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Organization of the Petroleum Exporting Countries

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Mohammad Sanusi Barkindo, OPEC Secretary General

“Now, what I want is facts. Teach these boys and girls nothing but facts. Facts alone are wanted in life. Plant nothing else, and root out everything else.”

The opening lines of **Charles Dickens'** seminal novel, ***Hard Times***, were spoken with commanding authority by the character, Gradgrind. Of course, Dickens was satirizing a tendency among some of the dominant philosophies of the 19th century to emphasize facts and rationalism at the expense of human experience.

Looking to our own times, we can see that a countervailing strand of thinking dominates public thought. Indeed, the very opposite tendency to what Dickens satirized is prevalent in our modern age. In **2016**, the Oxford Dictionaries '**word of the year**' was '**post-truth**', and along with its synonym 'post-factual,' the concept has been forefront of international discourse in the last three years. In **2019**, it can appear that facts themselves are under siege and fact-based policy is in danger of being sidelined.

Unfortunately, the oil market can often be subjected to similar forces which are not rooted in fact. Sentiment, speculation and even rumours have been known to drive the market. The situation can be further complicated by computerized or automated trading, with algorithms, Big Data and AI playing important roles.

While **OPEC** would perhaps not go as far as Gradgrind's tunnel-vision, the Organization passionately believes in evidence-based analysis, policy making grounded in fact and verifiable assumptions guided by careful observation. **OPEC** is not interested in distorted or selective interpretations of market developments; rather, we meticulously monitor and critically examine realities, and we are proud that this remains the core purpose of **OPEC's Annual Statistical Bulletin (ASB)**.

Since its first publication in **1965**, the **ASB** has remained an indispensable reference tool for analysts and academics, policymakers and industry specialists. The **ASB's** ever increasing readership and online viewership reflects its status as a highly respected and regularly cited source on conditions in the oil market. Indeed, **this 54th edition of the ASB** is a first in the history of **OPEC** and the **oil industry**: it is the earliest publication of its kind in a calendar year.

The **ASB** is the outcome of hard and labour-intensive work involving analysts, researchers and statisticians, both at the **OPEC Secretariat** and our **Member Countries**. This is a collaborative achievement and I would like to express my appreciation to the staff at the OPEC Secretariat — and all the colleagues and other officials in our **Member Countries** — for their continuous hard work to make this publication possible.

A handwritten signature in black ink, appearing to read "Mohammad Sanusi Barkindo".

*Mohammad Sanusi Barkindo
Secretary General*



As one of the flagship publications of the Organization of the Petroleum Exporting Countries (OPEC), the Annual Statistical Bulletin (ASB) offers detailed and comprehensive time-series data on several aspects of the global petroleum industry, including production, demand, imports and exports, as well as exploration and transportation activities.

In particular, the ASB contains key statistical data on oil and natural gas activities in each of OPEC's 14 Member Countries: **Algeria, Angola, Congo, Ecuador, Equatorial Guinea, Gabon, the Islamic Republic of Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates and Venezuela**. In addition, it provides valuable data for many other countries grouped by geographical region, and covers the major economic zones all over the world.

The current version of the ASB — ASB 2019 — comprises data up to the end of 2018, with the following highlights:

- ▶ Total world crude oil production increased sharply in 2018 by 1.213 million barrels/day (m b/d), or 1.6 per cent, as compared to 2017, to reach 75.78m b/d, marking a historical high and the highest annual growth since 2015. OPEC crude oil production declined year-on-year by 415,000 b/d, or 1.3 per cent, while crude production by non-OPEC countries grew by 1.628m b/d, or 3.8 per cent. The largest volumetric gains were for the United States with 1.610m b/d, or 17.2 per cent, Saudi Arabia with 358,000 b/d or 3.6 per cent and Russia with 178,000 b/d or 1.7 per cent. In 2018, the top three crude oil producing countries were the United States (10.96m b/d), Russia (10.53m b/d) and Saudi Arabia (10.32m b/d).
- ▶ With an average of 98.73m b/d in 2018, world oil demand grew by 1.5 per cent y-o-y, with the largest increases recorded for Asia and Pacific region (particularly China and India) and North America. Oil demand in Africa and the Middle East fell in 2018 by around 23,000 b/d, as compared to 2017, while Latin America posted an increase following consecutive declines during the previous three years. OECD oil demand grew solidly for the fourth consecutive year in 2018, while oil demand in OPEC Member Countries declined slightly after increasing during 2017. Distillates and gasoline accounted for around 55.0 per cent of 2018 world oil demand with an upward trend. Residual fuel oil requirements were about 7.2 per cent of total oil demand in 2018.
- ▶ OPEC Member Countries exported an average of 24.67m b/d of crude oil in 2018, a slight increase of about 14,000 b/d, or 0.1 per cent, compared to 2017. Following the trend in previous years, the bulk of crude oil from OPEC Member Countries — 15.86m b/d or 64.3 per cent — was exported to the Asia and Pacific region. Considerable volumes of crude oil — about 4.58m b/d — were also exported to Europe in 2018, which, however, represents a decline compared with 4.65m b/d recorded in 2017. North America imported 2.81m b/d of crude oil from OPEC Member Countries, which was about 406,000 b/d, or 12.6 per cent, less than the 2017 volumes. Exports of petroleum products from OPEC Member Countries averaged 4.71m b/d during 2018, up by around 784,000 b/d, or 20.0 per cent, compared to 2017. Imports of petroleum products by OPEC Member Countries stood at 2.62m b/d in 2018, roughly 593,000 b/d, or 29.3 per cent, higher than in 2017.
- ▶ World proven crude oil reserves stood at 1,498 billion barrels (bn b) at the end of 2018, increasing slightly by 0.4 per cent from the level of 1,492bn b recorded at the end of 2017. Proven crude oil reserves in OPEC Member Countries decreased slightly by 0.2 per cent to 1,189bn b at the end of 2018 for the second consecutive year. OPEC Member Countries' share of total world proven crude oil reserves decreased marginally, from 79.9 per cent at the end of 2017 to 79.4 per cent at the end of 2018. At the end of 2018, world proven natural gas reserves rose by 0.7 per cent to approximately 203.2 trillion standard cubic metres (cu m). The observed increase in natural gas reserves is mainly attributed to North America, Middle East and Africa. Proven natural gas reserves in OPEC Member Countries stood at 72.68 trillion standard cu m at the end of 2018, up 0.6 per cent from the level at the end of 2017.
- ▶ World refinery capacity expanded by 876,000 barrels/calendar day (b/cd) to stand at 99.51m b/cd during 2018. The Asia and Pacific region, particularly China, as well as the Middle East, particularly the Islamic Republic of Iran, contributed the most in terms of refining capacity additions. Refinery capacity in the OECD declined marginally in 2018, as compared to 2017, with capacity expansions in North America being offset by closures in Europe. Globally, refinery throughput surged by 1.6 per cent to reach 84.94m b/d in 2018, with the largest gains in the Asia and Pacific region, North America, Europe and the Middle East.
- ▶ The OPEC Reference Basket averaged \$69.78/b in nominal terms during 2018, up from \$52.43/b in 2017, an increase of \$17.35/b, or 33.1 per cent. The volatility level was \$6.59/b, or 9.4 per cent, relative to the yearly average. In real terms, the OPEC Reference Basket stood at \$45.81/b during 2018, up from \$36.09/b during 2017.

SECTION 1

Summary

Table 1.1
OPEC Members' facts and figures, 2018

	Algeria	Angola	Congo	Ecuador	Equatorial Guinea	Gabon	IR Iran	Iraq	Kuwait	Libya	Nigeria	Saudi Arabia	United Arab Emirates	Venezuela	OPEC
Population million inhabitants	42.58	29.25	5.40	17.02	1.31	1.97	82.01	38.12	4.62	6.56	202.99	33.41	10.14	31.84	507.23
Land area ¹ 1,000 sq km	2,382	1,248	342	284	28	268	1,648	438	18	1,760	924	2,150	84	916	12,488
GDP per capita \$	4,186	3,390	1,882	6,094	8,263	8,751	5,104	5,571	30,661	7,574	2,056	23,418	40,859	3,093	5,824
GDP at market prices million \$	178,259	99,150	10,160	103,700	10,856	17,210	418,582	212,407	141,705	49,716	417,410	782,484	414,179	98,468	2,954,286
GDP growth real PPP %	1.9	-1.0	1.5	1.2	-5.9	2.0	-3.0	2.0	1.4	16.0	1.9	2.1	2.8	-13.0	0.2
Value of exports million \$	44,117	40,774	9,836	24,359	5,492	6,510	107,435	95,256	71,931	24,814	63,020	294,544	388,179	34,996	1,211,262
Value of imports million \$	54,246	14,186	3,808	25,345	2,479	3,161	81,797	53,191	36,786	12,833	56,645	132,633	264,765	13,505	755,379
Current account balance million \$	-15,940	7,502	2,348	-725	-1,181	-435	18,427	33,764	20,481	4,961	5,334	72,337	37,849	15,168	199,889
Value of petroleum exports million \$	26,092	36,323	4,455	9,832	5,353	4,218	60,198	68,192	58,393	17,141	54,513	194,358	74,940	34,674	648,683
Proven crude oil reserves million barrels	12,200	8,160	2,982	8,273	1,100	2,000	155,600	145,019	101,500	48,363	36,972	267,026	97,800	302,809	1,189,804
Natural gas reserves billion cu m	4,504	383	285	11	42	26	33,899	3,729	1,784	1,505	5,675	9,069	6,091	5,674	72,676
Crude oil production 1,000 b/d	1,040.1	1,473.3	323.5	517.2	120.2	193.4	3,553.0	4,410.0	2,736.6	951.2	1,601.6	10,317.3	3,008.3	1,510.2	31,755.9
Natural gas marketed production million cu m	95,398.5	9,614.0	867.0	349.0	7,750.7	529.9	248,524.3	11,130.2	17,737.8	13,880.0	44,250.8	118,000.0	47,624.0	24,785.0	640,941.2
Refinery capacity 1,000 b/cd	656.8	80.3	21.0	188.4	nap	24.0	2,141.0	663.3	736.0	380.0	446.0	2,856.0	1,124.0	1,890.6	11,207.4
Refinery throughput 1,000 b/d	643.7	54.8	16.1	169.6	nap	15.7	1,705.1	608.9	681.2	78.1	37.6	2,642.5	1,141.8	842.0	8,636.8
Output of petroleum products 1,000 b/d	620.7	32.0	16.1	167.4	nap	13.2	1,690.6	592.1	891.3	70.0	33.1	2,817.3	1,070.3	804.0	8,817.9
Oil demand 1,000 b/d	431.4	120.8	8.5	259.6	5.0	38.3	1,854.3	704.4	352.9	214.8	445.5	3,104.6	885.2	402.0	8,827.3
Crude oil exports ² 1,000 b/d	571.0	1,420.6	307.1	371.2	145.1	174.1	1,849.6	3,862.0	2,050.0	998.5	1,979.5	7,371.5	2,296.5	1,273.1	24,669.9
Exports of petroleum products 1,000 b/d	532.1	17.6	5.9	42.2	-	8.9	272.1	45.7	630.4	25.4	21.3	1,971.2	916.0	219.0	4,707.7
Imports of petroleum products 1,000 b/d	17.2	99.5	1.7	193.8	3.9	7.7	101.0	89.4	30.2	136.8	442.0	898.4	350.6	245.1	2,617.4
Natural gas exports million cu m	51,424.0	541.1	-	-	5,508.6	-	12,327.5	-	-	4,251.1	28,625.6	-	7,087.0	-	109,764.9

Notes:

1. Land area figures as per official websites.

2. Crude oil exports may include lease condensates and volumes of oil in transit.

Table 1.2
OPEC Members' crude oil production allocations

(1,000 b/d)

	Apr 82– Mar 83	Apr 83– Oct 84	Nov 84– Aug 86	Sep 86– Oct 86	Nov 86	Dec 86	Jan 87– Jun 87	Jul 87– Dec 87	Jan 88– Dec 88	Jan 89– Jun 89
	1/	2/	3/	4/	5/	6/	7/	8/	9/	10/
Algeria	650	725	663	663	669	669	635	667	667	695
Ecuador	200	200	183	183	221	221	210	221	221	230
Gabon	150	150	137	137	160	160	152	159	159	166
IR Iran	1,200	2,400	2,300	2,300	2,317	2,317	2,255	2,369	2,369	2,640
Iraq	1,200	1,200	1,200	1,200	—	—	1,466	1,540	—	2,640
Kuwait	800	1,050	900	900	921	999	948	996	996	1,037
Libya	750	1,100	990	990	999	999	948	996	996	1,037
Nigeria	1,300	1,300	1,300	1,300	1,304	1,304	1,238	1,301	1,301	1,355
Saudi Arabia	7,150	5,000	4,353	4,353	4,353	4,353	4,133	4,343	4,343	4,524
United Arab Emirates	1,000	1,100	950	950	950	950	902	948	948	988
Venezuela	1,500	1,675	1,555	1,555	1,574	1,574	1,495	1,571	1,571	1,636
OPEC	15,900	15,900	14,531	14,531			14,382	15,111		16,948
OPEC excl Iraq					13,468	13,546			13,571	

	Jul 89– Sep 89	Oct 89– Dec 89	Jan 90– Jul 90	Aug 90	Apr 91– Sep 91	Oct 91– Jan 92	Feb 92– Sep 92	Oct 92– Dec 92	Jan 93– Feb 93	Mar 93– Sep 93
	11/	12/	13/	14/	15/	16/	17/	18/	19/	20/
Algeria	733	771	827	827	827	nd	760	nd	764	732
Ecuador	242	254	273	273	273	nd	273	nd	—	—
Gabon	175	184	197	197	285	nd	273	nd	293	281
IR Iran	2,783	2,926	3,140	3,140	3,217	nd	3,184	nd	3,490	3,340
Iraq	2,783	2,926	3,140	3,140	—	nd	505	nd	500	400
Kuwait	1,093	1,149	1,500	1,500	—	nd	812	nd	1,500	1,600
Libya	1,093	1,149	1,233	1,233	1,425	nd	1,395	nd	1,409	1,350
Nigeria	1,428	1,501	1,611	1,611	1,840	nd	1,751	nd	1,857	1,780
Saudi Arabia	4,769	5,014	5,380	5,380	8,034	nd	7,887	nd	8,395	8,000
United Arab Emirates	1,041	1,094	1,095	1,500	2,320	nd	2,244	nd	2,260	2,161
Venezuela	1,724	1,812	1,945	1,945	2,235	nd	2,147	nd	2,360	2,257
OPEC	17,864	18,780	20,341	20,746	20,456¹	23,650*	21,231	24,200*	22,828	21,901

Notes: Totals may not add up due to independent rounding.

1. OPEC excluding Kuwait and Iraq.

— No production level allocated.

2. OPEC excluding IR Iran and Iraq.

nd No distribution made.

3. OPEC excluding Libya and Nigeria.

^ Includes Qatar.

4. OPEC excluding IR Iran, Libya and Venezuela.

* Includes Indonesia and Qatar.

Agreed at the:

1/ 63rd (Extraordinary) Meeting of the OPEC Conference, March 19–20, 1982.

2/ 67th (Extraordinary) Meeting of the OPEC Conference, March 14, 1983. No production level allocated to Saudi Arabia which acted as the swing producer. Venezuela: 1.7m b/d including condensates. Nigeria: At the 70th Meeting of the OPEC Conference, July 10–11, 1984, a temporary production rise to 1.4m b/d and 1.45m b/d in August 1984 and September 1984, respectively, was decided.

3/ 71st (Extraordinary) Meeting of the OPEC Conference, October 29–31, 1984. Retained at the 75th (Extraordinary) Meeting of the OPEC Conference, October 4, 1985.

4/ 78th Meeting of the OPEC Conference, June 25–30, 1986, and July 28–August 5, 1986, with the exception of Iraq.

5/ 79th (Extraordinary) Meeting of the OPEC Conference, October 6–22, 1986, with the exception of Iraq.

6/ 79th (Extraordinary) Meeting of the OPEC Conference, October 6–22, 1986, with the exception of Iraq.

7/ 80th Meeting of the OPEC Conference, December 11–20, 1986.

8/ 81st Meeting of the OPEC Conference, June 25–27, 1987.

9/ 82nd Meeting of the OPEC Conference, December 9–14, 1987, with the exception of Iraq. Extended at the 83rd Meeting of the OPEC Conference, June 11–14, 1988, with the exception of Iraq.

10/ 84th Meeting of the OPEC Conference, November 21–28, 1988.

11/ 85th Meeting of the OPEC Conference, June 5–7, 1989.

12/ 3rd Meeting of the Eight-Minister Monitoring Committee, September 23–27, 1989.

13/ 86th Meeting of the OPEC Conference, November 25–28, 1989.

14/ 87th Meeting of the OPEC Conference, July 26–27, 1990. September 2000–March 2001: Oil Ministers' informal consultations and 1st Ministerial Monitoring Committee, August 26–29, 1990 (interim course of action: OPEC shall consequently increase production in accordance with need). Retained August 1990 agreement at the 88th Meeting of the OPEC Conference, December 12–13, 1990.

15/ 3rd Meeting of the Ministerial Monitoring Committee, March 11–12, 1991. Reservations were made by Algeria and IR Iran as to the total OPEC production level. Reiterated without reservations at the 89th Meeting of the OPEC Conference, June 4, 1991.

16/ 4th Meeting of the Ministerial Monitoring Committee, September 24–25, 1991. Retained at the 90th Meeting of the Conference, November 26–27, 1991.

17/ 6th Meeting of the Ministerial Monitoring Committee, February 12–15, 1992. Reservations were made by IR Iran as to the total OPEC production level and by Saudi Arabia as to their allocated production level. Rollover (inclusive of reservations) at the 91st Meeting of the OPEC Conference, May 21–22, 1992. The Conference also decided to allow any additional production from Kuwait.

18/ 9th Meeting of the Ministerial Monitoring Committee, September 16–17, 1992. Reaffirmed to allow for any additional production from Kuwait.

19/ 92nd Meeting of the OPEC Conference, November 25–27, 1992, with full support of Member Countries, except Iraq and the allowance of additional volumes to Kuwait as they become available during the I9Q3.

20/ 10th Meeting of the Ministerial Monitoring Committee, February 13–16, 1993 with full support of Member Countries, except Iraq. Rollover of this agreement at the 93rd Meeting of the OPEC Conference, June 8–10, 1993, with full support of Member Countries, except Iraq and Kuwait.

21/ 94th (Extraordinary) Meeting of the OPEC Conference, September 25–29, 1993, with full support of Member Countries, except Iraq. Maintained at the 12th

Summary

Table 1.2
OPEC Members' crude oil production allocations

(1,000 b/d)

	Oct 93– Jun 96	Jul 96– Dec 97	Jan 98– Mar 98	Apr 98– Jun 98	Jul 98– Mar 99	Apr 99– Mar 00	Apr 00– Jun 00	Jul 00– Sep 00	Oct 1, 00– Oct 30, 00	Oct 31, 00 –Jan 01
	21/	22/	23/	24/	25/	26/	27/	28/	29/	30/
Algeria	750	750	909	50	788	731	788	811	837	853
Gabon	287	—	—	—	—	—	—	—	—	—
IR Iran	3,600	3,600	3,942	140	3,318	3,359	—	3,727	3,844	3,917
Iraq	400	1,200	1,314	—	—	—	—	—	—	—
Kuwait	2,000	2,000	2,190	125	1,980	1,836	1,980	2,037	2,101	2,141
Libya	1,390	1,390	1,522	80	1,323	1,227	1,323	1,361	1,404	1,431
Nigeria	1,865	1,865	2,042	125	2,033	1,885	2,033	2,091	2,157	2,198
Saudi Arabia	8,000	8,000	8,761	300	8,023	7,438	8,023	8,253	8,512	8,674
United Arab Emirates	2,161	2,161	2,366	125	2,157	2,000	2,157	2,219	2,289	2,333
Venezuela	2,359	2,359	2,583	200	2,845	2,720	2,845	2,926	3,019	3,077
OPEC	22,812	23,325	25,630							
OPEC excl Iraq				1,145	22,467	21,196	19,149²	23,425	24,163	24,624
Target				23,762						

	Feb 01– Mar 01	Apr 01– Aug 01	Sep 01– Dec 01	Jan 02– Dec 02	Jan 03	Feb 03– May 03	Jun 03– Oct 03	Nov 03– Mar 04	Apr 04– Jun 04	Jul 04
	31/	32/	33/	34/	35/	36/	37/	38/	39/	40/
Algeria	805	773	741	693	735	782	811	782	750	814
IR Iran	3,698	3,552	3,406	3,186	3,377	3,597	3,729	3,597	3,450	3,744
Iraq	—	—	—	—	—	—	—	—	—	—
Kuwait	2,021	1,941	1,861	1,741	1,845	1,966	2,038	1,966	1,886	2,046
Libya	1,350	1,296	1,242	1,162	1,232	1,312	1,360	1,312	1,258	1,365
Nigeria	2,075	1,993	1,911	1,787	1,894	2,018	2,092	2,018	1,936	2,101
Saudi Arabia	8,189	7,865	7,541	7,053	7,476	7,963	8,256	7,963	7,638	8,288
United Arab Emirates	2,201	2,113	2,025	1,894	2,007	2,138	2,217	2,138	2,051	2,225
Venezuela	2,902	2,786	2,670	2,497	2,647	2,819	2,923	2,819	2,704	2,934
OPEC excl Iraq	23,241	22,319	21,397	20,013	21,213	22,595	23,425	22,595	21,673	23,517

Meeting of the Ministerial Monitoring Committee, March 25–26, 1994, with full support of Member Countries, except Iraq. Maintained at the 97th, 98th and 99th Meeting of the OPEC Conference, November 21–22, 1994, June 19–20, 1995, and November 21–22, 1995, respectively.

- 22/ 100th Meeting of the OPEC Conference, June 5–7, 1996. The remaining volume of 1.2m b/d is to be supplied by Iraq. Rollover of the agreement at the 101st and the 102nd Meeting of the OPEC Conference, November 27–28, 1996, and June 25–26, 1997, respectively.
- 23/ 103rd Meeting of the OPEC Conference, November 26–December 1, 1997. The remaining volume of 1,314,080 b/d is to be supplied by Iraq.
- 24/ 104th Meeting (Extraordinary) of the OPEC Conference, March 30, 1998. Data reflects temporary production cuts from OPEC excluding Iraq production in February 1998 as reported by selected secondary sources. Iraq is not called upon to participate in this agreement.
- 25/ 105th Meeting of the OPEC Conference, June 24, 1998. Iraq is not called upon to participate in this agreement.
- 26/ 107th Meeting of the OPEC Conference, March 23, 1999. Reaffirmed strong commitment to the agreement at the 108th Meeting of the OPEC Conference, September 22, 1999. Iraq is not called upon to participate in this agreement.
- 27/ 109th Meeting of the OPEC Conference, March 27–29, 2000. Agreement of OPEC Member Countries excluding IR Iran and Iraq.
- 28/ 110th (Extraordinary) Meeting of the OPEC Conference, June 21, 2000. Iraq is not called upon to participate in this agreement.
- 29/ 111th Meeting of the OPEC Conference, September 10–11, 2000. Iraq is not called upon to participate in this agreement.
- 30/ 111th Meeting of the OPEC Conference, September 10–11, 2000; including additional 500,000 b/d (price band mechanism) as announced by the OPEC President on October 30, 2000, and effective from October 31, 2000. Iraq is not called upon to participate in this agreement.
- 31/ 113th (Extraordinary) Meeting of the OPEC Conference, January 17, 2001. Iraq is not called upon to participate in this agreement.
- 32/ 114th Meeting of the OPEC Conference, March 16–17, 2001. Retained at the 115th (Extraordinary) and 116th (Extraordinary) Meeting of the OPEC Conference, June 5 and July 3, 2001, respectively. Iraq is not called upon to participate in this agreement.
- 33/ OPEC Conference, July 25, 2001. Retained at the 117th Meeting of the OPEC Conference, September 26–27, 2001. Iraq is not called upon to participate in this agreement.
- 34/ Announced during the 118th (Extraordinary) Meeting of the OPEC Conference, November 14, 2001, and confirmed its implementation during the Consultative Meeting of the OPEC Conference in Cairo, December 28, 2001. Retained at the 119th (Extraordinary), 120th (Extraordinary) and 121st Meeting of the OPEC Conference, March 15, June 26 and September 19, 2002, respectively. Iraq is not called upon to participate in this agreement.
- 35/ 122th (Extraordinary) Meeting of the OPEC Conference, December 12, 2002. Iraq is not called upon to participate in this agreement.
- 36/ 123rd (Extraordinary) Meeting of the OPEC Conference, January 12, 2003. Retained at the 124th Meeting of the OPEC Conference, March 11, 2003. Iraq is not called upon to participate in this agreement.
- 37/ Consultative Meeting of the OPEC Conference, April 24, 2003. Retained at the 125th (Extraordinary) and 126th (Extraordinary) Meeting of the OPEC Conference, June 11 and July 31, 2003, respectively. Iraq is not called upon to participate in this agreement.
- 38/ 127th Meeting of the OPEC Conference, September 24, 2003. Retained at the 128th (Extraordinary) and 129th (Extraordinary) Meeting of the OPEC Conference, December 4, 2003, and February 10, 2004, respectively. Iraq is not called upon to participate in this agreement.
- 39/ 129th (Extraordinary) Meeting of the OPEC Conference, February 10, 2004. Reconfirmed at the 130th Meeting of the OPEC Conference, March 31, 2004. Iraq is not called upon to participate in this agreement.
- 40/ 131st (Extraordinary) Meeting of the OPEC Conference, June 3, 2004. Iraq is not called upon to participate in this agreement.
- 41/ 131st (Extraordinary) Meeting of the OPEC Conference, June 3, 2004. Iraq is not called upon to participate in this agreement.

Table 1.2
OPEC Members' crude oil production allocations

(1,000 b/d)

	Aug 04– Oct 04	Nov 1, 04– Mar 16, 05	Mar 17, 05– Jun 30, 05	Jul 05– Oct 06	Nov 06– Jan 07	Feb 07– Oct 07	Nov 07– Dec 07	Jan 08– Sep 08	Oct 08	Nov 08– Dec 08
Algeria	41/ 830	42/ 862	43/ 878	44/ 894	45/ 59	46/ 25	47/ nd	48/ nd	49/ nd	50/ 71
Angola	—	—	—	—	—	—	—	nd	nd	99
Ecuador	—	—	—	—	—	—	—	nd	nd	27
IR Iran	3,817	3,964	4,037	4,110	176	73	nd	nd	nd	199
Iraq	—	—	—	—	—	—	—	—	—	—
Kuwait	2,087	2,167	2,207	2,247	100	42	nd	nd	nd	132
Libya	1,392	1,446	1,473	1,500	72	30	nd	nd	nd	89
Nigeria	2,142	2,224	2,265	2,306	100	42	nd	nd	nd	113
Saudi Arabia	8,450	8,775	8,937	9,099	380	158	nd	nd	nd	466
United Arab Emirates	2,269	2,356	2,400	2,444	101	42	nd	nd	nd	134
Venezuela	2,992	3,107	3,165	3,223	138	57	nd	nd	nd	129
OPEC excl Iraq	23,979	24,901	25,362	25,823						1,459
OPEC excl Angola, Ecuador and Iraq					1,126	469	500 *			
Target OPEC excl Angola, Ecuador and Iraq					26,300 *	25,800 *	27,253 *			
Target OPEC excl Iraq								29,673 *	28,808 ^	27,308 ^

	Jan 09– Dec 11	Jan 12– Dec 15	Jan 17– May 17	Jun 17– Dec 18	Jan 19– Feb 19	Mar 19–
Algeria	51/ nd	52/ nd	53/ 1,039	54/ 1,039	55/ 1,025	56/ 1,025
Angola	nd	nd	1,673	1,673	1,481	1,481
Congo	—	—	—	—	315	315
Ecuador	nd	nd	522	522	508	515
Equatorial Guinea	—	—	—	178	123	123
Gabon	—	—	193	193	181	181
IR Iran	nd	nd	3,797	3,797	—	—
Iraq	—	nd	4,351	4,351	4,512	4,512
Kuwait	nd	nd	2,707	2,707	2,724	2,724
Libya	nd	nd	—	—	—	—
Nigeria	nd	nd	—	—	1,685	1,685
Saudi Arabia	nd	nd	10,058	10,058	10,311	10,311
United Arab Emirates	nd	nd	2,874	2,874	3,072	3,072
Venezuela	nd	nd	1,972	1,972	—	—
OPEC			29,186³	29,364³	25,937⁴	25,944⁴
Target OPEC excl Iraq	24,845 ^					
Target OPEC		30,000 ^	32,500 *			

- 42/ 132nd Meeting of the OPEC Conference, September 15, 2004. Iraq is not called upon to participate in this agreement. During the 133rd (Extraordinary) Meeting of the OPEC Conference, December 10, 2004, Member Countries agreed to collectively reduce the over-production by 1m b/d from their current actual output, effective January 1, 2005. Agreement of 132nd Meeting is retained at the 134th (Extraordinary) Meeting of the OPEC Conference, January 30, 2005.
- 43/ 135th Meeting of the OPEC Conference, March 16, 2005. Iraq is not called upon to participate in this agreement. The President of the Conference is authorized, after consultation with fellow Heads of Delegation, to announce an additional 500,000 b/d increase until its next Meeting, if prices remain at current high levels or continue to further rise.
- 44/ 136th (Extraordinary) Meeting of the OPEC Conference, June 15, 2005. Iraq is not called upon to participate in this agreement. The President of the Conference is authorized, after consultation with fellow Heads of Delegation, to announce an additional 500,000 b/d increase until its next Meeting, if prices remain at current high levels or continue to further rise. The 137th OPEC Conference , September 20, 2005, agreed to make available to the market the spare capacity of 2m b/d, should it be called for, for a period of three months, starting October 1, 2005. The 138th (December 12, 2005), the 139th (Extraordinary, January 31, 2006), the 140th (March 8, 2006) and the 141st (Extraordinary, June 1, 2006) Conference retained the OPEC production level as agreed on June 15, 2005.
- 45/ Consultative Meeting of the OPEC Conference, October 19–20, 2006. Data reflects interim production cuts from OPEC excluding Iraq production in September 2006. Iraq is not called upon to participate in this agreement.
- 46/ 143rd (Extraordinary) Meeting of the OPEC Conference, December 14, 2006. Data reflects a further production cut to the decision taken in Doha, October 19–20, 2006. Iraq is not called upon to participate in this agreement.
- 47/ 145th Meeting of the OPEC Conference, September 11, 2007. Angola and Iraq are not called upon to participate in this agreement. Data reflect production increase of 500,000 b/d for OPEC (excluding Angola and Iraq) to achieve 27.253m b/d.
- 48/ 146th (Extraordinary) Meeting of the OPEC Conference, December 5, 2007. Iraq is not called upon to participate in the agreement.
- 49/ 149th Meeting of the OPEC Conference, September 9–10, 2008: The Conference agreed to abide to September 2007 production allocations (adjusted to include new Members Angola and Ecuador and excluding Indonesia and Iraq), totalling to 28.8m b/d.
- 50/ 150th (Extraordinary) Meeting of the OPEC Conference, October 24, 2008: Data reflects a production cut of 1.5m b/d to achieve 27.31m b/d. Iraq and Indonesia are not called upon to participate in the agreement.
- 51/ The 151th (Extraordinary) Meeting of the Conference, December 17, 2008, agreed to reduce OPEC excluding Iraq production by total of 4.2m b/d from September levels of the actual production based on secondary sources. Iraq is not called upon to participate in the agreement.
- 52/ The 160th Meeting of the Conference, December 14, 2011, decided to maintain the total OPEC production level of 30.0m b/d. This agreement was maintained at the 161st (June 14, 2012), the 162nd (December 12, 2012), the 163rd (May 31, 2013), the 164th (December 4, 2013), the 165th (June 11, 2014), the 166th (November 27, 2014) and — for the last time — at the 167th (June 5, 2015) Meeting of the Conference.
- 53/ The 171st Meeting of the Conference, November 30, 2016, decided to reduce its production by around 1.2m b/d to bring its ceiling to 32.5m b/d, effective of January 1, 2017. Agreed crude oil production levels were allocated, with the exception of Libya and Nigeria.
- 54/ The 172nd Meeting of the Conference, May 25, 2017, decided to extend its production adjustments for a further period of nine months. Furthermore, the Conference approved Equatorial Guinea's admission to the Organization with immediate effect (the table is adjusted accordingly). The 173rd Meeting of the Conference, November 30, 2017, amended the adjustment to take effect for the whole year 2018.
- 55/ The 175th Meeting of the Conference, December 6–7, 2018, decided to adjust OPEC overall production by 800,000 b/d from October 2018 levels, effective as of January 2019, for an initial period of six months, with a review in April 2019.
- 56/ The 13th Meeting of the JMMC, March 18, 2019, endorsed the requested adjustment of the baseline production for Ecuador to be referenced at September 2018.

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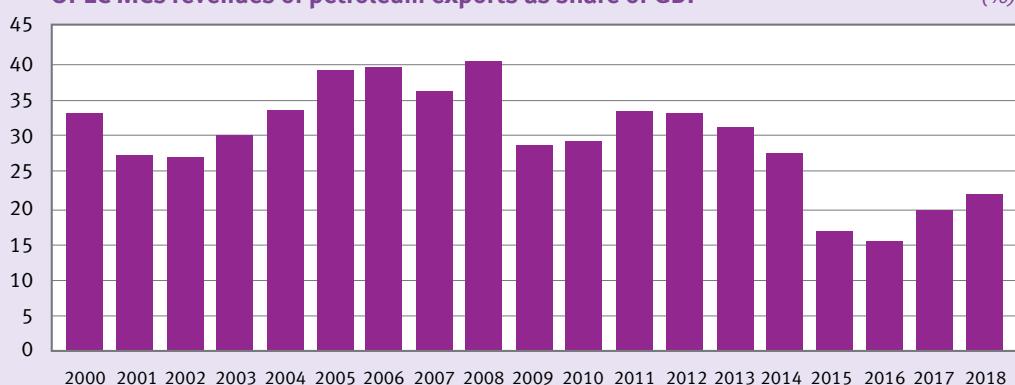
SECTION 2

Macro-economics

The economic diversification of OPEC MCs

OPEC Member Countries' economy indicators, including GDP growth and current account balance, continued to improve in 2018. The population of OPEC MCs increased by almost 11 million last year, with Nigeria, Iraq and Angola adding 5.3, 1.052 million inhabitants, respectively, thus bringing the OPEC MCs' share of global population to 6.64 per cent (up from 6.57 per cent in 2017). Real GDP increased by around 0.2 per cent y-o-y in 2018, compared to the 0.5 per cent y-o-y in 2017. Consequently, the combined OPEC MCs GDP at current market prices increased by nearly \$130 billion to \$2.954 trillion. The current account balance of OPEC MCs also improved and settled at \$200bn in 2018, up from \$71bn in 2017. This improvement materialized as the value of exports spiked by +15.5 per cent y-o-y to more than \$1.2tr in 2018, while the value of imports declined marginally y-o-y to \$755bn.

Graph 1:
OPEC MCs revenues of petroleum exports as share of GDP (%)



OPEC MCs successfully continued to improve the diversification of their economies and be less dependent on petroleum export revenues. The share of OPEC MCs petroleum export revenues to GDP has decreased by around six percentage points over the last five years. Declines have been registered in all OPEC MCs, as local governments commissioned a number of initiatives and programmes to promote the development of high value-added non-oil industries, including manufacturing and services. The trend of diversification is also confirmed when analyzing the share of non-petroleum export revenues to GDP at comparable oil price levels (see **Graph 2**). Over the last four years (2015–18) this ratio has been between 78 per cent and 85 per cent, which is between 20 and 15 percentage points higher, as against the same ratio in years of comparable oil prices (2005, 2006, 2007, 2009).

Graph 2:
Share of non-petroleum export revenues to GDP (%)

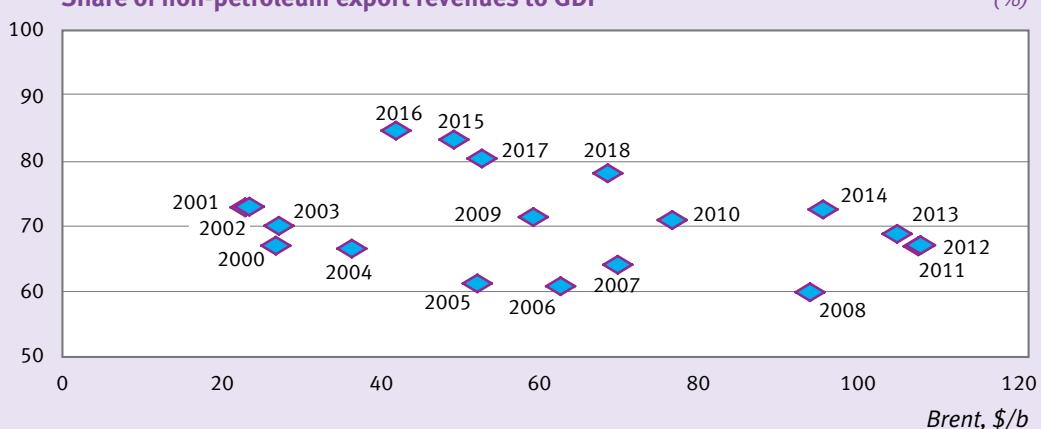


Table 2.1
OPEC Members' population

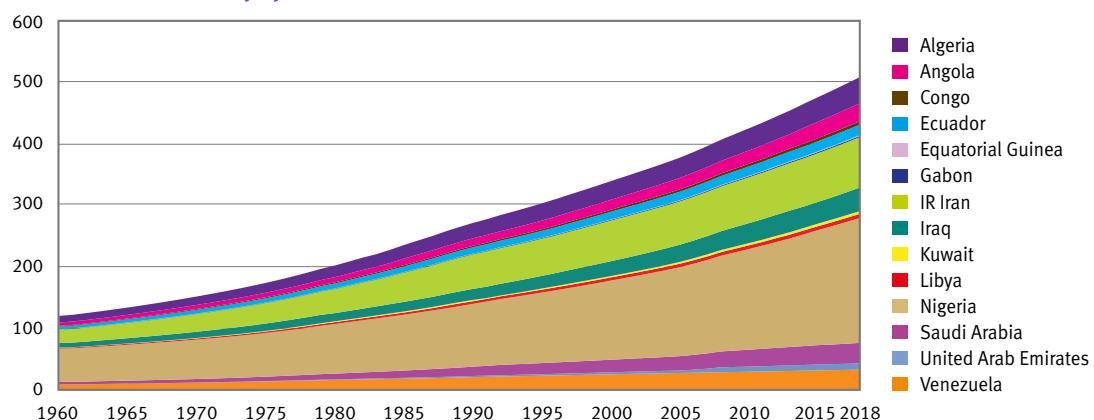
(million inhabitants)

	2014	2015	2016	2017	2018	change 18/17
Algeria	39.11	39.96	40.84	41.72	42.58	0.86
Angola	25.79	26.68	27.50	28.36	29.25	0.89
Congo	4.87	5.00	5.13	5.26	5.40	0.14
Ecuador	16.03	16.28	16.53	16.78	17.02	0.24
Equatorial Guinea	1.13	1.18	1.22	1.27	1.31	0.05
Gabon	1.83	1.86	1.88	1.93	1.97	0.04
IR Iran	78.41	79.36	80.28	81.16	82.01	0.85
Iraq	34.82	35.21	36.17	37.14	38.12	0.98
Kuwait	4.09	4.24	4.41	4.50	4.62	0.12
Libya	6.26	6.32	6.39	6.47	6.56	0.10
Nigeria	181.89	187.15	192.41	197.70	202.99	5.29
Saudi Arabia	30.77	31.52	31.79	32.55	33.41	0.86
United Arab Emirates	9.30	9.58	9.86	9.99	10.14	0.15
Venezuela	30.21	30.62	31.03	31.44	31.84	0.40
OPEC	464.51	474.95	485.43	496.26	507.23	10.97

Graph 2.1

OPEC Members' population

(million inhabitants)



Graph 2.2

Population as a share of total OPEC, 2018

(%)

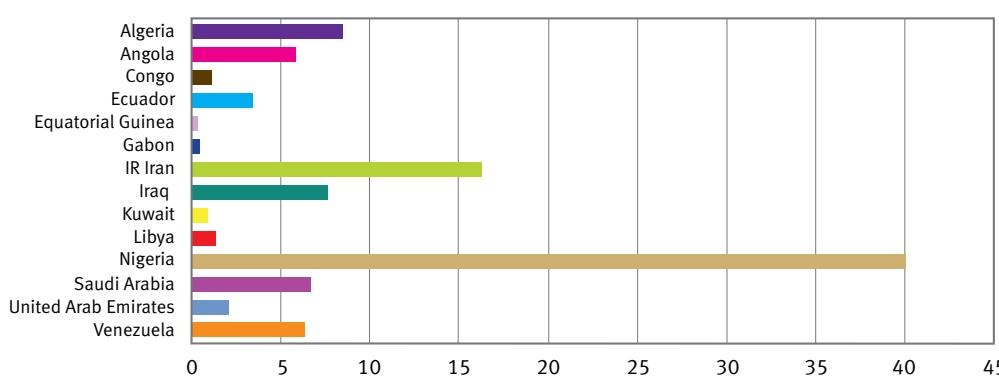


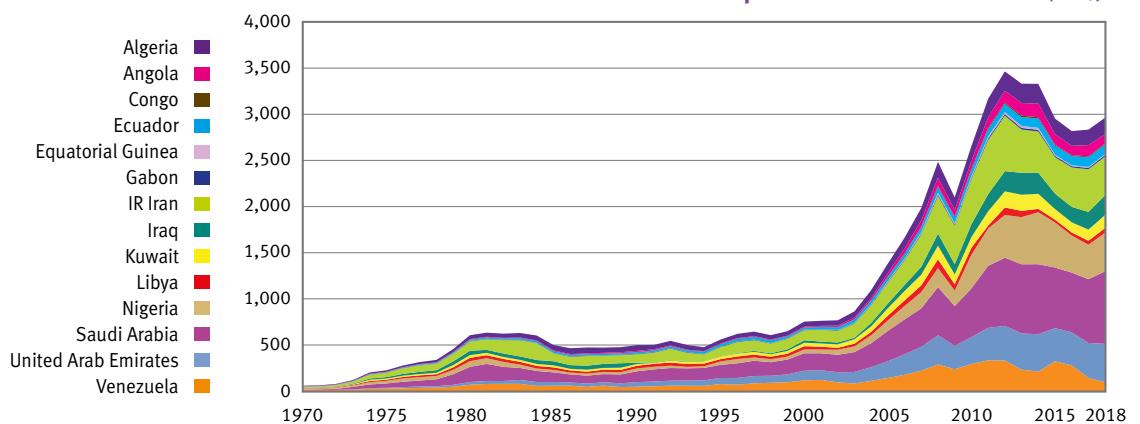
Table 2.2
OPEC Members' GDP at current market prices

(m \$)

	2014	2015	2016	2017	2018
Algeria	213,947	166,250	159,017	167,575	178,259
Angola	145,712	116,194	101,124	122,124	99,150
Congo	14,177	8,550	9,035	8,720	10,160
Ecuador	101,730	99,290	99,938	104,300	103,700
Equatorial Guinea	21,462	12,162	10,178	10,725	10,856
Gabon	18,209	14,385	14,020	14,620	17,210
IR Iran	443,976	393,436	425,403	460,976	418,582
Iraq	228,416	166,822	166,603	190,967	212,407
Kuwait	162,696	114,534	109,407	119,534	141,705
Libya	36,143	30,063	33,308	43,774	49,716
Nigeria	561,603	487,093	400,365	371,886	417,410
Saudi Arabia	756,350	654,270	644,936	688,586	782,484
United Arab Emirates	403,137	358,135	357,045	377,701	414,179
Venezuela	212,347	323,595	279,249	143,841	98,468
OPEC	3,319,905	2,944,779	2,809,627	2,825,328	2,954,286

Graph 2.3
OPEC Members' GDP at current market prices

(bn \$)



Graph 2.4
GDP at current market prices as a share of total OPEC, 2018

(%)

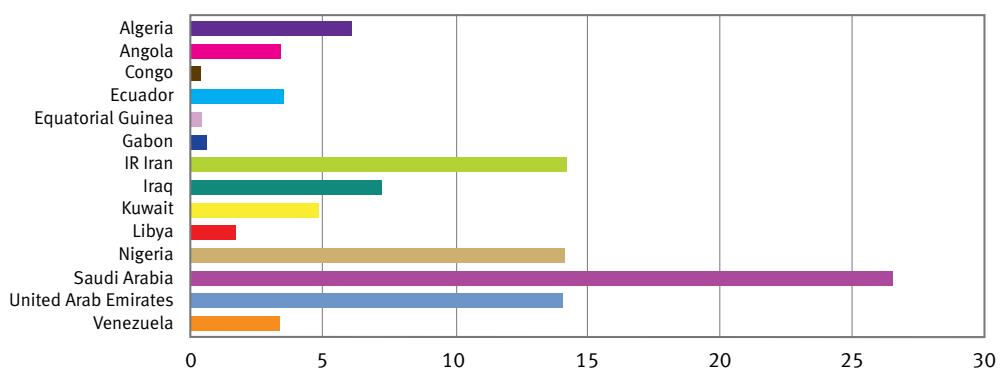


Table 2.3

OPEC Members' real GDP growth rates PPP based weights

(%)

	2014	2015	2016	2017	2018
Algeria	3.8	3.7	3.2	1.4	1.9
Angola	4.8	0.9	-2.6	0.7	-1.0
Congo	6.8	2.6	-2.8	-3.1	1.5
Ecuador	3.8	0.1	-1.2	2.4	1.2
Equatorial Guinea	0.4	-9.1	-8.6	-3.2	-5.9
Gabon	4.4	3.9	2.1	0.5	2.0
IR Iran	3.2	-1.6	12.5	3.7	-3.0
Iraq	0.7	2.5	13.1	1.0	2.0
Kuwait	0.6	-1.0	2.2	-3.3	1.4
Libya	-53.0	-13.0	-7.4	64.0	16.0
Nigeria	6.3	2.7	-1.6	0.8	1.9
Saudi Arabia	3.7	4.1	1.7	-0.9	2.1
United Arab Emirates	4.4	5.1	3.0	0.8	2.8
Venezuela	-3.9	-6.2	-16.5	-14.0	-13.0
OPEC	1.7	1.2	2.9	0.5	0.2

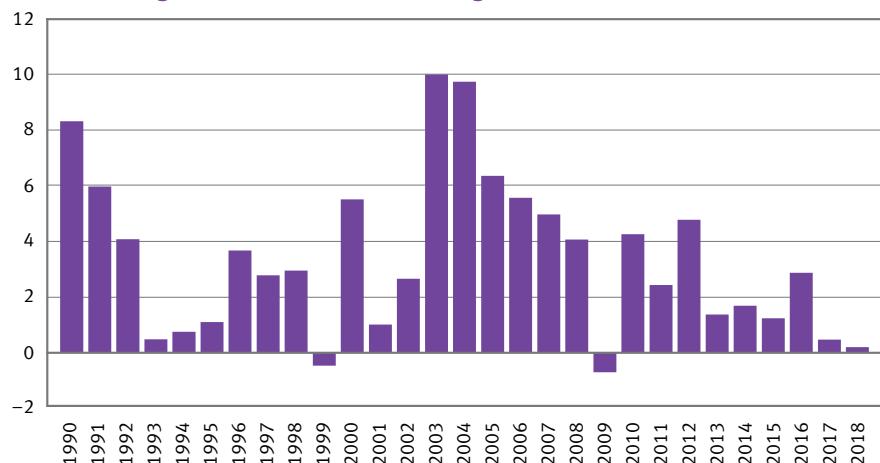
Notes:

Aggregates were compiled on the basis of 2011 GDP weights using 2011 purchasing power parities (PPP).

