.1	2.6
Coal-to-Liquids	0.1	0.1	0.1	0.2	0.2	0.3	0.6	1.5	10.2
Gas-to-Liquids	0.0	0.0	0.0	0.1	0.3	0.4	0.4	0.4	—
Shale Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	13.1
World Total	0.6	2.5	2.6	3.4	3.9	4.5	5.5	6.8	4.2
Selected Country Highlights									
Biofuels									
Brazil	0.1	0.2	0.2	0.3	0.2	0.2	0.3	0.3	1.6
China	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-1.1
India	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	-0.1
United States	0.0	0.2	0.2	0.5	0.7	0.9	1.1	1.2	7.9
Coal-to-Liquids									
Australia and New Zealand	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
China	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	—
Germany	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.6
India	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—
South Africa	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
United States	0.0	0.0	0.0	0.0	0.0	0.2	0.4	1.2	—
Gas-to-Liquids									
Qatar	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	—
South Africa	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	—

^aOPEC = Organization of the Petroleum Exporting Countries (OPEC-13).

Sources: **History:** Energy Information Administration (EIA), Office of Energy Markets and End Use. **Projections:** EIA, Generate World Oil Balance Model (2008).