Graph 2.5

Real GDP growth rates PPP based weights for total OPEC

(%)



Graph 2.6

Real GDP growth rates for OPEC Members

(%)

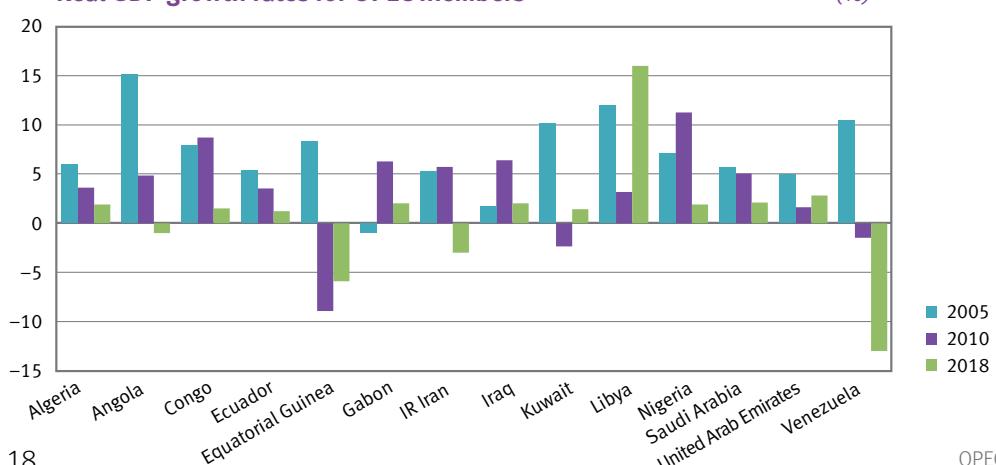


Table 2.4
OPEC Members' values of exports

(m \$)

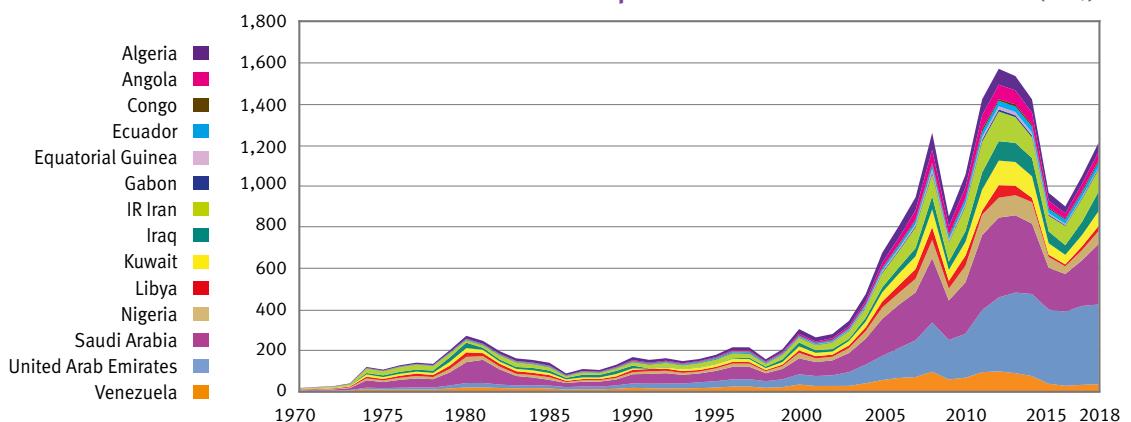
	2014	2015	2016	2017	2018
Algeria	64,659	38,549	33,398	37,937	44,117
Angola	59,170	33,181	25,935	34,471	40,774
Congo	9,155	6,078	5,650	7,458	9,836
Ecuador	28,536	21,107	19,407	21,559	24,359
Equatorial Guinea	14,364	7,071	5,751	5,017	5,492
Gabon	9,158	5,607	4,519	5,667	6,510
IR Iran	100,541	76,185	93,868	110,764	107,435
Iraq	88,949	57,577	46,830	63,604	95,256
Kuwait	104,791	55,335	46,617	55,175	71,931
Libya	20,826	11,392	9,446	18,379	24,814
Nigeria	104,803	52,525	37,301	49,492	63,020
Saudi Arabia	342,457	203,537	183,608	221,862	294,544
United Arab Emirates	399,570	361,253	360,626	384,044	388,179
Venezuela	74,714	37,253	27,414	32,050	34,996
OPEC	1,421,694	966,649	900,369	1,047,478	1,211,262

Notes:

All figures fob.

Graph 2.7
OPEC Members' values of exports

(bn \$)



Graph 2.8
Values of exports as a share of total OPEC, 2018

(%)

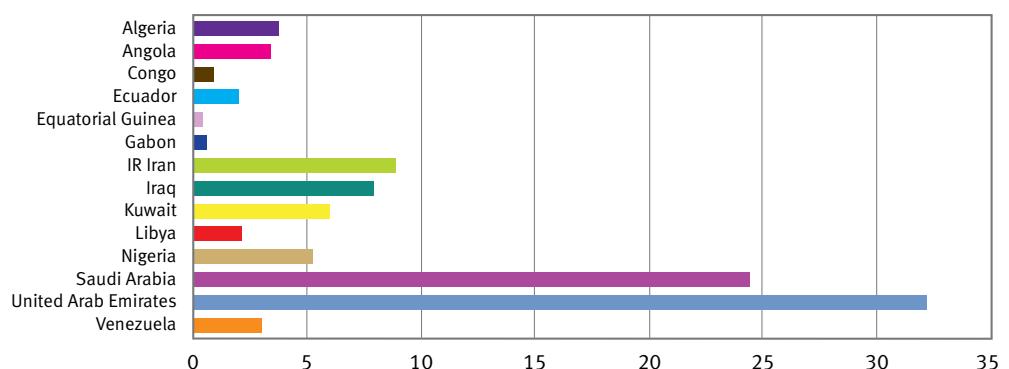


Table 2.5

OPEC Members' values of petroleum exports

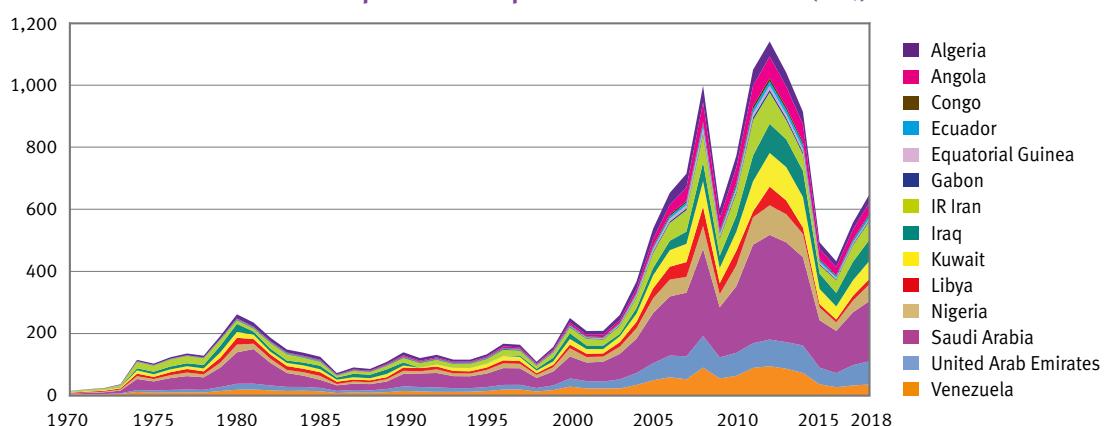
(m \$)

	2014	2015	2016	2017	2018
Algeria	40,628	21,742	18,643	22,355	26,092
Angola	56,614	31,509	25,691	31,550	36,323
Congo	8,123	3,988	3,444	3,902	4,455
Ecuador	13,276	6,660	5,459	6,914	9,832
Equatorial Guinea	11,058	5,911	4,352	4,689	5,353
Gabon	6,912	3,740	3,128	3,695	4,218
IR Iran	53,652	27,308	41,123	52,728	60,198
Iraq	84,303	49,211	43,684	59,730	68,192
Kuwait	98,631	49,088	42,086	50,240	58,393
Libya	20,357	10,973	9,313	15,014	17,141
Nigeria	75,196	41,168	27,295	37,983	54,513
Saudi Arabia	284,558	152,910	136,194	170,241	194,358
United Arab Emirates	88,855	53,836	45,559	65,641	74,940
Venezuela	71,731	35,136	25,942	31,497	34,674
OPEC	913,893	493,181	431,912	556,178	648,683

Graph 2.9

OPEC Members' values of petroleum exports

(bn \$)



Graph 2.10

Values of petroleum exports as a share of total OPEC, 2018

(%)

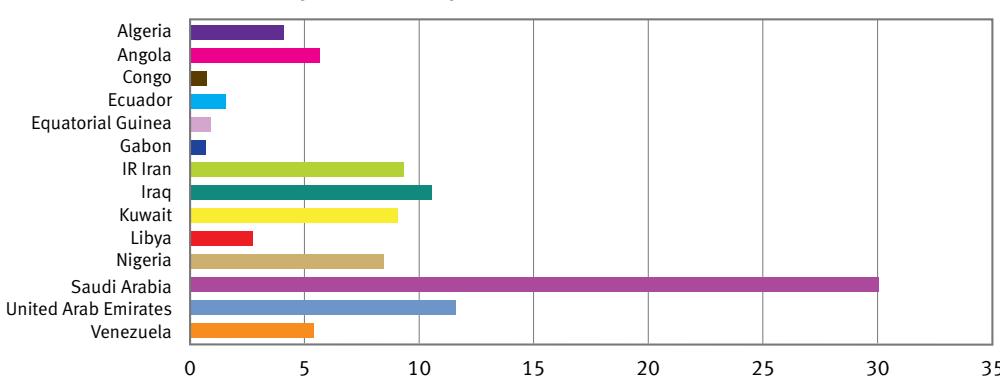


Table 2.6
OPEC Members' values of imports

(m \$)

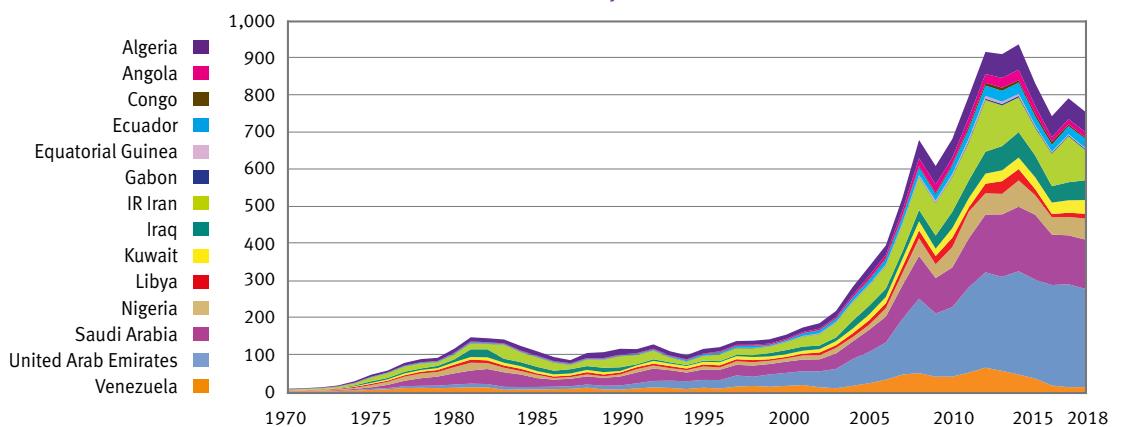
	2014	2015	2016	2017	2018
Algeria	68,312	60,761	56,089	56,140	54,246
Angola	28,587	20,095	12,664	14,046	14,186
Congo	5,856	8,048	7,707	4,553	3,808
Ecuador	30,168	23,815	18,884	21,866	25,345
Equatorial Guinea	5,946	3,689	3,182	2,551	2,479
Gabon	4,055	3,376	2,651	2,823	3,161
IR Iran	93,254	74,373	87,191	123,935	81,797
Iraq	68,618	58,517	44,116	48,506	53,191
Kuwait	31,027	31,910	30,830	33,594	36,786
Libya	30,419	16,429	8,667	11,357	12,833
Nigeria	70,778	52,525	46,552	49,508	56,645
Saudi Arabia	173,834	174,675	135,889	131,650	132,633
United Arab Emirates	277,903	266,276	270,442	277,086	264,765
Venezuela	47,508	36,496	17,977	13,364	13,505
OPEC	936,264	830,985	742,842	790,978	755,379

Notes:

All figures cif.

Graph 2.11
OPEC Members' values of imports

(bn \$)



Graph 2.12
Values of imports as a share of total OPEC, 2018

(%)

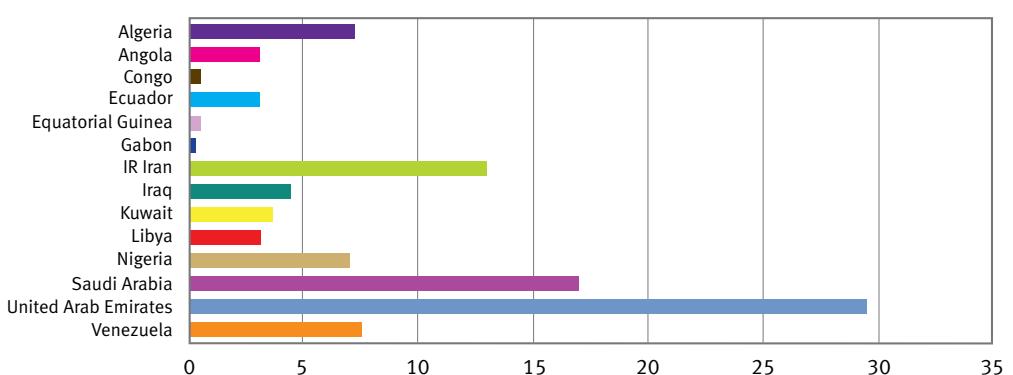


Table 2.7

Current account balances in OPEC Members

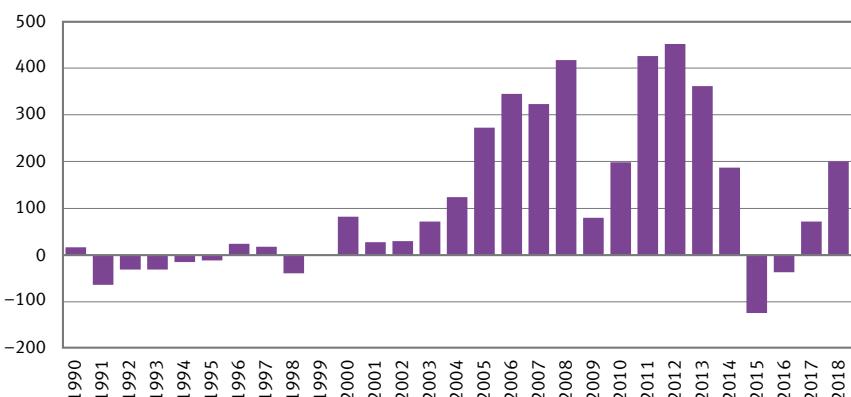
(m \$)

	2014	2015	2016	2017	2018
Algeria	-9,277	-27,289	-26,217	-22,093	-15,940
Angola	-3,748	-10,273	-3,085	-633	7,502
Congo	679	-4,629	-3,594	1,069	2,348
Ecuador	-522	-2,112	1,441	-260	-725
Equatorial Guinea	-929	-2,150	-1,067	-1,092	-1,181
Gabon	1,344	-779	-1,279	-699	-435
IR Iran	13,571	1,237	16,388	15,816	18,427
Iraq	15,865	-1,913	2,158	14,841	33,764
Kuwait	54,408	4,014	-5,058	7,094	20,481
Libya	-18,788	-9,233	-4,610	439	4,961
Nigeria	907	-15,439	2,722	10,399	5,334
Saudi Arabia	73,758	-56,724	-23,843	10,464	72,337
United Arab Emirates	54,497	17,563	13,206	27,474	37,849
Venezuela	4,919	-16,051	-3,870	8,706	15,168
OPEC	186,683	-123,778	-36,708	71,526	199,889

Graph 2.13

Current account balances in total OPEC

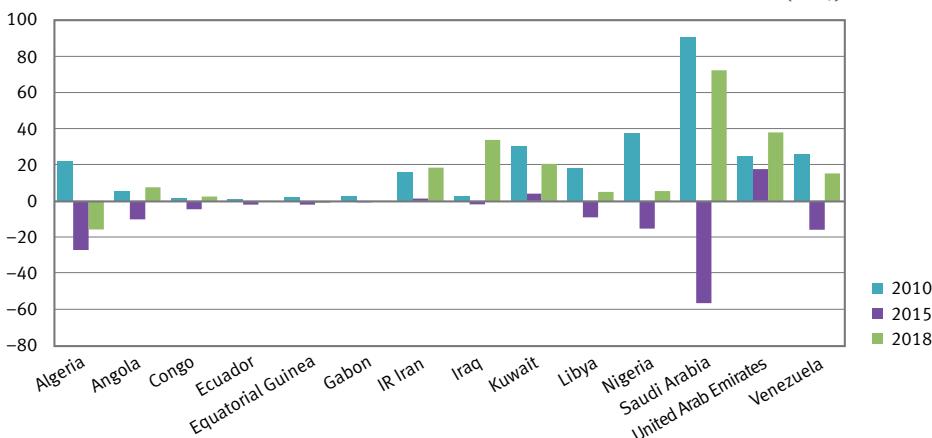
(bn \$)



Graph 2.14

Current account balances in OPEC Members

(bn \$)



SECTION 3

Oil data: upstream

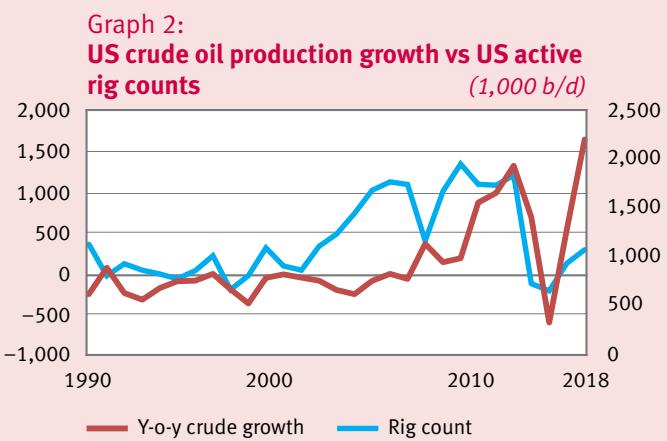
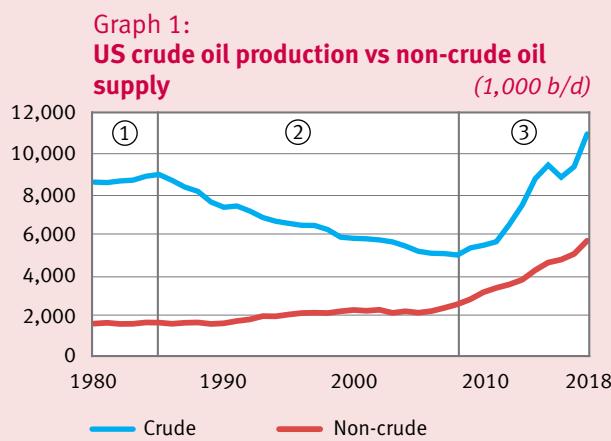
Recent developments in oil supply

The year 2018 saw substantial global supply growth. Total oil liquids production increased significantly by 2.60 million barrels/day, outpacing oil demand growth by more than 1m b/d in 2018. The increase was once more driven by outstanding production gains in North America, particularly in the United States. In contrast, crude oil production from OPEC Member Countries, as well as from other non-OPEC countries showed declines.

In total, OPEC crude oil production showed a drop of around 400,000 b/d year-on-year. Among non-OPEC countries, the biggest production losses were observed for Mexico and Norway. Mexico continues its falling trend with 14 years of production deteriorations in a row, on the back of natural declines at mature fields, as well as investment cuts. Norway has managed to stabilize oil output in recent years, after continue declines for over a decade in the early 2000s. Yet, technical problems on some fields and unplanned shutdowns caused Norway's 2018 oil supply to decrease by over 100,000 b/d y-o-y.

Brazil was expected to increase its production in 2018 substantially, with a number of subsalt projects coming onstream during this year. However, project delays and maintenance shutdowns at some fields were the reasons that not even 2017 production levels could be maintained for crude production and the minor increase in total supply came only from biofuels production.

With regard to countries with increasing oil production in 2018, output expansions were clearly driven by North America, notably by the United States. Oil supply in the US increased by around 2.3m b/d in the year 2018, representing almost 80 per cent of total non-OPEC supply growth. About 1.6m b/d of the total US supply surge came from crude oil (mainly from tight formation) and 700,000 b/d from non-crude elements (especially of NGLs), marking a growth of 17 per cent and 13 per cent, respectively (see Graph 1).



From Graph 1, one can also observe three periods of production trends in the US within the last 40 years. Up to 1985, production from both crude and non-crude elements was rather flat, slightly increasing (indicated as period ① in the graph). Between 1985 and 2008 (period ②), output of non-crude elements grew, partly offsetting the losses in crude production. Thereafter and indicated as period ③, all elements of supply surged.

Furthermore, it should be noted that the high output growth did not go together with comparable increases in rig counts (see Graph 2). Although rig counts have recovered from the lows of the year 2016, they are still far below the levels overserved in the years before. This development might be due to improved drilling and well productivity, as well as to production coming from wells which were drilled earlier but not completed.

Finally, the second main contributor to supply growth in 2018 was Canada, experiencing oil output gains of 370,000 b/d, with the bulk coming from Alberta oil sands.

Oil data: upstream

Table 3.1
World proven crude oil reserves by country

(m b)

	2014	2015	2016	2017	2018	change 18/17
North America	40,669.0	36,450.0	37,130.0	43,581.0	51,541.0	18.3
Canada ¹	4,284.0	4,132.0	4,357.0	4,421.0	4,421.0	–
United States	36,385.0	32,318.0	32,773.0	39,160.0	47,120.0	20.3
Latin America	341,189.9	342,326.3	336,980.8	336,210.0	335,655.0	-0.2
Argentina	2,354.2	2,379.7	2,185.0	2,162.0	2,017.0	-6.7
Brazil	15,544.0	16,184.1	12,999.8	12,634.0	12,835.0	1.6
Colombia	2,445.0	2,308.0	2,002.0	1,665.0	1,782.0	7.0
Ecuador	8,273.0	8,273.0	8,273.0	8,273.0	8,273.0	–
Mexico	9,812.0	9,711.0	7,142.0	6,537.0	5,807.0	-11.2
Venezuela	299,953.2	300,878.0	302,250.0	302,809.0	302,809.0	–
Others	2,808.6	2,592.5	2,129.0	2,130.0	2,132.0	0.1
Eastern Europe and Eurasia	119,863.0	119,859.7	119,856.0	119,841.0	119,837.0	–
Azerbaijan	7,000.0	7,000.0	7,000.0	7,000.0	7,000.0	–
Belarus	198.0	198.0	198.0	198.0	198.0	–
Kazakhstan	30,000.0	30,000.0	30,000.0	30,000.0	30,000.0	–
Russia	80,000.0	80,000.0	80,000.0	80,000.0	80,000.0	–
Turkmenistan	600.0	600.0	600.0	600.0	600.0	–
Ukraine	395.0	395.0	395.0	395.0	395.0	–
Uzbekistan	594.0	594.0	594.0	594.0	594.0	–
Others	1,076.0	1,072.7	1,069.0	1,054.0	1,050.0	-0.4
Western Europe	11,802.6	12,905.4	12,214.0	12,419.0	13,194.0	6.2
Denmark	611.0	511.0	491.0	439.0	428.0	-2.5
Norway	6,539.0	8,005.0	7,601.0	7,918.0	8,754.0	10.6
United Kingdom	2,982.1	2,754.7	2,564.0	2,500.0	2,500.0	–
Others	1,670.5	1,634.7	1,558.0	1,562.0	1,512.0	-3.2
Middle East	802,511.9	802,847.5	807,729.5	804,639.0	803,184.0	-0.2
IR Iran	157,530.0	158,400.0	157,200.0	155,600.0	155,600.0	–
Iraq	143,069.4	142,503.0	148,765.5	147,223.0	145,019.0	-1.5
Kuwait	101,500.0	101,500.0	101,500.0	101,500.0	101,500.0	–
Oman	5,151.0	5,306.0	5,373.0	5,373.0	5,373.0	–
Qatar	25,244.0	25,244.0	25,244.0	25,244.0	25,244.0	–
Saudi Arabia	266,578.0	266,455.0	266,208.0	266,260.0	267,026.0	0.3
Syrian Arab Republic	2,500.0	2,500.0	2,500.0	2,500.0	2,500.0	–
United Arab Emirates	97,800.0	97,800.0	97,800.0	97,800.0	97,800.0	–
Others	3,139.5	3,139.5	3,139.0	3,139.0	3,122.0	-0.5
Africa	127,952.0	128,574.0	128,875.0	127,677.0	126,722.0	-0.7
Algeria	12,200.0	12,200.0	12,200.0	12,200.0	12,200.0	–
Angola	8,423.0	9,524.0	9,523.0	8,384.0	8,160.0	-2.7
Congo	2,867.0	2,982.0	2,982.0	2,982.0	2,982.0	–
Egypt	3,681.0	3,473.0	3,384.0	3,325.0	3,075.0	-7.5
Equatorial Guinea	1,100.0	1,100.0	1,100.0	1,100.0	1,100.0	–
Gabon	2,000.0	2,000.0	2,000.0	2,000.0	2,000.0	–
Libya	48,363.0	48,363.0	48,363.0	48,363.0	48,363.0	–
Nigeria	37,448.0	37,062.0	37,453.0	37,453.0	36,972.0	-1.3
Sudans	5,000.0	5,000.0	5,000.0	5,000.0	5,000.0	–
Others	6,870.0	6,870.0	6,870.0	6,870.0	6,870.0	–
Asia and Pacific	48,265.2	47,491.0	47,876.0	47,793.0	47,853.0	0.1
Australia	3,982.0	3,982.0	3,985.0	3,985.0	3,995.0	0.3
Brunei	1,100.0	1,100.0	1,100.0	1,100.0	1,100.0	–
China	24,648.8	25,132.1	25,620.0	25,627.0	25,927.0	1.2
India	5,743.0	4,786.0	4,622.0	4,495.0	4,423.0	-1.6
Indonesia	3,303.0	3,230.0	3,230.0	3,310.0	3,170.0	-4.2
Malaysia	3,750.0	3,600.0	3,600.0	3,600.0	3,600.0	–
Vietnam	4,400.0	4,400.0	4,400.0	4,400.0	4,400.0	–
Others	1,338.4	1,260.8	1,319.0	1,276.0	1,238.0	-3.0
Total world	1,492,253.6	1,490,453.8	1,490,661.3	1,492,160.0	1,497,986.0	0.4
<i>of which</i>						
OPEC	1,187,104.6	1,189,040.0	1,195,617.5	1,191,947.0	1,189,804.0	-0.2
<i>OPEC percentage</i>	79.6	79.8	80.2	79.9	79.4	
OECD	66,585.0	63,362.0	60,773.0	66,811.0	74,812.0	12.0
FSU	118,886.0	118,886.0	118,886.0	118,886.0	118,886.0	–

Notes: Figures as at year-end.

1. Data excludes oil sands.

Table 3.2
Active rigs by country

	2014	2015	2016	2017	2018	change 18/17
North America	2,255	855	843	1,135	1,219	84
Canada	374	144	209	205	141	-64
United States	1,881	711	634	930	1,078	148
Latin America	553	389	270	343	337	-6
Argentina	113	91	59	71	74	3
Bolivia	6	5	5	3	3	-
Brazil	42	38	13	14	10	-4
Colombia	46	12	19	25	30	5
Ecuador	41	7	7	14	28	14
Mexico	72	42	19	15	31	16
Trinidad & Tobago	3	7	3	5	2	-3
Venezuela	221	182	138	189	151	-38
Others	9	5	7	7	8	1
Eastern Europe and Eurasia¹	24	21	16	15	18	3
Poland	7	12	8	6	6	-
Romania	15	7	6	7	10	3
Others	2	2	2	2	2	-
Western Europe	122	93	83	72	77	5
Germany	3	6	4	3	5	2
Italy	4	3	4	4	3	-1
Netherlands	10	4	2	4	1	-3
Norway	14	17	16	16	18	2
United Kingdom	20	9	11	5	11	6
Others	71	54	46	40	39	-1
Middle East	494	529	566	535	567	32
IR Iran	135	130	153	157	157	-
Iraq	69	65	44	54	80	26
Kuwait	45	58	58	78	85	7
Oman	57	73	59	55	51	-4
Qatar	6	6	10	17	9	-8
Saudi Arabia	145	145	161	111	125	14
United Arab Emirates	30	51	79	59	57	-2
Yemen	3	-	-	-	-	-
Others	4	1	2	4	3	-1
Africa	268	214	141	118	173	55
Algeria	49	49	52	50	50	-
Angola	37	30	10	7	8	1
Congo	9	10	10	10	16	6
Egypt	52	44	24	22	27	5
Equatorial Guinea	3	2	2	2	2	-
Gabon	7	2	0	2	4	2
Libya	31	31	17	1	9	8
Nigeria	46	29	9	13	32	19
Others	34	17	17	11	25	14
Asia and Pacific	274	221	213	237	250	13
Australia	18	16	9	14	22	8
China ²	36	25	25	32	35	3
India	114	100	116	116	124	8
Indonesia	40	25	16	34	24	-10
Malaysia	8	5	4	7	7	-
New Zealand	6	-	-	-	1	1
Pakistan	19	23	21	20	19	-1
Others	33	27	22	14	18	4
Total world^{1,2}	3,990	2,322	2,132	2,455	2,641	186
<i>of which</i>						
OPEC	868	791	740	747	804	57
OPEC percentage	21.8	34.1	34.7	30.4	30.4	
OECD	2,462	998	950	1,228	1,345	117

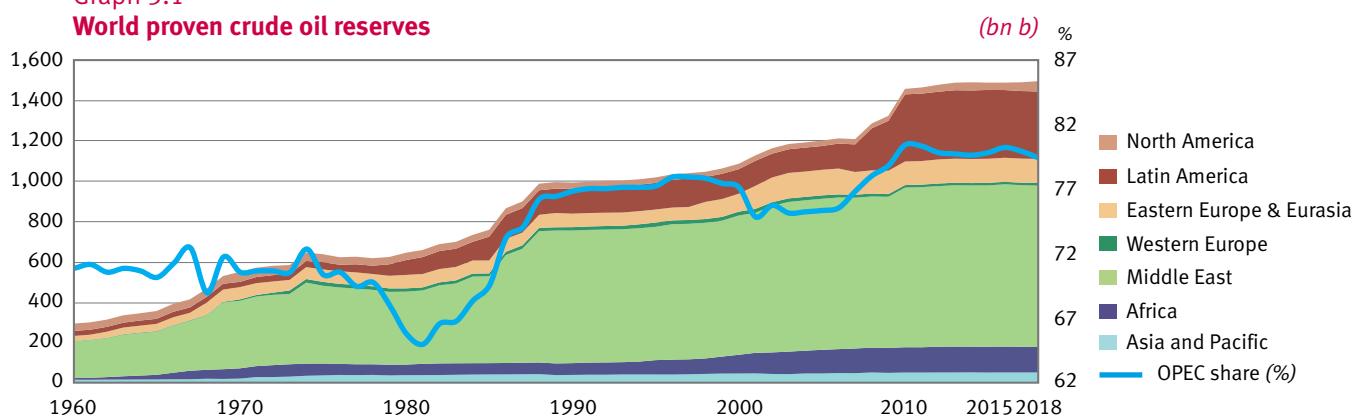
Notes:

Figure as at year end.

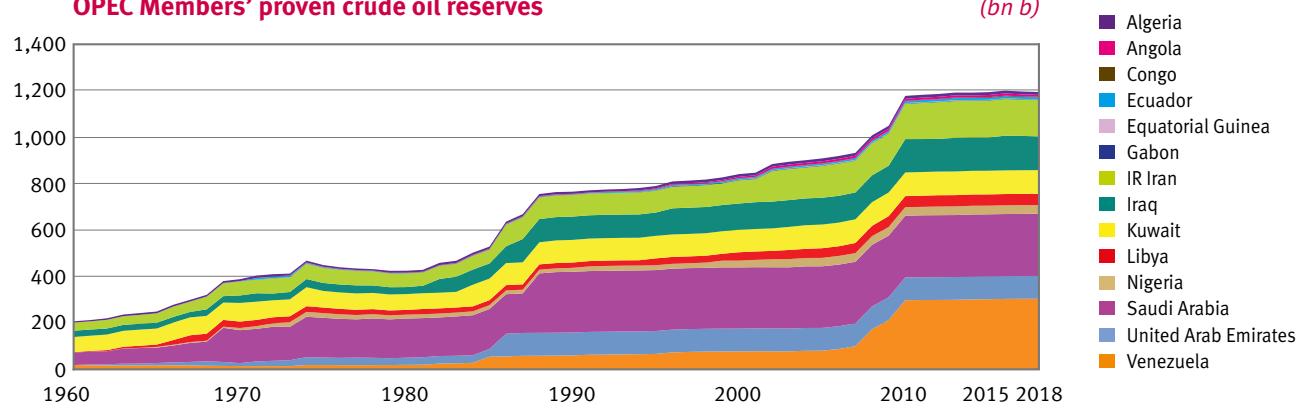
1. Excluding FSU.

2. Excluding onshore rigs for China.

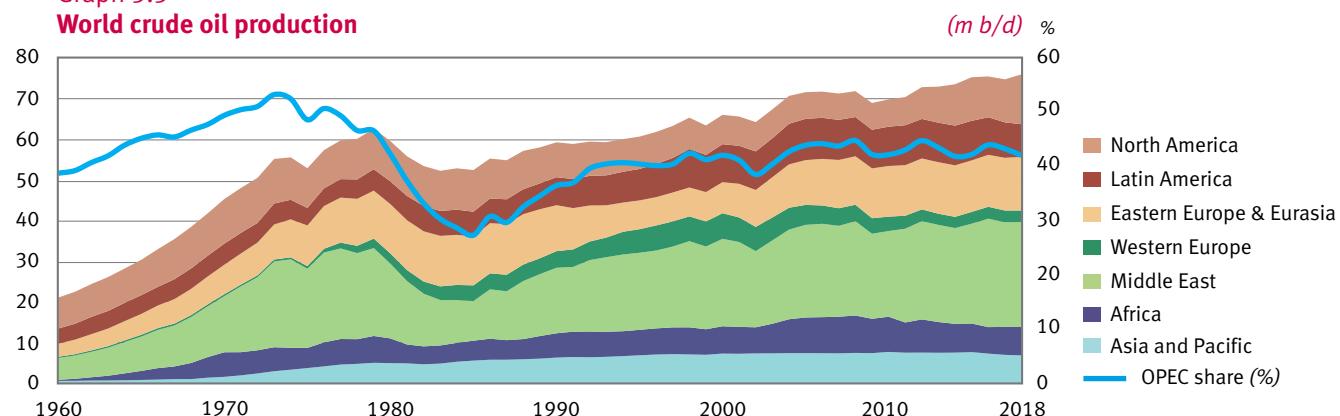
Graph 3.1
World proven crude oil reserves



Graph 3.2
OPEC Members' proven crude oil reserves



Graph 3.3
World crude oil production



Graph 3.4
OPEC Members' crude oil production

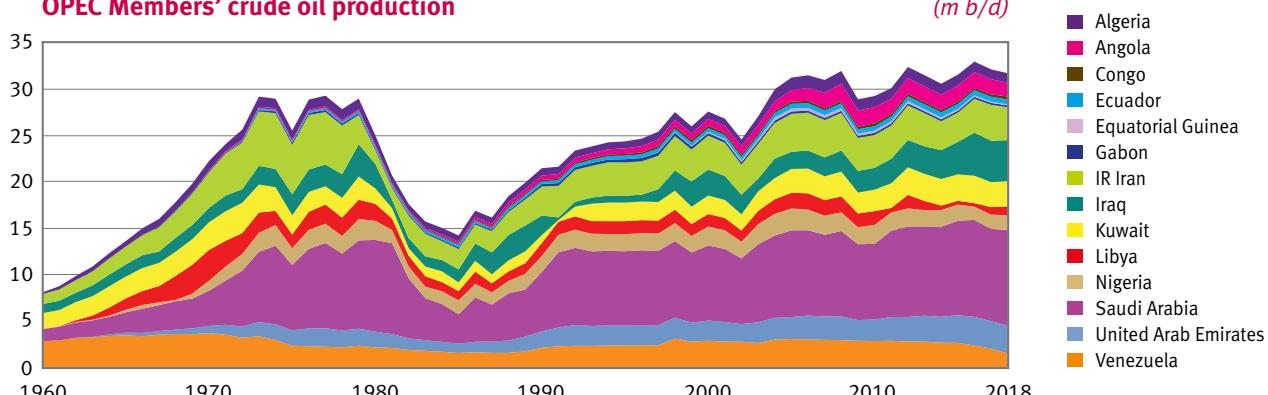


Table 3.3
Wells completed in OPEC Members

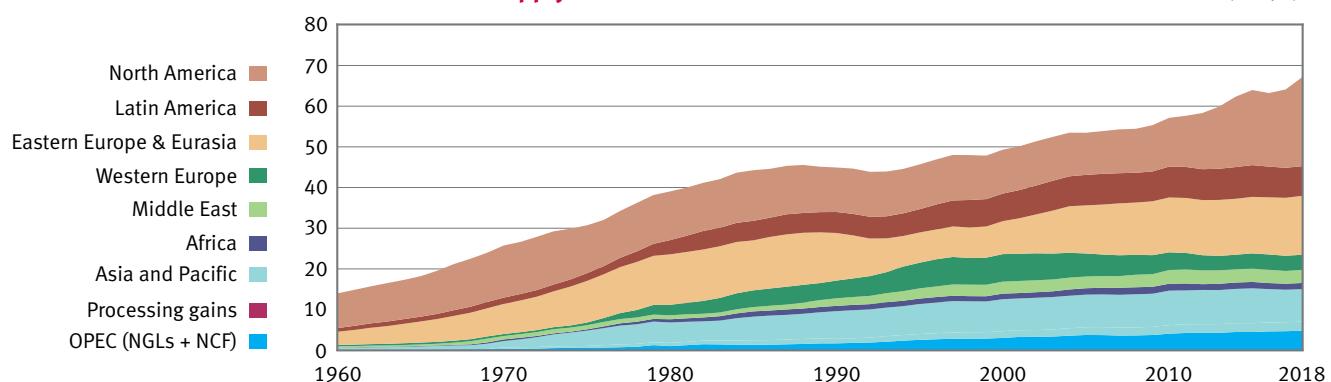
	2014	2015	2016	2017	2018	change 18/17
Algeria	215	250	292	332	277	-55
Angola	87	92	67	43	32	-11
Congo	65	44	64	64	80	16
Ecuador	327	210	86	111	157	46
Equatorial Guinea	48	33	10	5	5	-
Gabon	51	38	14	11	13	2
IR Iran	306	288	206	216	195	-21
Iraq	281	154	131	139	144	5
Kuwait ¹	596	622	622	555	488	-67
Libya	162	35	14	5	9	4
Nigeria	141	116	76	76	81	5
Saudi Arabia ¹	538	616	622	594	599	5
United Arab Emirates	292	219	271	364	369	5
Venezuela	669	635	736	478	710	232
OPEC	3,778	3,352	3,211	2,993	3,159	166
Total world	101,670	71,308	52,086	65,618	70,511	4,893

Notes:

1. Figures include share of wells completed from Neutral Zone.

Graph 3.5
Non-OPEC oil supply and OPEC NGLs

(m b/d)



Oil data: upstream

Table 3.4

Daily and cumulative crude oil production in OPEC Members

(1,000 b)

Daily crude oil production

(average)

	1970	1980	1990	2000	2010	2018
Algeria	1,029.1	1,019.9	783.5	796.0	1,189.8	1,040.1
Angola	83.9	150.0	473.8	736.1	1,757.6	1,473.3
Congo	–	55.8	156.0	267.1	308.6	323.5
Ecuador	4.1	204.1	286.1	392.2	476.4	517.2
Equatorial Guinea	–	–	–	115.3	237.1	120.2
Gabon	108.8	174.5	274.4	282.8	233.2	193.4
IR Iran	3,829.0	1,467.4	3,135.3	3,661.3	3,544.0	3,553.0
Iraq	1,548.6	2,646.4	2,112.6	2,810.0	2,358.1	4,410.0
Kuwait ¹	2,989.6	1,663.7	858.6	1,996.1	2,312.1	2,736.6
Libya	3,318.0	1,831.6	1,389.1	1,347.2	1,486.6	951.2
Nigeria	1,083.1	2,058.0	1,726.7	2,053.6	2,048.3	1,601.6
Saudi Arabia ¹	3,799.1	9,900.5	6,412.5	8,094.5	8,165.6	10,317.3
United Arab Emirates	779.6	1,701.9	1,762.6	2,174.7	2,323.8	3,008.3
Venezuela	3,708.0	2,165.0	2,135.2	2,891.0	2,853.6	1,510.2
OPEC	22,280.9	25,038.8	21,506.4	27,617.8	29,294.9	31,755.9

Cumulative crude oil production up to and including year

	1970	1980	1990	2000	2010	2018
Algeria	2,569,469	6,404,548	8,974,340	11,837,030	16,079,015	19,424,404
Angola	76,423	623,359	1,681,478	3,972,081	8,818,353	13,665,742
Congo	5,406	83,269	503,937	1,277,335	2,185,806	2,943,091
Ecuador	26,191	617,927	1,526,131	2,843,162	4,547,455	6,091,559
Equatorial Guinea	–	–	–	125,946	1,080,047	1,622,958
Gabon	195,732	870,019	1,507,592	2,691,226	3,586,461	4,214,502
IR Iran	12,357,977	29,969,896	38,410,483	51,367,070	65,152,744	75,464,593
Iraq	7,476,078	15,826,156	22,246,208	26,918,241	34,596,929	45,085,755
Kuwait ¹	13,028,906	21,993,164	25,857,094	32,092,887	40,548,105	48,832,773
Libya	5,476,384	12,810,843	16,929,582	21,993,272	27,594,678	29,774,527
Nigeria	1,138,896	8,389,456	13,656,562	20,572,881	28,198,355	33,239,594
Saudi Arabia ¹	13,283,848	42,306,785	61,814,608	91,266,532	122,387,773	151,371,823
United Arab Emirates	1,160,471	7,164,231	11,921,927	19,785,670	28,265,801	36,615,347
Venezuela	26,301,976	36,046,663	42,528,079	51,772,971	62,363,887	69,569,905
OPEC	83,097,755	183,106,315	247,558,020	338,516,302	445,405,410	537,916,573

Notes:

1. Figures include share of production from Neutral Zone.

Table 3.5
World crude oil production by country

(1,000 b/d)

	2014	2015	2016	2017	2018	% change 18/17
North America	10,158.6	10,694.2	10,016.1	10,564.4	12,237.7	15.8
Canada	1,399.8	1,263.4	1,185.5	1,212.8	1,276.0	5.2
United States	8,758.7	9,430.8	8,830.6	9,351.6	10,961.7	17.2
Latin America	9,740.7	9,714.0	9,218.7	8,703.6	8,006.6	-8.0
Argentina	532.2	532.3	510.6	479.5	489.4	2.1
Brazil	2,254.6	2,437.3	2,510.0	2,621.8	2,586.5	-1.3
Chile	6.6	4.5	3.7	3.0	3.0	0.3
Colombia	990.3	1,005.6	883.3	853.6	865.2	1.4
Ecuador	556.6	543.1	549.0	531.3	517.2	-2.6
Mexico	2,428.9	2,266.8	2,153.5	1,948.4	1,813.0	-7.0
Peru	69.3	58.0	40.3	43.5	48.9	12.4
Trinidad & Tobago	81.2	78.6	71.5	71.8	63.5	-11.5
Venezuela	2,682.6	2,653.9	2,372.5	2,034.8	1,510.2	-25.8
Others	138.4	133.9	124.5	115.8	109.6	-5.4
Eastern Europe and Eurasia	12,640.8	12,645.2	12,756.6	12,929.5	13,166.3	1.8
Azerbaijan	793.1	786.7	769.8	729.2	725.0	-0.6
Kazakhstan	1,344.8	1,321.6	1,295.0	1,466.8	1,547.2	5.5
Romania	80.2	78.8	75.5	72.2	70.8	-1.8
Russia	10,087.5	10,111.1	10,292.2	10,348.9	10,527.4	1.7
Turkmenistan	185.9	206.2	189.6	185.0	167.0	-9.8
Ukraine	40.7	36.2	32.3	30.1	32.3	7.6
Others	108.4	104.6	102.2	97.4	96.6	-0.8
Western Europe	2,758.5	2,899.0	2,924.0	2,871.3	2,853.5	-0.6
Denmark	164.9	156.0	140.1	136.6	114.9	-15.9
France	15.3	16.7	16.5	15.2	15.6	2.8
Germany	48.1	48.1	46.3	43.3	40.7	-6.2
Italy	106.3	100.1	70.7	77.5	89.5	15.5
Netherlands	29.7	26.9	17.8	18.2	17.6	-2.9
Norway	1,511.8	1,567.4	1,614.6	1,588.3	1,485.3	-6.5
Turkey	47.7	48.5	49.5	49.2	54.9	11.7
United Kingdom	776.0	879.7	914.8	891.2	984.9	10.5
Others	58.6	55.6	53.7	51.8	50.2	-3.1
Middle East	23,510.9	24,494.3	26,608.4	25,693.2	25,743.4	0.2
Bahrain	202.5	202.6	205.0	194.9	193.2	-0.9
IR Iran	3,117.1	3,151.6	3,651.3	3,867.3	3,553.0	-8.1
Iraq	3,110.5	3,504.1	4,647.8	4,468.7	4,410.0	-1.3
Kuwait¹	2,866.8	2,858.7	2,954.3	2,704.2	2,736.6	1.2
Oman	856.1	885.2	908.7	883.9	870.0	-1.6
Qatar	709.2	656.0	651.5	600.0	600.6	0.1
Saudi Arabia¹	9,712.7	10,192.6	10,460.2	9,959.2	10,317.3	3.6
Syrian Arab Republic	22.8	18.7	17.1	16.7	16.0	-4.0
United Arab Emirates	2,794.0	2,988.9	3,088.3	2,966.5	3,008.3	1.4
Yemen	119.2	36.0	24.2	31.8	38.4	20.5
Africa	7,065.2	7,019.8	6,506.5	6,863.8	6,970.1	1.5
Algeria	1,192.8	1,157.1	1,146.3	1,058.7	1,040.1	-1.8
Angola	1,653.7	1,767.1	1,721.6	1,632.2	1,473.3	-9.7
Congo	240.6	232.2	225.0	262.7	323.5	23.1
Egypt	573.9	578.4	544.4	530.9	548.8	3.4
Equatorial Guinea	199.8	185.3	160.1	128.6	120.2	-6.5
Gabon	210.9	213.5	220.7	210.1	193.4	-7.9
Libya	479.9	403.7	389.1	810.5	951.2	17.4
Nigeria	1,807.0	1,748.2	1,427.3	1,535.6	1,601.6	4.3
Sudans	285.6	278.6	250.2	213.3	215.8	1.2
Others	420.9	455.8	421.9	481.2	502.2	4.4
Asia and Pacific	7,485.2	7,613.5	7,245.8	6,940.9	6,802.2	-2.0
Australia	353.4	322.2	289.8	263.0	283.7	7.8
Brunei	114.4	115.3	109.1	100.6	99.5	-1.1
China	4,208.3	4,287.8	3,984.9	3,821.5	3,781.0	-1.1
India	752.8	746.8	720.8	719.9	695.6	-3.4
Indonesia	697.3	690.1	737.9	710.2	684.4	-3.6
Malaysia	610.1	660.5	656.6	648.0	650.9	0.4
New Zealand	39.5	41.3	34.7	31.5	24.4	-22.5
Others	709.3	749.4	711.9	646.2	582.6	-9.8
Total world	73,359.8	75,080.1	75,276.2	74,566.8	75,779.9	1.6
<i>of which</i>						
OPEC	30,625.1	31,600.0	33,013.4	32,170.5	31,755.9	-1.3
<i>OPEC percentage</i>	41.7	42.1	43.9	43.1	41.9	
OECD	15,750.0	16,232.1	15,429.6	15,689.6	17,226.1	9.8
FSU	12,501.0	12,509.2	12,624.6	12,804.1	13,041.6	1.9

Notes:

1. Figures include share of production from Neutral Zone.

Oil data: upstream

Table 3.6
Non-OPEC oil supply and OPEC NGLs

(1,000 b/d)

	2014	2015	2016	2017	2018	% change 18/17
North America	17,323.7	18,477.5	18,107.1	19,256.5	21,913.2	13.8
Canada	4,312.4	4,420.8	4,499.0	4,852.5	5,250.5	8.2
United States	13,011.3	14,056.7	13,608.2	14,404.0	16,662.7	15.7
Latin America	7,806.1	7,813.5	7,550.4	7,389.8	7,279.4	-1.5
Argentina	679.2	679.3	668.6	645.5	646.4	0.1
Brazil	2,859.2	3,079.7	3,122.0	3,251.9	3,299.1	1.5
Chile	8.7	5.4	4.9	6.0	9.1	51.1
Colombia	1,014.3	1,031.6	908.3	878.6	891.1	1.4
Mexico	2,801.2	2,598.8	2,464.5	2,231.9	2,076.6	-7.0
Peru	172.9	149.4	135.1	134.3	133.5	-0.6
Trinidad & Tobago	112.1	108.4	96.6	98.7	87.0	-11.8
Others	158.4	160.9	150.5	142.8	136.6	-4.4
Eastern Europe and Eurasia	13,760.4	13,903.7	14,055.7	14,259.6	14,504.9	1.7
Azerbaijan	866.2	860.1	849.1	803.9	805.0	0.1
Kazakhstan	1,623.5	1,596.3	1,562.5	1,732.9	1,814.5	4.7
Romania	83.2	81.8	78.5	75.2	73.8	-1.8
Russia	10,675.4	10,846.3	11,083.3	11,170.9	11,346.5	1.6
Turkmenistan	217.9	238.3	221.7	211.0	193.0	-8.6
Ukraine	60.3	54.0	50.5	48.7	51.2	5.2
Others	233.8	226.9	210.2	217.1	220.9	1.8
Western Europe	3,572.7	3,740.6	3,780.5	3,739.6	3,739.5	-
Denmark	169.7	161.6	145.0	143.1	121.0	-15.4
France	89.8	91.0	90.6	92.8	94.9	2.3
Germany	141.2	141.4	143.7	142.4	145.5	2.2
Italy	140.8	142.8	107.1	110.9	124.6	12.4
Netherlands	49.7	48.0	35.2	36.1	42.2	16.9
Norway	1,888.6	1,947.6	1,996.8	1,969.1	1,850.0	-6.0
Turkey	47.7	48.5	49.5	49.2	54.9	11.7
United Kingdom	886.7	986.0	1,040.1	1,026.1	1,124.4	9.6
Others	158.7	173.8	172.5	170.0	181.9	7.0
Middle East	3,276.0	3,283.9	3,263.6	3,134.4	3,208.9	2.4
Bahrain	223.5	223.6	225.0	208.4	208.4	-
Oman	943.3	981.2	1,004.2	970.6	978.5	0.8
Qatar	1,937.2	2,011.0	1,985.1	1,896.9	1,955.6	3.1
Syrian Arab Republic	32.8	26.7	25.1	24.7	24.0	-2.7
Yemen	139.2	41.6	24.2	33.8	42.4	25.1
Africa	1,565.8	1,577.7	1,485.3	1,480.5	1,516.3	2.4
Egypt	710.9	719.4	687.5	661.5	672.3	1.6
Sudans	285.6	278.6	250.2	213.3	215.8	1.2
Others	569.3	579.8	547.5	605.7	628.2	3.7
Asia and Pacific	8,435.9	8,566.8	8,221.5	7,994.6	7,975.8	-0.2
Australia	428.3	379.4	349.7	317.3	339.6	7.0
Brunei	126.7	126.8	120.9	113.1	111.5	-1.5
China	4,305.3	4,395.8	4,091.9	3,979.1	4,013.6	0.9
India	867.3	867.6	851.5	858.3	852.3	-0.7
Indonesia	865.2	862.4	927.1	891.0	873.7	-1.9
Malaysia	696.6	742.0	731.0	723.5	733.0	1.3
New Zealand	46.6	48.0	39.9	37.3	30.3	-18.9
Others	1,099.8	1,144.8	1,109.6	1,074.9	1,021.9	-4.9
Non-OPEC production	55,740.4	57,363.7	56,464.0	57,255.0	60,138.0	5.0
Processing gains	2,163.0	2,172.0	2,194.0	2,211.0	2,248.0	1.7
Non-OPEC supply	57,903.4	59,535.7	58,658.0	59,466.0	62,386.0	4.9
OPEC NGL	4,356.0	4,332.6	4,482.3	4,529.3	4,652.6	2.7
OPEC non-conventional (NCF)	87.3	107.5	98.5	108.0	108.7	0.7
OPEC (NGL+NCF)	4,443.3	4,440.2	4,580.8	4,637.3	4,761.3	2.7
Non-OPEC & OPEC (NGL+NCF)	62,346.7	63,975.9	63,238.8	64,103.3	67,147.3	4.7
<i>of which</i>						
OECD	24,287.9	25,358.3	24,850.1	25,707.1	28,238.9	9.8
FSU	13,540.2	13,687.3	13,853.7	14,051.4	14,290.4	1.7

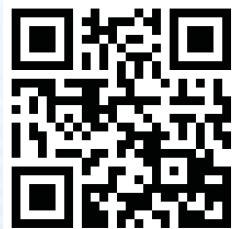
Table 3.7
World biofuels production

(1,000 b/d)

	2014	2015	2016	2017	2018	% change 18/17
North America	1,053.8	1,083.4	1,134.2	1,172.9	1,207.5	3.0
Canada	36.0	36.0	36.0	38.0	39.0	2.6
United States	1,017.8	1,047.4	1,098.2	1,134.9	1,168.5	3.0
Latin America	601.0	629.8	608.2	621.0	699.2	12.6
Argentina	62.0	50.0	67.0	75.0	66.0	-12.0
Brazil	513.0	552.8	515.2	519.0	605.2	16.6
Colombia	17.0	18.0	17.0	17.0	18.0	5.9
Others	9.0	9.0	9.0	10.0	10.0	-
Eastern Europe and Eurasia	34.2	33.3	32.0	34.9	36.2	3.8
Poland	18.0	18.8	18.9	21.3	22.0	3.1
Others	16.2	14.4	13.1	13.5	14.2	5.0
Western Europe	247.8	252.8	247.3	250.9	260.8	3.9
Denmark	3.7	3.7	2.9	2.0	2.0	-
France	53.0	61.0	56.0	53.0	54.0	1.9
Germany	75.0	77.0	78.0	78.0	76.0	-2.6
Italy	12.0	12.0	7.0	10.0	16.0	60.0
Netherlands	11.3	10.2	10.9	12.4	14.0	12.6
United Kingdom	14.0	10.0	16.0	18.0	18.0	-
Others	78.9	78.9	76.5	77.5	80.8	4.3
Africa	2.0	3.0	4.0	4.0	5.0	25.0
Asia and Pacific	166.0	167.0	197.0	217.0	278.0	28.1
Australia	5.0	6.0	5.0	4.0	4.0	-
China	59.0	59.0	54.0	70.0	98.0	40.0
India	6.0	13.0	16.0	14.0	22.0	57.1
Indonesia	33.0	26.0	57.0	55.0	71.0	29.1
Malaysia	16.0	13.0	12.0	14.0	19.0	35.7
Others	47.0	50.0	53.0	60.0	64.0	6.7
Total world	2,104.8	2,169.3	2,222.7	2,300.7	2,486.8	8.1
<i>of which</i>						
OECD	1,336.8	1,371.5	1,414.5	1,458.7	1,504.5	3.1
FSU	4.0	4.0	4.0	4.0	4.0	-

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SECTION 4

Oil data: downstream



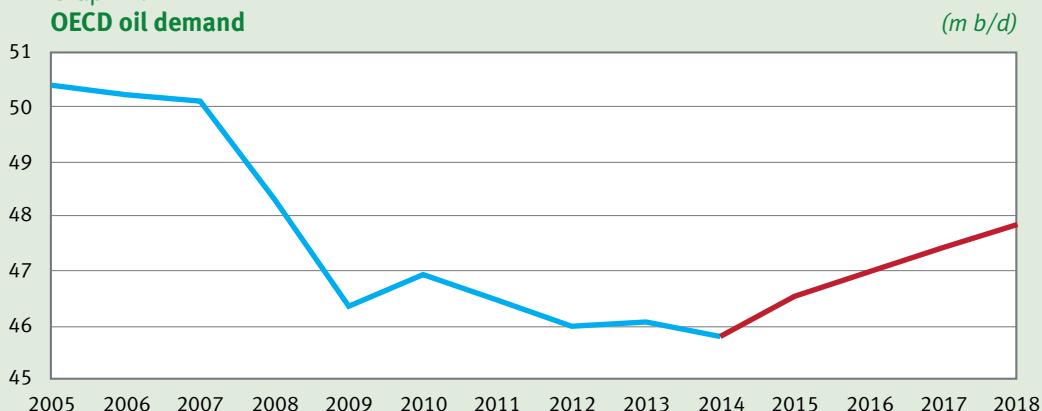
Major downstream developments

The downstream industry enjoyed yet another year of upbeat market indicators in 2018, as oil demand growth remained solid in 2018 and supported further downstream operations across the globe.

World oil demand has grown by roughly 1.4m b/d, or 1.5 per cent y-o-y to reach 98.7m b/d in 2018, however, this was lower than the annual growth levels seen after 2015. Higher oil requirements during 2018 came in line with solid global economic growth in main oil consuming countries within the OECD and non-OECD regions. The bulk of additional OECD oil demand originated mainly in North America and particularly the US, while non-OECD Asia and Pacific, notably China and India, were the key contributors of non-OECD oil demand growth.

OECD oil demand grew for the fourth consecutive year during 2018. During the time frame 2015–18, OECD oil demand increased by a remarkable 2.0m b/d in total and reversed its downward trend during previous years. The 2015–18 cumulative OECD oil demand growth occurred almost solely in North America and Europe.

Graph 1:
OECD oil demand



Refining margins varied across the regions. While US refiners enjoyed an y-o-y uptick in margin, European and Asian refiners saw margins decreasing, but remained at healthy levels. The WTI refining margin increased by \$3.97/b y-o-y in 2018 to \$14.53/b, amid oil demand growth in the country. Moreover, US refiners further grasped the opportunity to deliver oil products to neighbouring South American countries, which continued to be short on several products. In Europe, the Brent refining margin decreased from \$7.47/b in 2017 to \$5.49/b in 2018, amid rising oil product imports from Russia.

Refinery intake moved up by nearly 1.4m b/d y-o-y in 2018, with Asian refiners (+870,000 b/d y-o-y) in the driving seat of this growth, closely followed by their North American (+420,000 b/d y-o-y) counterparts. In Western Europe, refinery intake declined by 70,000 b/d y-o-y, while in Eastern Europe and Eurasia it increased by 250,000 b/d, driven by additions from Russia (+130,000 b/d y-o-y) and Kazakhstan (+70,000 b/d y-o-y).

Refining capacity increased by around 900,000 bc/d y-o-y over 2018, with nearly 2/3 of these additions coming online in the second half of the year. In Asia, several Chinese refiners expanded their refining capacities. Petro China's Daqing refinery in Huabei saw its capacity increasing by 100,000 b/d in May, while CNPC's Wuhan refinery added 100,000 b/d to its capacity in October. A total of 240,000 b/d of condensate splitting capacity materialized in the Islamic Republic of Iran, reflecting the country's growing profile in the petrochemical industry. Refining capacity in the FSU grew by 170,000 b/d y-o-y in 2018, as Russia and Kazakhstan added 90,000 b/d and 70,000 b/d y-o-y, respectively.

Table 4.1
Refinery capacity in OPEC Members by company and location

(1,000 b/cd)

	Location	2014	2015	2016	2017	2018
Algeria		651	651	651	651	657
Sonatrach	Skikda	355	355	355	355	355
	Skikda (condensate)	122	122	122	122	122
	Arzew	81	81	81	81	87
	Alger	58	58	58	58	58
	Hassi Messaoud	22	22	22	22	22
	Adrar	13	13	13	13	13
Angola		80	80	80	80	80
Fina Petroleos de Angola	Luanda	65	65	65	65	65
Sonangol	Malongo	15	15	15	15	15
Congo		21	21	21	21	21
Société Nationale des Pétroles du Congo	Pointe Noire	21	21	21	21	21
Ecuador		191	191	191	188	188
Petroindustrial	Esmeraldas	110	110	110	110	110
	Santa Elens	45	45	45	45	45
	Shushufindi	20	20	20	20	20
Repsol YPF	Orellana	7	7	7	7	7
Andes Petroleum	Sucumbios	3	3	3	3	3
Petroproduccion	El Oro	2	2	2	nap	nap
	Sucumbios	2	2	2	2	2
	Lago Agrio	1	1	1	1	1
Equatorial Guinea²		nap	nap	nap	nap	nap
Gabon		24	24	24	24	24
Total and Shell	Port Gentil	24	24	24	24	24
IR Iran		1,781	1,781	1,901	1,901	2,141
NIOC	Abadan	399	399	399	399	399
	Isfahan	375	375	375	375	375
	Bandar Abbas	284	284	284	284	284
	Tehran	245	245	245	245	245
	Arak	242	242	242	242	242
	Tabriz	110	110	110	110	110
	Shiraz	56	56	56	56	56
	Kermanshah	22	22	22	22	22
	Lavan	48	48	48	48	48
	Bandar Abbas	nap	nap	120	120	240
	Qeshm	nap	nap	nap	nap	120
Iraq		900	900	900	594	663
INOC	Baiji	310	310	310	nap	23
	Basrah	210	210	210	210	210
	Daura	140	140	140	140	140
	Kirkuk	30	30	30	30	30
	Sainia	30	30	30	30	30
	Najaf	30	30	30	30	30
	Samawa	30	30	30	30	30
	Nasiria	30	30	30	30	30
	Missan	30	30	30	30	30
	Diwania	20	20	20	20	20
	Haditha	16	16	16	16	16
	Qaiarah	14	14	14	14	14
	Kask	10	10	10	nap	nap
	Kar	nap	nap	nap	10	40
	Bazyan	nap	nap	nap	4	20

Table 4.1
Refinery capacity in OPEC Members by company and location (1,000 b/cd)

	Location	2014	2015	2016	2017	2018
Kuwait		936	936	936	786	736
KNPC	Mina Al-Ahmadi	466	466	466	466	466
	Mina Abdullah	270	270	270	270	270
	Shuaiba	200	200	200	50	nap
Libya		380	380	380	380	380
NOC	Ras Lanuf	220	220	220	220	220
	Zawia	120	120	120	120	120
	Tobruk	20	20	20	20	20
	Marsa El-Brega	10	10	10	10	10
	Sarir	10	10	10	10	10
Nigeria		446	446	446	446	446
PHRC	Port Harcourt New	150	150	150	150	150
WRPC	Warri	125	125	125	125	125
KRPC	Kaduna	110	110	110	110	110
PHRC	Port Harcourt	60	60	60	60	60
NDPR	Rivers State	1	1	1	1	1
Saudi Arabia		2,934	2,934	2,934	2,921	2,856
Saudi Aramco	Ras Tanura	550	550	550	550	550
	Yanbu	245	245	245	245	245
	Riyadh	126	126	126	126	126
	Jeddah	78	78	78	65	nap
Saudi Aramco & Mobil	Samref	400	400	400	400	400
Saudi Aramco & Petrola	Rabigh	400	400	400	400	400
Saudi Aramco & Total	Satorp	405	405	405	405	405
Saudi Aramco	Yasref	430	430	430	430	430
Saudi Aramco & Shell	Sasref	300	300	300	300	300
United Arab Emirates		707	1,124	1,124	1,124	1,124
ADNOC	Al-Ruwais (East and West)	400	817	817	817	817
Emirate Oil	Jebel Ali	140	140	140	140	140
ADNOC	Umm Al-Narr	85	85	85	85	85
Metro Oil	Fujairah	82	82	82	82	82
Venezuela		1,891	1,891	1,891	1,891	1,891
PDVSA	Amuay	600	600	600	600	600
	Cardon	340	340	340	340	340
	Puerto La Cruz	196	196	196	196	196
	El Palito	127	127	127	127	127
	San Roque	5	5	5	5	5
	Bajo Grande	5	5	5	5	5
	Petropiar ¹	198	198	198	198	198
	Petromonagas ¹	136	136	136	136	136
	Petrocedeno ¹	153	153	153	153	153
	Petrozuata ¹	131	131	131	131	131
OPEC		10,942	11,359	11,479	11,007	11,207

Notes:

1. Upgrader refinery capacity.
2. Equatorial Guinea has no refinery.

Oil data: downstream

Table 4.2

Charge refinery capacity in OPEC Members, 2018

(1,000 b/cd)

	Vacuum distillation	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic ¹ hydrocracking	Catalytic hydrotreating
Algeria	11	–	7	90	–	82
Angola	3	–	–	2	–	3
Congo	8	–	–	2	2	4
Ecuador	45	32	20	10	–	38
Equatorial Guinea ¹	nap	nap	nap	nap	nap	nap
Gabon	–	9	–	3	–	9
IR Iran	639	186	139	313	145	1,061
Iraq	35	–	–	41	4	113
Kuwait	242	80	43	36	86	470
Libya	4	–	–	20	–	43
Nigeria ²	132	–	86	74	33	82
Saudi Arabia	654	191	175	237	249	752
United Arab Emirates	93	–	127	208	120	638
Venezuela	1,057	445	269	98	–	390
OPEC	2,922	943	866	1,134	638	3,685

Notes:

1. Equatorial Guinea has no refinery.
2. Includes GTL cracker capacities.

Table 4.3

World refinery capacity by country

(1,000 b/cd)

	2014	2015	2016	2017	2018	change 18/17
North America	19,818	20,246	20,555	20,607	20,673	66
Canada	1,929	1,931	1,934	1,966	1,972	6
United States ¹	17,889	18,315	18,621	18,641	18,701	60
Latin America	8,517	8,588	8,541	8,499	8,499	–
Argentina	657	657	657	631	631	–
Brazil	2,238	2,281	2,289	2,289	2,289	–
Colombia	336	421	421	415	415	–
Ecuador	191	191	191	188	188	–
Mexico	1,522	1,522	1,522	1,522	1,522	–
Curaçao	320	320	320	320	320	–
Trinidad & Tobago	165	165	165	165	165	–
Venezuela²	1,891	1,891	1,891	1,891	1,891	–
Others	1,198	1,141	1,086	1,078	1,078	–
Eastern Europe and Eurasia	9,928	9,904	9,735	9,924	10,095	171
Azerbaijan	399	259	120	120	120	–
Belarus	460	460	460	498	505	7
Kazakhstan	350	350	350	350	424	74
Poland	582	581	581	581	581	–
Romania	228	239	256	256	256	–

Table 4.3
World refinery capacity by country

(1,000 b/cd)

	2014	2015	2016	2017	2018	change 18/17
Eastern Europe and Eurasia (cont'd)						
Russia	6,407	6,513	6,583	6,587	6,675	88
Ukraine	240	240	240	240	240	—
Others	1,262	1,262	1,144	1,291	1,293	2
Western Europe	13,229	13,382	13,367	13,515	13,439	-76
Belgium	776	776	776	776	776	—
France	1,406	1,406	1,406	1,335	1,252	-83
Germany	2,077	2,049	2,051	2,051	2,051	—
Italy	1,900	1,900	1,900	1,900	1,900	—
Netherlands	1,274	1,293	1,293	1,293	1,293	—
Spain	1,546	1,562	1,562	1,562	1,562	—
United Kingdom	1,337	1,337	1,227	1,227	1,233	6
Others	2,912	3,058	3,152	3,371	3,371	—
Middle East	8,613	9,030	9,406	8,882	9,100	218
IR Iran¹	1,781	1,781	1,901	1,901	2,141	240
Iraq	900	900	900	594	663	69
Kuwait	936	936	936	786	736	-50
Qatar ¹	283	283	429	430	430	—
Saudi Arabia¹	2,934	2,934	2,934	2,921	2,856	-65
United Arab Emirates¹	707	1,124	1,124	1,124	1,124	—
Others	1,072	1,072	1,182	1,126	1,150	24
Africa	3,595	3,557	3,557	3,628	3,634	6
Algeria¹	651	651	651	651	657	6
Angola	80	80	80	80	80	—
Congo	21	21	21	21	21	—
Egypt	810	810	810	810	810	—
South Africa	520	520	520	520	520	—
Gabon	24	24	24	24	24	—
Libya	380	380	380	380	380	—
Nigeria	446	446	446	446	446	—
Others	663	625	625	696	696	—
Asia and Pacific	32,114	32,017	32,619	33,579	34,070	492
Australia	536	443	452	455	462	6
China	13,791	14,006	14,377	14,609	15,052	443
India	4,319	4,307	4,620	4,706	4,752	46
Indonesia	1,099	1,111	1,111	1,158	1,172	14
Japan	3,749	3,721	3,600	3,526	3,499	-27
South Korea ¹	3,123	3,123	3,246	3,354	3,354	—
Singapore	1,514	1,514	1,514	1,514	1,514	—
Others	3,982	3,793	3,699	4,257	4,265	8
Total world	95,814	96,725	97,780	98,633	99,509	876
<i>of which</i>						
OPEC	10,942	11,359	11,479	11,007	11,207	200
<i>OPEC percentage</i>	11.4	11.7	11.7	11.16	11.26	
OECD	43,226	43,294	43,323	43,266	43,202	-63
FSU	8,612	8,522	8,439	8,390	8,562	171

Notes:

1. Includes condensate splitters.
2. Includes upgrader capacity.

Oil data: downstream

Table 4.4
World refinery throughput by country

(1,000 b/d)

	2014	2015	2016	2017	2018	% change 18/17
North America	17,957	18,230	18,334	18,745	19,163	2.2
Canada	1,804	1,802	1,821	1,861	1,847	-0.7
United States	16,152	16,427	16,513	16,884	17,315	2.6
Latin America	6,778	6,502	6,038	5,708	5,374	-5.8
Argentina	519	536	481	492	467	-4.9
Brazil	2,095	1,967	1,800	1,677	1,650	-1.6
Colombia	245	244	337	346	345	-0.2
Ecuador	124	119	151	156	170	8.8
Mexico	1,300	1,195	1,026	839	666	-20.6
Curaçao	194	182	160	155	165	6.7
Trinidad & Tobago	83	128	151	147	149	0.8
Venezuela	1,406	1,279	1,083	956	842	-11.9
Others	813	853	850	940	920	-2.1
Eastern Europe and Eurasia	8,473	8,420	8,258	8,344	8,592	3.0
Azerbaijan	136	132	114	113	116	2.8
Belarus	432	426	375	367	368	0.5
Kazakhstan	316	313	316	302	374	23.8
Poland	514	550	548	545	551	1.0
Romania	216	213	234	231	231	-0.1
Russia	5,770	5,638	5,578	5,592	5,720	2.3
Ukraine	59	32	30	48	34	-29.2
Others	1,031	1,117	1,065	1,146	1,197	4.4
Western Europe	11,719	12,103	12,055	12,346	12,273	-0.6
Belgium	720	712	677	713	689	-3.3
France	1,238	1,238	1,247	1,257	1,187	-5.6
Germany	1,968	1,942	1,947	1,941	1,958	0.9
Italy	1,370	1,522	1,511	1,548	1,490	-3.7
Netherlands	1,183	1,226	1,226	1,226	1,238	1.0
Spain	1,215	1,297	1,295	1,321	1,358	2.8
United Kingdom	1,261	1,268	1,163	1,160	1,165	0.4
Others	2,765	2,898	2,989	3,180	3,187	0.2
Middle East	6,712	7,057	7,382	7,567	7,827	3.4
IR Iran	1,651	1,649	1,646	1,689	1,705	0.9
Iraq	495	415	448	536	609	13.5
Kuwait	872	866	826	679	681	0.4
Qatar	261	253	280	379	368	-2.9
Saudi Arabia	1,997	2,181	2,459	2,601	2,642	1.6
United Arab Emirates	637	919	1,048	1,067	1,142	7.0
Others	800	774	675	616	680	10.5
Africa	2,405	2,324	2,291	2,367	2,342	-1.1
Algeria	628	629	624	630	644	2.2
Angola	32	52	44	54	55	1.4
Congo	17	15	16	16	16	1.3
Egypt	514	527	502	506	517	2.2
South Africa	502	496	461	494	439	-11.0
Gabon	19	19	19	16	16	-3.3
Libya	96	86	80	78	78	0.6
Nigeria	59	24	52	64	38	-41.1
Others	538	476	494	510	540	5.9
Asia and Pacific	26,051	26,898	27,822	28,494	29,367	3.1
Australia	514	427	428	438	434	-0.9
China	9,963	10,439	10,774	11,354	12,033	6.0
India	4,252	4,333	4,684	4,732	4,832	2.1
Indonesia	838	846	877	892	1,000	12.1
Japan	3,546	3,578	3,479	3,395	3,271	-3.7
South Korea	2,692	2,953	3,103	3,215	3,248	1.0
Singapore	1,262	1,210	1,240	1,265	1,181	-6.6
Others	2,983	3,112	3,236	3,204	3,368	5.1
Total world	80,096	81,535	82,180	83,572	84,938	1.6
<i>of which</i>						
OPEC	8,033	8,252	8,495	8,542	8,637	1.1
<i>OPEC percentage</i>	<i>10.0</i>	<i>10.1</i>	<i>10.3</i>	<i>10.2</i>	<i>10.2</i>	
OECD	38,842	39,645	39,514	40,104	40,185	0.2
FSU	7,089	6,941	6,805	6,810	7,046	3.5

Notes:

May include throughput of condensate splitting units in some countries and regions.

Table 4.5
Output of petroleum products in OPEC Members

(1,000 b/d)

	2014	2015	2016	2017	2018	% change 18/17
Algeria	651	576	621	609	621	1.9
Gasoline	64	61	61	60	73	21.4
Kerosene	43	32	35	36	32	-8.7
Distillates	179	160	176	169	198	17.1
Residuals	120	110	124	117	106	-9.4
Others	245	214	225	227	211	-7.1
Angola	31	37	37	36	32	-11.2
Gasoline	1	1	1	1	0	-51.7
Kerosene	6	8	8	7	1	-82.1
Distillates	8	10	10	10	11	16.5
Residuals	8	10	10	10	12	17.6
Others	7	8	9	8	7	-11.1
Congo	17	15	16	16	16	1.3
Gasoline	5	5	5	5	5	1.3
Kerosene	2	2	2	2	2	1.3
Distillates	3	3	3	3	3	1.3
Residuals	6	5	5	6	6	1.3
Others	1	1	1	1	1	1.3
Ecuador	137	128	152	153	167	9.3
Gasoline	55	57	56	52	55	7.5
Kerosene	6	5	6	7	8	19.8
Distillates	20	19	28	31	35	14.2
Residuals	31	30	45	51	55	8.8
Others	25	17	18	14	14	1.6
Equatorial Guinea	nap	nap	nap	nap	nap	nap
Gabon	17	17	19	14	13	-8.5
Gasoline	2	2	2	2	2	-8.5
Kerosene	1	1	1	1	1	-8.5
Distillates	6	6	6	5	5	-8.5
Residuals	7	7	8	6	5	-8.5
Others	1	1	1	1	1	-8.5
IR Iran	1,658	1,664	1,618	1,680	1,691	0.6
Gasoline	377	387	379	394	398	1.0
Kerosene	126	118	114	119	122	2.7
Distillates	488	499	489	545	551	1.2
Residuals	425	419	403	384	387	0.7
Others	242	242	232	238	233	-2.4
Iraq	508	419	449	537	592	10.3
Gasoline	64	53	49	63	84	32.5
Kerosene	30	26	34	43	47	11.4
Distillates	101	68	67	91	107	17.7
Residuals	242	209	221	294	314	6.7
Others	70	63	78	45	40	-12.3

Table 4.5
Output of petroleum products in OPEC Members

	2014	2015	2016	2017	2018	(1,000 b/d) % change 18/17
Kuwait	892	874	857	883	891	1.0
Gasoline	36	41	56	63	52	-18.3
Kerosene	190	164	156	162	175	8.1
Distillates	237	195	194	199	206	3.1
Residuals	146	160	184	173	154	-11.1
Others	283	314	267	285	305	7.1
Libya	87	76	72	70	70	0.3
Gasoline	11	9	9	8	9	12.5
Kerosene	11	9	9	9	9	0.3
Distillates	24	21	20	19	18	-3.9
Residuals	27	24	23	22	22	-0.6
Others	14	13	13	12	12	0.3
Nigeria	52	21	48	59	33	-44.0
Gasoline	16	11	14	20	9	-56.6
Kerosene	9	3	7	10	6	-38.5
Distillates	12	4	12	14	7	-50.2
Residuals	13	3	6	11	10	-7.1
Others	2	0	8	4	1	-72.3
Saudi Arabia	2,042	2,204	2,511	2,630	2,817	7.1
Gasoline	413	438	491	510	545	6.9
Kerosene	193	187	217	228	262	15.3
Distillates	690	856	934	988	1,073	8.6
Residuals	455	397	409	426	455	6.8
Others	290	326	460	478	481	0.7
United Arab Emirates	644	912	1,057	1,081	1,070	-1.0
Gasoline	93	115	132	137	124	-9.6
Kerosene	192	289	341	347	330	-5.0
Distillates	131	199	220	224	211	-6.1
Residuals	28	29	33	34	22	-36.3
Others	221	307	363	371	384	3.4
Venezuela	1,388	1,254	1,050	976	804	-17.6
Gasoline	327	296	221	241	200	-17.0
Kerosene	76	72	42	34	26	-24.0
Distillates	290	247	182	156	122	-21.9
Residuals	325	306	291	296	250	-15.5
Others	371	333	314	250	207	-17.1
OPEC	8,123	8,198	8,506	8,743	8,818	0.9
Gasoline	1,481	1,492	1,493	1,570	1,569	-0.1
Kerosene	886	918	974	1,004	1,022	1.9
Distillates	2,190	2,288	2,343	2,455	2,547	3.8
Residuals	1,838	1,716	1,768	1,834	1,802	-1.8
Others	1,780	1,846	1,996	1,941	1,903	-2.0

Notes:

Data may include products from GTLs and condensate units.
Equatorial Guinea does not produce petroleum products.

Table 4.6
World output of petroleum products by country
(1,000 b/d)

	2014	2015	2016	2017	2018	% change 18/17
North America	21,706	21,907	22,112	22,458	22,735	1.2
Canada	2,052	2,021	2,033	2,160	2,075	-3.9
United States	19,654	19,886	20,079	20,298	20,660	1.8
Latin America	7,037	6,623	6,251	5,857	5,489	-6.3
Argentina	571	549	532	517	511	-1.3
Brazil	2,211	2,063	1,912	1,787	1,769	-1.0
Colombia	235	224	325	314	318	1.5
Ecuador	137	128	152	153	167	9.3
Mexico	1,339	1,221	1,080	869	712	-18.1
Curaçao	198	187	166	161	162	1.0
Trinidad & Tobago	82	125	145	144	146	1.0
Venezuela	1,388	1,254	1,050	976	804	-17.6
Others	876	873	889	937	900	-3.9
Eastern Europe and Eurasia	8,568	8,658	8,584	8,849	9,026	2.0
Azerbaijan	129	125	114	107	114	7.0
Belarus	428	417	373	366	368	0.5
Kazakhstan	319	297	298	296	374	26.4
Poland	516	566	556	552	589	6.6
Romania	221	222	241	243	234	-3.5
Russia	5,904	5,954	5,976	6,147	6,264	1.9
Ukraine	58	31	29	49	31	-37.1
Others	994	1,046	998	1,090	1,053	-3.4
Western Europe	12,234	12,852	12,787	12,919	12,726	-1.5
Belgium	735	729	701	730	701	-4.1
France	1,264	1,271	1,273	1,303	1,226	-5.9
Germany	2,115	2,164	2,185	2,145	2,048	-4.5
Italy	1,408	1,567	1,557	1,597	1,539	-3.7
Netherlands	1,214	1,278	1,280	1,282	1,310	2.2
Spain	1,244	1,336	1,327	1,345	1,384	2.8
United Kingdom	1,333	1,341	1,314	1,285	1,294	0.7
Others	2,922	3,168	3,151	3,231	3,224	-0.2
Middle East	6,777	7,058	7,413	7,761	8,047	3.7
IR Iran	1,658	1,664	1,618	1,680	1,691	0.6
Iraq	508	419	449	537	592	10.3
Kuwait	892	874	857	883	891	1.0
Qatar	257	248	274	363	352	-3.1
Saudi Arabia	2,042	2,204	2,511	2,630	2,817	7.1
United Arab Emirates	644	912	1,057	1,081	1,070	-1.0
Others	777	736	647	588	633	7.8
Africa	2,333	2,186	2,225	2,272	2,304	1.4
Algeria	651	576	621	609	621	1.9
Angola	31	37	37	36	32	-11.2
Congo	17	15	16	16	16	1.3
Egypt	496	512	487	491	511	4.0
South Africa	496	491	461	472	481	1.9
Gabon	17	17	19	14	13	-8.5
Libya	87	76	72	70	70	0.3
Nigeria	52	21	48	59	33	-44.0
Others	486	440	465	504	527	4.5
Asia and Pacific	26,783	27,337	28,177	29,052	29,820	2.6
Australia	553	465	469	459	458	-0.2
China	9,879	10,175	10,449	11,059	11,608	5.0
India	4,798	4,888	5,236	5,268	5,371	2.0
Indonesia	885	863	889	908	1,008	11.1
Japan	3,518	3,509	3,517	3,450	3,343	-3.1
South Korea	2,767	3,006	3,111	3,299	3,369	2.1
Singapore	1,307	1,268	1,297	1,322	1,242	-6.1
Others	3,076	3,163	3,211	3,287	3,422	4.1
Total world	85,438	86,619	87,548	89,167	90,147	1.1
<i>of which</i>						
OPEC	8,123	8,198	8,506	8,743	8,818	0.9
<i>OPEC percentage</i>	9.5	9.5	9.7	9.8	9.8	
OECD	43,812	44,683	44,657	45,343	45,406	0.1
FSU	7,255	7,181	7,022	7,074	7,300	3.2

Notes:

Data may include products from GTL and condensate units.

Oil data: downstream

Table 4.7

Oil demand by main petroleum product in OPEC Members

(1,000 b/d)

	2014	2015	2016	2017	2018	% change 18/17
Algeria	389	419	399	422	431	2.3
Gasoline	87	93	90	90	85	-5.1
Kerosene	12	12	12	13	13	0.1
Distillates	212	225	218	218	225	3.2
Residuals	4	5	4	3	3	-7.4
Others	75	84	75	97	105	7.9
Angola	147	142	122	115	121	4.6
Gasoline	34	31	26	19	22	13.4
Kerosene	12	12	9	11	11	-3.2
Distillates	77	86	60	63	63	-0.5
Residuals	2	1	3	3	4	12.2
Others	22	12	24	18	21	16.6
Congo	7	8	8	8	8	2.8
Gasoline	2	2	2	2	2	0.7
Kerosene	1	1	1	1	1	0.2
Distillates	3	3	4	4	4	4.1
Residuals	—	—	—	—	—	1.4
Others	2	2	2	2	2	3.5
Ecuador	286	259	247	241	260	7.7
Gasoline	53	59	64	60	61	1.8
Kerosene	8	8	7	7	8	4.7
Distillates	93	92	84	85	91	6.4
Residuals	39	34	26	21	31	47.2
Others	94	67	65	67	69	2.7
Equatorial Guinea	7	8	6	5	5	3.3
Gasoline	2	2	2	2	2	0.4
Kerosene	—	2	1	1	1	0.6
Distillates	5	4	3	2	2	7.4
Residuals	—	—	—	—	—	—
Others	—	—	—	—	—	5.3
Gabon	34	36	37	38	38	1.2
Gasoline	5	5	5	5	5	-7.7
Kerosene	3	3	3	3	3	1.2
Distillates	23	24	25	26	27	2.9
Residuals	—	—	—	—	—	—
Others	3	3	3	3	3	2.8
IR Iran	1,846	1,795	1,801	1,819	1,854	1.9
Gasoline	438	455	444	582	596	2.4
Kerosene	138	129	138	114	108	-5.1
Distillates	538	546	499	491	516	5.0
Residuals	414	379	366	281	260	-7.6
Others	318	285	354	351	375	6.9
Iraq	680	686	757	723	704	-2.5
Gasoline	110	105	109	125	140	12.4
Kerosene	33	31	33	36	34	-3.4
Distillates	131	104	100	114	138	21.0
Residuals	153	179	218	271	289	6.4
Others	253	267	298	177	103	-41.8

Table 4.7

Oil demand by main petroleum product in OPEC Members

(1,000 b/d)

	2014	2015	2016	2017	2018	% change 18/17
Kuwait	337	346	350	371	353	-4.9
Gasoline	69	71	70	61	61	-0.1
Kerosene	15	16	17	14	15	4.0
Distillates	55	48	49	51	53	3.3
Residuals	127	122	131	109	114	4.1
Others	71	88	82	136	111	-18.3
Libya	222	211	208	208	215	3.2
Gasoline	78	75	76	78	81	4.3
Kerosene	7	5	5	5	5	-3.8
Distillates	90	85	84	88	92	3.8
Residuals	33	32	29	26	27	1.6
Others	14	14	13	11	11	-2.7
Nigeria	396	408	393	426	446	4.6
Gasoline	284	306	299	316	337	6.9
Kerosene	53	44	25	26	24	-6.0
Distillates	50	56	67	82	79	-3.0
Residuals	8	1	2	2	3	27.9
Others	1	1	1	1	2	134.0
Saudi Arabia	3,163	3,319	3,210	3,272	3,105	-5.1
Gasoline	522	559	556	599	561	-6.4
Kerosene	75	86	88	101	104	2.4
Distillates	753	778	701	591	522	-11.7
Residuals	380	399	470	516	503	-2.4
Others	1,433	1,497	1,395	1,465	1,415	-3.4
United Arab Emirates	719	778	799	819	885	8.0
Gasoline	168	175	176	185	211	13.8
Kerosene	119	146	148	157	166	5.6
Distillates	98	105	106	102	123	21.2
Residuals	295	312	329	330	335	1.5
Others	39	40	40	45	50	11.1
Venezuela	752	658	566	503	402	-20.0
Gasoline	283	259	227	195	170	-13.0
Kerosene	6	5	4	8	7	-12.0
Distillates	237	210	163	127	118	-7.1
Residuals	37	21	20	18	17	-5.7
Others	188	162	151	155	91	-41.4
OPEC	8,987	9,070	8,903	8,970	8,827	-1.6
Gasoline	2,134	2,197	2,146	2,319	2,333	0.6
Kerosene	481	499	492	498	500	0.4
Distillates	2,367	2,369	2,164	2,044	2,053	0.4
Residuals	1,491	1,484	1,598	1,582	1,585	0.2
Others	2,514	2,520	2,502	2,527	2,356	-6.8

Oil data: downstream

**Table 4.8
World oil demand by country**

	2014	2015	2016	2017	2018	(1,000 b/d)
North America	21,496	21,951	22,160	22,405	22,884	2.1
Canada	2,388	2,417	2,471	2,445	2,429	-0.7
United States	19,105	19,531	19,687	19,958	20,452	2.5
Others	3	3	3	3	3	0.8
Latin America	9,373	9,204	9,187	9,160	9,237	0.8
Argentina	720	716	720	736	727	-1.2
Brazil	3,178	3,111	3,072	3,104	3,235	4.2
Colombia	306	319	324	331	336	1.6
Ecuador	286	259	247	241	260	7.7
Mexico	2,040	2,006	2,053	1,984	1,967	-0.8
Venezuela	752	658	566	503	402	-20.0
Others	2,092	2,135	2,205	2,262	2,309	2.1
Eastern Europe and Eurasia	5,985	5,941	6,031	6,242	6,401	2.5
Czech Republic	202	196	180	213	214	0.4
Hungary	146	155	156	168	177	5.2
Kazakhstan	270	271	290	294	308	4.8
Poland	504	541	582	650	680	4.6
Romania	175	180	187	195	197	1.2
Russia	3,548	3,434	3,430	3,477	3,544	1.9
Slovakia	73	79	82	86	87	0.8
Ukraine	259	257	269	272	280	2.9
Others	808	828	856	887	914	3.0
Western Europe	12,883	13,143	13,286	13,508	13,486	-0.2
France	1,691	1,692	1,652	1,736	1,704	-1.9
Germany	2,374	2,368	2,383	2,460	2,351	-4.4
Italy	1,266	1,274	1,237	1,236	1,268	2.6
Netherlands	992	962	967	955	928	-2.8
Spain	1,200	1,247	1,290	1,296	1,330	2.6
United Kingdom	1,518	1,556	1,583	1,585	1,611	1.7
Others	3,843	4,046	4,173	4,241	4,294	1.2
Middle East	8,035	8,274	8,336	8,443	8,329	-1.4
IR Iran	1,846	1,795	1,801	1,819	1,854	1.9
Iraq	680	686	757	723	704	-2.5
Kuwait	337	346	350	371	353	-4.9
Qatar	243	286	350	339	330	-2.8
Saudi Arabia	3,163	3,319	3,210	3,272	3,105	-5.1
Syrian Arab Republic	143	131	141	157	147	-6.9
United Arab Emirates	719	778	799	819	885	8.0
Others	904	933	928	943	951	0.9
Africa	3,904	3,992	4,095	4,203	4,292	2.1
Algeria	389	419	399	422	431	2.3
Angola	147	142	122	115	121	4.6
Congo	7	8	8	8	8	2.8
Egypt	826	823	872	855	794	-7.2
Equatorial Guinea	7	8	6	5	5	3.3
Gabon	34	36	37	38	38	1.2
Libya	222	211	208	208	215	3.2
Nigeria	396	408	393	426	446	4.6
South Africa	638	642	658	668	671	0.5
Tunisia	94	88	90	99	109	10.5
Others	1,142	1,208	1,303	1,360	1,454	6.9
Asia and Pacific	30,423	31,657	32,539	33,357	34,102	2.2
Australia	1,108	1,107	1,106	1,174	1,214	3.4
China	10,785	11,490	11,801	12,321	12,712	3.2
India	3,786	4,051	4,387	4,531	4,761	5.1
Indonesia	1,635	1,669	1,684	1,715	1,773	3.4
Japan	4,261	4,142	4,010	3,894	3,780	-2.9
New Zealand	157	161	163	169	172	1.6
South Korea	2,348	2,473	2,605	2,584	2,523	-2.4
Thailand	1,331	1,325	1,378	1,409	1,443	2.4
Others	5,013	5,240	5,405	5,560	5,724	2.9
Total world	92,099	94,162	95,635	97,319	98,730	1.5
<i>of which</i>						
OPEC	8,987	9,070	8,903	8,970	8,827	-1.6
<i>OPEC percentage</i>	<i>9.8</i>	<i>9.6</i>	<i>9.3</i>	<i>9.2</i>	<i>8.9</i>	
OECD	45,785	46,523	46,972	47,449	47,811	0.8
FSU	4,749	4,649	4,696	4,776	4,884	2.3

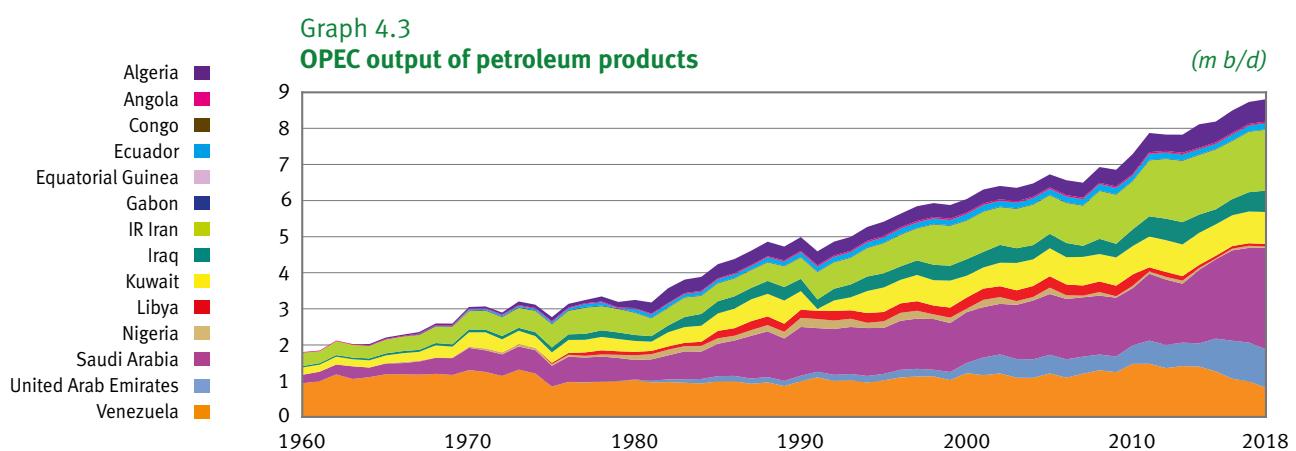
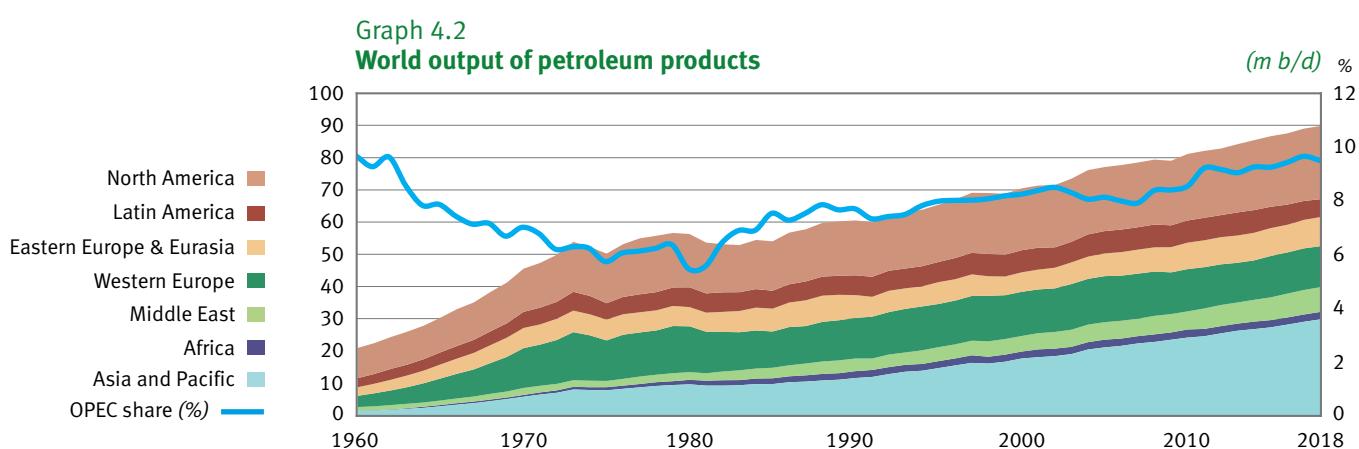
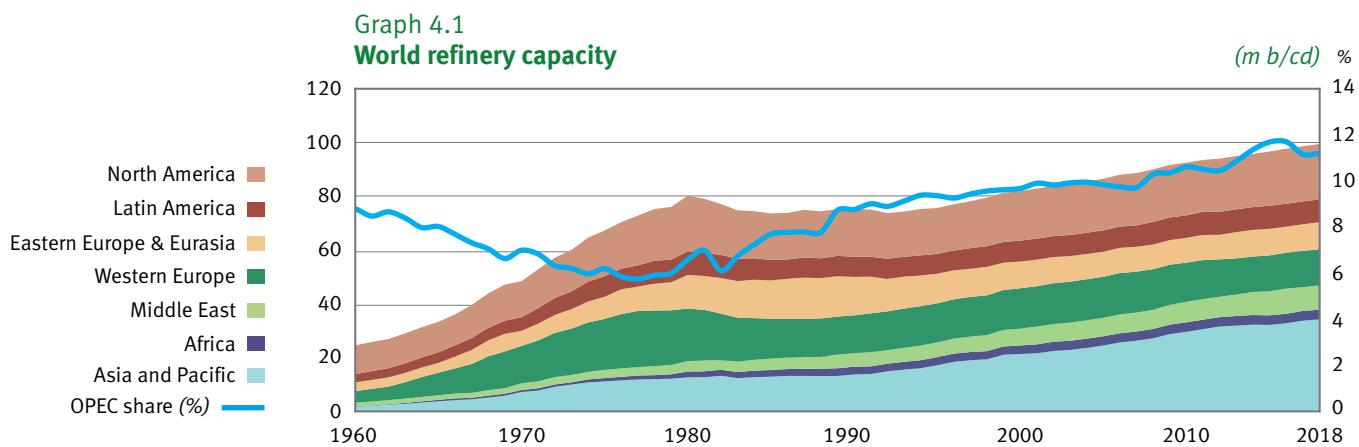


Table 4.9

World oil demand by main petroleum product and region

(1,000 b/d)

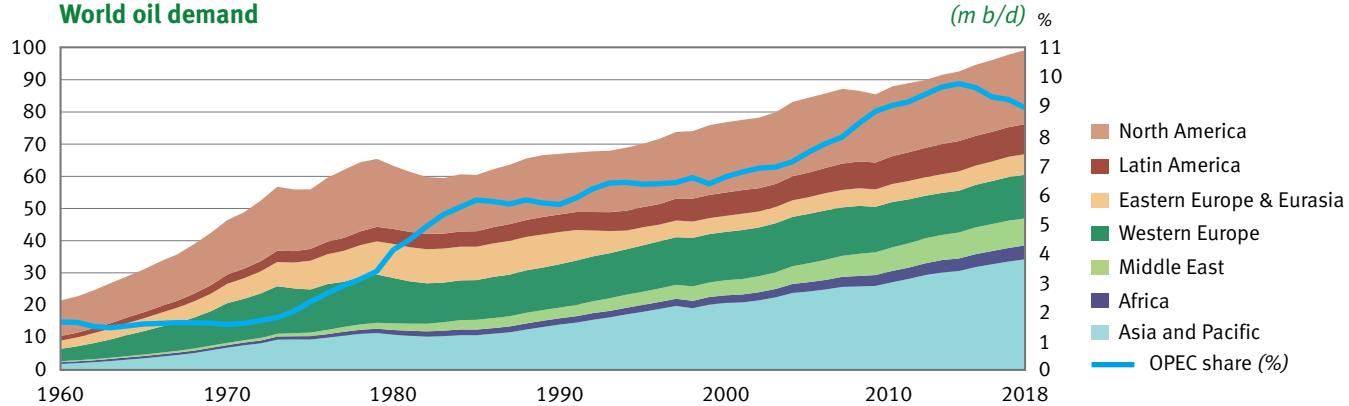
	2014	2015	2016	2017	2018	% change 18/17
North America	21,496	21,951	22,160	22,405	22,884	2.1
Gasoline	9,881	10,089	10,206	10,223	10,214	-0.1
Kerosene	1,622	1,692	1,762	1,838	1,876	2.1
Distillates	4,740	4,712	4,420	4,457	4,621	3.7
Residuals	333	252	399	475	480	1.1
Others	4,920	5,206	5,373	5,412	5,692	5.2
Latin America	9,373	9,204	9,187	9,160	9,237	0.8
Gasoline	2,678	2,751	2,805	2,793	2,731	-2.2
Kerosene	390	397	386	393	413	5.0
Distillates	2,828	2,780	2,694	2,613	2,595	-0.7
Residuals	960	870	735	759	767	1.1
Others	2,517	2,406	2,566	2,602	2,731	5.0
Eastern Europe and Eurasia	5,985	5,941	6,031	6,242	6,401	2.5
Gasoline	1,389	1,361	1,387	1,418	1,443	1.8
Kerosene	324	299	299	310	329	5.9
Distillates	1,829	1,935	2,032	2,146	2,161	0.7
Residuals	416	368	358	353	341	-3.5
Others	2,027	1,979	1,956	2,014	2,127	5.6
Western Europe	12,883	13,143	13,286	13,508	13,486	-0.2
Gasoline	1,792	1,761	1,791	1,818	1,852	1.9
Kerosene	1,257	1,309	1,371	1,447	1,506	4.1
Distillates	5,613	5,845	5,902	6,063	6,008	-0.9
Residuals	1,030	968	948	982	986	0.4
Others	3,191	3,260	3,275	3,198	3,134	-2.0
Middle East	8,035	8,274	8,336	8,443	8,329	-1.4
Gasoline	1,555	1,565	1,560	1,788	1,807	1.1
Kerosene	462	517	552	520	521	0.2
Distillates	2,256	2,048	1,929	1,828	1,786	-2.3
Residuals	1,494	1,468	1,548	1,500	1,505	0.4
Others	2,269	2,675	2,746	2,808	2,710	-3.5
Africa	3,904	3,992	4,095	4,203	4,292	2.1
Gasoline	959	1,033	1,035	1,063	1,093	2.8
Kerosene	298	299	325	331	333	0.5
Distillates	1,568	1,618	1,644	1,691	1,712	1.2
Residuals	451	438	432	421	418	-0.7
Others	627	604	660	697	737	5.7

Table 4.9
World oil demand by main petroleum product and region
(1,000 b/d)

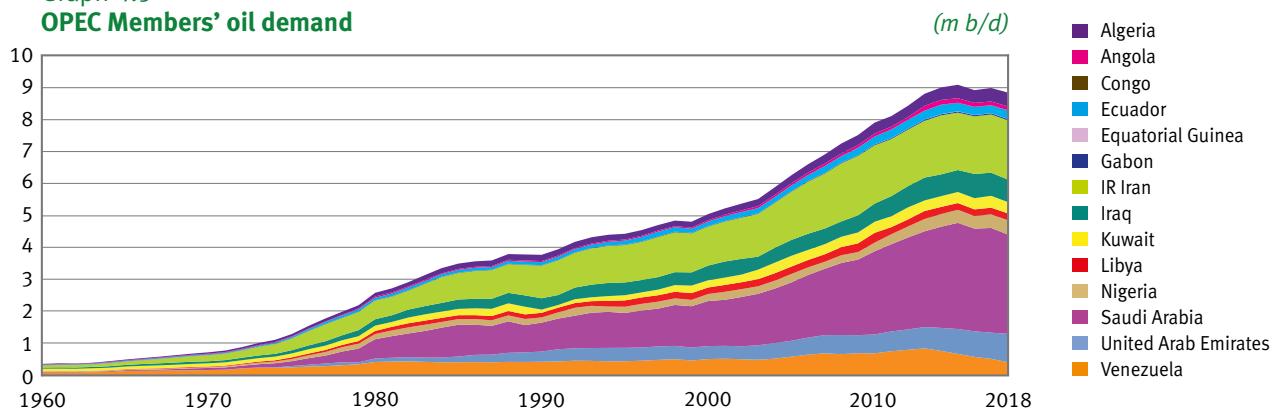
	2014	2015	2016	2017	2018	% change 18/17
Asia and Pacific	30,423	31,657	32,539	33,357	34,102	2.2
Gasoline	5,862	6,390	6,709	6,960	7,157	2.8
Kerosene	2,195	2,291	2,475	2,546	2,663	4.6
Distillates	8,700	8,840	8,934	9,055	9,145	1.0
Residuals	2,487	2,536	2,547	2,584	2,611	1.1
Others	11,180	11,600	11,873	12,212	12,526	2.6
Total world	92,099	94,162	95,635	97,319	98,730	1.5
Gasoline	24,117	24,950	25,493	26,063	26,297	0.9
Kerosene	6,548	6,805	7,171	7,386	7,640	3.4
Distillates	27,533	27,778	27,554	27,852	28,027	0.6
Residuals	7,170	6,901	6,967	7,074	7,109	0.5
Others	26,732	27,729	28,450	28,943	29,657	2.5
<i>of which</i>						
OPEC	8,987	9,070	8,903	8,970	8,827	-1.6
Gasoline	2,134	2,197	2,146	2,319	2,333	0.6
Kerosene	481	499	492	498	500	0.4
Distillates	2,367	2,369	2,164	2,044	2,053	0.4
Residuals	1,491	1,484	1,598	1,582	1,585	0.2
Others	2,514	2,520	2,502	2,527	2,356	-6.8
OECD	45,785	46,523	46,972	47,449	47,811	0.8
Gasoline	14,107	14,338	14,560	14,578	14,588	0.1
Kerosene	3,862	3,991	4,150	4,332	4,435	2.4
Distillates	12,833	13,238	13,169	13,423	13,704	2.1
Residuals	2,432	2,363	2,422	2,410	2,370	-1.7
Others	12,551	12,593	12,671	12,706	12,714	0.1
FSU	4,749	4,649	4,696	4,776	4,884	2.3
Gasoline	1,179	1,186	1,190	1,193	1,206	1.1
Kerosene	292	294	294	295	295	0.2
Distillates	1,255	1,327	1,339	1,351	1,361	0.8
Residuals	393	390	385	381	376	-1.3
Others	1,630	1,452	1,488	1,557	1,646	5.7

Oil data: downstream

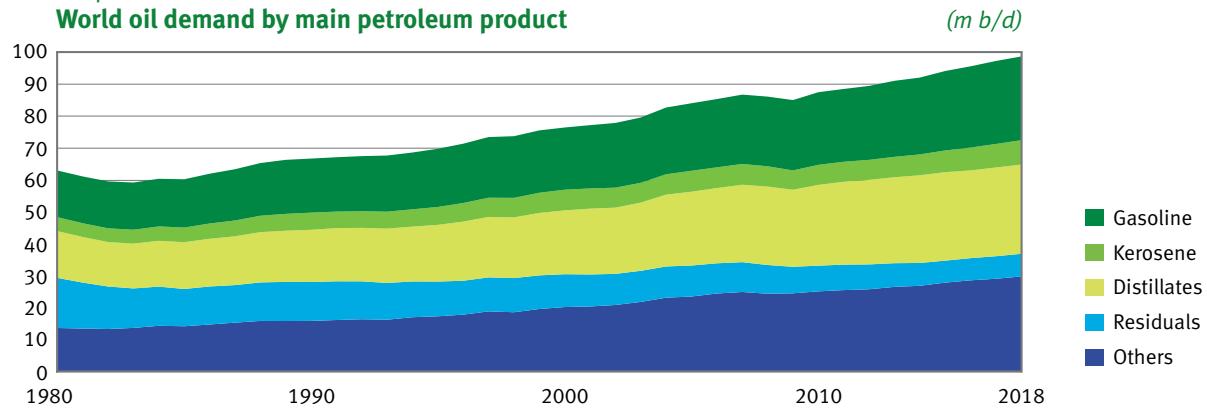
Graph 4.4
World oil demand



Graph 4.5
OPEC Members' oil demand



Graph 4.6
World oil demand by main petroleum product



SECTION 5

Oil trade

US as one of the top ten crude oil exporting countries in 2018

For decades the US Energy Policy and Conservation Act enacted regulations constrained US crude oil from being exported outside national territories. However, in December 2015, Congress lifted the ban and volumes of crude oil exports skyrocketed significantly thereafter. The overall consequence was that in 2018, the US has evolved as the seventh largest crude oil exporter.

Table 1:
Top ten exporting countries in 2018

1,000 b/d		
1	Saudi Arabia	7,371.5
2	Russia	5,069.1
3	Iraq	3,862.0
4	Canada	3,150.2
5	United Arab Emirates	2,296.5
6	Kuwait	2,050.0
7	United States	2,002.4
8	Nigeria	1,979.5
9	IR Iran	1,849.6
10	Kazakhstan	1,436.7

From 2000–12, US crude oil export grew on average by 2,500 b/d yearly. In the subsequent three years, from 2013–15, export volumes rose on average by 165,000 b/d year-on-year, and, thereafter, volumes increased drastically, on average, by more than 705,000 b/d annually. From a regional perspective, historically, Canada used to be the main export destination of US crude oil. However, after the lifting of the ban, Western Europe and particularly Asia have become top destinations of US crude oil exports, as indicated in **Graph 1**. Italy and the Netherlands are the main purchasers of US crude oil in Western Europe. In Asia, China, India, South Korea and Taiwan account for the biggest shares. The overall consequence is that the US has become one of the largest crude oil exporting economies on a global scale.

Graph 1:
Development of US crude oil exports by main region

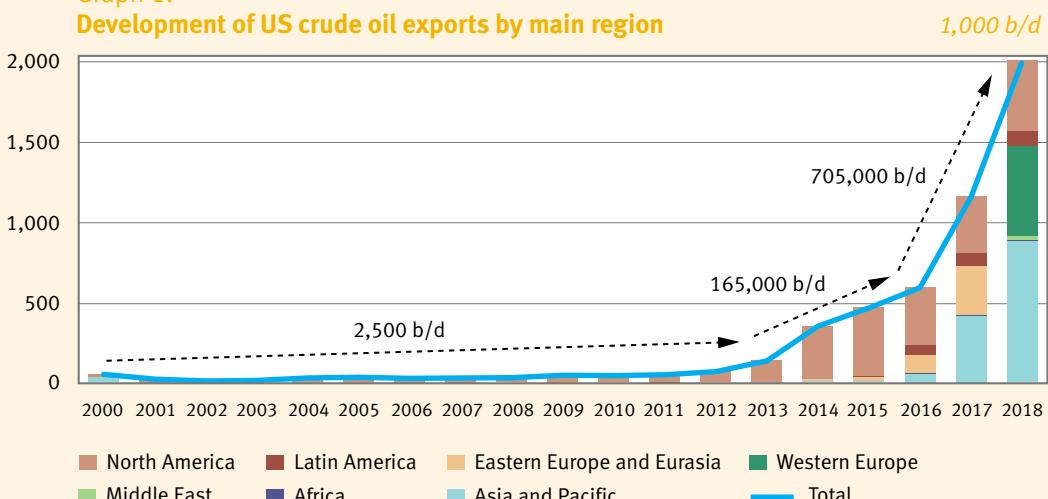


Table 5.1
OPEC Members' crude oil exports by destination (1,000 b/d)

	Destination	2014	2015	2016	2017	2018
Algeria		622.9	642.2	668.3	632.6	571.0
	Europe	517.6	543.9	394.0	388.8	347.2
	North America	44.8	35.3	143.4	74.2	65.1
	Asia and Pacific	42.1	36.6	86.1	122.6	116.3
	Latin America	18.5	26.4	44.1	46.9	40.4
	Africa	—	—	0.7	—	2.1
	Middle East	—	—	—	—	—
Angola		1,607.9	1,710.9	1,670.1	1,576.7	1,420.6
	Europe	340.6	435.6	326.5	105.0	133.8
	North America	132.1	114.0	59.9	113.3	70.0
	Asia and Pacific	1,011.3	1,058.9	1,163.9	1,259.3	1,141.4
	Latin America	61.5	31.3	39.0	26.7	17.4
	Africa	62.4	71.2	80.8	72.4	41.9
	Middle East	—	—	—	—	16.1
Congo		260.9	227.0	254.3	261.2	307.1
	Europe	46.7	69.7	39.3	14.6	5.0
	North America	6.7	7.9	9.1	5.2	12.9
	Asia and Pacific	207.5	144.5	198.7	235.0	285.5
	Latin America	—	4.9	0.7	—	—
	Africa	—	—	—	—	—
	Middle East	—	—	6.4	6.5	3.7
Ecuador		422.4	432.9	414.7	385.4	371.2
	Europe	1.0	—	—	—	—
	North America	248.7	284.8	274.2	211.1	185.0
	Asia and Pacific	15.7	27.1	38.2	34.8	36.6
	Latin America	147.4	121.0	102.3	123.3	149.7
	Africa	9.7	—	—	—	—
	Middle East	—	—	—	16.3	—
Equatorial Guinea		196.7	182.4	157.6	128.2	145.1
	Europe	87.1	118.2	104.1	58.7	53.8
	North America	—	—	3.3	7.4	17.5
	Asia and Pacific	109.6	64.1	50.1	62.1	67.1
	Latin America	—	—	—	—	6.7
	Africa	—	—	—	—	—
	Middle East	—	—	—	—	—
Gabon		207.4	206.4	205.2	188.4	174.1
	Europe	20.0	53.3	48.4	35.5	17.5
	North America	16.0	10.0	1.2	6.2	6.9
	Asia and Pacific	137.6	126.0	123.4	136.9	135.6
	Latin America	31.2	15.7	29.6	7.8	14.0
	Africa	2.7	1.4	2.6	2.0	—
	Middle East	—	—	—	—	—
IR Iran		1,109.2	1,081.1	1,921.7	2,125.0	1,849.6
	Europe	117.0	111.4	497.3	755.0	442.6
	North America	—	—	—	—	—
	Asia and Pacific	992.2	969.7	1,423.6	1,370.0	1,407.0
	Latin America	—	—	—	—	—
	Africa	—	—	0.8	—	—
	Middle East	—	—	—	—	—
Iraq		2,515.5	3,004.9	3,803.5	3,802.0	3,862.0
	Europe	625.2	844.8	981.8	987.8	892.8
	North America	411.7	220.0	416.9	598.4	503.1
	Asia and Pacific	1,465.9	1,876.2	2,270.6	2,130.4	2,419.3
	Latin America	12.7	63.8	134.3	27.4	28.6
	Africa	—	—	—	17.0	18.2
	Middle East	—	—	—	41.0	—

Table 5.1
OPEC Members' crude oil exports by destination

(1,000 b/d)

	Destination	2014	2015	2016	2017	2018
Kuwait		1,994.8	1,963.8	2,128.2	2,010.0	2,050.0
	Europe	105.9	118.0	181.1	137.5	38.6
	North America	277.3	196.5	244.5	253.8	205.6
	Asia and Pacific	1,550.6	1,561.1	1,643.4	1,579.5	1,749.6
	Latin America	3.0	—	—	—	—
	Africa	58.0	88.2	59.2	39.2	56.2
	Middle East	—	—	—	—	—
Libya		329.4	288.4	350.1	792.1	998.5
	Europe	298.4	261.3	302.1	635.6	668.9
	North America	2.9	2.5	16.5	56.4	55.8
	Asia and Pacific	25.2	22.0	28.6	98.2	269.2
	Latin America	1.0	0.8	—	—	3.3
	Africa	2.0	1.7	2.9	1.9	1.4
	Middle East	—	—	—	—	—
Nigeria		2,120.1	2,114.0	1,738.0	1,811.1	1,979.5
	Europe	968.9	992.3	611.5	692.6	1,058.4
	North America	74.2	83.6	307.1	331.5	172.0
	Asia and Pacific	558.0	550.3	489.4	512.6	387.2
	Latin America	248.4	209.1	81.3	50.1	52.3
	Africa	270.6	278.7	248.7	221.8	309.5
	Middle East	—	—	—	2.5	—
Saudi Arabia		7,153.5	7,163.3	7,463.4	6,968.3	7,371.5
	Europe	952.1	877.3	870.8	777.4	869.3
	North America	1,251.3	1,190.8	1,177.0	1,003.5	1,020.3
	Asia and Pacific	4,416.7	4,592.0	4,918.1	4,797.3	4,980.8
	Latin America	68.9	70.0	71.4	71.3	70.5
	Africa	191.0	147.0	153.1	163.8	163.8
	Middle East	273.4	286.3	272.9	155.1	266.9
United Arab Emirates		2,496.7	2,441.5	2,407.8	2,378.7	2,296.5
	Europe	9.9	17.0	18.4	—	—
	North America	13.4	—	6.6	13.4	5.0
	Asia and Pacific	2,446.7	2,385.5	2,361.0	2,345.0	2,267.5
	Latin America	—	—	—	—	—
	Africa	22.3	32.0	20.5	12.4	24.0
	Middle East	4.5	7.0	1.3	7.9	—
Venezuela		1,964.9	1,974.2	1,835.0	1,596.4	1,273.1
	Europe	109.1	88.3	63.6	65.4	49.4
	North America	694.3	670.8	645.9	545.6	494.3
	Asia and Pacific	569.4	662.3	682.8	643.8	592.8
	Latin America	592.0	552.8	442.7	341.6	133.9
	Africa	—	—	—	—	—
	Middle East	—	—	—	—	2.7
OPEC		23,002.3	23,432.9	25,017.8	24,656.2	24,669.9
	Europe	4,199.5	4,531.1	4,438.9	4,654.0	4,577.2
	North America	3,173.4	2,816.1	3,305.7	3,220.0	2,813.6
	Asia and Pacific	13,548.3	14,076.5	15,477.9	15,327.6	15,855.8
	Latin America	1,184.6	1,095.8	945.4	694.9	516.7
	Africa	618.7	620.2	569.2	530.5	617.2
	Middle East	277.8	293.2	280.6	229.2	289.3

Notes:

Data may include lease condensates and volumes of oil in transit.

Table 5.2
OPEC Members' petroleum products exports by destination (1,000 b/d)

	Destination	2014	2015	2016	2017	2018
Algeria		582.6	605.4	541.1	569.7	532.1
	Europe	246.3	243.3	220.5	255.8	244.7
	North America	114.8	111.9	108.5	117.1	95.6
	Asia and Pacific	90.4	114.0	52.9	68.7	91.2
	Latin America	69.7	65.7	73.5	75.2	51.7
	Africa	60.7	67.6	63.2	48.0	47.9
	Middle East	0.6	2.9	22.5	4.9	1.1
Angola		31.0	36.7	54.3	17.2	17.6
	Europe	6.7	7.3	15.5	3.3	2.8
	North America	13.2	17.5	11.0	0.8	0.1
	Asia and Pacific	10.1	10.9	20.3	11.6	12.1
	Latin America	—	—	6.3	1.0	0.9
	Africa	1.0	1.0	1.2	0.5	0.1
	Middle East	—	—	—	—	1.5
Congo		6.8	5.8	5.7	5.8	5.9
	Europe	2.0	2.5	3.1	2.5	5.0
	North America	4.8	0.1	2.0	1.1	0.6
	Asia and Pacific	—	—	0.4	—	—
	Latin America	—	—	—	—	—
	Africa	—	3.2	0.2	2.2	0.2
	Middle East	—	—	—	—	—
Ecuador		7.7	15.6	31.4	42.3	42.2
	Europe	—	—	—	—	—
	North America	1.0	4.9	2.2	40.9	5.2
	Asia and Pacific	—	—	—	—	—
	Latin America	6.7	10.7	29.2	—	37.0
	Africa	—	—	—	—	—
	Middle East	—	—	—	1.4	—
Equatorial Guinea		—	—	—	—	—
	Europe	—	—	—	—	—
	North America	—	—	—	—	—
	Asia and Pacific	—	—	—	—	—
	Latin America	—	—	—	—	—
	Africa	—	—	—	—	—
	Middle East	—	—	—	—	—
Gabon		10.9	10.7	10.4	12.3	8.9
	Europe	3.1	8.0	2.6	5.8	4.1
	North America	2.5	1.8	0.9	—	—
	Asia and Pacific	—	—	—	—	—
	Latin America	—	—	—	—	—
	Africa	5.3	0.9	6.9	6.6	4.7
	Middle East	—	—	—	—	—
IR Iran		469.9	514.3	515.0	270.2	272.1
	Europe	—	—	4.4	2.3	1.2
	North America	—	—	—	—	—
	Asia and Pacific	469.3	513.6	510.1	267.7	270.7
	Latin America	—	—	—	—	—
	Africa	0.6	0.7	0.5	0.2	0.2
	Middle East	—	—	—	—	—
Iraq		9.3	13.7	36.8	20.1	45.7
	Europe	0.1	4.4	0.1	0.1	4.6
	North America	—	—	1.8	0.3	3.4
	Asia and Pacific	—	—	—	2.4	9.6
	Latin America	—	—	—	—	—
	Africa	—	—	—	—	—
	Middle East	9.2	9.3	35.0	17.4	28.1

Table 5.2

OPEC Members' petroleum products exports by destination

(1,000 b/d)

	Destination	2014	2015	2016	2017	2018
Kuwait		751.1	739.4	707.4	640.0	630.4
	Europe	90.6	70.6	46.3	46.0	26.4
	North America	2.2	0.5	0.6	—	1.1
	Asia and Pacific	658.3	668.3	660.4	511.0	468.5
	Latin America	—	—	—	1.0	1.8
	Africa	—	—	—	60.0	57.0
	Middle East	—	—	—	22.0	75.6
Libya		17.2	21.8	23.1	23.5	25.4
	Europe	12.3	16.1	14.7	16.5	17.8
	North America	—	0.7	0.5	4.0	4.4
	Asia and Pacific	2.8	2.5	3.3	—	—
	Latin America	0.8	0.9	2.2	1.2	1.3
	Africa	0.3	0.4	0.8	0.5	0.5
	Middle East	1.0	1.2	1.6	1.2	1.3
Nigeria		49.3	18.0	17.9	19.3	21.3
	Europe	7.1	3.8	5.0	6.6	15.2
	North America	23.6	9.1	9.0	11.2	—
	Asia and Pacific	18.5	5.1	3.9	1.4	—
	Latin America	0.1	—	—	—	6.1
	Africa	—	—	—	—	—
	Middle East	—	—	—	—	—
Saudi Arabia		987.8	1,154.7	1,502.6	1,438.2	1,971.2
	Europe	112.7	180.7	224.4	269.6	413.4
	North America	12.9	—	1.5	7.3	45.6
	Asia and Pacific	548.7	578.9	734.0	379.8	357.6
	Latin America	13.0	4.1	7.4	—	1.9
	Africa	114.3	195.2	238.7	301.0	229.3
	Middle East	186.1	195.8	296.6	480.5	923.3
United Arab Emirates		255.9	414.8	630.0	653.7	916.0
	Europe	25.3	0.2	0.4	118.1	138.5
	North America	1.8	—	—	15.0	41.3
	Asia and Pacific	210.7	318.7	484.1	323.2	532.4
	Latin America	—	0.9	1.3	3.8	18.1
	Africa	11.2	0.2	0.3	68.7	95.3
	Middle East	6.9	94.7	143.9	124.9	90.4
Venezuela		312.4	317.8	262.5	211.7	219.0
	Europe	6.5	9.8	9.8	3.7	26.1
	North America	58.1	54.1	49.5	43.1	85.7
	Asia and Pacific	—	—	0.4	1.0	15.5
	Latin America	242.5	246.7	196.6	162.7	88.8
	Africa	5.3	7.1	6.2	0.6	2.9
	Middle East	—	—	—	0.6	—
OPEC		3,491.8	3,868.7	4,338.4	3,923.9	4,707.7
	Europe	512.7	546.7	546.9	730.2	899.9
	North America	234.8	200.7	187.5	240.8	283.1
	Asia and Pacific	2,008.7	2,212.0	2,469.9	1,566.8	1,757.5
	Latin America	332.9	329.0	316.5	244.8	207.6
	Africa	198.8	276.4	318.0	488.3	438.2
	Middle East	203.8	304.0	499.6	653.0	1,121.3

Notes:

Data may include re-exports and volumes of oil in transit.

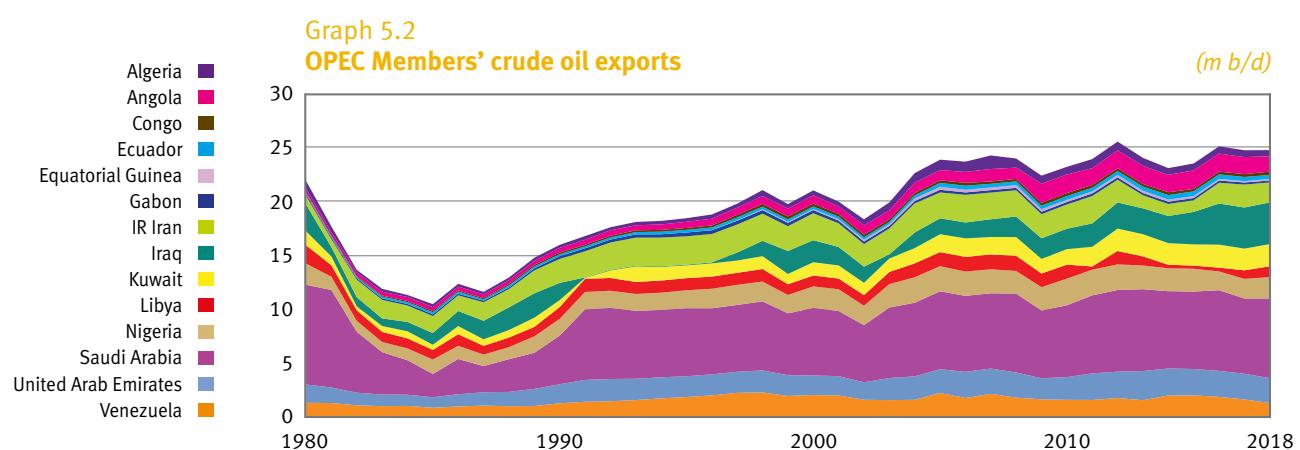
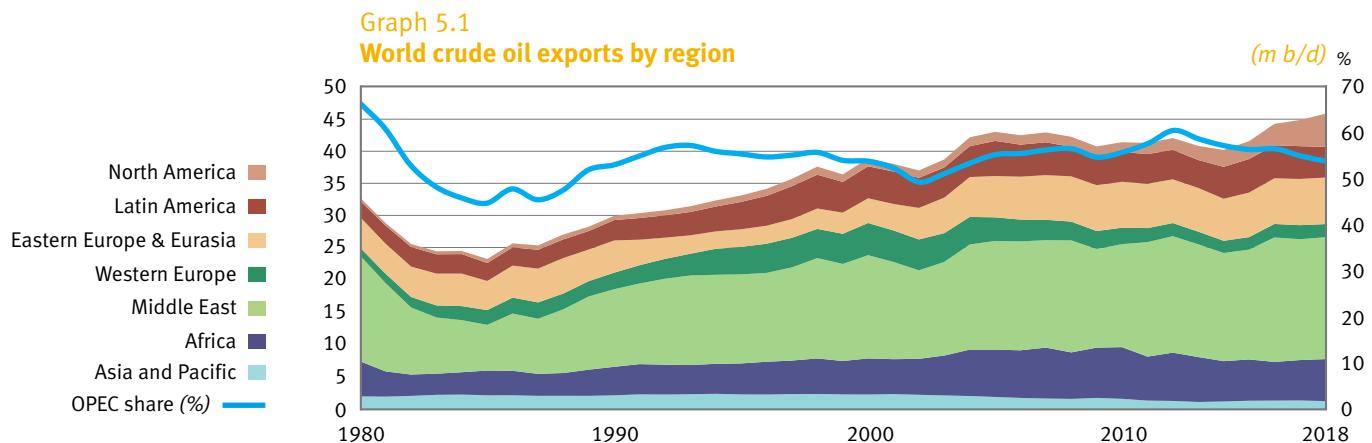
Table 5.3
World crude oil exports by country

(1,000 b/d)

	2014	2015	2016	2017	2018	% change 18/17
North America	2,627.0	2,765.8	3,332.8	4,052.2	5,152.6	27.2
Canada	2,276.2	2,301.2	2,742.1	2,893.8	3,150.2	8.9
United States	350.8	464.6	590.8	1,158.3	2,002.4	72.9
Latin America	4,953.0	5,210.5	5,119.4	5,095.1	4,747.0	-6.8
Brazil	517.3	736.0	891.3	1,127.4	1,147.0	1.7
Colombia	722.0	736.1	613.5	652.5	592.0	-9.3
Ecuador	422.4	432.9	414.7	385.4	371.2	-3.7
Mexico	1,219.8	1,247.1	1,274.4	1,264.6	1,285.5	1.7
Trinidad & Tobago	34.2	29.1	28.3	23.5	20.8	-11.6
Venezuela	1,964.9	1,974.2	1,835.0	1,596.4	1,273.1	-20.2
Others	72.5	55.1	62.3	45.2	57.4	26.9
Eastern Europe and Eurasia	6,525.4	6,907.1	7,089.0	7,166.0	7,221.4	0.8
Azerbaijan	669.4	663.1	655.1	615.3	601.6	-2.2
Kazakhstan	1,250.9	1,229.3	1,231.5	1,370.7	1,436.7	4.8
Russia	4,488.4	4,897.3	5,080.6	5,061.5	5,069.1	0.2
Others	116.7	117.4	121.8	118.5	114.1	-3.7
Western Europe	1,891.9	1,949.4	2,095.5	2,186.6	2,043.0	-6.6
Norway	1,203.2	1,234.7	1,372.7	1,362.1	1,254.9	-7.9
United Kingdom	570.7	594.8	620.3	693.1	708.1	2.2
Others	117.9	120.0	102.5	131.5	80.0	-39.2
Middle East	16,792.8	17,037.3	19,321.1	18,756.8	18,915.0	0.8
IR Iran	1,109.2	1,081.1	1,921.7	2,125.0	1,849.6	-13.0
Iraq	2,515.5	3,004.9	3,803.5	3,802.0	3,862.0	1.6
Kuwait	1,994.8	1,963.8	2,128.2	2,010.0	2,050.0	2.0
Oman	804.3	788.0	887.5	803.0	806.0	0.4
Qatar	595.5	490.7	503.4	466.0	477.3	2.4
Saudi Arabia	7,153.5	7,163.3	7,463.4	6,968.3	7,371.5	5.8
United Arab Emirates	2,496.7	2,441.5	2,407.8	2,378.7	2,296.5	-3.5
Others	123.4	104.0	205.5	203.7	202.0	-0.9
Africa	6,260.9	6,410.3	5,999.9	6,272.6	6,514.7	3.9
Algeria	622.9	642.2	668.3	632.6	571.0	-9.7
Angola	1,607.9	1,710.9	1,670.1	1,576.7	1,420.6	-9.9
Congo	260.9	227.0	254.3	261.2	307.1	17.6
Egypt	117.1	155.8	164.6	139.3	119.8	-14.0
Equatorial Guinea	196.7	182.4	157.6	128.2	145.1	13.2
Gabon	207.4	206.4	205.2	188.4	174.1	-7.6
Libya	329.4	288.4	350.1	792.1	998.5	26.1
Nigeria	2,120.1	2,114.0	1,738.0	1,811.1	1,979.5	9.3
Sudans	168.0	166.0	162.4	141.1	164.5	16.6
Others	630.5	717.3	629.4	601.8	634.5	5.4
Asia and Pacific	1,150.5	1,270.7	1,291.2	1,308.8	1,215.8	-7.1
Australia	244.3	221.8	199.5	179.3	214.4	19.5
Brunei	108.0	112.0	104.7	98.0	115.1	17.5
China	12.2	57.2	58.3	97.7	49.0	-49.8
Indonesia	255.9	315.1	334.5	344.2	284.1	-17.5
Malaysia	229.0	312.0	325.0	339.0	348.0	2.7
Vietnam	173.4	143.6	146.3	129.5	88.5	-31.7
Others	127.7	108.9	122.9	121.1	116.7	-3.6
Total world	40,201.5	41,551.1	44,248.8	44,837.9	45,809.6	1.3
<i>of which</i>						
OPEC	23,002.3	23,432.9	25,017.8	24,656.2	24,669.9	0.1
<i>OPEC percentage</i>	57.2	56.4	56.5	55.0	53.9	
OECD	6,019.0	6,217.2	6,866.0	7,673.6	8,722.6	13.7
FSU	6,513.7	6,898.1	7,078.0	7,152.0	7,267.0	1.6

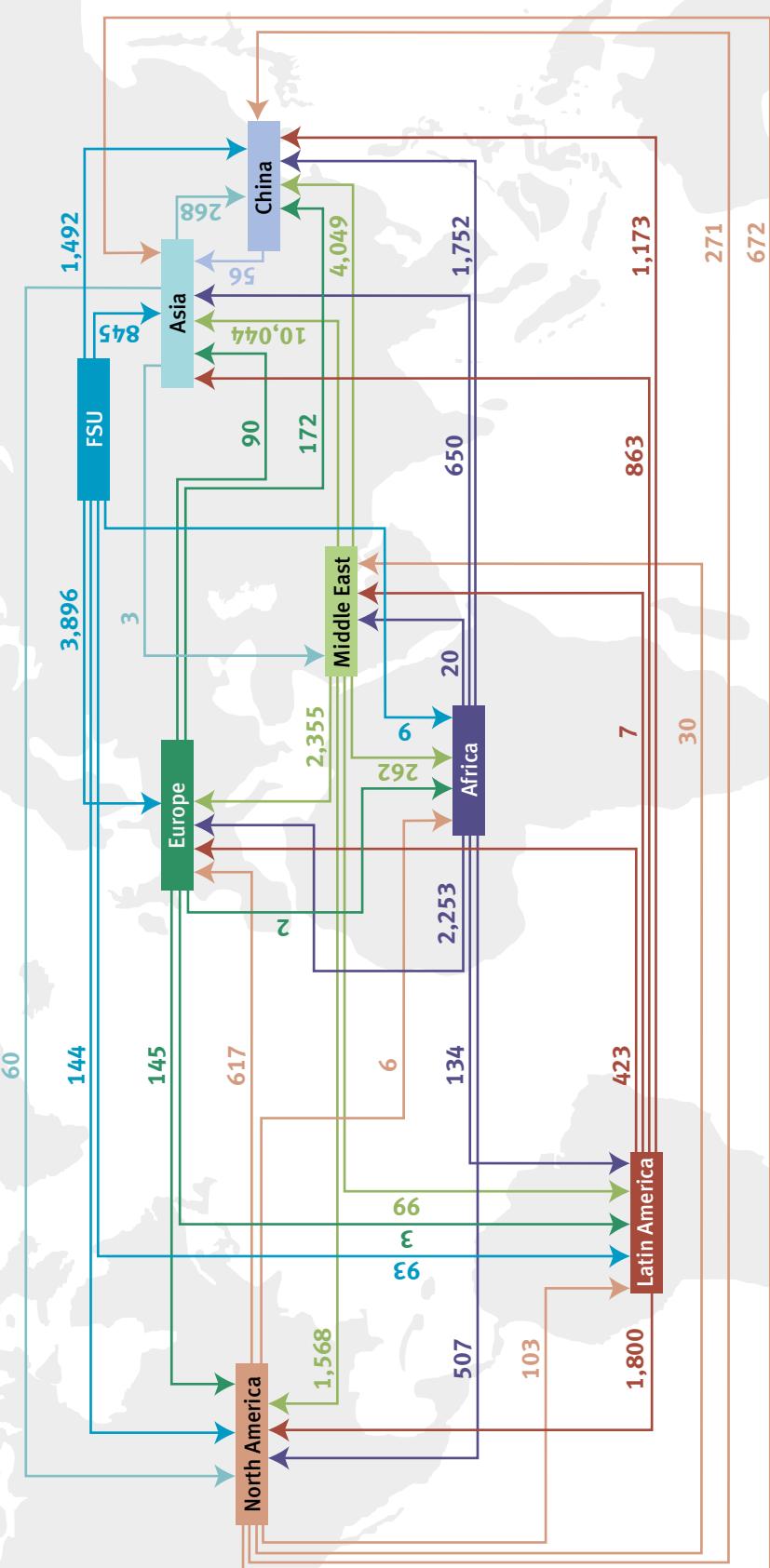
Notes:

Data may include lease condensates and volumes of oil in transit.



Graph 5.3
World trade of crude oil, 2018

(1,000 b/d)



Notes:
Excluding intraregional trade.

Table 5.4
World exports of petroleum products by country

(1,000 b/d)

	2014	2015	2016	2017	2018	% change 18/17
North America	4,289.0	4,756.9	5,105.9	5,708.9	6,026.4	5.6
Canada	464.0	483.9	435.9	490.9	442.9	-9.8
United States	3,825.0	4,273.0	4,670.0	5,218.0	5,583.4	7.0
Latin America	1,195.2	1,192.6	1,227.8	1,121.6	1,073.4	-4.3
Brazil	152.8	124.5	124.4	133.1	170.5	28.1
Ecuador	7.7	15.6	31.4	42.3	42.2	-0.3
Mexico	201.6	196.1	180.3	151.1	139.3	-7.8
Trinidad & Tobago	69.9	91.5	121.0	118.2	119.4	1.0
Venezuela	312.4	317.8	262.5	211.7	219.0	3.4
Others	450.7	447.2	508.2	465.2	383.1	-17.6
Eastern Europe and Eurasia	3,917.6	3,807.7	3,633.3	3,563.9	3,513.9	-1.4
Romania	87.1	88.2	96.1	89.2	95.0	6.5
Russia	2,610.7	2,725.8	2,501.7	2,478.6	2,505.1	1.1
Others	1,219.8	993.7	1,035.6	996.1	913.8	-8.3
Western Europe	6,358.5	6,934.1	7,085.5	7,435.6	7,181.7	-3.4
Belgium	523.9	531.7	537.8	623.5	621.6	-0.3
France	411.3	440.3	428.1	434.8	423.9	-2.5
Germany	433.5	453.4	465.5	483.1	460.0	-4.8
Italy	417.5	564.8	582.2	634.4	580.4	-8.5
Netherlands	2,081.2	2,245.3	2,303.5	2,335.2	2,296.2	-1.7
Norway	372.4	402.2	351.8	433.2	416.1	-4.0
Spain	384.7	411.5	422.9	470.7	453.0	-3.8
Sweden	245.9	297.7	320.6	349.6	346.9	-0.8
United Kingdom	483.8	484.9	523.2	505.6	477.0	-5.6
Others	1,004.3	1,102.3	1,149.8	1,165.6	1,106.7	-5.1
Middle East	3,319.6	3,666.7	4,247.7	3,979.1	4,708.5	18.3
Bahrain	248.3	249.3	230.3	240.7	237.9	-1.1
IR Iran	469.9	514.3	515.0	270.2	272.1	0.7
Iraq	9.3	13.7	36.8	20.1	45.7	127.1
Kuwait	751.1	739.4	707.4	640.0	630.4	-1.5
Qatar	522.1	521.0	568.1	639.4	552.2	-13.6
Saudi Arabia	987.8	1,154.7	1,502.6	1,438.2	1,971.2	37.1
United Arab Emirates	255.9	414.8	630.0	653.7	916.0	40.1
Others	75.3	59.6	57.6	76.9	83.0	8.0
Africa	923.1	915.2	862.1	834.4	818.8	-1.9
Algeria	582.6	605.4	541.1	569.7	532.1	-6.6
Angola	31.0	36.7	54.3	17.2	17.6	2.4
Congo	6.8	5.8	5.7	5.8	5.9	1.7
Egypt	45.2	46.5	36.3	33.5	47.6	42.2
Equatorial Guinea	—	—	—	—	—	—
Gabon	10.9	10.7	10.4	12.3	8.9	-28.0
Libya	17.2	21.8	23.1	23.5	25.4	8.1
Nigeria	49.3	18.0	17.9	19.3	21.3	10.4
Others	180.2	170.3	173.1	153.2	160.1	4.5
Asia and Pacific	6,790.9	7,044.8	7,756.6	8,029.8	7,863.3	-2.1
Australia	55.8	46.6	51.1	46.0	52.5	14.2
China	692.7	836.4	1,088.5	1,168.8	1,267.3	8.4
India	1,374.1	1,245.4	1,401.7	1,411.4	1,344.3	-4.8
Indonesia	88.5	89.1	82.9	80.3	86.8	8.1
Japan	509.3	559.5	594.8	575.3	548.1	-4.7
Malaysia	466.3	440.8	609.3	656.8	674.5	2.7
Singapore	1,761.0	1,870.5	1,995.0	2,088.3	1,776.7	-14.9
South Korea	1,206.1	1,279.5	1,312.9	1,368.7	1,435.2	4.9
Others	637.3	676.9	620.6	634.3	677.9	6.9
Total world	26,794.0	28,318.0	29,919.0	30,673.2	31,186.1	1.7
<i>of which</i>						
OPEC	3,491.8	3,868.7	4,338.4	3,923.9	4,707.7	20.0
<i>OPEC percentage</i>	13.0	13.7	14.5	12.8	15.1	
OECD	13,096.4	14,258.0	14,764.5	15,714.7	15,847.2	0.8
FSU	3,416.4	3,566.1	3,478.8	3,392.0	3,510.4	3.5

Notes:

Data may include re-exports and volumes of oil in transit.

Graph 5.4
OPEC Members' petroleum products exports by destination, 2018

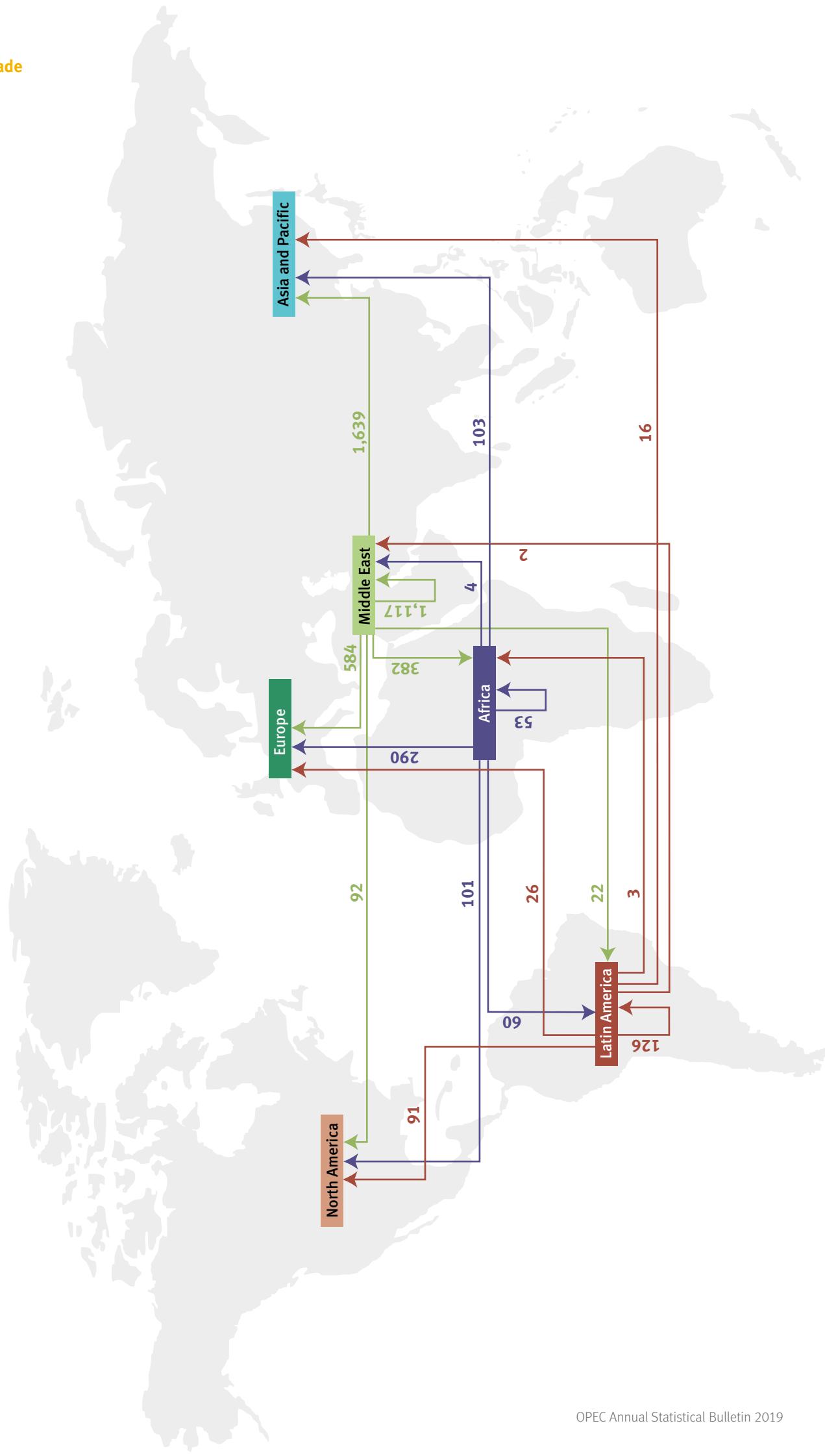


Table 5.5

World exports of petroleum products by main petroleum product and region

(1,000 b/d)

	2014	2015	2016	2017	2018	% change 18/17
North America	4,289.0	4,756.9	5,105.9	5,708.9	6,026.4	5.6
Gasoline	690.5	791.1	933.5	1,014.3	1,107.6	9.2
Kerosene	171.3	180.4	184.3	200.4	239.5	19.5
Distillates	1,236.6	1,324.4	1,314.6	1,528.1	1,421.8	-7.0
Residuals	430.0	385.5	352.5	363.4	376.3	3.6
Others	1,760.6	2,075.5	2,321.0	2,602.7	2,881.1	10.7
Latin America	1,195.2	1,192.6	1,227.8	1,121.6	1,073.4	-4.3
Gasoline	103.1	91.3	116.8	92.0	88.6	-3.7
Kerosene	70.0	67.1	55.0	55.9	61.0	9.1
Distillates	83.7	82.0	137.9	99.4	98.2	-1.2
Residuals	598.7	548.6	581.7	581.1	559.4	-3.7
Others	339.6	403.5	336.5	293.3	266.1	-9.3
Eastern Europe and Eurasia	3,917.6	3,807.7	3,633.3	3,563.9	3,513.9	-1.4
Gasoline	418.9	434.5	442.4	422.4	340.5	-19.4
Kerosene	113.9	99.6	101.7	91.3	90.4	-1.1
Distillates	1,595.6	1,635.2	1,551.4	1,568.4	1,419.7	-9.5
Residuals	1,482.1	1,346.3	1,134.1	1,068.5	823.5	-22.9
Others	307.1	292.1	403.7	413.3	839.8	103.2
Western Europe	6,358.5	6,934.1	7,085.5	7,435.6	7,181.7	-3.4
Gasoline	1,585.8	1,808.8	1,800.3	1,884.1	1,865.7	-1.0
Kerosene	292.0	298.0	315.7	347.3	388.7	11.9
Distillates	1,827.0	1,911.3	2,024.4	2,139.4	1,883.5	-12.0
Residuals	1,268.3	1,419.1	1,328.4	1,072.0	941.7	-12.2
Others	1,385.4	1,497.0	1,616.6	1,992.7	2,102.1	5.5
Middle East	3,319.6	3,666.7	4,247.7	3,979.1	4,708.5	18.3
Gasoline	409.8	531.2	580.0	745.9	897.3	20.3
Kerosene	566.4	615.0	688.5	610.1	656.0	7.5
Distillates	544.1	573.0	663.9	579.4	674.2	16.4
Residuals	384.4	493.8	532.1	717.7	847.8	18.1
Others	1,415.0	1,453.6	1,783.2	1,326.1	1,633.3	23.2
Africa	923.1	915.2	862.1	834.4	818.8	-1.9
Gasoline	8.5	15.0	23.1	10.7	11.0	2.8
Kerosene	57.6	54.3	42.4	43.9	42.1	-4.1
Distillates	12.8	20.3	11.1	3.3	1.6	-49.5
Residuals	209.2	285.0	322.9	310.4	269.2	-13.3
Others	635.0	540.7	462.6	466.1	494.9	6.2

Table 5.5

World exports of petroleum products by main petroleum product and region

(1,000 b/d)

	2014	2015	2016	2017	2018	% change 18/17
Asia and Pacific	6,790.9	7,044.8	7,756.6	8,029.8	7,863.3	-2.1
Gasoline	1,435.6	1,446.7	1,595.2	1,653.3	1,590.8	-3.8
Kerosene	752.9	856.7	890.1	903.4	898.7	-0.5
Distillates	1,974.0	2,071.5	2,433.6	2,417.8	2,484.7	2.8
Residuals	1,224.4	1,280.4	1,354.8	1,446.8	1,367.7	-5.5
Others	1,403.9	1,389.4	1,482.9	1,608.6	1,521.4	-5.4
Total world	26,794.0	28,318.0	29,919.0	30,673.2	31,186.1	1.7
Gasoline	4,652.2	5,118.6	5,491.2	5,822.6	5,901.5	1.4
Kerosene	2,024.2	2,171.2	2,277.6	2,252.4	2,376.3	5.5
Distillates	7,273.8	7,617.7	8,137.0	8,335.6	7,983.8	-4.2
Residuals	5,597.3	5,758.8	5,606.5	5,559.9	5,185.7	-6.7
Others	7,246.5	7,651.8	8,406.6	8,702.7	9,738.8	11.9
<i>of which</i>						
OPEC	3,491.8	3,868.7	4,338.4	3,923.9	4,707.7	20.0
Gasoline	117.3	203.4	267.6	262.1	542.9	107.1
Kerosene	475.2	491.3	520.2	456.0	480.8	5.4
Distillates	496.8	702.2	925.7	843.5	1,190.3	41.1
Residuals	717.0	798.2	903.3	803.7	998.2	24.2
Others	1,685.6	1,673.6	1,721.6	1,558.6	1,495.5	-4.0
OECD	13,096.4	14,258.0	14,764.5	15,714.7	15,847.2	0.8
Gasoline	2,847.2	3,310.6	3,259.6	3,471.7	3,537.1	1.9
Kerosene	856.3	942.6	933.5	998.3	1,057.6	5.9
Distillates	4,255.9	4,581.1	4,420.1	4,752.6	4,357.6	-8.3
Residuals	2,213.1	2,343.5	2,105.7	1,832.2	1,750.5	-4.5
Others	2,923.9	3,080.2	4,045.6	4,659.8	5,144.4	10.4
FSU	3,416.4	3,566.1	3,478.8	3,392.0	3,510.4	3.5
Gasoline	265.7	297.2	313.4	292.7	288.0	-1.6
Kerosene	92.8	86.7	90.9	85.6	101.1	18.1
Distillates	1,447.5	1,601.4	1,554.3	1,566.1	1,749.9	11.7
Residuals	1,407.0	1,389.3	1,194.9	1,113.9	1,029.8	-7.5
Others	203.4	191.6	325.4	333.8	341.7	2.4

Notes:

Data may include re-exports and volumes of oil in transit.

Table 5.6

World exports of crude oil and petroleum products by country

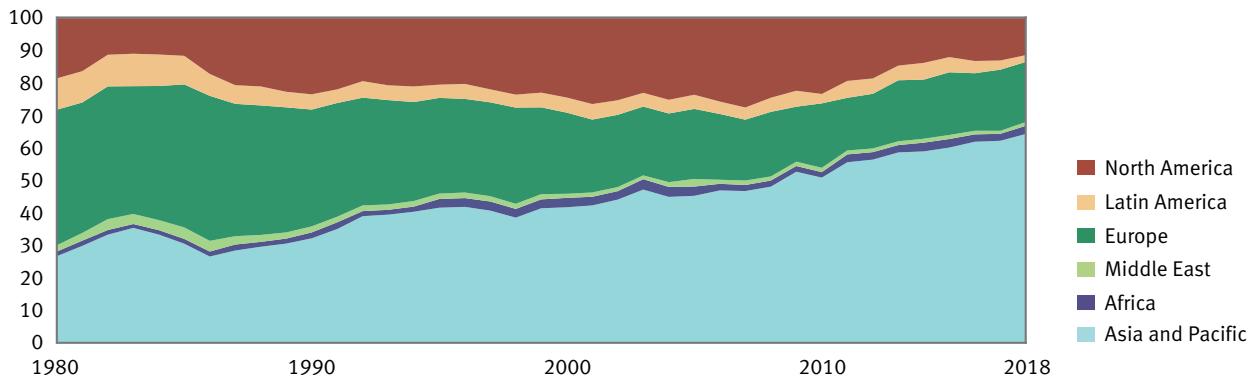
(1,000 b/d)

	2014	2015	2016	2017	2018	% change 18/17
North America	6,916.0	7,522.7	8,438.7	9,761.0	11,179.0	14.5
Canada	2,740.1	2,785.2	3,178.0	3,384.7	3,593.2	6.2
United States	4,175.8	4,737.6	5,260.8	6,376.3	7,585.8	19.0
Latin America	6,148.1	6,403.1	6,347.2	6,216.6	5,820.4	-6.4
Brazil	670.1	860.5	1,015.7	1,260.5	1,317.5	4.5
Colombia	821.4	789.6	710.4	731.6	670.0	-8.4
Ecuador	430.2	448.5	446.1	427.7	413.4	-3.4
Mexico	1,421.4	1,443.1	1,454.7	1,415.6	1,424.8	0.6
Trinidad & Tobago	104.1	120.5	149.3	141.7	140.2	-1.1
Venezuela	2,277.2	2,292.0	2,097.5	1,808.1	1,492.1	-17.5
Others	423.8	448.9	473.6	431.4	362.4	-16.0
Eastern Europe and Eurasia	10,443.1	10,714.8	10,722.3	10,729.8	10,735.4	0.1
Azerbaijan	716.8	711.2	691.9	640.1	627.9	-1.9
Kazakhstan	1,396.4	1,375.1	1,367.9	1,516.6	1,566.5	3.3
Russia	7,099.1	7,623.2	7,582.3	7,540.1	7,574.2	0.5
Others	1,230.8	1,005.4	1,080.3	1,033.0	966.7	-6.4
Western Europe	8,250.4	8,883.6	9,181.0	9,622.2	9,224.6	-4.1
Belgium	523.9	531.7	537.8	623.5	621.6	-0.3
France	411.3	440.3	428.1	434.8	423.9	-2.5
Germany	434.1	460.1	467.7	483.1	460.0	-4.8
Italy	424.6	579.0	594.8	649.4	590.5	-9.1
Netherlands	2,093.6	2,251.2	2,310.1	2,343.5	2,305.3	-1.6
Norway	1,575.7	1,636.9	1,724.6	1,795.2	1,671.0	-6.9
United Kingdom	1,054.5	1,079.7	1,143.5	1,198.6	1,185.1	-1.1
Others	1,732.7	1,904.7	1,974.6	2,094.1	1,967.3	-6.1
Middle East	20,112.4	20,704.1	23,568.8	22,735.9	23,623.5	3.9
Bahrain	248.3	249.3	365.6	393.5	397.9	1.1
IR Iran	1,579.1	1,595.5	2,436.7	2,395.2	2,121.7	-11.4
Iraq	2,524.8	3,018.6	3,840.3	3,822.1	3,907.7	2.2
Kuwait	2,745.9	2,703.2	2,835.6	2,650.0	2,680.4	1.1
Oman	829.0	814.0	912.5	828.4	831.4	0.4
Qatar	1,117.5	1,011.7	1,071.5	1,105.4	1,029.5	-6.9
Saudi Arabia	8,141.3	8,318.1	8,965.9	8,406.5	9,342.7	11.1
United Arab Emirates	2,752.6	2,856.2	3,037.8	3,032.4	3,212.5	5.9
Others	173.9	137.6	102.7	102.4	99.6	-2.7
Africa	7,184.0	7,325.5	6,861.9	7,107.0	7,333.6	3.2
Algeria	1,205.5	1,247.6	1,209.4	1,202.2	1,103.1	-8.2
Angola	1,638.9	1,747.6	1,724.4	1,593.9	1,438.2	-9.8
Congo	267.8	232.7	260.0	267.0	313.0	17.2
Egypt	162.3	202.3	200.9	172.8	167.4	-3.1
Equatorial Guinea	196.7	182.4	157.6	128.2	145.1	13.2
Gabon	218.3	217.1	215.6	200.7	182.9	-8.9
Libya	346.6	310.2	373.3	815.5	1,023.9	25.6
Nigeria	2,169.4	2,132.0	1,755.9	1,830.4	2,000.7	9.3
Sudans	176.0	174.0	171.4	150.3	173.7	15.6
Others	802.7	879.6	793.5	745.9	785.5	5.3
Asia and Pacific	7,941.4	8,315.4	9,047.8	9,338.6	9,079.1	-2.8
Australia	300.1	268.5	250.6	225.3	266.9	18.4
Brunei	109.3	113.8	106.9	99.5	116.6	17.2
China	704.9	893.5	1,146.8	1,266.4	1,316.3	3.9
India	1,374.1	1,245.4	1,401.7	1,411.4	1,344.3	-4.8
Indonesia	344.4	404.3	417.4	424.5	370.9	-12.6
Japan	509.3	559.5	594.8	575.3	548.1	-4.7
Malaysia	695.3	752.8	934.3	995.8	1,022.5	2.7
Singapore	1,772.5	1,885.3	2,007.0	2,098.1	1,784.7	-14.9
South Korea	1,206.1	1,279.5	1,312.9	1,368.7	1,435.2	4.9
Vietnam	206.4	175.6	177.3	161.0	120.1	-25.4
Others	719.1	737.2	698.2	712.5	753.5	5.8
Total world	66,995.5	69,869.1	74,167.8	75,511.1	76,995.6	2.0
<i>of which</i>						
OPEC	26,494.2	27,301.6	29,356.1	28,580.0	29,377.6	2.8
<i>OPEC percentage</i>	39.5	39.1	39.6	37.8	38.2	
OECD	19,115.4	20,475.2	21,630.5	23,388.3	24,569.8	5.1
FSU	9,930.2	10,464.3	10,556.9	10,544.0	10,777.4	2.2

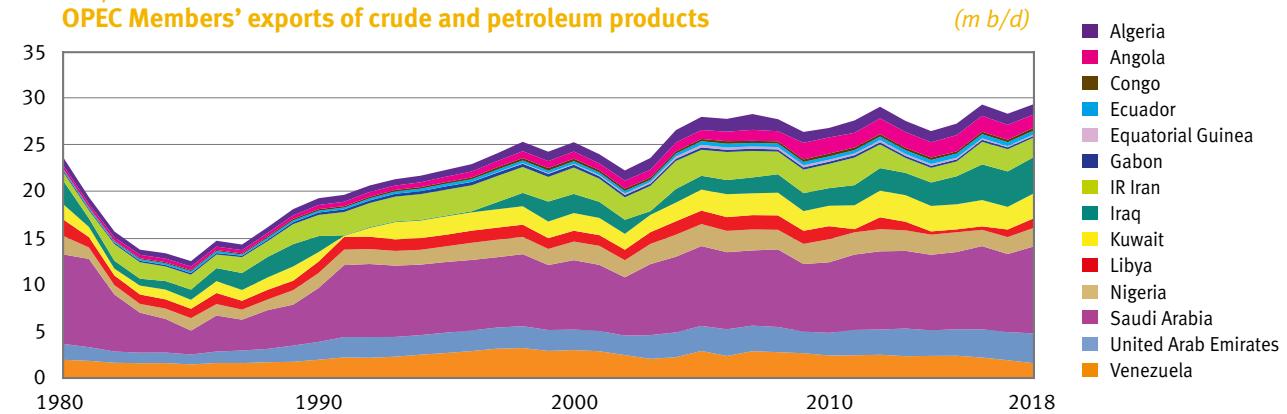
Notes:

Data may include lease condensates, re-exports of petroleum products and volumes of oil in transit.

Graph 5.5
Percentage share of OPEC Members' crude oil exports by regions



Graph 5.6
OPEC Members' exports of crude and petroleum products



Graph 5.7
OPEC Members' exports of petroleum products

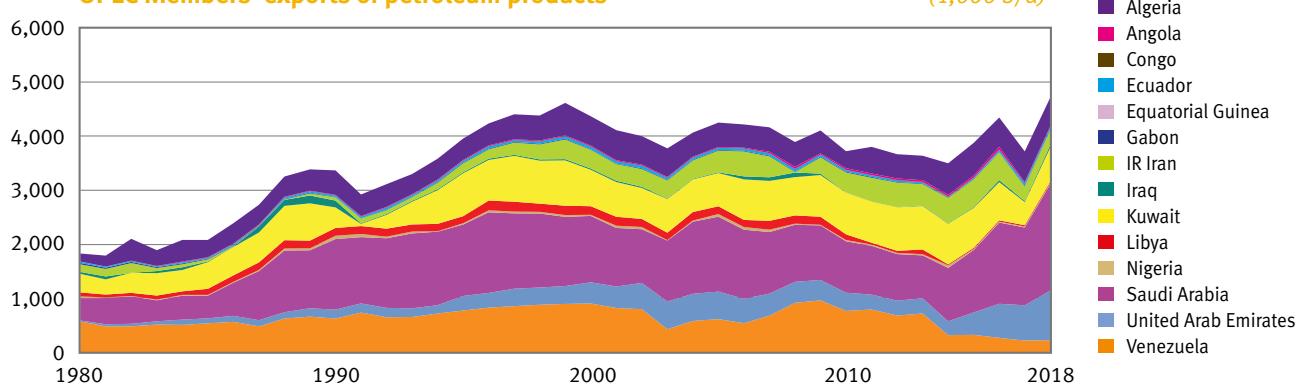


Table 5.7

World imports of crude oil by country

(1,000 b/d)

	2014	2015	2016	2017	2018	% change 18/17
North America	7,907.6	7,928.5	8,738.5	8,773.7	8,504.2	-3.1
Canada	563.6	565.5	888.5	807.1	747.3	-7.4
United States	7,344.0	7,363.0	7,850.0	7,966.6	7,756.9	-2.6
Latin America	1,008.0	944.0	868.4	901.5	902.3	0.1
Brazil	333.3	251.7	134.3	149.8	185.6	23.9
Chile	173.2	162.2	160.8	168.0	163.9	-2.5
Cuba	101.8	112.7	113.8	114.4	112.4	-1.7
Trinidad & Tobago	60.9	78.3	101.0	93.7	95.4	1.8
Others	338.7	339.2	358.6	375.6	345.0	-8.1
Eastern Europe and Eurasia	1,740.6	1,881.2	1,716.3	1,804.2	1,838.6	1.9
Belarus	453.8	461.9	365.6	365.3	367.9	0.7
Bulgaria	102.4	121.4	124.2	137.4	124.5	-9.4
Czech Republic	148.7	144.1	107.3	157.7	150.2	-4.8
Hungary	122.0	125.1	121.0	120.5	134.8	11.8
Poland	478.8	534.0	494.5	497.3	542.9	9.2
Romania	138.4	135.5	153.2	159.1	165.7	4.1
Others	296.4	359.2	350.5	366.9	352.8	-3.9
Western Europe	9,748.9	10,434.2	10,273.0	10,723.8	10,320.6	-3.8
Belgium	650.0	647.9	642.0	688.4	666.3	-3.2
France	1,076.7	1,145.8	1,092.4	1,140.7	1,061.1	-7.0
Germany	1,806.8	1,843.1	1,837.4	1,832.2	1,719.8	-6.1
Greece	420.5	445.7	473.0	478.2	491.1	2.7
Italy	1,085.9	1,261.6	1,225.5	1,340.4	1,252.2	-6.6
Netherlands	957.2	1,056.5	1,091.5	1,092.9	1,100.4	0.7
Spain	1,191.5	1,308.0	1,292.1	1,332.2	1,364.5	2.4
Sweden	378.0	406.2	396.2	401.0	402.3	0.3
Turkey	353.1	505.9	502.4	519.6	422.6	-18.7
United Kingdom	940.2	856.2	797.0	893.8	827.8	-7.4
Others	888.9	957.3	923.5	1,004.3	1,012.5	0.8
Middle East	420.2	452.7	464.7	491.5	486.8	-0.9
Bahrain	211.1	218.2	212.4	222.9	220.2	-1.2
Others	209.2	234.6	252.3	268.6	266.7	-0.7
Africa	757.5	656.1	615.4	619.1	662.0	6.9
Morocco	104.9	43.0	-	-	-	-
South Africa	458.9	420.5	431.9	436.7	470.9	7.9
Others	193.7	192.6	183.5	182.5	191.0	4.7
Asia and Pacific	19,655.0	20,549.1	22,037.2	23,171.2	24,101.4	4.0
Australia	440.9	318.2	332.7	333.7	360.9	8.2
China	6,177.5	6,730.9	7,625.4	8,425.7	9,261.4	9.9
India	3,791.4	3,935.5	4,308.3	4,341.4	4,543.6	4.7
Indonesia	383.2	374.4	366.1	343.8	350.8	2.1
Japan	3,244.6	3,233.5	3,157.8	3,235.2	3,055.9	-5.5
Malaysia	209.3	179.2	198.0	208.9	210.3	0.7
New Zealand	100.2	103.2	107.2	108.0	105.9	-2.0
Philippines	183.6	188.8	212.0	196.7	229.8	16.9
Singapore	786.4	806.3	896.9	981.7	918.7	-6.4
South Korea	2,475.7	2,781.1	2,928.0	3,040.6	3,036.5	-0.1
Thailand	805.9	874.0	852.6	906.0	951.1	5.0
Others	1,056.3	1,024.0	1,052.3	1,049.6	1,076.4	2.6
Total world	41,237.9	42,845.9	44,713.5	46,485.1	46,815.9	0.7
<i>of which</i>						
OECD	25,116.3	26,053.2	26,675.6	27,373.7	26,984.9	-1.4
FSU	724.5	770.9	661.3	682.2	673.0	-1.3

Notes:

Data may include lease condensates and volumes of oil in transit.

Oil trade

Graph 5.8
OPEC Members' crude oil exports by destination, 2018

(1,000 b/d)

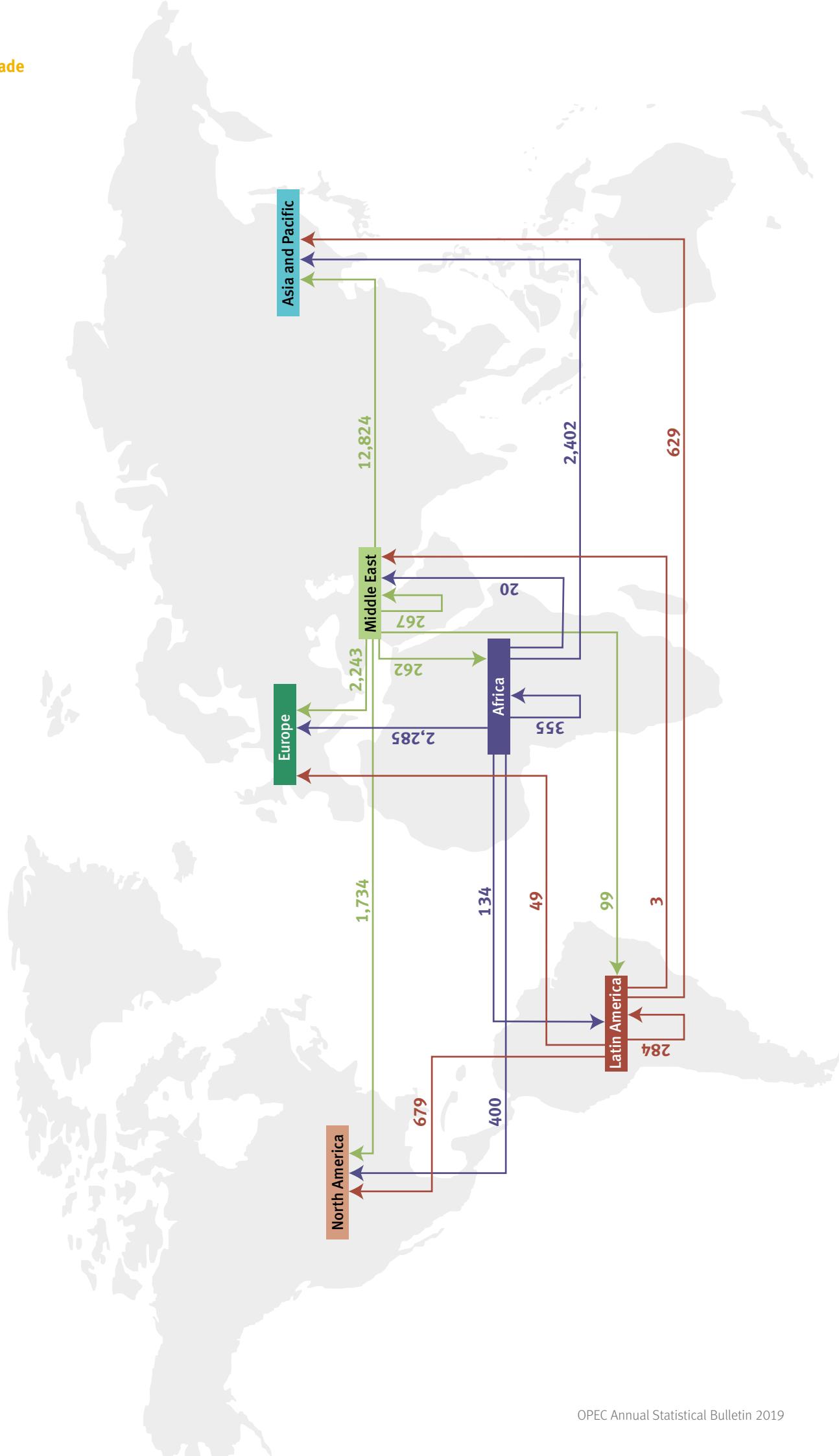


Table 5.8

World imports of petroleum products by country

(1,000 b/d)

	2014	2015	2016	2017	2018	% change 18/17
North America	2,138.6	2,326.7	2,450.6	2,445.2	2,470.7	1.0
Canada	241.6	240.7	245.6	270.2	300.8	11.3
United States	1,897.0	2,086.0	2,205.0	2,175.0	2,169.8	-0.2
Latin America	2,464.7	2,688.4	2,776.8	3,016.1	3,293.7	9.2
Brazil	610.5	556.1	550.5	697.8	640.2	-8.3
Chile	134.9	154.0	156.3	160.0	162.4	1.5
Ecuador	157.4	151.7	122.6	134.2	193.8	44.4
Mexico	616.4	712.1	745.1	847.7	1,089.0	28.5
Panama	62.3	57.4	66.1	63.3	59.8	-5.5
Venezuela	158.3	187.1	160.2	164.7	245.1	48.8
Others	724.9	870.1	976.0	948.5	903.5	-4.7
Eastern Europe and Eurasia	866.0	907.0	1,040.2	1,115.9	1,127.3	1.0
Bulgaria	33.5	37.6	39.0	43.3	39.3	-9.2
Hungary	48.0	57.0	65.5	84.7	83.7	-1.2
Poland	120.6	127.2	169.7	209.7	202.9	-3.2
Ukraine	168.8	163.1	196.2	201.2	213.1	5.9
Others	495.2	522.2	569.8	577.0	588.3	2.0
Western Europe	7,026.2	7,318.5	7,698.7	7,790.1	7,756.4	-0.4
Belgium	490.1	546.7	552.9	575.6	621.4	8.0
France	897.3	857.0	825.5	861.7	896.1	4.0
Germany	791.9	800.1	827.1	880.1	842.5	-4.3
Italy	252.5	261.9	324.7	346.5	362.9	4.7
Netherlands	1,792.5	1,900.5	1,931.5	1,927.2	1,857.4	-3.6
Spain	330.3	321.7	363.8	400.7	362.1	-9.6
Turkey	480.2	498.3	522.8	555.7	572.1	3.0
United Kingdom	607.8	652.4	734.3	695.1	741.2	6.6
Others	1,383.7	1,479.9	1,616.1	1,547.3	1,500.7	-3.0
Middle East	1,665.4	1,844.1	1,848.5	1,929.5	2,253.8	16.8
IR Iran	39.9	52.5	61.6	96.0	101.0	5.2
Iraq	99.0	81.1	91.7	115.6	89.4	-22.7
Kuwait	—	—	—	0.5	30.2	—
Qatar	5.4	32.8	20.6	20.5	21.5	4.8
Saudi Arabia	465.0	588.0	591.1	486.8	898.4	84.5
United Arab Emirates	349.8	358.0	340.2	344.4	350.6	1.8
Others	706.3	731.8	743.3	865.6	762.7	-11.9
Africa	1,652.7	1,917.0	1,927.7	1,907.9	1,937.6	1.6
Algeria	55.3	83.2	73.3	74.5	17.2	-76.9
Angola	99.1	134.5	75.8	70.6	99.5	40.9
Congo	0.8	1.1	1.4	1.6	1.7	10.6
Egypt	185.8	367.2	351.3	318.2	283.8	-10.8
Equatorial Guinea	7.3	7.6	6.4	6.5	3.9	-39.8
Gabon	5.6	5.7	6.1	6.2	7.7	24.9
Libya	113.9	106.2	107.9	130.9	136.8	4.6
Morocco	163.2	161.0	276.9	285.7	294.2	3.0
Nigeria	438.7	441.0	423.4	391.7	442.0	12.9
Tunisia	67.6	81.3	74.6	82.5	88.7	7.5
Others	515.6	528.1	530.7	539.7	562.0	4.1
Asia and Pacific	9,111.2	9,749.1	10,059.3	10,746.7	10,487.1	-2.4
Australia	429.7	545.5	553.4	608.2	627.6	3.2
China	957.7	1,150.9	1,220.3	1,368.5	1,398.7	2.2
India	487.9	636.5	814.1	843.5	793.9	-5.9
Indonesia	554.6	506.0	498.6	586.1	541.9	-7.5
Japan	992.7	972.9	868.9	923.5	976.0	5.7
Malaysia	530.3	569.5	647.8	760.1	751.6	-1.1
Singapore	2,354.2	2,535.7	2,472.6	2,621.3	2,334.9	-10.9
South Korea	885.7	844.2	900.6	869.0	934.6	7.5
Others	1,918.4	1,988.0	2,083.1	2,166.5	2,127.9	-1.8
Total world	24,924.9	26,750.9	27,801.9	28,951.3	29,326.6	1.3
<i>of which</i>						
OPEC	1,989.9	2,197.7	2,061.8	2,024.1	2,617.4	29.3
<i>OPEC percentage</i>	8.0	8.2	7.4	7.0	8.9	
OECD	12,396.3	13,076.2	13,651.2	13,930.3	14,232.2	2.2
FSU	477.8	503.8	512.8	509.9	499.8	-2.0

Notes:

Data may include re-exports and volumes of oil in transit.

Table 5.9

World imports of petroleum products by main petroleum product and region

(1,000 b/d)

	2014	2015	2016	2017	2018	% change 18/17
North America	2,138.6	2,326.7	2,450.6	2,445.2	2,470.7	1.0
Gasoline	657.1	733.5	752.2	783.1	799.4	2.1
Kerosene	133.3	173.5	173.7	167.7	190.8	13.7
Distillates	224.7	236.6	229.7	223.1	242.3	8.6
Residuals	190.7	198.4	201.0	200.0	200.8	0.4
Others	932.8	984.6	1,094.1	1,071.2	1,037.4	-3.2
Latin America	2,464.7	2,688.4	2,776.8	3,016.1	3,293.7	9.2
Gasoline	829.8	950.8	998.3	1,169.3	1,084.9	-7.2
Kerosene	54.3	75.6	65.1	72.3	99.7	37.9
Distillates	737.9	723.4	811.6	942.8	936.0	-0.7
Residuals	111.3	132.0	106.9	125.9	120.9	-4.0
Others	731.4	806.7	794.9	705.7	1,052.1	49.1
Eastern Europe and Eurasia	866.0	907.0	1,040.2	1,115.9	1,127.3	1.0
Gasoline	177.6	128.0	170.7	157.4	129.7	-17.6
Kerosene	8.3	10.6	15.0	19.6	36.8	87.9
Distillates	387.6	420.7	516.8	561.3	555.2	-1.1
Residuals	26.5	38.3	44.5	39.5	38.8	-1.6
Others	266.1	309.5	293.2	338.2	366.7	8.4
Western Europe	7,026.2	7,318.5	7,698.7	7,790.1	7,756.4	-0.4
Gasoline	641.1	700.4	723.9	725.3	628.7	-13.3
Kerosene	699.8	731.2	783.5	825.7	889.0	7.7
Distillates	2,464.1	2,649.3	2,831.6	2,791.8	2,643.9	-5.3
Residuals	1,161.5	1,204.9	1,124.0	791.9	718.2	-9.3
Others	2,059.7	2,032.7	2,235.8	2,655.4	2,876.6	8.3
Middle East	1,665.4	1,844.1	1,848.5	1,929.5	2,253.8	16.8
Gasoline	646.1	729.5	696.8	849.7	891.7	5.0
Kerosene	57.0	70.0	173.4	152.2	215.7	41.7
Distillates	737.8	701.6	609.8	339.5	450.7	32.8
Residuals	165.2	238.8	313.0	513.0	607.8	18.5
Others	59.3	104.3	55.5	75.1	87.9	17.0
Africa	1,652.7	1,917.0	1,927.7	1,907.9	1,937.6	1.6
Gasoline	564.6	484.7	585.7	784.2	1,091.9	39.2
Kerosene	183.0	121.9	53.0	16.6	31.7	90.6
Distillates	496.5	655.1	663.1	670.9	510.2	-23.9
Residuals	186.2	219.6	157.1	50.9	2.8	-94.5
Others	222.4	435.7	468.8	385.2	300.9	-21.9

Table 5.9

World imports of petroleum products by main petroleum product and region

(1,000 b/d)

	2014	2015	2016	2017	2018	% change 18/17
Asia and Pacific	9,111.2	9,749.1	10,059.3	10,746.7	10,487.1	-2.4
Gasoline	1,404.1	1,437.5	1,287.7	1,564.2	1,314.3	-16.0
Kerosene	445.5	471.1	496.8	581.1	587.4	1.1
Distillates	1,318.3	1,273.3	1,493.3	1,540.7	1,568.7	1.8
Residuals	2,712.4	2,832.2	2,705.9	3,053.1	2,895.1	-5.2
Others	3,230.9	3,735.0	4,075.7	4,007.6	4,121.5	2.8
Total world	24,924.9	26,750.9	27,801.9	28,951.3	29,326.6	1.3
Gasoline	4,920.4	5,164.4	5,215.2	6,033.2	5,940.7	-1.5
Kerosene	1,581.2	1,653.9	1,760.6	1,835.3	2,051.2	11.8
Distillates	6,366.8	6,659.9	7,155.9	7,070.1	6,907.1	-2.3
Residuals	4,553.9	4,864.3	4,652.3	4,774.3	4,584.5	-4.0
Others	7,502.6	8,408.4	9,017.9	9,238.4	9,843.2	6.5
<i>of which</i>						
OPEC	1,989.9	2,197.7	2,061.8	2,024.1	2,617.4	29.3
Gasoline	675.1	732.7	767.9	952.6	1,310.7	37.6
Kerosene	106.7	118.7	116.8	94.1	158.1	68.0
Distillates	667.5	645.5	582.0	400.0	508.7	27.2
Residuals	120.1	172.5	204.9	323.9	390.4	20.5
Others	420.5	528.4	390.1	253.4	249.5	-1.5
OECD	12,396.3	13,076.2	13,651.2	13,930.3	14,232.2	2.2
Gasoline	1,745.7	1,975.4	2,063.9	2,166.3	2,152.2	-0.6
Kerosene	86.7	88.2	84.1	86.1	104.3	21.1
Distillates	3,355.3	3,616.0	3,883.6	3,948.8	3,933.4	-0.4
Residuals	1,558.0	1,561.9	1,477.1	1,203.7	1,176.7	-2.2
Others	5,650.7	5,834.7	6,142.5	6,525.4	6,865.6	5.2
FSU	477.8	503.8	512.8	509.9	499.8	-2.0
Gasoline	98.6	136.3	95.1	87.9	74.1	-15.7
Kerosene	10.2	6.1	8.7	9.6	10.9	13.4
Distillates	245.4	239.7	254.4	269.1	258.4	-4.0
Residuals	25.5	21.0	35.6	38.9	34.6	-10.9
Others	98.1	100.7	119.0	104.3	121.7	16.7

Notes:

Data may include re-exports and volumes of oil in transit.

Table 5.10

World imports of crude oil and petroleum products by country

(1,000 b/d)

	2014	2015	2016	2017	2018	% change 18/17
North America	10,046.3	10,255.2	11,189.1	11,218.9	10,974.9	-2.2
Canada	805.3	806.2	1,134.1	1,077.3	1,048.1	-2.7
United States	9,241.0	9,449.0	10,055.0	10,141.6	9,926.8	-2.1
Latin America	3,472.7	3,632.4	3,645.2	3,917.6	4,196.0	7.1
Brazil	943.8	807.8	684.8	847.6	825.8	-2.6
Chile	308.1	316.2	317.1	328.0	326.3	-0.5
Ecuador	157.4	151.7	128.6	149.5	213.6	42.9
Mexico	616.4	712.1	745.1	847.7	1,092.9	28.9
Venezuela	199.8	220.5	165.9	165.7	247.2	49.2
Others	1,247.1	1,424.3	1,603.8	1,579.1	1,490.2	-5.6
Eastern Europe and Eurasia	2,606.6	2,788.2	2,756.5	2,920.2	2,966.0	1.6
Belarus	457.1	473.1	388.3	394.2	380.0	-3.6
Bulgaria	135.9	159.0	163.2	180.8	163.8	-9.4
Czech Republic	218.3	223.9	207.9	238.9	240.6	0.7
Hungary	170.0	182.1	186.6	205.2	218.5	6.5
Poland	599.4	661.2	664.2	707.1	745.8	5.5
Romania	172.3	178.9	196.3	210.3	217.7	3.5
Ukraine	172.4	167.7	206.6	221.8	228.5	3.0
Others	681.3	742.4	743.6	762.0	771.1	1.2
Western Europe	16,775.1	17,752.8	17,971.7	18,513.9	18,077.1	-2.4
Belgium	1,140.1	1,194.6	1,194.9	1,264.1	1,287.8	1.9
France	1,974.0	2,002.7	1,917.8	2,002.5	1,957.2	-2.3
Germany	2,598.7	2,643.2	2,664.5	2,712.3	2,562.3	-5.5
Greece	488.2	530.6	555.8	559.8	562.4	0.5
Italy	1,338.4	1,523.5	1,550.2	1,686.9	1,615.1	-4.3
Netherlands	2,749.7	2,957.0	3,023.0	3,020.1	2,957.8	-2.1
Spain	1,521.8	1,629.7	1,656.0	1,732.9	1,726.6	-0.4
Sweden	557.6	580.6	631.5	617.6	608.0	-1.6
Turkey	833.3	1,004.2	1,025.2	1,075.3	994.7	-7.5
United Kingdom	1,548.0	1,508.6	1,531.3	1,589.0	1,568.9	-1.3
Others	2,025.3	2,177.9	2,221.5	2,253.5	2,236.3	-0.8
Middle East	2,085.6	2,296.9	2,313.2	2,420.9	2,740.7	13.2
Bahrain	225.0	231.2	225.3	236.0	234.9	-0.5
IR Iran	39.9	52.5	61.6	96.0	101.0	5.2
Iraq	99.0	81.1	91.7	115.6	89.4	-22.7
Kuwait	—	—	—	0.5	30.2	

Table 5.10

World imports of crude oil and petroleum products by country

(1,000 b/d)

	2014	2015	2016	2017	2018	% change 18/17
Middle East (cont'd)						
Qatar	5.4	32.8	20.6	20.5	21.5	4.8
Saudi Arabia	465.0	588.0	591.1	486.8	898.4	84.5
United Arab Emirates	371.8	396.1	392.7	412.4	392.3	-4.9
Others	879.6	915.2	930.2	1,053.0	972.9	-7.6
Africa	2,410.2	2,573.1	2,543.1	2,527.0	2,599.6	2.9
Algeria	61.4	88.9	78.2	79.3	22.7	-71.4
Angola	99.1	134.5	75.8	70.6	99.5	40.9
Congo	0.8	1.1	1.4	1.6	1.7	10.6
Egypt	270.3	458.7	434.5	405.1	400.1	-1.2
Equatorial Guinea	7.3	7.6	6.4	6.5	3.9	-39.8
Gabon	5.6	5.7	6.1	6.2	7.7	24.9
Libya	113.9	106.2	107.9	130.9	136.8	4.6
Morocco	268.1	204.0	276.9	285.7	294.2	3.0
Nigeria	438.7	441.0	423.4	391.7	442.0	12.9
South Africa	515.1	483.0	494.7	498.5	554.3	11.2
Tunisia	92.3	99.9	93.0	98.6	104.2	5.7
Others	537.7	542.5	544.8	552.5	532.4	-3.6
Asia and Pacific	28,766.3	30,298.3	32,096.5	33,917.9	34,588.5	2.0
Australia	870.6	863.8	886.1	941.9	988.5	4.9
China	7,135.2	7,881.8	8,845.7	9,794.2	10,660.1	8.8
India	4,279.3	4,572.0	5,122.3	5,184.9	5,337.6	2.9
Indonesia	937.8	880.4	864.7	929.9	892.7	-4.0
Japan	4,237.3	4,206.4	4,026.7	4,158.7	4,031.9	-3.0
Malaysia	739.7	748.7	845.8	969.0	961.9	-0.7
New Zealand	149.1	149.4	161.8	162.2	164.6	1.5
Philippines	363.9	394.3	442.3	483.4	483.2	-0.1
Singapore	3,140.6	3,341.9	3,369.5	3,602.9	3,253.6	-9.7
South Korea	3,361.4	3,625.3	3,828.6	3,909.6	3,971.1	1.6
Thailand	982.4	1,023.0	1,019.8	1,080.8	1,127.4	4.3
Others	2,568.9	2,611.2	2,683.2	2,700.3	2,716.0	0.6
Total world	66,162.7	69,596.8	72,515.4	75,436.4	76,142.6	0.9
<i>of which</i>						
OPEC	2,059.6	2,274.8	2,130.8	2,113.1	2,686.5	27.1
OECD	37,512.6	39,129.4	40,326.7	41,304.0	41,217.1	-0.2
FSU	1,202.3	1,274.8	1,174.2	1,192.0	1,172.8	-1.6

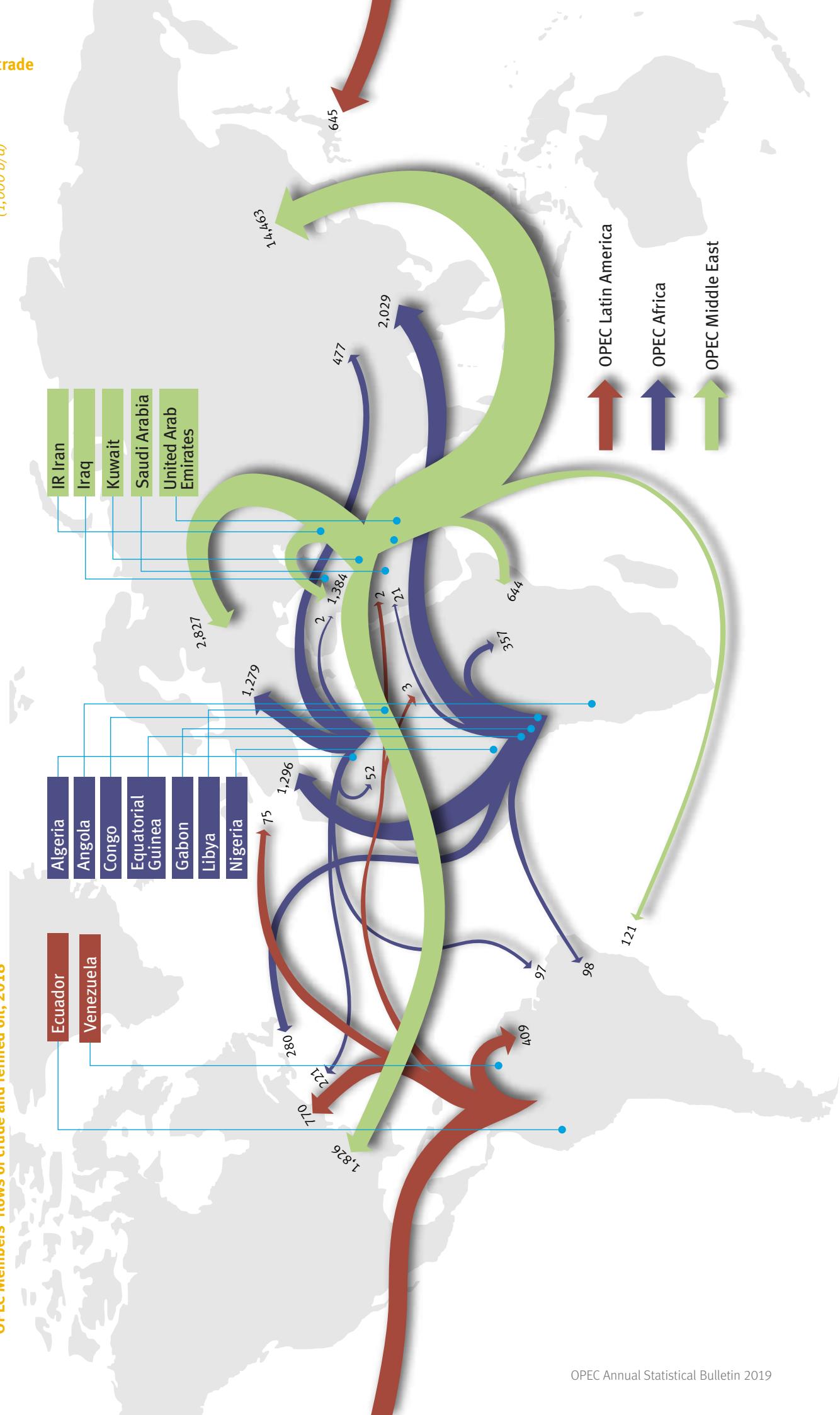
Notes:

Data may include lease condensates, re-exports of petroleum products and volumes of oil in transit.

Oil trade

(1,000 b/d)

Graph 5.9
OPEC Members' flows of crude and refined oil, 2018



SECTION 6

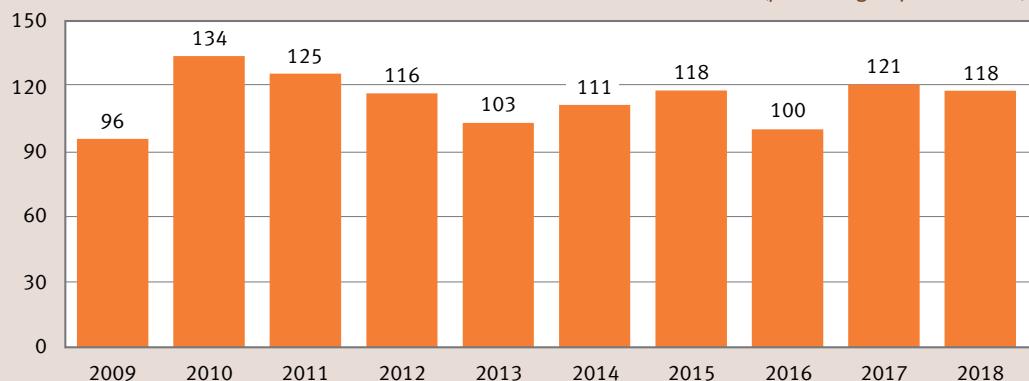
Oil transportation



Middle Eastern countries' exports of petroleum products to Asia

Generally, refining capacities of Middle Eastern countries' oil producing economies are on a rising trend not only to meet the growing domestic demand for petroleum products, but also to supply the rest of the world. This implies that the global dependency, particularly in Asia, on main petroleum products of this region, chiefly the Gulf, becomes more important. Within this context it is important to bear in mind that any importer of oil products is not only confronted with the dominating volatile product prices but also with the cost-dynamics of the international oil tanker industry.

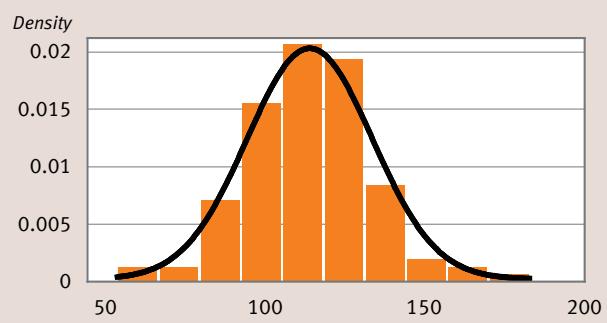
Graph 1:
Spot tanker product freight rates — Middle Eastern countries to Asia
(percentage of Worldscale)



Commonly, the daily cost of shipping is measured in Worldscale (WSC) points, which is the percentage value of the annually published flat rate (eg shipping cost in \$/t terms) that a charterer would pay to transfer a liquid cargo on a tanker between any two ports globally. The tanker market can be very volatile and the announced WSC rates can vary significantly depending on the supply-demand structure of available cargoes.

Descriptive statistics show that within the period of 2009–18, the WSC points averaged 114 per cent annually, with a standard deviation and coefficient of variation of 11.8 per cent or 10.4 per cent, respectively. Based on the corresponding standard deviations, this implies that over the years the spot clean tanker market (as measured in WSC points) was less volatile than the global prices in the spot market for major petroleum products.

Graph 2:
Histogram — WSC points from 2009–18*



* Histogram based on monthly data, thus 120 observations.

Oil transportation

**Table 6.1
World tanker fleet by year of build and categories** *(1,000 dwt)*

Tanker size	up to 2003 no	2003–08 dwt	2004–08 no	2004–08 dwt	2009–13 no	2009–13 dwt	2014–18 no	2014–18 dwt	Total no	Total dwt
10–26,999	168	2,884	503	7,855	436	7,193	243	4,435	1,541	25,145
27–41,999	158	5,753	269	10,003	117	4,218	137	5,125	773	28,347
42–59,999	158	7,270	457	22,060	448	21,930	403	20,019	1,556	75,435
60–84,999	53	3,805	210	15,241	121	8,992	59	4,352	449	32,805
85–119,999	160	17,103	295	32,239	279	30,739	211	23,619	988	108,080
120–199,999	97	15,031	116	18,436	202	31,607	134	20,883	576	89,913
200,000 and over	129	39,345	144	44,413	256	79,468	179	55,239	722	222,633
Total world	923	91,192	1,994	150,247	1,859	184,146	1,366	133,672	6,605	582,359

Notes:

Figures as at year-end. Data is adjusted to take into account different categories of vessels. Data includes clean, dirty and chemical tankers.

**Table 6.2
World LPG carrier fleet by size** *(1,000 cu m)*

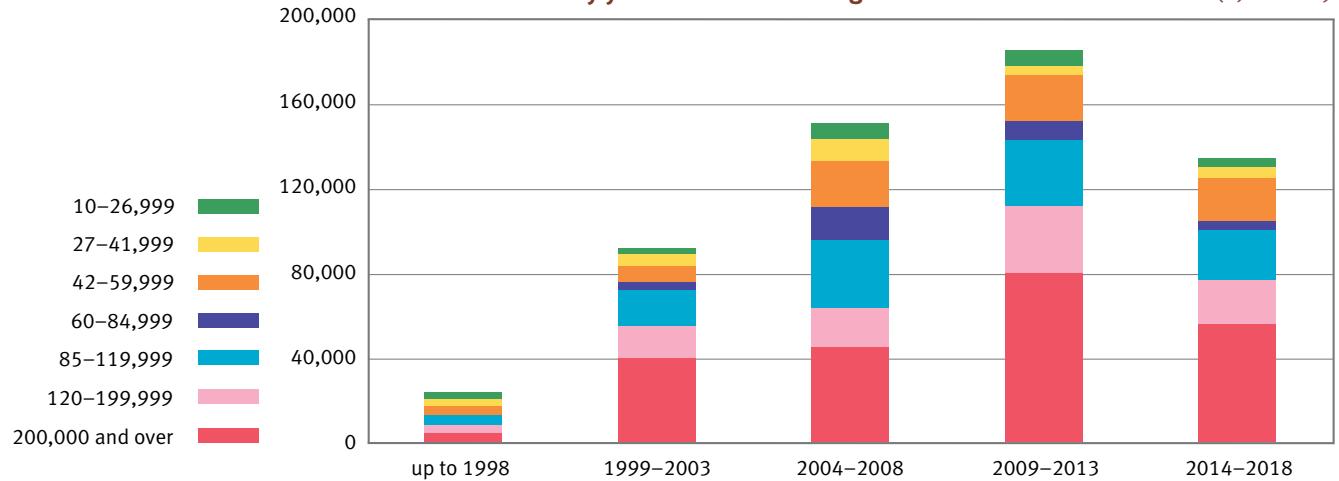
	2014 no	2014 capacity	2015 no	2015 capacity	2016 no	2016 capacity	2017 no	2017 capacity	2018 no	2018 capacity
up to 19,999	937	4,070	945	4,137	963	4,303	972	4,374	977	4,421
20,000–44,999	123	3,552	131	3,798	140	4,041	159	4,657	181	5,388
45,000–64,999	20	1,184	20	1,184	23	1,365	24	1,428	24	1,428
65,000 and over	155	12,485	164	13,230	199	16,165	243	19,867	266	21,795
Total world	1,235	21,291	1,260	22,349	1,325	25,874	1,398	30,326	1,448	33,032

Notes:

Figures as at year-end.

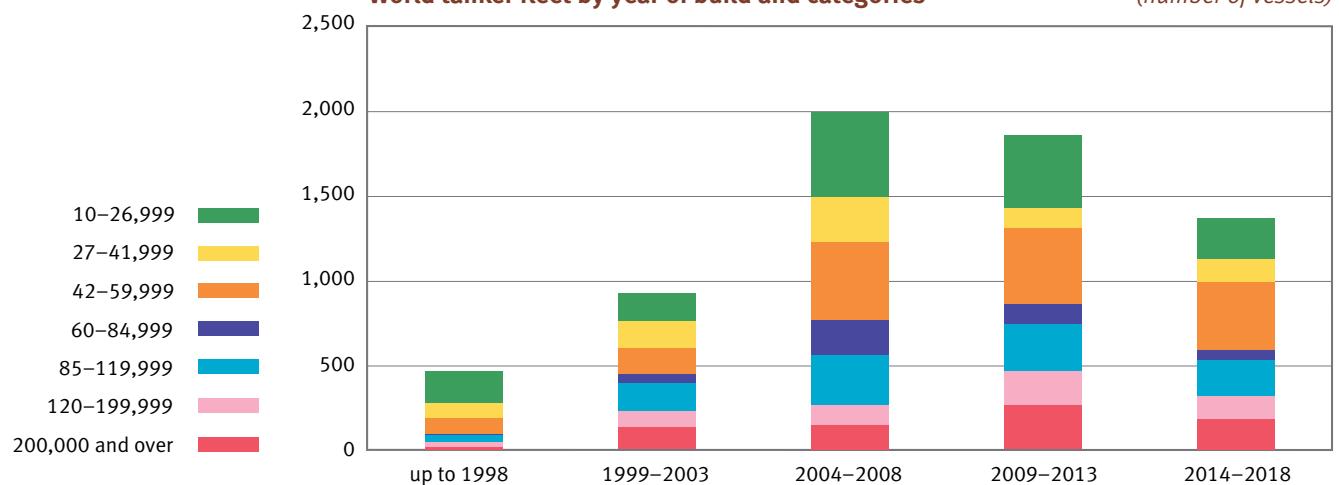
Graph 6.1
World tanker fleet by year of build and categories

(1,000 dwt)



Graph 6.2
World tanker fleet by year of build and categories

(number of vessels)



Oil transportation

**Table 6.3
World combined carrier fleet by size**

(1,000 dwt)

	2014 no	2014 dwt	2015 no	2015 dwt	2016 no	2016 dwt	2017 no	2017 dwt	2018 no	2018 dwt
10,000–39,999	1	28	1	28	1	28	1	28	1	28
40,000–49,999	2	87	2	87	2	87	2	87	2	87
50,000–59,999	–	–	–	–	–	–	–	–	–	–
60,000–69,999	–	–	–	–	–	–	–	–	–	–
70,000–79,999	6	435	6	435	6	435	6	435	6	435
80,000–99,999	–	–	–	–	2	161	3	241	3	241
100,000–119,999	10	1,098	10	1,098	8	879	7	769	6	659
120,000–129,999	2	241	2	241	2	241	2	241	2	241
130,000–319,999	5	1,599	–	–	–	–	–	–	–	–
Total world	26	3,490	21	1,890	21	1,831	21	1,802	20	1,692

Notes:

Figures as at year-end.

Table 6.4

Average spot freight rates by vessel category

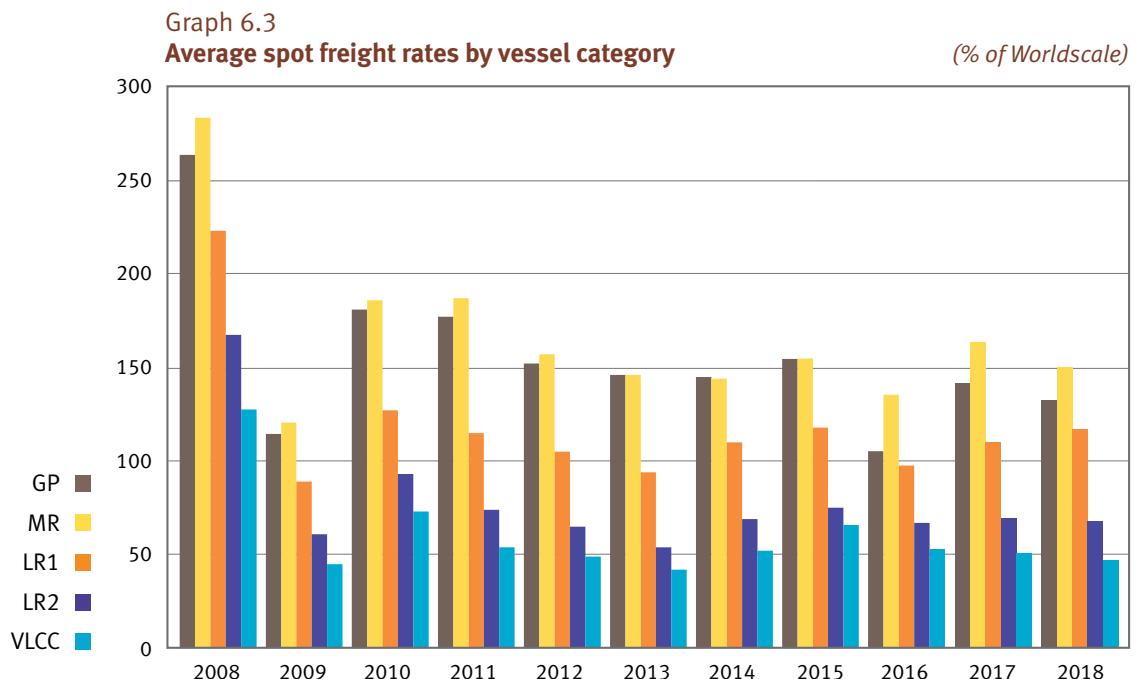
(% of Worldscale)

Tanker size (1,000 dwt)	2014	2015	2016	2017	2018	
GP	16.5–24.9	144.7	154.6	105.3	141.5	132.8
MR	25.0–44.9	144.2	154.9	135.4	163.7	150.4
LR1	45.0–79.9	110.3	117.9	97.6	109.7	117.0
LR2	80.0–159.9	68.9	75.1	66.9	69.3	68.0
VLCC	160.0–319.9	52.5	66.0	52.9	50.1	46.9

Notes:

Average spot freight rates are the average of all spot freight rates by tanker size reported each month in the spot market.

GP = general purpose carrier; MR = medium range carrier; LR1 = large range 1 carrier; LR2 = large range 2 carrier; VLCC = very large crude carrier.



Oil transportation

Table 6.5
Dirty tanker spot freight rates

(% of Worldscale and \$/t)

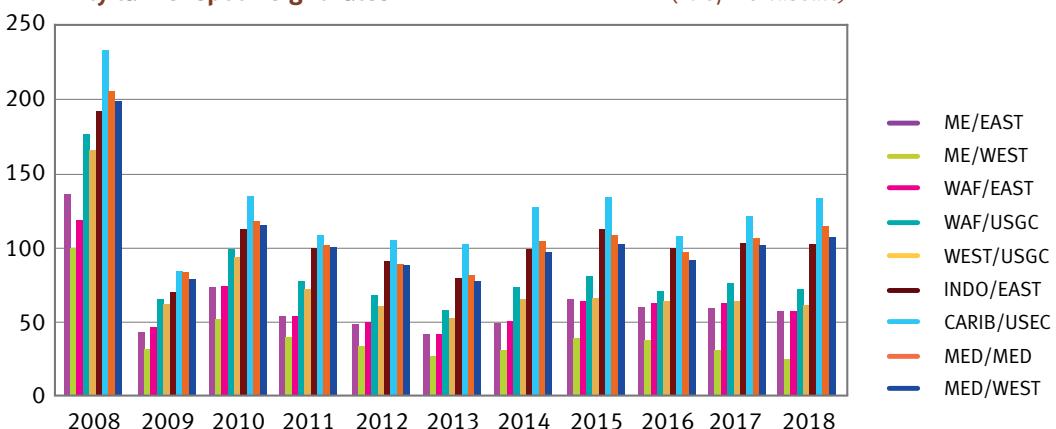
	2014	%	\$/t	2015	%	\$/t	2016	%	\$/t	2017	%	\$/t	2018	%	\$/t
ME/EAST	49	7.9		64	10.3		60	10.8		59	8.2		57	9.4	
ME/WEST	30	11.8		38	13.4		37	7.6		30	4.8		25	4.7	
WAF/EAST	50	20.1		63	25.0		62	17.7		62	13.5		57	14.9	
WAF/USGC	73	18.6		81	20.3		70	12.6		75	10.3		72	11.6	
WEST/USGC	65	14.2		66	14.3		64	11.6		63	9.2		61	9.8	
INDO/EAST	99	15.2		112	16.8		99	11.4		103	9.6		102	11.0	
CAR/USEC	127	12.8		134	13.3		107	8.6		121	7.8		133	9.7	
MED/MED	104	6.8		108	7.1		97	6.1		106	5.7		115	6.8	
MED/WEST	97	12.3		102	12.8		91	9.8		101	8.6		107	10.5	

Notes:

ME = Middle East; EAST = Far East; WEST = North-West Europe; WAF = West Africa; USGC = US Gulf Coast; INDO = Indonesia; CAR = Caribbean; USEC = US East Coast; MED = Mediterranean.

Graph 6.4
Dirty tanker spot freight rates

(% of Worldscale)



Graph 6.5
Dirty tanker spot freight costs

(\$/t)

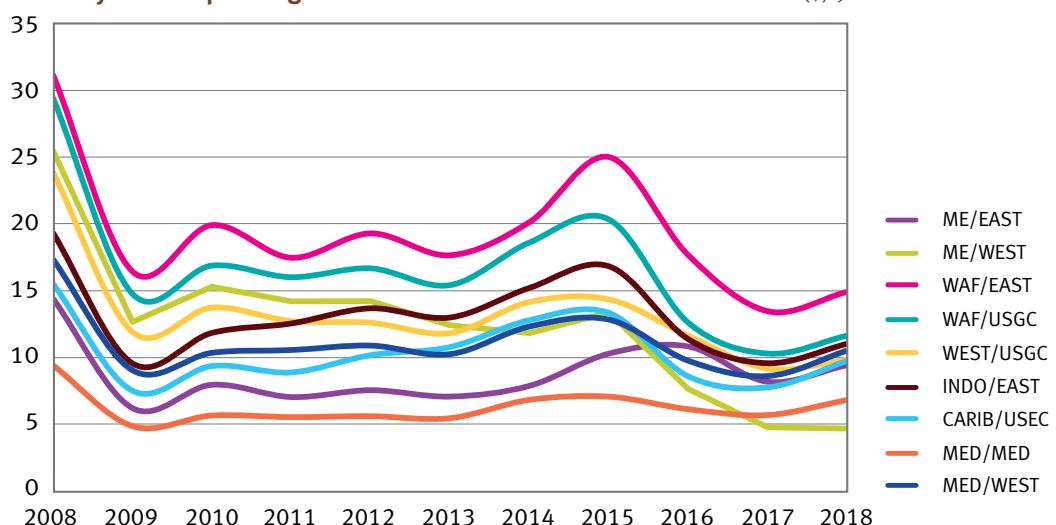


Table 6.6
Clean tanker spot freight rates

(% of Worldscale and \$/t)

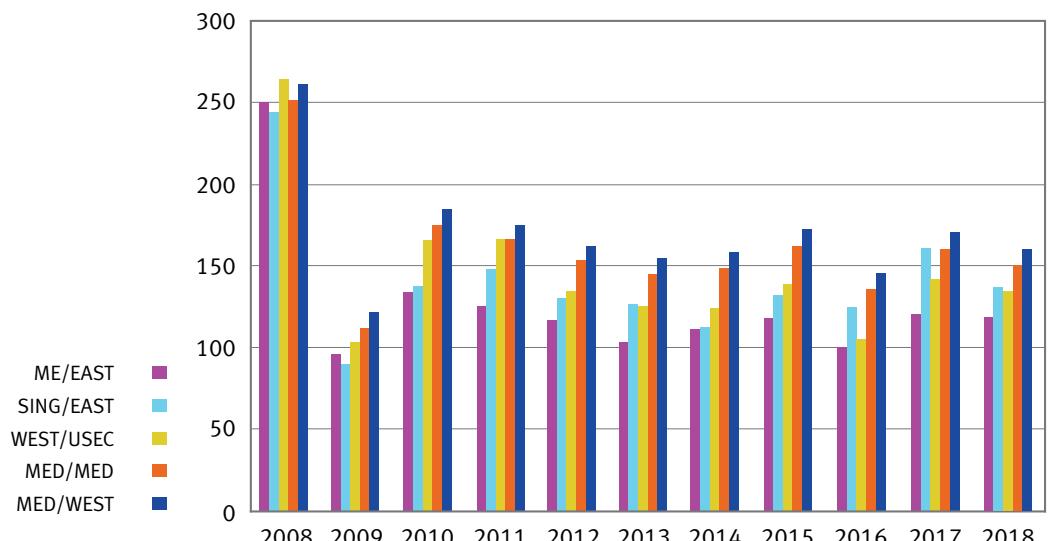
	2014	%	2015	%	2016	%	2017	%	2018	%
	\$/t		\$/t		\$/t		\$/t		\$/t	
ME/EAST	111	30.8	118	31.9	100	19.5	120	18.2	118	21.1
SING/EAST	112	15.3	132	17.5	124	12.2	161	12.6	137	12.5
WEST/USEC	124	20.4	139	22.7	105	14.5	141	15.4	134	16.6
MED/MED	149	9.4	170	10.4	136	7.9	160	8.1	151	8.5
MED/WEST	159	21.8	180	23.5	146	15.5	170	14.7	160	16.0

Notes:

ME = Middle East; EAST = Far East; SING = Singapore; WEST = North-West Europe; USEC = US East Coast, MED = Mediterranean.

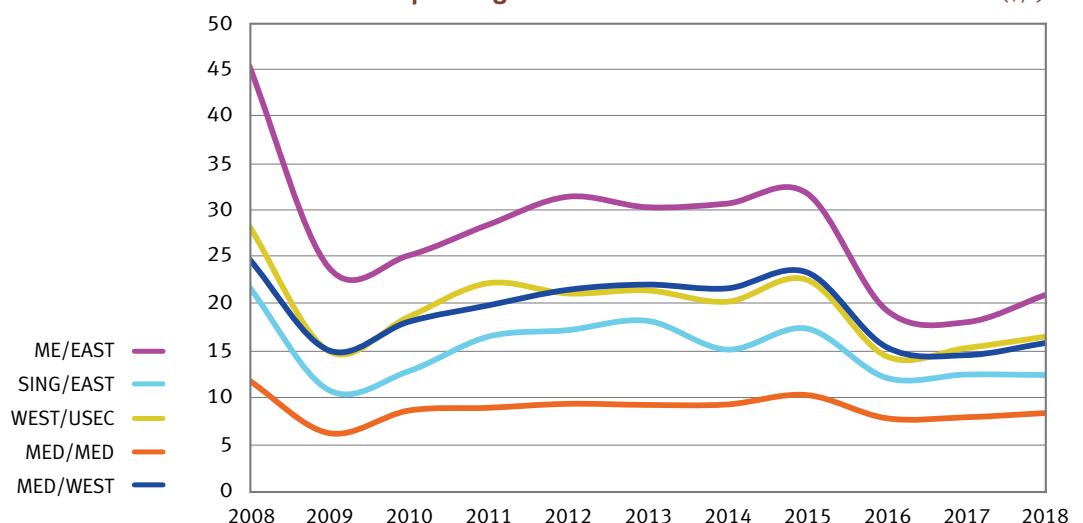
Graph 6.6
Clean tanker spot freight rates

(% of Worldscale)

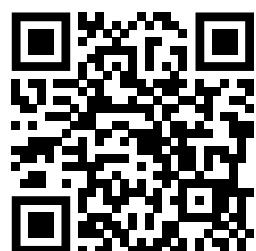


Graph 6.7
Clean tanker spot freight costs

(\$/t)



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SECTION 7

Oil prices

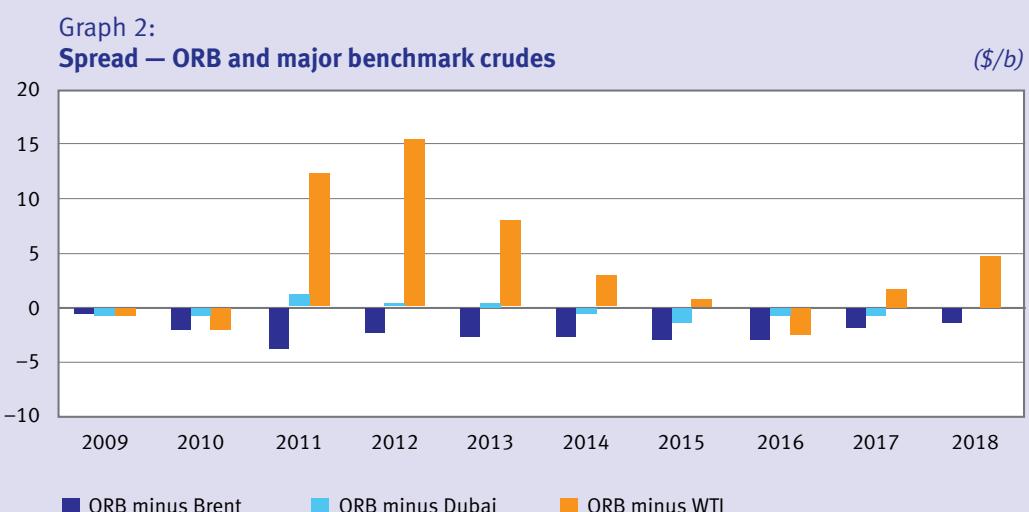
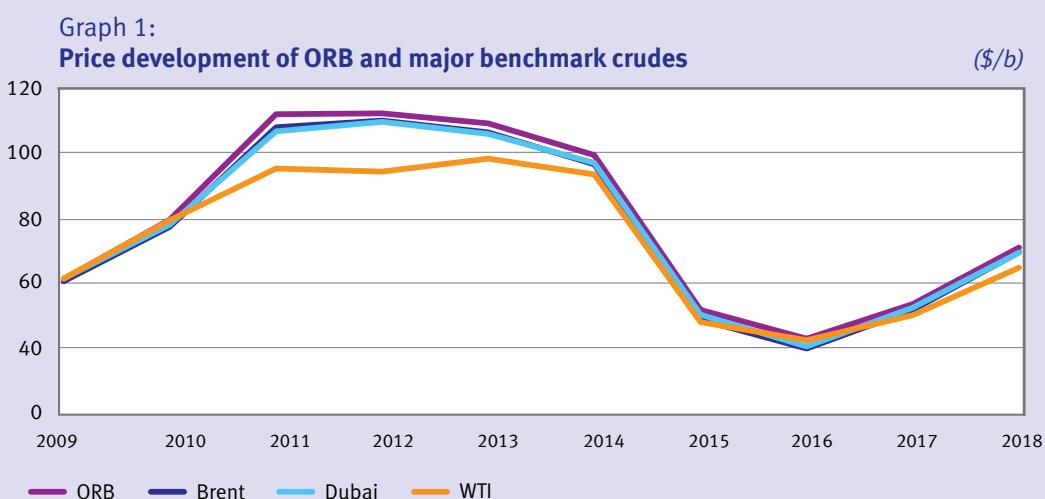


The OPEC Reference Basket price

The regular ORB price announcement, as assessed and published by the OPEC Secretariat, attracts the attention of an immense number of national, as well as international institutions, newspapers and other relevant news agencies. Its importance within the global economy, and the oil industry in particular, cannot be neglected. Although the ORB as such is not traded in the physical crude oil market, it serves as a reference point of OPEC MCs' average crude oil export price. More precisely, it provides an indication of how much OPEC MCs charge for one barrel of crude oil. Hence, the complex price assessment methodology of the ORB primarily aims at serving as a reliable proxy properly reflecting the dynamics of the crude oil market within OPEC MCs.

Together with ORB quotations, the international oil community regularly observes the price developments of major benchmark crudes for three main regions; Brent, Dubai and WTI for Europe, Asia and the US, respectively. Comparing the dynamics of these three crude streams with the price evolution of the ORB, it can be clearly observed that all major benchmark crudes follow the same pattern, as depicted in **Graph 1** below.

Moreover, when looking at the spreads between the ORB and corresponding benchmark crudes, it is plain to see that the ORB converges more with the Asian benchmark crude Dubai, as presented in **Graph 2** below. This empirical observation is in line with the actuality of OPEC MCs' increasing concentration on the Asian market, as more crude is exported to this destination.



Oil prices

Table 7.1

OPEC Reference Basket (ORB) and corresponding components spot prices

(\$/b)

	Representative crude stream	2014	2015	2016	2017	2018
Algeria	Saharan Blend	99.68	52.79	44.28	54.12	71.44
Angola	Girassol	99.19	52.96	43.61	54.47	71.72
Congo	Djeno	na	49.25	41.98	52.77	68.59
Ecuador	Oriente	87.31	44.94	38.44	50.00	66.10
Equatorial Guinea	Zafiro	98.28	50.96	42.43	54.04	71.36
Gabon	Rabi Light	na	52.83	42.62	53.16	70.30
IR Iran	Iran Heavy	96.18	48.80	39.57	51.71	67.97
Iraq	Basrah Light	94.45	47.87	39.53	51.87	68.62
Kuwait	Kuwait Export	95.32	48.13	39.30	51.60	68.90
Libya	Es Sider	98.51	51.38	42.69	52.82	69.78
Nigeria	Bonny Light	100.85	52.95	44.02	54.55	72.11
Saudi Arabia	Arab Light	97.18	49.85	40.96	52.59	70.59
United Arab Emirates	Murban	99.45	53.87	44.83	54.82	72.20
Venezuela	Merey	86.88	41.11	34.02	47.63	64.47
OPEC	ORB	96.29	49.49	40.76	52.43	69.78
ORB	Volatility ¹	14.56	8.50	7.28	5.00	6.59
ORB	Coefficient of variation ² , %	15.12	17.18	17.85	9.54	9.44

Notes:

1. Standard deviation of daily prices.

2. Ratio of volatility to annual average price.

Graph 7.1
OPEC Reference Basket

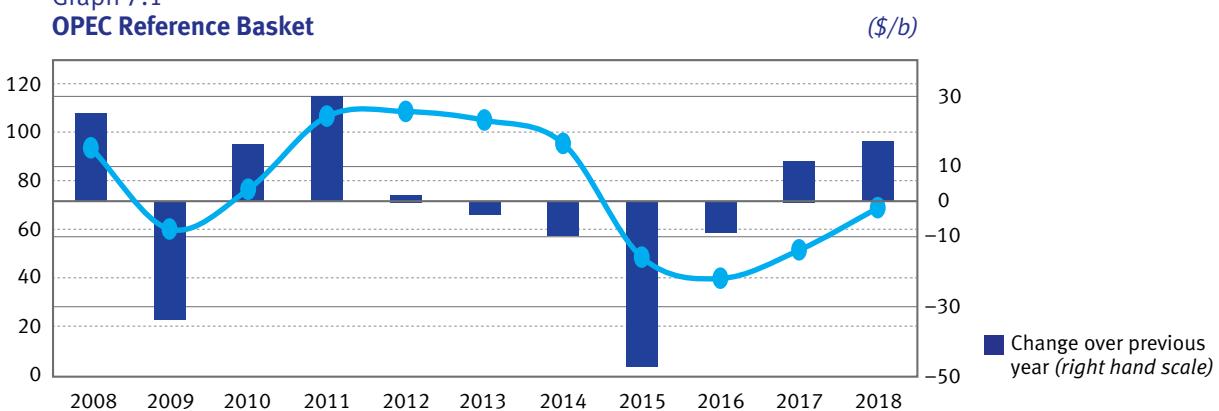


Table 7.2
Selected spot crude oil prices

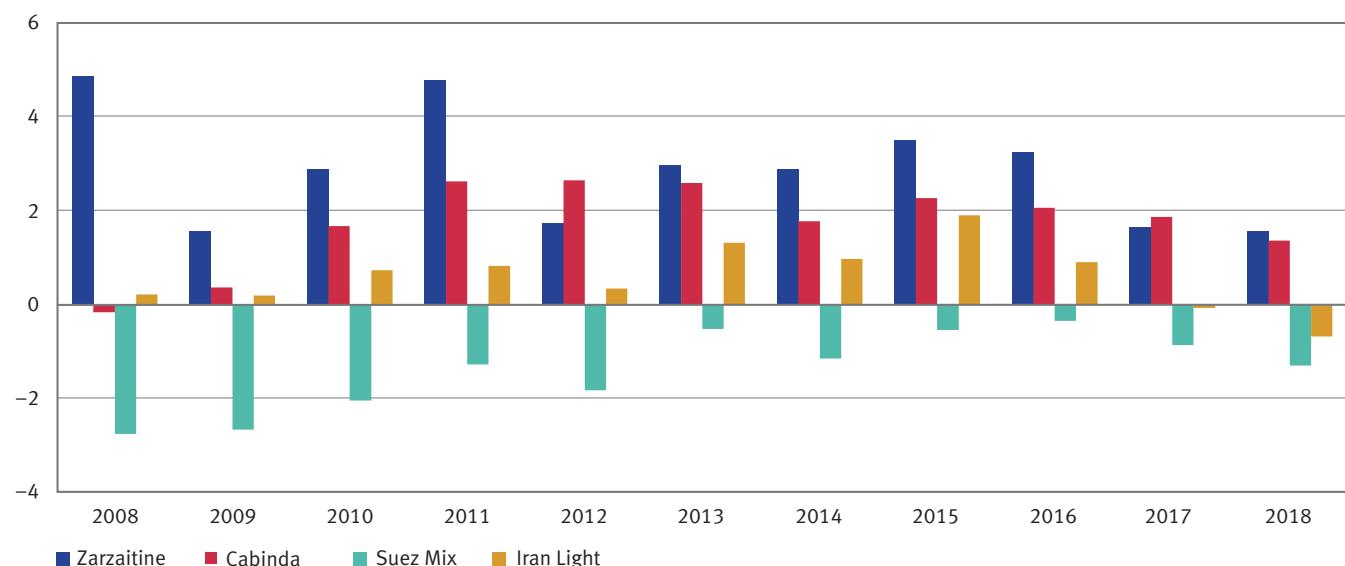
						(\$/b)
	Crude stream	2014	2015	2016	2017	2018
Algeria	Zarzaitine	99.19	53.00	44.02	54.08	71.35
Angola	Cabinda	98.07	51.77	42.83	54.30	71.15
Egypt	Suez Mix	95.13	48.94	40.41	51.56	68.47
IR Iran	Iran Light	97.26	51.40	41.66	52.36	69.10
Indonesia	Minas	98.68	49.17	41.11	48.99	65.44
Libya	Brega	98.79	52.08	43.73	53.62	70.65
Malaysia	Miri	105.10	57.89	46.39	56.93	75.90
Malaysia	Tapis	103.15	55.75	45.69	56.29	73.69
Mexico	Isthmus	93.65	51.14	42.37	54.60	68.74
Mexico	Maya	85.80	44.11	36.52	47.00	62.71
Nigeria	Forcados	101.35	54.41	43.70	54.58	72.56
Norway	Ekofisk	99.72	53.12	44.01	54.49	71.86
Norway	Oseberg	99.99	53.54	44.52	55.04	72.34
Oman	Oman	97.04	51.21	41.96	53.32	70.10
Qatar	Dukhan	98.44	52.87	43.69	54.12	71.22
Russia	Urals	98.08	51.90	42.16	53.27	70.13
Saudi Arabia	Arab Heavy	93.68	47.01	38.45	50.96	68.79
United Kingdom	Brent	99.08	52.41	43.76	54.17	71.22
United Kingdom	Forties	99.14	52.50	43.42	54.20	71.21
United States	WTI	93.26	48.73	43.27	50.82	65.16
United Arab Emirates	Dubai	96.71	50.94	41.39	53.08	69.68
Spread	WTI — Brent	-5.82	-3.68	-0.49	-3.35	-6.06
	WTI — Dubai	-3.45	-2.21	1.88	-2.26	-4.52
	Brent — Dubai	2.37	1.47	2.37	1.09	1.54

Oil prices

Graph 7.2

Differentials of selected spot crude oil prices to OPEC Reference Basket (1)

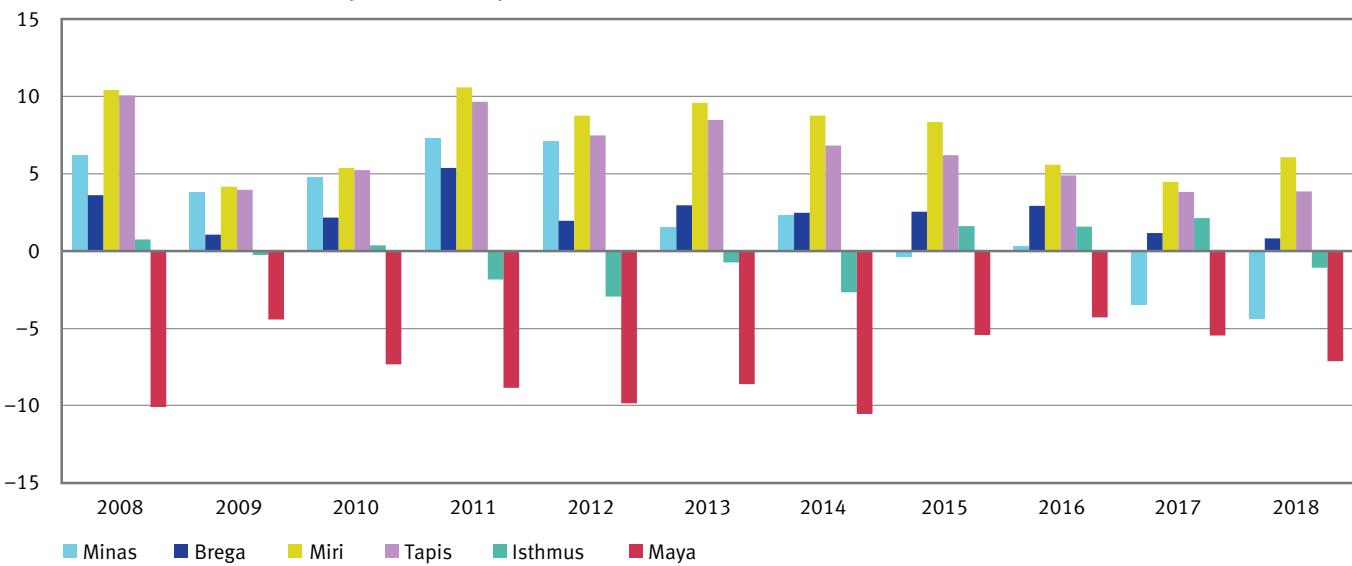
(\$/b)



Graph 7.3

Differentials of selected spot crude oil prices to OPEC Reference Basket (2)

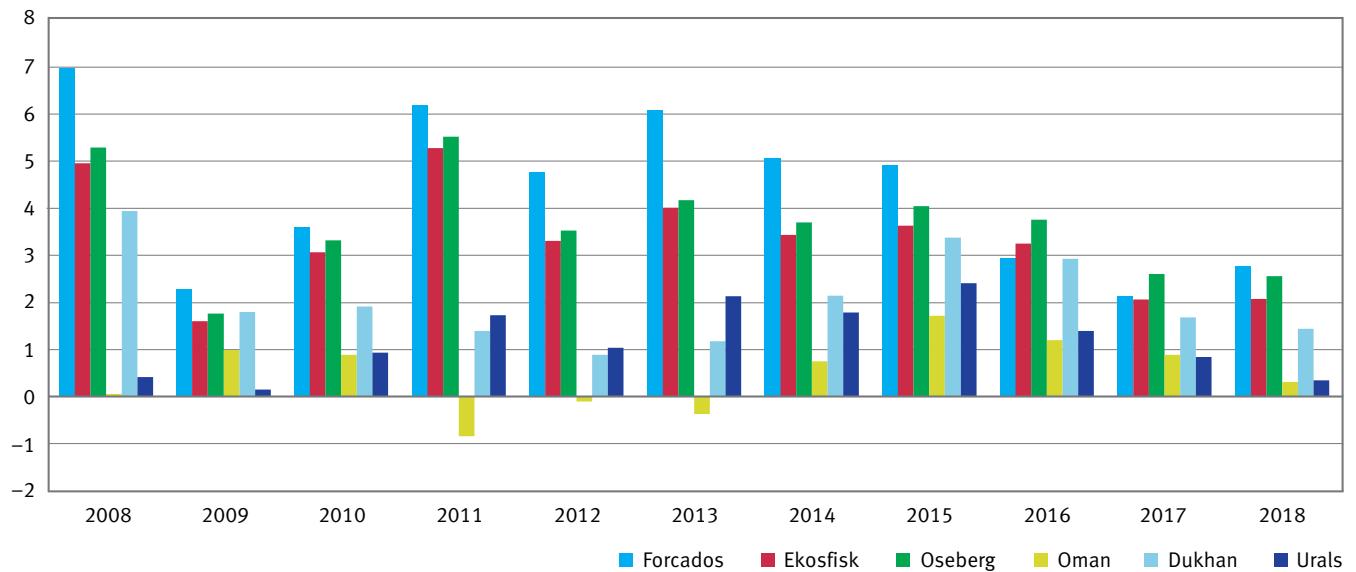
(\$/b)



Graph 7.4

Differentials of selected spot crude oil prices to OPEC Reference Basket (3)

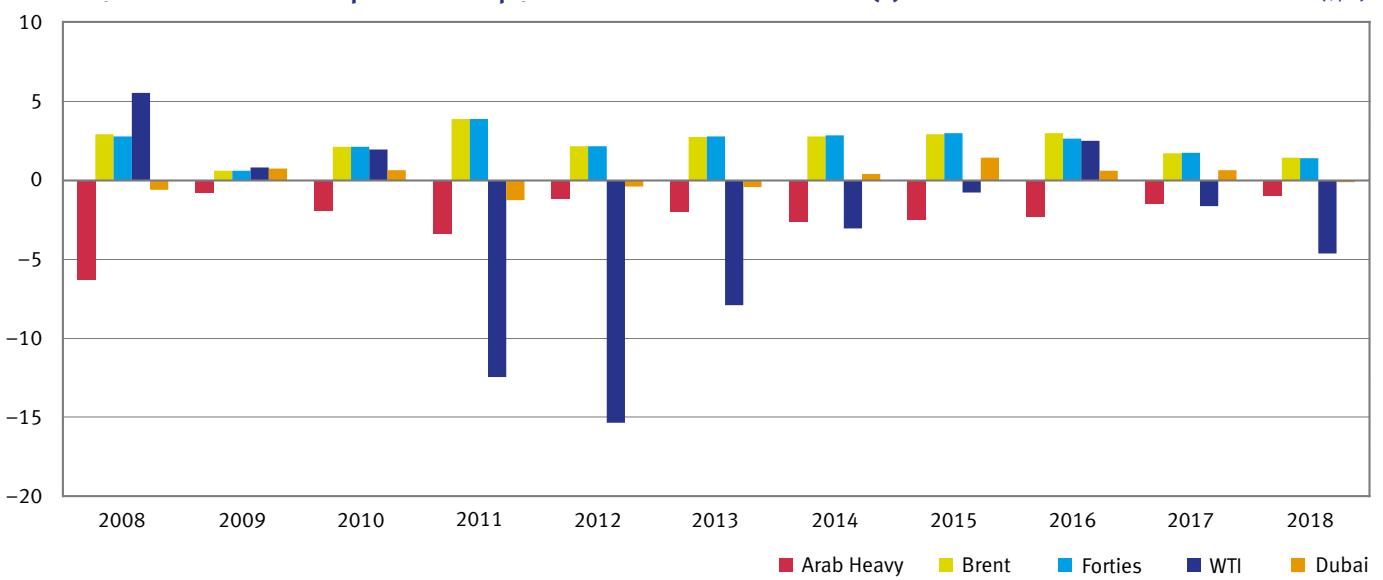
(\$/b)



Graph 7.5

Differentials of selected spot crude oil prices to OPEC Reference Basket (4)

(\$/b)



Oil prices

Table 7.3

ICE Brent, NYMEX WTI and DME Oman annual average of the 1st, 6th and 12th forward months (\$/b)

	2014	2015	2016	2017	2018
ICE Brent					
1 st forward month	99.45	53.60	45.13	54.74	71.69
6 th forward month	99.29	57.21	47.65	55.08	70.66
12 th forward month	98.30	60.18	49.49	54.88	68.94
NYMEX WTI					
1 st forward month	92.91	48.73	43.47	50.85	64.90
6 th forward month	90.23	52.56	46.88	51.95	63.59
12 th forward month	87.57	55.08	48.45	51.88	61.81
DME Oman					
1 st forward month	96.86	51.25	41.99	53.24	69.88
6 th forward month	96.61	54.36	43.89	53.47	68.25
12 th forward month	95.55	57.31	45.81	53.30	66.51

Table 7.4

OPEC Reference Basket in nominal and real terms (\$/b)

	2014	2015	2016	2017	2018
Nominal oil price	96.29	49.49	40.76	52.43	69.78
Nominal price adjusted for:					
Exchange rates ¹	75.36	43.35	35.92	46.28	59.82
Inflation ²	76.70	39.37	32.29	40.89	53.44
Combined ³	60.03	34.49	28.45	36.09	45.81

Notes:

Base: 2001 = 100.

1. Based on weighted average index of currency exchange rates in the modified Geneva I Agreement (see Geneva I

Agreement definition under 'General Notes').

2. Based on weighted average consumer price indices of modified Geneva I countries and the US.

3. Based on combined indices of exchange rates and inflation.

Graph 7.6

OPEC Reference Basket in nominal and real terms

(\$/b)

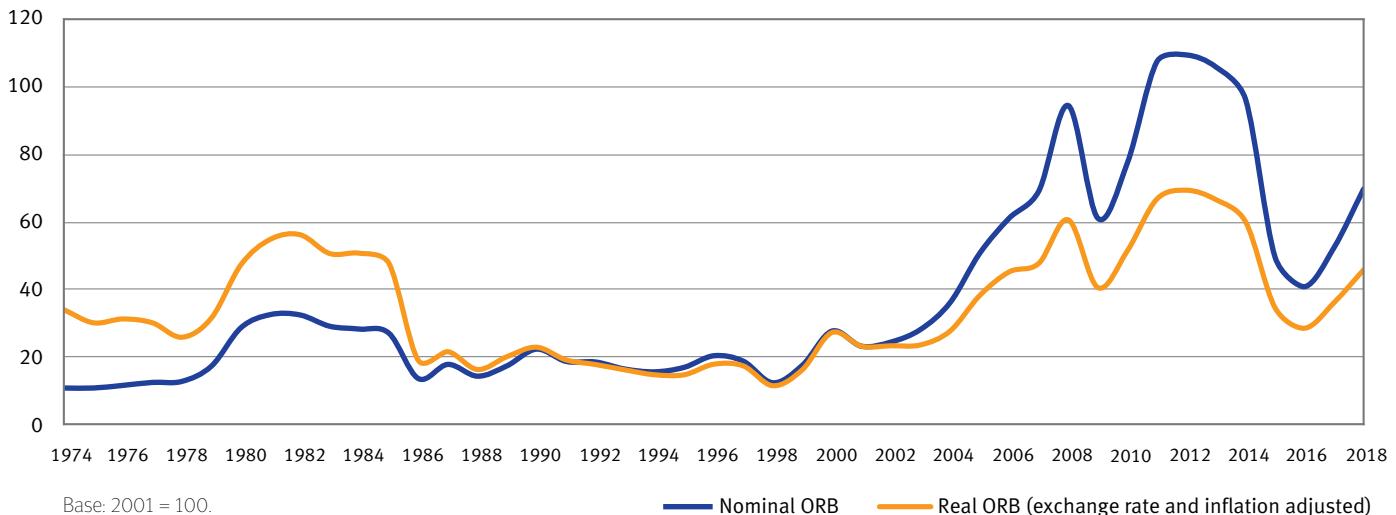


Table 7.5

Annual average of premium factors for selected OPEC Reference Basket components

(\$/b)

		2014	2015	2016	2017	2018
Europe						
Algeria	Saharan Blend	0.61	0.38	0.52	-0.05	0.23
IR Iran	Iran Heavy	-4.60	-5.09	-6.38	-5.13	-6.27
Iraq	Basrah Light	-4.74	-4.83	-4.74	-3.41	-4.18
Libya	Es Sider	-0.56	-1.04	-1.08	-1.35	-1.43
Nigeria	Bonny Light	1.77	0.54	0.26	0.39	0.89
Saudi Arabia	Arab Light	-2.78	-3.53	-4.64	-3.20	-2.47
Asia						
IR Iran	Iran Heavy	-0.58	-2.24	-2.01	-1.11	-0.73
Iraq	Basrah Light	-1.02	-2.81	-1.94	-0.64	0.02
Kuwait	Kuwait Export	-0.96	-2.73	-2.31	-1.32	-0.46
Saudi Arabia	Arab Light	1.48	-0.85	-0.42	-0.08	1.56
US						
Iraq	Basrah Light	0.06	-0.43	-0.59	-0.08	-0.37
Saudi Arabia	Arab Light	2.43	1.06	0.29	0.75	0.98
	Arab Medium	0.05	-0.53	-1.17	-0.53	-0.57
	Arab Heavy	-1.55	-1.13	-1.74	-1.86	-1.74

Notes:

Premium factors are related to corresponding benchmark crudes.

Oil prices

Table 7.6
Spot prices of petroleum products in major markets

(\$/b)

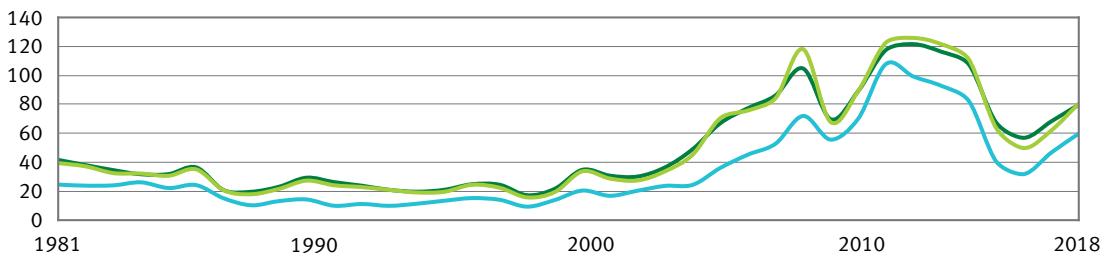
	Specifications	2014	2015	2016	2017	2018
US Gulf						
Gasoline	Regular unleaded 87	107.90	67.58	57.15	68.57	80.17
Gasoil	0.2% sulphur	111.39	63.80	50.10	62.31	80.99
Fuel oil	3.0% sulphur	82.67	40.78	32.13	47.05	60.17
Singapore						
Gasoline	Premium unleaded 97	111.96	71.41	57.81	69.51	81.30
Gasoil	0.05% sulphur	112.67	64.57	52.05	65.69	84.05
Fuel oil	380 centistokes	86.58	44.27	34.92	49.24	64.74
Rotterdam						
Gasoline	Premium unleaded 98	115.10	75.53	63.58	75.13	87.34
Gasoil	10ppm sulphur	112.91	66.03	53.28	66.35	85.94
Fuel oil	3.5% sulphur	83.68	40.75	29.64	44.31	59.04

Notes:

US Gulf and Singapore prices apply to cargo. Rotterdam prices apply to barge size lots.

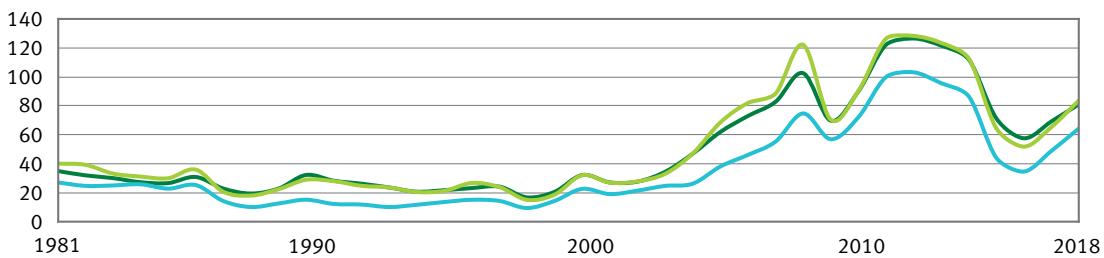
Graph 7.7
Spot petroleum product prices — US Gulf

(\$/b)



Graph 7.8
Spot petroleum product prices — Singapore

(\$/b)



Graph 7.9
Spot petroleum product prices — Rotterdam

(\$/b)

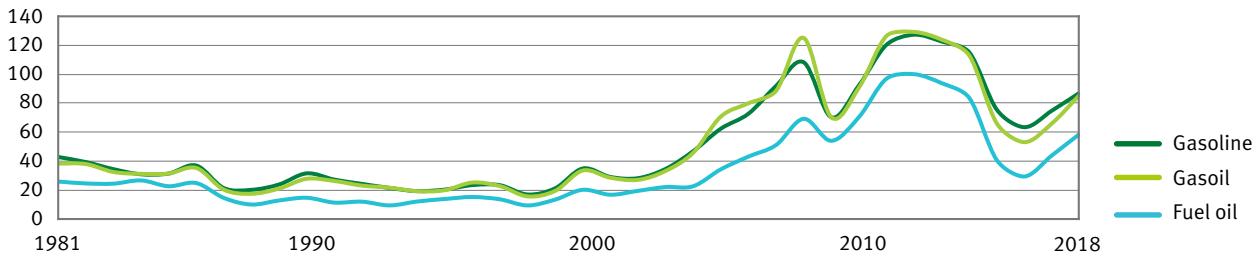


Table 7.7
Retail prices of petroleum products in OPEC Members *(units of national currency/b)*

	2014	2015	2016	2017	2018
Algeria					
Gasoline	2,227	3,593	4,932	5,578	6,618
Diesel oil	1,370	2,178	2,983	3,217	3,667
Kerosene	na	na	na	na	na
Fuel oil	na	na	na	na	na
Angola					
Gasoline	14,310	18,285	25,440	25,440	25,440
Diesel oil	9,540	11,925	21,465	21,465	21,465
Kerosene	5,565	7,155	11,130	11,130	11,130
Fuel oil	7,950	12,561	13,396	11,338	11,338
Congo					
Gasoline	na	na	na	na	94,605
Diesel oil	na	na	na	na	81,408
Kerosene	na	na	na	na	55,650
Fuel oil	na	na	na	na	55,650
Ecuador					
Gasoline	62.79	62.79	62.79	62.16	62.16
Diesel oil	37.80	37.80	43.26	43.58	43.26
Kerosene	37.80	37.80	37.80	89.15	na
Fuel oil	19.99	9.10	9.10	36.18	na
Equatorial Guinea					
Gasoline	na	na	na	na	76,320
Diesel oil	na	na	na	na	55,650
Kerosene	na	na	na	na	34,185
Fuel oil	na	na	na	na	na
Gabon					
Gasoline	85,065	85,065	90,630	106,000	101,792
Diesel oil	74,730	74,730	80,454	95,948	476,960
Kerosene	na	na	na	na	na
Fuel oil	na	na	na	na	na
IR Iran					
Gasoline	1,192,500	1,749,000	1,749,000	1,749,000	1,907,848
Diesel oil	159,000	477,000	795,000	795,000	476,960
Kerosene	159,000	238,500	2,146,500	2,146,500	na
Fuel oil	318,000	477,000	1,590,000	1,590,000	na
Iraq					
Gasoline	71,550	82,150	92,750	71,550	71,550
Diesel oil	63,600	55,650	47,700	39,750	39,750
Kerosene	23,850	31,800	39,750	23,850	23,850
Fuel oil	na	na	na	23,850	23,850
Kuwait					
Gasoline	11.40	11.40	13.87	16.70	16.80
Diesel oil	8.75	24.05	14.11	15.11	18.48
Kerosene	8.75	24.05	14.11	15.11	na
Fuel oil	na	na	na	na	na

Oil prices

Table 7.7

Retail prices of petroleum products in OPEC Members

(units of national currency/b)

	2014	2015	2016	2017	2018
Libya					
Gasoline	23.85	na	na	na	na
Diesel oil	27.03	na	na	na	na
Kerosene	12.72	na	na	na	na
Fuel oil	na	na	na	na	na
Nigeria					
Gasoline	15,423	14,628	18,505	23,055	23,055
Diesel oil	24,853	18,085	17,474	24,566	30,075
Kerosene	7,950	7,950	18,954	24,977	30,964
Fuel oil	18,395	10,655	10,295	17,585	21,901
Saudi Arabia					
Gasoline	83.48	107.33	131.18	143.10	217.83
Diesel oil	39.75	55.65	71.63	71.63	71.63
Kerosene	69.17	82.78	96.39	96.39	96.39
Fuel oil	na	142.46	142.46	142.46	142.46
United Arab Emirates					
Gasoline	262.52	278.25	259.04	299.45	343.56
Diesel oil	361.27	354.57	266.59	316.87	391.02
Kerosene	na	na	na	na	na
Fuel oil	na	na	na	na	na
Venezuela					
Gasoline	13.28	13.28	556.50	0.166	0.002
Diesel oil	7.63	7.63	7.63	0.002	0.000
Kerosene	648.93	333.87	196.89	0.06	na
Fuel oil	9.62	9.62	9.62	na	na

Table 7.8

Crack spread in major markets

(\$/b)

	Specifications	2014	2015	2016	2017	2018
US Gulf crack spread vs WTI						
Gasoline	Regular unleaded 87	14.80	18.99	14.10	17.69	15.46
Gasoil	0.2% sulphur	18.21	14.96	6.98	11.33	16.15
Fuel oil	3.0% sulphur	-10.50	-8.01	-11.09	-3.82	-4.76
Singapore crack spread vs Dubai						
Gasoline	Premium unleaded 97	15.29	20.43	16.55	16.38	11.90
Gasoil	0.05% sulphur	15.98	13.54	10.85	12.57	14.65
Fuel oil	380 centistokes	-10.08	-6.77	-6.33	-3.87	-4.72
Rotterdam crack spread vs Brent						
Gasoline	Premium unleaded 98	15.99	23.14	19.86	20.89	16.45
Gasoil	10ppm sulphur	13.77	13.51	9.57	12.11	15.00
Fuel oil	3.5% sulphur	-15.42	-11.75	-14.05	-9.90	-11.90

Notes:

US Gulf and Singapore prices apply to cargo. Rotterdam prices apply to barge size lots.

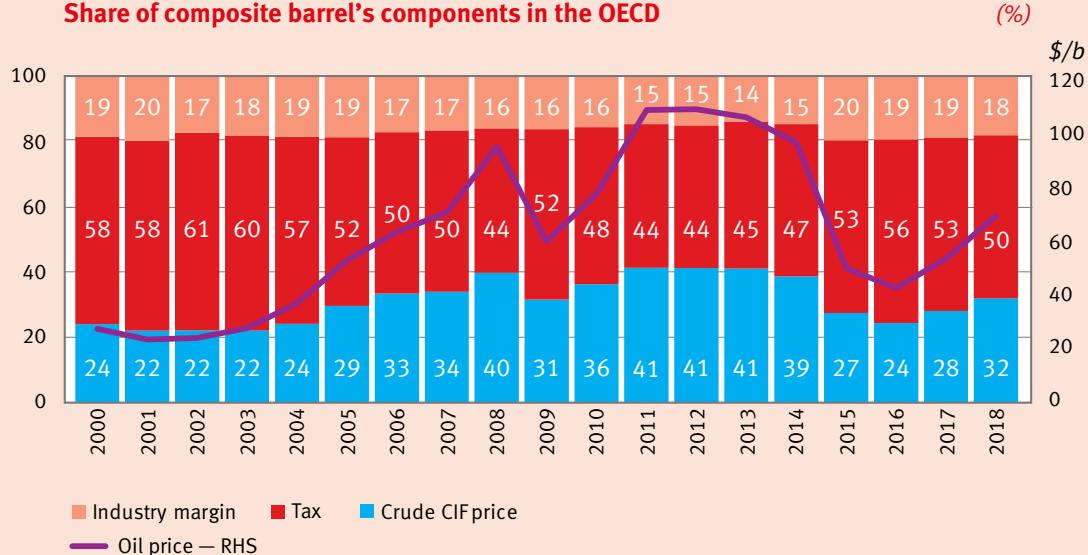
SECTION 8

Taxes on oil

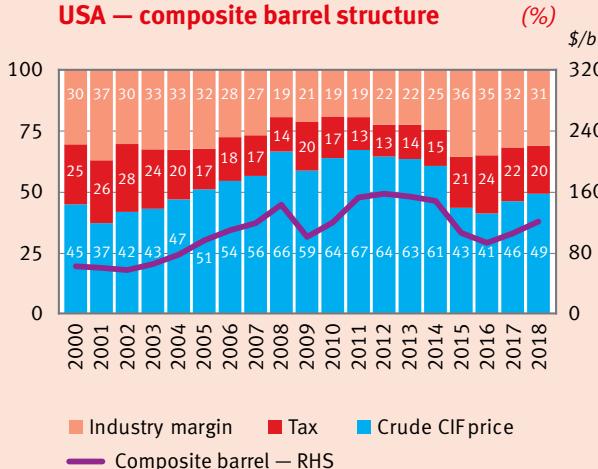
Taxonomy of composite barrels price structures across OECD countries

Approximately half of the composite price of every barrel in the OECD countries in 2018 was collected by the local government in the form of tax. The CIF crude price and the industry margin comprised the remaining half. In the period 2011–14, when oil prices hovered at \$100/barrel, the tax component comprised around 45 per cent, whereas the CIF crude price and the industry margin accounted for approximately 41 per cent and 14 per cent, respectively. The oil price decline of 2014 resulted in an alteration of these shares' constellation: the tax component and industry margin components increased, whilst the CIF crude price pillar declined by more than ten percentage points. The rationale behind this alteration lies in the taxation system in many OECD countries. Government budgets in many OECD countries are dependent on proceeds from taxes on oil products. These accounts (and hence public spending) would have incurred deficits (spending assumed constant) when oil prices sharply decreased, had the relative share of the tax component in the composite barrel price not increased. Furthermore, the oil product rationale is not uniform across all OECD countries, for a mixture of reasons, including socio-economic, geographical and political considerations. For example, the US government puts less weight on taxes (thus the composite barrel price is lower compared with other OECD countries, while the relative weight of the industry margin and CIF crude prices are higher), whereas in Germany the tax component comprises more than 50 per cent of the composite barrel's price.

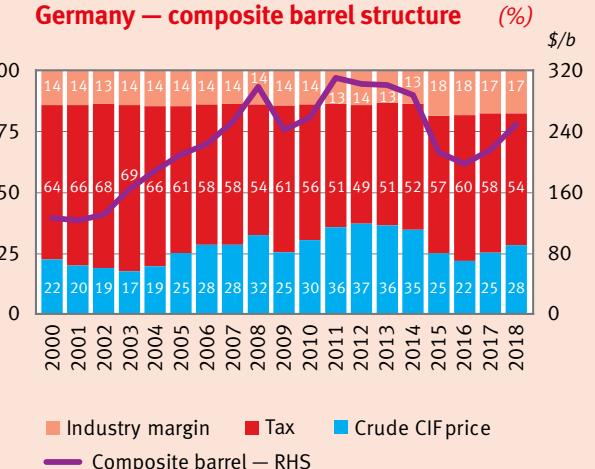
Graph 1:
Share of composite barrel's components in the OECD



Graph 2:
USA – composite barrel structure



Graph 3:
Germany – composite barrel structure

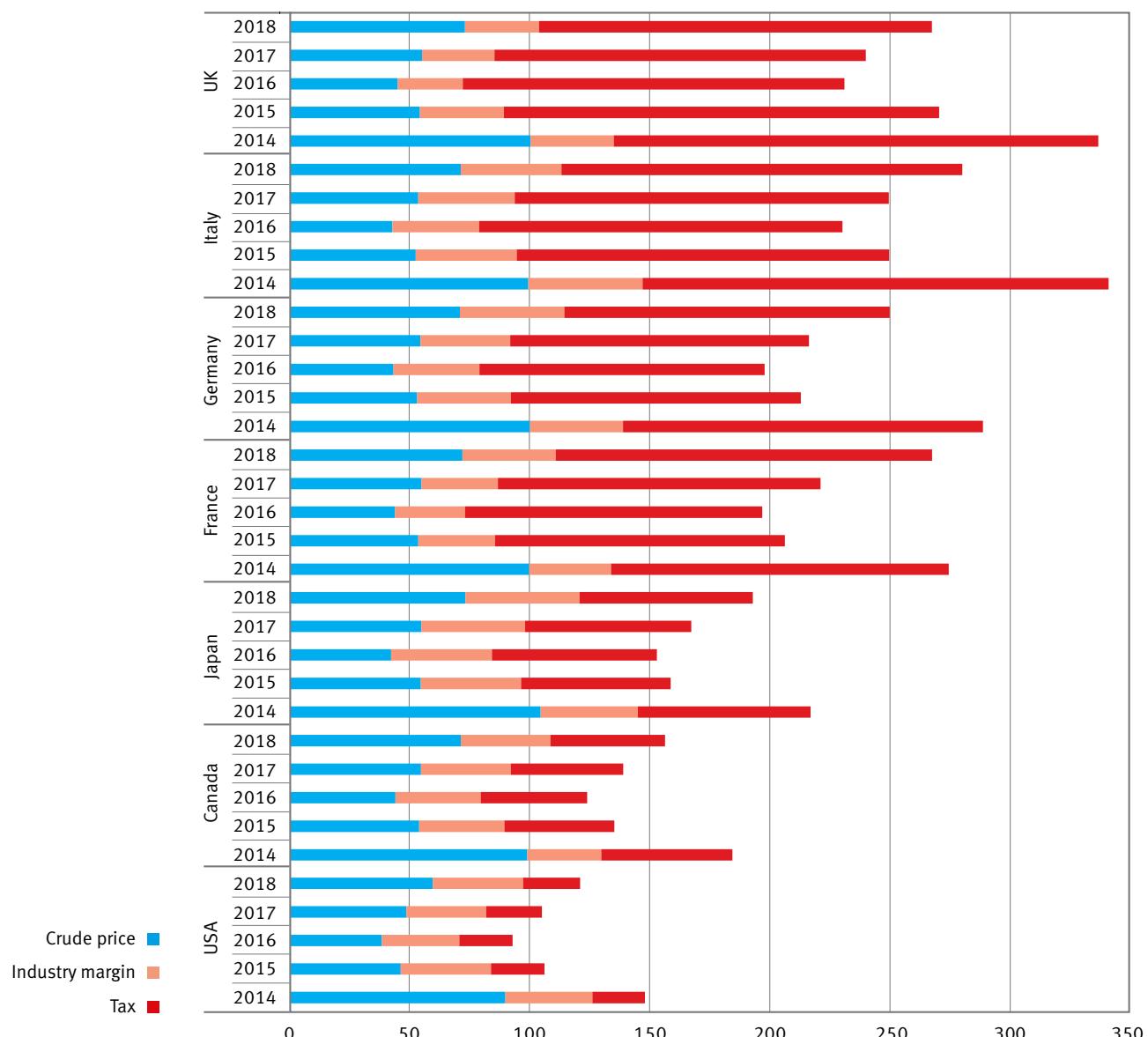


**Table 8.1
Composite barrel and its components in major OECD oil consuming countries**

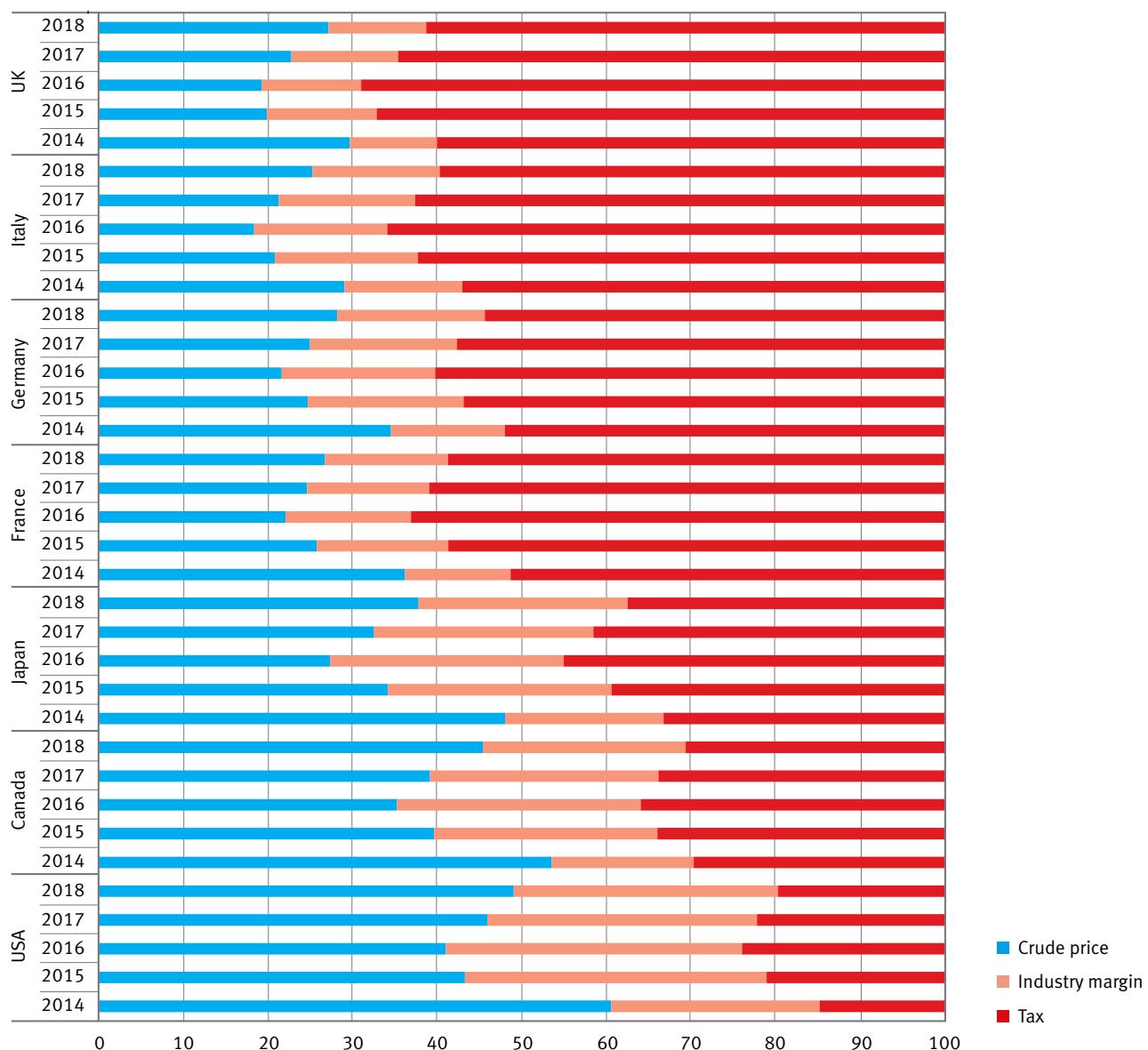
	2014			2015			2016			2017			2018		
	\$/b	% share	% change y-o-y	\$/b	% share	% change y-o-y	\$/b	% share	% change y-o-y	\$/b	% share	% change y-o-y	\$/b	% share	% change y-o-y
United States	147.69	-3.7	105.81	-28.4	92.45	-12.6	104.70	13.3	120.67	15.2	59.21	49.1	21.88	45.81	15.2
Composite barrel	89.43	60.6	-8.1	45.81	43.3	-48.8	37.94	41.0	-17.2	48.12	26.8	23.80	19.7	23.0	
Crude cif price	21.88	14.8	0.3	22.29	21.1	1.9	22.16	24.0	-0.6	23.26	5.0	23.80	19.7	2.3	
Tax	36.37	24.6	6.1	37.71	35.6	3.7	32.36	35.0	-14.2	33.32	3.0	37.66	31.2	13.0	
Industry margin															
Canada	184.17	-6.2	134.91	-26.7	123.58	-8.4	138.64	12.2	156.05	12.6					
Composite barrel	98.60	53.5	-9.2	53.48	39.6	-45.8	43.60	35.3	-18.5	54.30	24.5	70.88	45.4	30.5	
Crude cif price	54.66	29.7	-5.3	45.84	34.0	-16.1	44.41	35.9	-3.1	46.94	5.7	47.80	30.6	1.8	
Tax	30.92	16.8	2.7	35.59	26.4	15.1	35.57	28.8	-0.1	37.40	5.2	37.36	23.9	-0.1	
Industry margin															
Japan	216.83	-2.7	158.43	-26.9	152.65	-3.6	167.04	9.4	192.69	15.4					
Composite barrel	104.16	48.0	-5.8	54.20	34.2	-48.0	41.79	27.4	-22.9	54.42	32.6	30.2	72.85	37.8	33.9
Crude cif price	72.10	33.3	2.1	62.40	39.4	-13.5	68.75	45.0	10.2	69.37	41.5	0.9	72.24	37.5	4.1
Tax	40.57	18.7	-2.4	41.82	26.4	3.1	42.11	27.6	0.7	43.25	25.9	2.7	47.60	24.7	10.1
Industry margin															
France	274.40	-3.9	206.04	-24.9	196.65	-4.6	220.94	12.4	267.50	21.1					
Composite barrel	99.40	36.2	-9.3	53.14	25.8	-46.5	43.48	22.1	-18.2	54.47	24.7	25.3	71.59	26.8	31.4
Crude cif price	140.80	51.3	-0.1	120.87	58.7	-14.2	124.02	63.1	2.6	134.60	60.9	8.5	157.05	58.7	16.7
Tax	34.20	12.5	-2.4	32.03	15.5	-6.3	29.15	14.8	-9.0	31.87	14.4	9.3	38.87	14.5	21.9
Industry margin															
Germany	288.69	-4.4	212.73	-26.3	197.61	-7.1	216.08	9.3	249.83	15.6					
Composite barrel	99.76	34.6	-9.0	52.65	24.8	-47.2	42.80	21.7	-18.7	54.02	25.0	26.2	70.50	28.2	30.5
Crude cif price	150.11	52.0	-1.8	120.93	56.8	-19.4	118.99	60.2	-1.6	124.57	57.6	4.7	135.78	54.4	9.0
Tax	38.82	13.4	-1.7	39.15	18.4	0.8	35.82	18.1	-8.5	37.49	17.4	4.6	43.55	17.4	16.2
Industry margin															
Italy	341.10	-2.4	249.55	-26.8	230.11	-7.8	249.43	8.4	280.08	12.3					
Composite barrel	99.09	29.1	-9.9	52.06	20.9	-47.5	42.33	18.4	-18.7	53.17	21.3	25.6	70.88	25.3	33.3
Crude cif price	194.42	57.0	0.7	155.33	62.2	-20.1	151.61	65.9	-2.4	156.07	62.6	2.9	167.18	59.7	7.1
Tax	47.59	14.0	2.9	42.16	16.9	-11.4	36.18	15.7	-14.2	40.20	16.1	11.1	42.02	15.0	4.5
Industry margin															
United Kingdom	336.80	0.7	270.45	-19.7	230.91	-14.6	239.81	3.9	267.40	11.5					
Composite barrel	100.07	29.7	-9.3	53.81	19.9	-46.2	44.62	19.3	-17.1	54.69	22.8	22.6	72.65	27.2	32.8
Crude cif price	202.10	60.0	4.6	181.55	67.1	-10.2	159.21	69.0	-12.3	154.91	64.6	-2.7	163.87	61.3	5.8
Tax	34.62	10.3	12.6	35.08	13.0	1.3	27.08	11.7	-22.8	30.21	12.6	11.6	30.88	11.5	2.2
Industry margin															
G7	255.67	-2.9	191.13	-25.2	174.85	-8.5	190.95	9.2	219.18	14.8					
Composite barrel	98.64	38.6	-8.7	52.16	27.3	-47.1	42.37	24.2	-18.8	53.31	27.9	25.8	69.79	31.8	30.9
Crude cif price	119.44	46.7	0.7	101.32	53.0	-15.2	98.45	56.3	-2.8	101.39	53.1	3.0	109.67	50.0	8.2
Tax	37.58	14.7	2.2	37.65	19.7	0.2	34.04	19.5	-9.6	36.25	19.0	6.5	39.71	18.1	9.5
Industry margin															
OECD	263.46	-0.5	197.41	-25.1	181.01	-8.3	199.69	10.3	225.33	12.8					
Composite barrel	99.68	37.8	-8.5	52.48	26.6	-47.4	42.73	23.6	-18.6	53.68	26.9	25.6	70.89	31.5	32.1
Crude cif price	119.54	45.4	0.2	99.54	50.4	-16.7	97.42	53.8	-2.1	102.39	51.3	5.1	109.74	48.7	7.2
Tax	44.24	16.8	20.9	45.40	23.0	2.6	40.86	22.6	-10.0	43.62	21.8	6.8	44.70	19.8	2.5
Industry margin															

Graph 8.1
Composite barrel and its components

(\$/b)



Graph 8.2
Composite barrel and its components in percentage (%)



**Table 8.2
Tax to CIF crude oil price ratio in major OECD oil consuming countries (ratio)**

	2014	2015	2016	2017	2018
USA	0.24	0.49	0.58	0.48	0.40
Canada	0.55	0.86	1.02	0.86	0.67
Japan	0.69	1.15	1.65	1.27	0.99
France	1.42	2.27	2.85	2.47	2.19
Germany	1.50	2.30	2.78	2.31	1.93
Italy	1.96	2.98	3.58	2.94	2.36
UK	2.02	3.37	3.57	2.83	2.26
G7	1.21	1.94	2.32	1.90	1.57
OECD	1.20	1.90	2.28	1.91	1.55

Notes:

G7 includes Canada, France, Germany, Italy, Japan, the United Kingdom and the United States.

**Table 8.3
Euro Big 4 household energy prices, 2018 (\$/toe NCV)**

	Automotive diesel	Premium unleaded 95 RON	Liquefied petroleum gas	Natural gas	Electricity
Tax	1,126	1,369	454	246	1,082
Non-tax	815	823	888	754	2,057
Total price	1,941	2,192	1,343	1,000	3,139
Tax share (%)	58	62	34	25	34

Notes:

Euro Big 4 includes France, Germany, Italy and the United Kingdom.

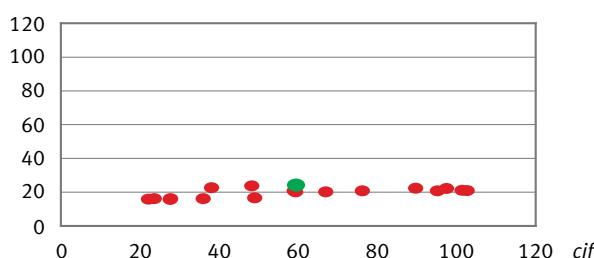
Graphs 8.3–8.11

Tax versus CIF crude oil price for major OECD oil consuming countries, 2000–2018

(\$/b)

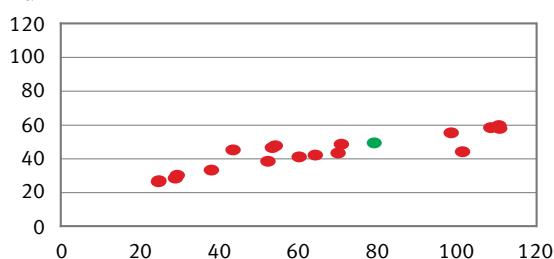
Graph 8.3

USA



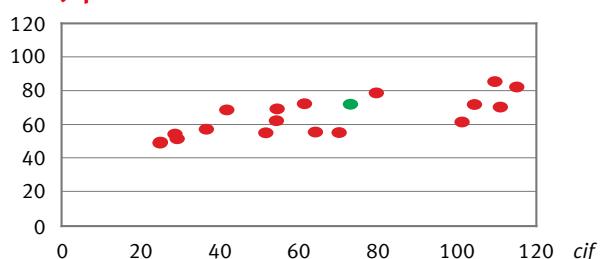
Graph 8.4

Canada



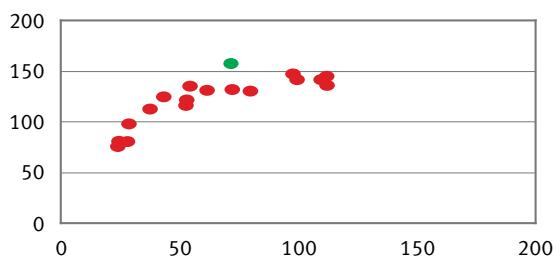
Graph 8.5

Japan



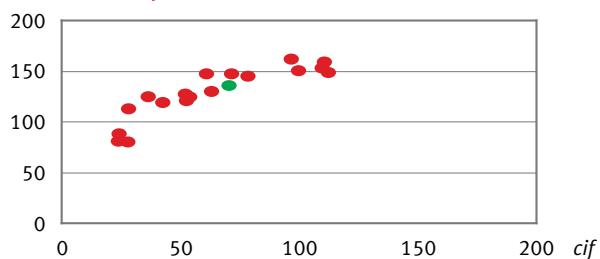
Graph 8.6

France



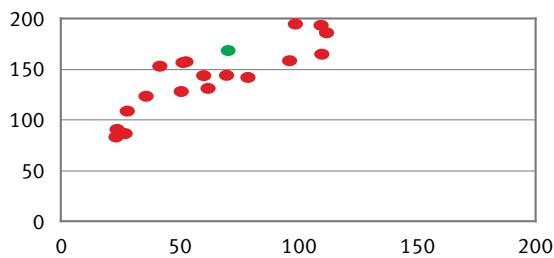
Graph 8.7

Germany



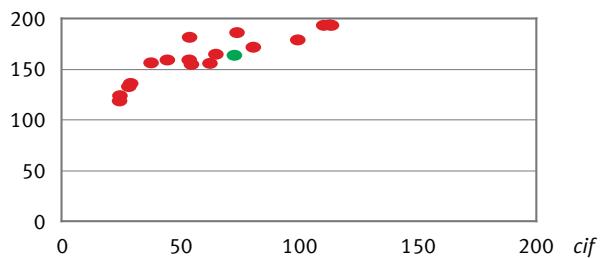
Graph 8.8

Italy



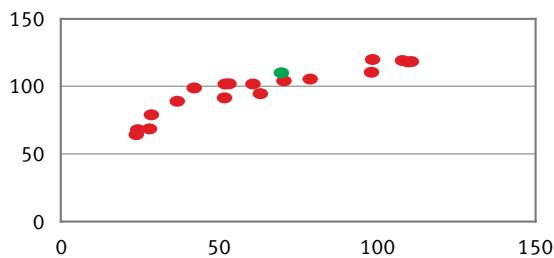
Graph 8.9

UK



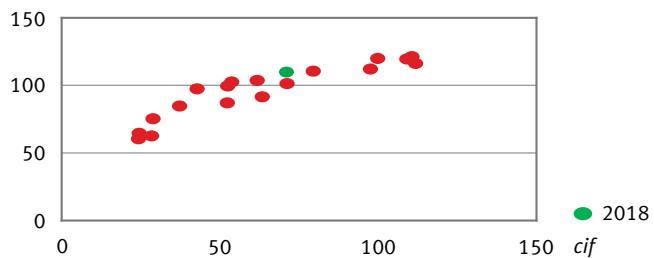
Graph 8.10

G7



Graph 8.11

OECD

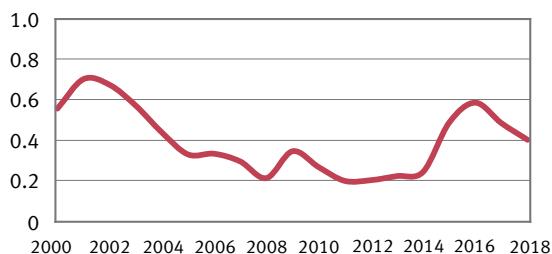


Graph 8.12–8.20

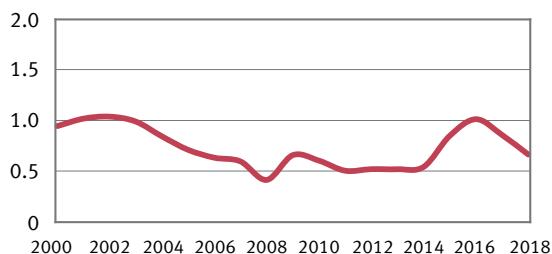
Tax to CIF crude oil price ratio for major OECD oil consuming countries

(ratio tax/cif)

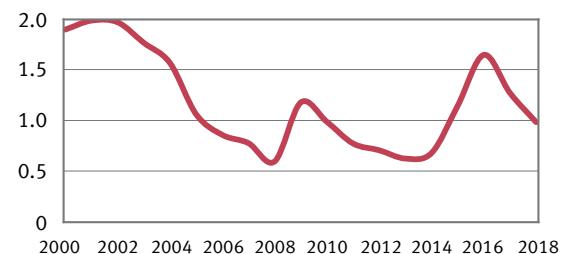
Graph 8.12

USA

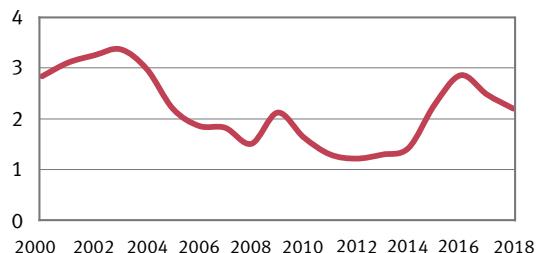
Graph 8.13

Canada

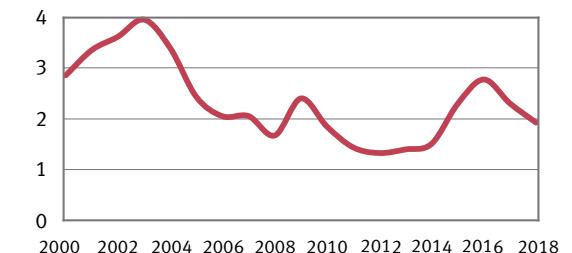
Graph 8.14

Japan

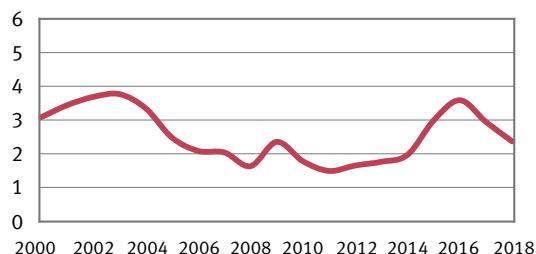
Graph 8.15

France

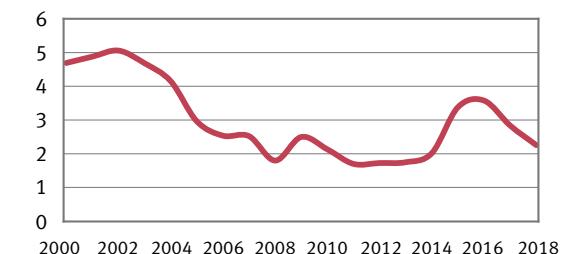
Graph 8.16

Germany

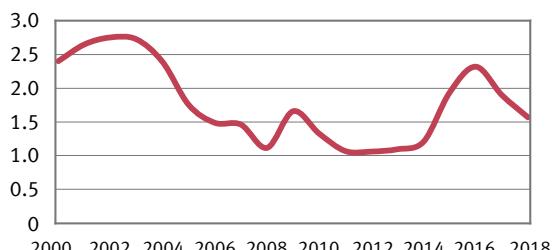
Graph 8.17

Italy

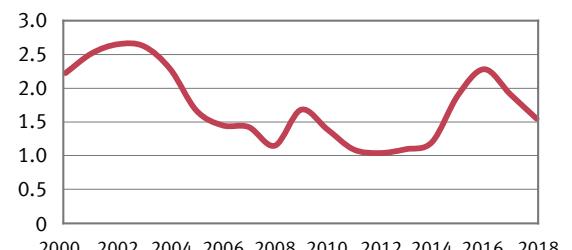
Graph 8.18

UK

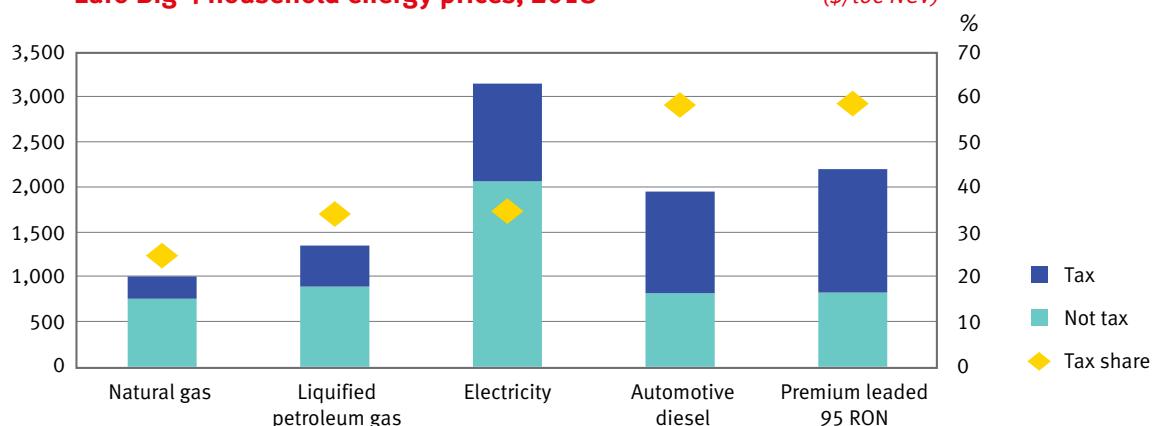
Graph 8.19

G7

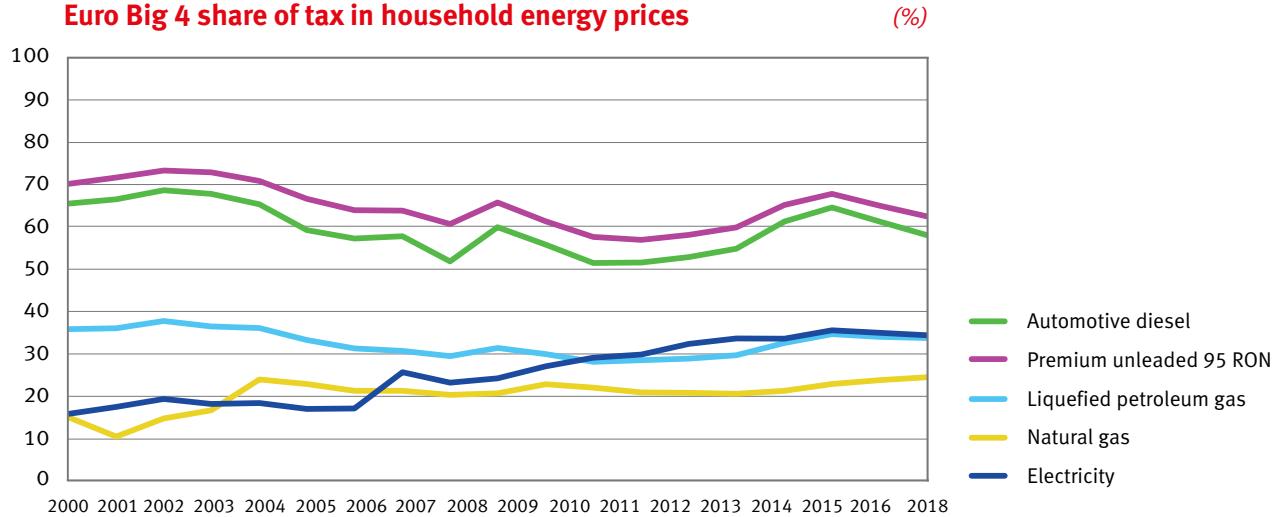
Graph 8.20

OECD

Graph 8.21
Euro Big 4 household energy prices, 2018



Graph 8.22
Euro Big 4 share of tax in household energy prices



SECTION 9

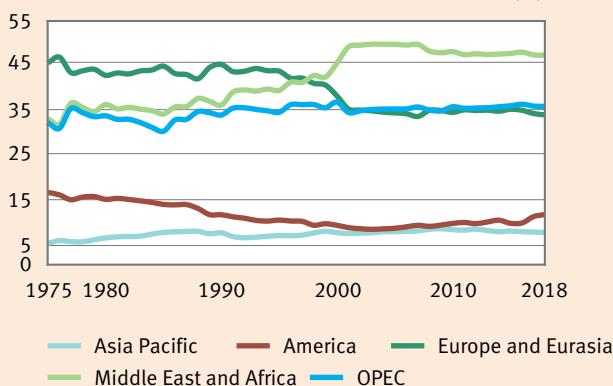
Natural gas data



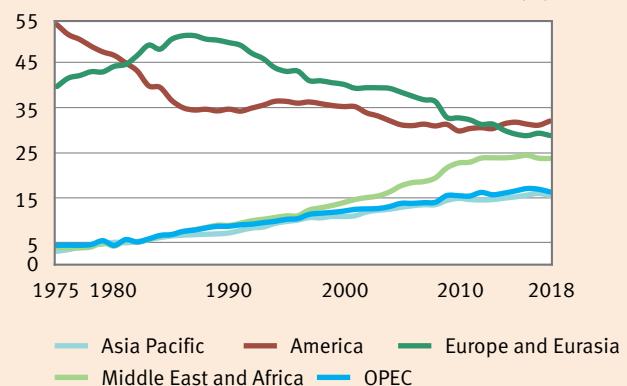
Natural gas reserves and production: An overview of historical patterns

World proven natural gas reserves rose for the fifth consecutive year during 2018 and reached a new all-time peak. Long-term historical trends show different patterns between regions. The regional share of proven natural gas resources (compared with total world) were mostly on a rising trend between 1975–2018 in the Middle East and Africa, moving from 33 per cent at the end of 1975 to 47 per cent at the end of 2018. Shares of reserves in the Middle East and Africa grew on average around 0.3 per cent per year, with OPEC Member Countries (MCs) contributing substantially to this growth. Shares of proven natural gas resources were on a declining historical pattern in Europe and Eurasia, as well as America, while they moved on a rather flat trajectory in Asia and Pacific (Graph 1). The Middle East and Africa, including OPEC MCs, increased their historical shares in (marketed) natural gas production, from a mere three per cent in 1975 to an average of 24 per cent during 2018 – the contribution of OPEC MCs was substantial, similar to increases in natural gas reserves. Increasing historical trends in regional production shares could also be registered in Asia Pacific, while relative weights declined historically in America, as well as Europe and Eurasia (Graph 2).

Graph 1:
Proven natural gas reserves: regional share
of world (%)

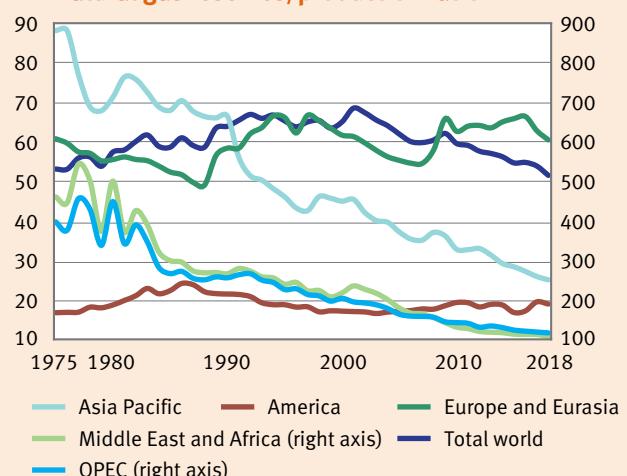


Graph 2:
Natural gas marketed production: regional
share of world (%)



Based on the above trends for regional proven reserves and natural gas production, historical reserves-to-production (R/P) ratios also vary between regions. Calculated R/Ps for all regions, except for America, as well as Europe and Eurasia, are on historical declining trends. The steepest decline rates are for the Middle East and Africa. In terms of level, the Middle East and Africa R/P ratios follow a substantially higher trajectory than in other regions. The OPEC R/P ratio follows a parallel declining pattern to the Middle East and Africa, with a similarly higher level. R/Ps for Europe and Eurasia, as well as for America follow slightly increasing trends. The distribution of regional R/Ps unsurprisingly implies the course of the total world R/P, with peak during 2001 (Graph 3). The overall satisfactory fit of this modelling exercise is additionally supported by a high coefficient of determination, in addition to small in absolute value and without pattern model residuals.

Graph 3:
Natural gas reserves/production ratio



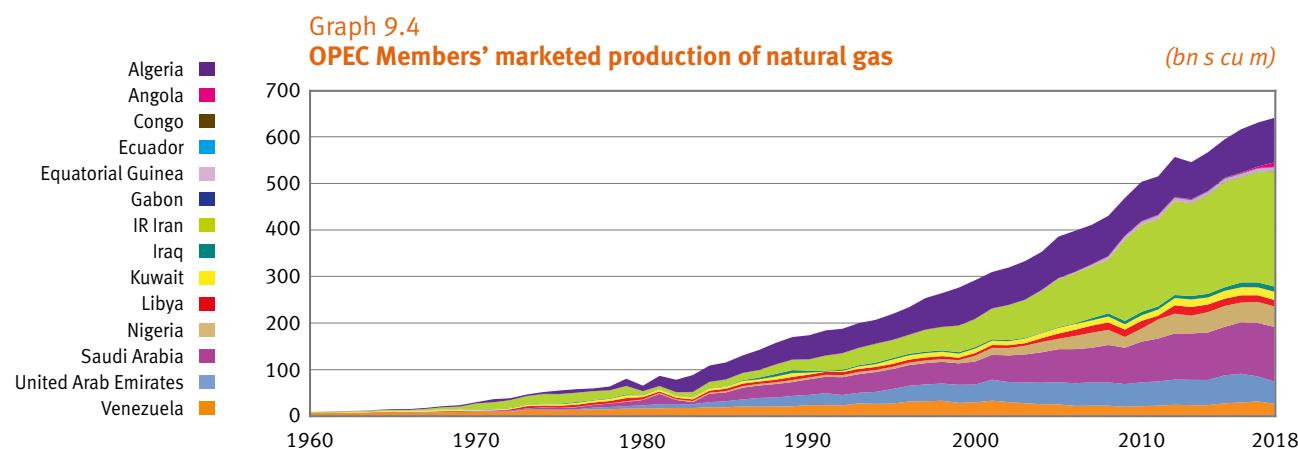
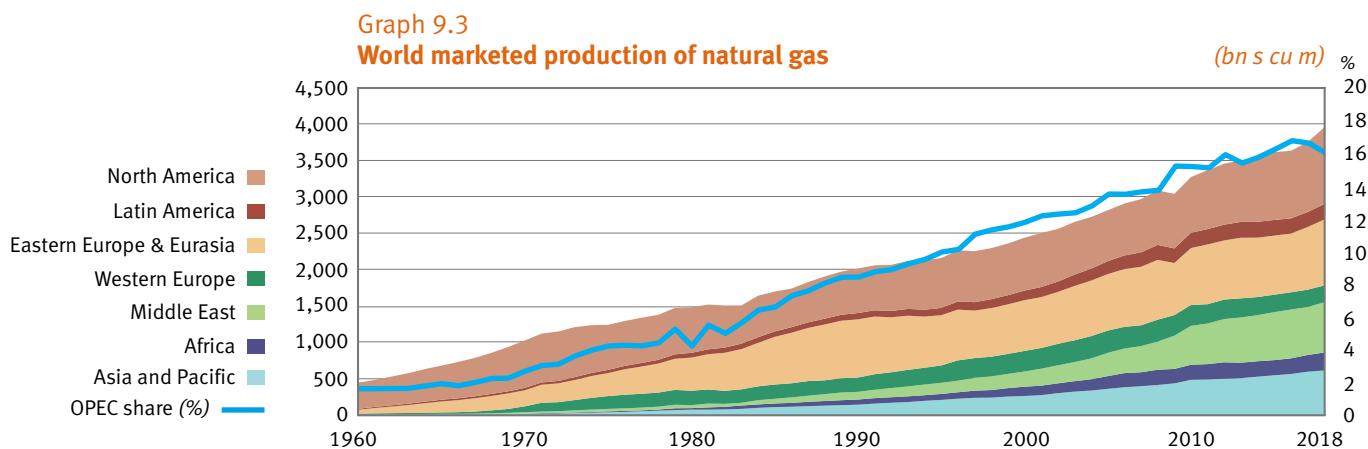
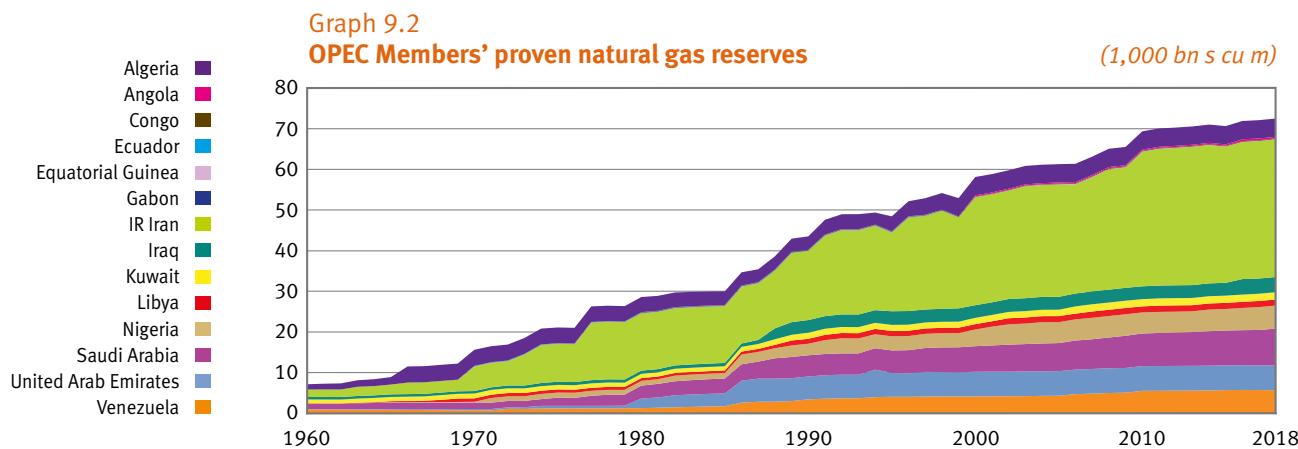
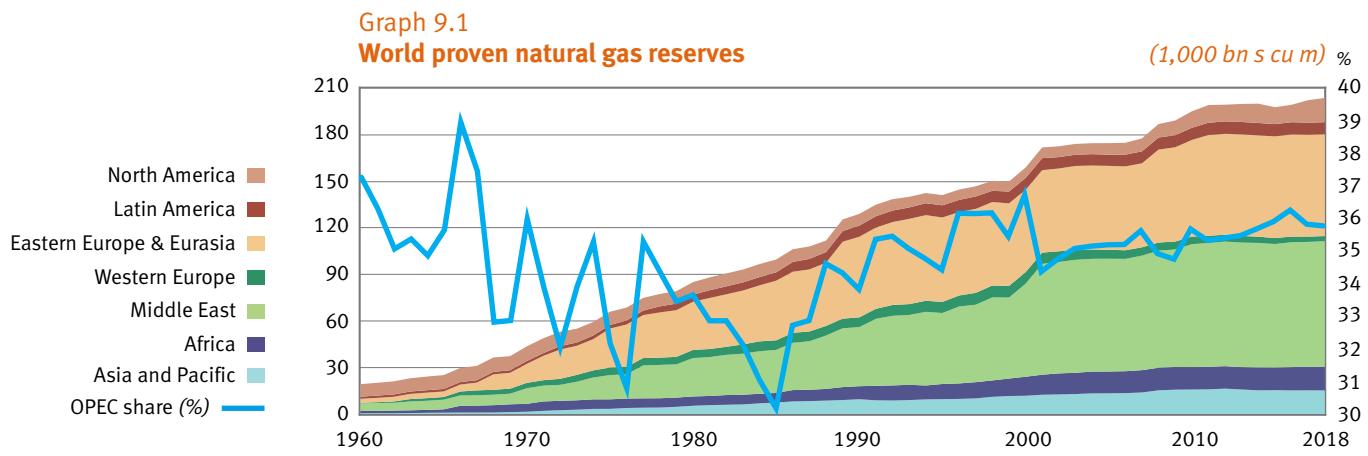
Natural gas data

Table 9.1
World proven natural gas reserves by country

(bn s cu m)

	2014	2015	2016	2017	2018	% change 18/17
North America	12,421	10,880	11,216	14,448	15,603	8.0
Canada	1,987	2,171	2,097	2,040	2,049	0.4
United States	10,434	8,709	9,119	12,408	13,554	9.2
Latin America	7,947	7,892	7,852	7,783	7,730	-0.7
Argentina	332	350	337	343	355	3.6
Bolivia	300	305	310	303	296	-2.4
Brazil	471	429	378	370	370	-0.1
Chile	7	6	5	5	5	-
Colombia	135	123	114	114	110	-3.2
Ecuador	11	11	11	11	11	-
Mexico	324	257	208	208	187	-10.3
Peru	414	399	456	470	470	-
Trinidad & Tobago	325	300	286	246	246	-
Venezuela	5,617	5,702	5,740	5,707	5,674	-0.6
Others	12	11	8	7	7	-
Eastern Europe and Eurasia	65,156	65,370	65,695	65,493	65,499	-
Armenia	18	18	18	18	18	-
Azerbaijan	1,292	1,284	1,277	1,269	1,269	-
Kazakhstan	1,918	1,907	1,898	1,885	1,885	-
Poland	63	61	58	56	63	11.7
Romania	109	103	99	92	92	-
Russia	49,896	50,205	50,617	50,508	50,508	-
Turkmenistan	9,904	9,870	9,838	9,805	9,805	-
Ukraine	324	314	304	296	296	-
Uzbekistan	1,608	1,585	1,564	1,542	1,542	-
Others	24	24	22	22	21	-3.7
Western Europe	4,025	3,870	3,647	3,416	3,272	-4.2
Denmark	88	80	77	72	87	20.2
Germany	51	46	42	37	32	-13.2
Italy	54	49	38	45	52	14.6
Netherlands	799	825	740	664	557	-16.1
Norway	2,547	2,461	2,388	2,263	2,210	-2.3
United Kingdom	407	333	288	263	263	-
Others	79	76	74	72	71	-1.1
Middle East	80,102	79,419	80,319	80,239	80,770	0.7
IR Iran	34,020	33,500	33,721	33,810	33,899	0.3
Iraq	3,158	3,158	3,820	3,744	3,729	-0.4
Kuwait	1,784	1,784	1,784	1,784	1,784	-
Oman	950	931	884	884	884	-
Qatar	24,531	24,299	24,073	23,861	23,846	-0.1
Saudi Arabia	8,489	8,588	8,619	8,715	9,069	4.1
United Arab Emirates	6,091	6,091	6,091	6,091	6,091	-
Others	1,079	1,068	1,327	1,350	1,467	8.7
Africa	14,681	14,538	14,978	15,217	15,230	0.1
Algeria	4,504	4,504	4,504	4,504	4,504	-
Angola	308	316	440	422	383	-9.4
Cameroon	154	153	152	151	151	-
Congo	285	285	285	285	285	-
Egypt	2,186	2,086	2,221	2,221	2,221	-
Equatorial Guinea	60	54	47	42	42	-
Gabon	26	25	26	26	26	1.9
Libya	1,505	1,505	1,505	1,505	1,505	-
Nigeria	5,324	5,284	5,475	5,627	5,675	0.9
Others	329	326	324	435	439	0.9
Asia and Pacific	15,215	15,314	15,143	15,207	15,124	-0.5
Australia	3,215	3,205	3,193	3,175	3,175	-
Bangladesh	412	385	588	568	551	-3.0
Brunei	263	258	252	240	240	-
China	2,421	2,644	2,716	2,732	2,856	4.5
India	1,199	1,252	1,227	1,290	1,339	3.8
Indonesia	2,839	2,775	2,775	2,865	2,841	-0.8
Malaysia	2,849	2,842	2,470	2,471	2,471	-
Myanmar	290	282	273	265	265	-
Pakistan	736	723	711	699	512	-26.7
Thailand	220	207	193	181	169	-6.6
Vietnam	211	207	203	199	199	-
Others	560	534	542	522	506	-3.1
Total world	199,547	197,284	198,850	201,804	203,229	0.7
<i>of which</i>						
OPEC	71,181	70,807	72,067	72,272	72,676	0.6
<i>OPEC percentage</i>	35.7	35.9	36.2	35.8	35.8	-
OECD	20,362	18,569	18,868	20,822	21,721	4.3
FSU	64,963	65,186	65,517	65,328	65,328	-

Notes: Figures as at year-end.



Natural gas data

Table 9.2

Yearly and cumulative marketed natural gas production in OPEC Members

(million s cu m)

Marketed natural gas production yearly

	1960	1970	1980	1990	2000	2010	2018
Algeria	—	2,599	11,647	51,600	83,119	84,615	95,898
Angola	—	40	260	540	570	733	9,614
Congo	—	10	10	—	—	575	867
Ecuador	10	10	30	100	140	330	349
Equatorial Guinea	—	—	—	—	30	6,540	7,751
Gabon	7	20	70	100	80	80	530
IR Iran	960	12,881	7,138	24,200	60,240	187,357	248,524
Iraq	604	780	1,281	3,980	3,150	7,511	11,130
Kuwait	943	2,037	4,071	4,190	9,600	11,733	17,738
Libya	—	294	5,170	6,200	5,880	16,814	13,880
Nigeria	—	111	1,070	4,010	12,460	28,099	44,251
Saudi Arabia	—	1,230	11,431	33,520	49,810	87,660	118,000
United Arab Emirates	—	756	6,863	22,110	38,380	51,282	47,624
Venezuela	4,958	7,710	14,805	21,966	27,801	19,728	24,785
OPEC	7,482	28,478	63,846	172,516	291,260	503,057	640,941

Cumulative marketed natural gas production up to and including year

	1960	1970	1980	1990	2000	2010	2018
Algeria	—	15,428	89,208	472,552	1,102,721	1,940,983	2,640,017
Angola	—	40	844	4,684	10,354	17,147	35,733
Congo	—	10	119	149	149	1,797	8,710
Ecuador	10	48	355	1,095	2,175	4,526	8,215
Equatorial Guinea	—	—	—	—	70	25,870	78,581
Gabon	7	147	2,132	3,162	4,142	5,012	8,240
IR Iran	960	33,063	203,263	353,113	790,718	1,906,280	3,649,658
Iraq	604	6,991	19,128	43,668	72,138	109,022	177,585
Kuwait	943	22,483	59,123	109,793	179,932	290,934	420,361
Libya	—	294	43,981	93,091	155,921	269,950	390,162
Nigeria	—	861	6,387	35,998	95,883	335,691	679,233
Saudi Arabia	—	8,588	58,961	275,956	708,196	1,410,617	2,252,927
United Arab Emirates	—	2,379	30,627	178,652	491,312	967,964	1,407,169
Venezuela	4,958	69,435	184,608	363,836	628,796	862,302	1,057,795
OPEC	7,482	159,767	698,736	1,935,749	4,242,507	8,148,095	12,814,386

Table 9.3
World marketed production of natural gas by country
(million s cu m)

	2014	2015	2016	2017	2018	% change 18/17
North America	896,903	932,081	928,683	958,832	1,052,903	9.8
Canada	162,102	164,010	174,057	184,172	189,488	2.9
United States	734,801	768,071	754,626	774,660	863,415	11.5
Latin America	218,244	215,092	208,414	206,393	212,621	3.0
Argentina	35,530	36,400	38,210	38,160	38,885	1.9
Bolivia	21,660	21,400	20,800	20,200	21,241	5.2
Brazil	20,350	20,410	20,620	23,750	24,188	1.8
Chile	908	1,017	1,229	1,222	1,522	24.5
Colombia	12,680	11,910	10,400	9,600	9,599	–
Ecuador	578	497	530	463	349	–24.6
Mexico	50,510	45,984	41,227	36,216	33,003	–8.9
Peru	12,910	12,500	14,000	12,900	12,642	–2.0
Trinidad & Tobago	40,040	37,720	32,500	32,900	45,215	37.4
Venezuela	21,878	26,004	27,718	29,793	24,785	–16.8
Others	1,200	1,250	1,180	1,190	1,192	0.2
Eastern Europe and Eurasia	816,021	811,601	807,214	860,186	906,461	5.4
Azerbaijan	17,500	18,000	17,500	16,900	17,880	5.8
Kazakhstan	20,150	21,200	21,700	25,800	26,608	3.1
Poland	6,081	6,081	5,794	5,706	5,616	–1.6
Romania	10,900	10,800	9,600	10,300	9,929	–3.6
Russia	601,030	594,800	599,440	646,800	690,349	6.7
Turkmenistan	80,050	83,700	79,770	80,500	80,742	0.3
Ukraine	19,510	19,000	19,420	19,850	20,129	1.4
Uzbekistan	58,490	55,700	51,640	52,000	53,040	2.0
Others	2,310	2,320	2,350	2,330	2,168	–7.0
Western Europe	247,988	239,817	236,969	237,730	231,672	–2.5
Denmark	4,613	4,593	4,505	4,835	4,120	–14.8
Germany	10,191	8,392	7,606	6,974	5,945	–14.8
Italy	7,147	6,773	5,783	5,540	5,451	–1.6
Netherlands	72,683	54,379	50,543	43,871	42,715	–2.6
Norway	111,014	120,589	120,366	127,733	126,415	–1.0
United Kingdom	38,410	41,311	41,606	41,887	40,658	–2.9
Others	3,930	3,780	6,560	6,890	6,368	–7.6
Middle East	633,893	659,242	670,535	660,094	689,055	4.4
IR Iran	212,796	226,673	226,905	238,003	248,524	4.4
Iraq	7,927	7,685	10,416	10,650	11,130	4.5
Kuwait	15,029	16,909	17,291	17,102	17,738	3.7
Oman	28,710	29,930	30,480	31,225	33,723	8.0
Qatar	174,057	181,444	182,830	163,599	181,594	11.0
Saudi Arabia	102,380	104,450	110,860	115,000	118,000	2.6
United Arab Emirates	54,245	60,181	61,862	54,086	47,624	–11.9
Others	38,750	31,970	29,890	30,430	30,721	1.0

Natural gas data

Table 9.3

World marketed production of natural gas by country

(million s cu m)

	2014	2015	2016	2017	2018	% change 18/17
Africa	212,141	208,520	214,953	229,427	247,131	7.7
Algeria	83,296	83,041	93,152	94,778	95,898	1.2
Angola	732	772	1,919	3,111	9,614	209.0
Cameroon	450	500	540	730	760	4.0
Congo	928	928	866	860	867	0.8
Egypt	48,790	44,328	42,102	51,906	62,271	20.0
Equatorial Guinea	6,160	6,200	6,200	6,600	7,751	17.4
Gabon	550	550	551	487	530	8.8
Libya	16,523	15,493	15,570	14,309	13,880	-3.0
Nigeria	43,842	45,148	42,562	45,434	44,251	-2.6
Others	10,870	11,560	11,490	11,210	11,310	0.9
Asia Pacific	527,153	546,261	563,702	595,353	612,093	2.8
Australia	65,603	74,761	93,442	112,583	130,535	15.9
Bangladesh	23,800	26,800	26,300	26,500	27,560	4.0
Brunei	11,010	12,000	11,550	11,800	11,472	-2.8
China	126,860	130,500	132,700	144,000	150,168	4.3
India	33,250	32,050	30,400	31,750	31,669	-0.3
Indonesia	73,450	72,800	72,200	70,400	69,862	-0.8
Malaysia	65,420	63,100	64,400	68,000	63,588	-6.5
Myanmar	15,140	17,500	16,800	16,460	16,526	0.4
Pakistan	39,070	39,300	38,800	38,820	36,879	-5.0
Thailand	42,090	39,800	38,900	37,400	36,070	-3.6
Vietnam	8,990	9,400	9,460	8,730	8,555	-2.0
Others	22,470	28,250	28,750	28,910	29,210	1.0
Total world	3,552,343	3,612,615	3,630,470	3,748,015	3,951,936	5.4
<i>of which</i>						
OPEC	566,863	594,532	616,404	630,676	640,941	1.6
<i>OPEC percentage</i>	16.0	16.5	17.0	16.8	16.2	
OECD	1,285,963	1,317,766	1,326,385	1,372,521	1,471,907	7.2
FSU	796,830	792,500	789,570	841,930	888,778	5.6

Table 9.4
World natural gas exports by country

(million s cu m)

	2014	2015	2016	2017	2018	% change 18/17
North America	120,844	128,755	148,156	174,382	182,341	4.6
Canada	77,968	78,253	82,023	84,679	80,216	-5.3
United States	42,876	50,502	66,133	89,703	102,125	13.8
Latin America	41,190	39,270	37,600	34,719	40,651	17.1
Argentina	70	80	60	10	10	-
Bolivia	17,810	18,060	17,800	16,400	17,000	3.7
Colombia	950	400	-	-	-	-
Mexico	40	30	30	19	11	-42.1
Peru	5,240	4,830	5,070	5,250	5,500	4.8
Trinidad & Tobago	17,030	15,870	14,150	12,620	17,720	40.4
Others	50	-	490	420	410	-2.4
Eastern Europe and Eurasia	266,810	265,600	275,960	300,362	328,482	9.4
Azerbaijan	7,770	7,320	7,620	8,030	10,276	28.0
Kazakhstan	10,840	12,290	12,480	14,220	16,807	18.2
Russia	193,900	197,740	208,040	228,320	251,295	10.1
Turkmenistan	45,000	40,300	37,700	38,800	39,132	0.9
Uzbekistan	8,050	7,550	10,120	9,392	9,272	-1.3
Others	1,250	400	-	1,600	1,700	6.3
Western Europe	228,118	236,681	240,957	253,799	261,349	3.0
Belgium	13,220	17,080	21,180	23,950	23,764	-0.8
Denmark	2,085	2,191	2,114	2,235	1,538	-31.2
France	7,078	5,468	3,717	6,038	5,925	-1.9
Germany	20,100	26,360	27,530	35,910	44,860	24.9
Italy	237	220	212	271	396	46.1
Netherlands	58,661	50,962	56,597	48,017	52,427	9.2
Norway	106,759	114,200	114,373	122,485	120,961	-1.2
Spain	8,224	5,047	3,984	2,876	3,244	12.8
United Kingdom	10,844	14,243	10,300	11,347	7,610	-32.9
Others	910	910	950	670	624	-6.9
Middle East	163,578	163,508	162,641	164,832	176,260	6.9
IR Iran	8,360	8,541	8,567	12,927	12,327	-4.6
Oman	10,270	10,000	10,550	11,150	13,400	20.2
Qatar	122,628	129,877	130,324	128,645	143,445	11.5
United Arab Emirates	13,520	13,200	13,200	12,109	7,087	-41.5
Others	8,800	1,890	-	-	-	-
Africa	85,239	83,296	94,204	101,779	95,370	-6.3
Algeria	44,190	43,419	53,974	53,891	51,424	-4.6
Angola	-	-	1,149	517	541	4.6
Congo	-	-	-	190	-	-100.0
Egypt	720	-	670	1,160	1,240	6.9
Equatorial Guinea	4,790	4,710	4,640	4,960	5,509	11.1
Libya	4,962	4,664	4,664	4,470	4,251	-4.9
Nigeria	26,778	26,704	25,147	32,511	28,626	-12.0
Others	3,800	3,800	3,960	4,080	3,780	-7.4
Asia and Pacific	123,230	137,699	155,353	174,093	191,329	9.9
Australia	32,390	39,499	58,683	74,803	91,582	22.4
Brunei	7,820	8,520	8,450	8,920	8,817	-1.2
Indonesia	31,730	30,290	30,420	29,820	35,571	19.3
Malaysia	34,870	34,990	34,180	36,840	32,848	-10.8
Myanmar	11,700	13,910	12,800	12,150	11,950	-1.6
Others	4,720	10,490	10,820	11,560	10,560	-8.7
Total world	1,029,010	1,054,809	1,114,871	1,203,966	1,275,782	6.0
<i>of which</i>						
OPEC	102,599	101,237	111,341	121,576	109,765	-9.7
<i>OPEC percentage</i>	10.0	9.6	10.0	10.1	8.6	
OECD	361,180	388,220	437,260	498,950	521,051	4.4
FSU	265,560	265,200	275,960	299,690	327,651	9.3

Notes:

Data may include re-exports and natural gas in transit.

Natural gas data

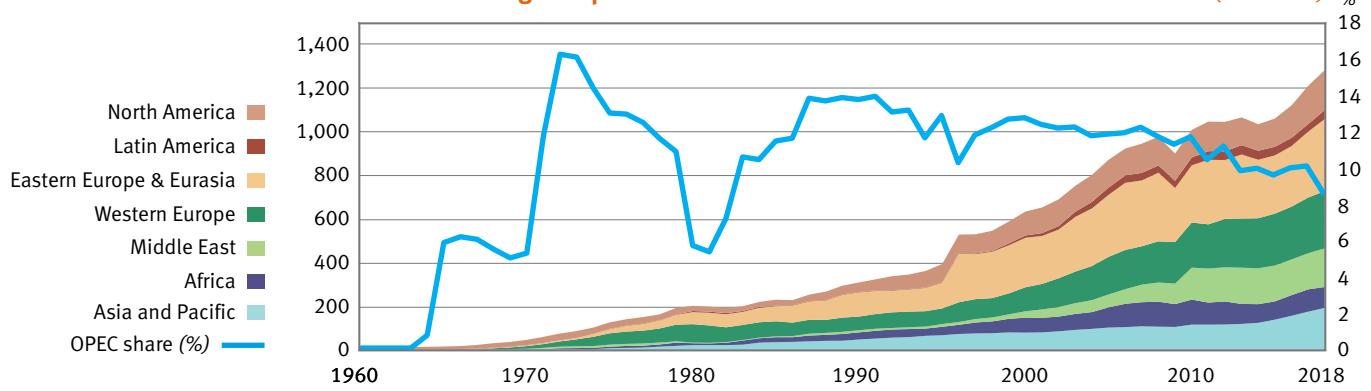
Table 9.5
World natural gas imports by country

	2014	2015	2016	2017	2018	% change 18/17
North America	98,218	96,592	105,812	110,412	103,751	-6.0
Canada	21,890	19,627	20,679	24,260	21,330	-12.1
United States	76,328	76,965	85,133	86,152	82,421	-4.3
Latin America	55,893	56,747	55,631	48,598	47,437	-2.4
Argentina	11,230	10,670	11,580	12,200	11,800	-3.3
Brazil	17,480	18,980	13,380	10,720	14,310	33.5
Chile	3,715	3,494	4,380	4,375	4,648	6.2
Mexico	19,698	20,393	23,341	18,353	13,679	-25.5
Venezuela	950	400	—	—	—	—
Others	2,820	2,810	2,950	2,950	3,000	1.7
Eastern Europe and Eurasia	112,040	98,820	95,590	107,960	108,157	0.2
Belarus	18,420	17,300	17,200	17,600	19,886	13.0
Hungary	7,100	5,510	6,250	9,500	8,791	-7.5
Kazakhstan	4,840	4,700	5,230	5,600	7,437	32.8
Poland	12,000	10,920	12,500	13,180	13,590	3.1
Russia	24,150	18,000	15,910	18,150	19,203	5.8
Ukraine	19,200	16,520	11,100	14,100	10,355	-26.6
Others	26,330	25,870	27,400	29,830	28,895	-3.1
Western Europe	396,839	425,570	451,888	493,806	501,369	1.5
Austria	7,800	6,040	7,400	8,470	8,067	-4.8
Belgium	29,780	34,980	39,430	42,100	39,809	-5.4
France	45,134	44,711	46,444	48,260	49,316	2.2
Germany	92,550	103,040	112,200	126,540	133,822	5.8
Italy	55,758	61,200	65,285	69,622	67,877	-2.5
Netherlands	16,470	26,060	29,470	33,360	42,362	27.0
Spain	33,210	30,620	30,350	33,380	33,575	0.6
Turkey	49,262	48,427	46,352	55,121	50,007	-9.3
United Kingdom	43,405	45,062	48,457	47,623	48,177	1.2
Others	23,470	25,430	26,500	29,330	28,356	-3.3
Middle East	35,597	44,488	47,700	44,089	47,748	8.3
IR Iran	4,422	9,015	9,246	4,731	6,000	26.8
Iraq	—	—	—	1,456	4,100	181.6
Jordan	300	2,373	4,449	4,499	4,550	1.1
Kuwait	3,025	3,852	4,311	4,781	4,418	-7.6
Oman	1,970	1,988	1,974	1,972	2,000	1.4
United Arab Emirates	25,800	27,100	27,479	26,030	26,050	0.1
Others	80	160	240	620	630	1.6
Africa	8,290	11,980	18,130	17,220	10,734	-37.7
Egypt	—	3,610	9,750	8,040	1,200	-85.1
Morocco	1,000	1,000	1,050	1,040	924	-11.2
South Africa	3,800	3,800	3,960	4,080	4,110	0.7
Tunisia	2,890	2,970	3,270	3,680	4,080	10.9
Others	600	600	100	380	420	10.5
Asia and Pacific	304,579	301,451	322,225	352,842	401,168	13.7
Australia	6,282	7,279	6,921	6,200	6,258	0.9
China	57,650	59,650	72,800	92,010	123,379	34.1
India	18,550	18,670	26,160	26,740	30,905	15.6
Japan	127,521	122,534	120,073	120,501	119,372	-0.9
Malaysia	4,630	3,270	2,160	2,570	2,354	-8.4
Pakistan	—	1,370	4,460	6,570	11,050	68.2
Singapore	12,390	12,370	12,810	13,420	13,800	2.8
South Korea	49,086	43,428	44,171	48,651	55,730	14.6
Thailand	10,480	13,490	12,760	13,830	13,959	0.9
Others	17,990	19,390	19,910	22,350	24,362	9.0
Total world	1,003,166	1,023,668	1,078,846	1,157,707	1,209,629	4.5
<i>of which</i>						
OPEC	34,197	40,367	41,037	36,998	40,568	9.6
<i>OPEC percentage</i>	3.4	3.9	3.8	3.2	3.4	
OECD	728,440	753,140	798,680	862,510	867,352	0.6
FSU	77,770	67,200	59,550	66,190	67,824	2.5

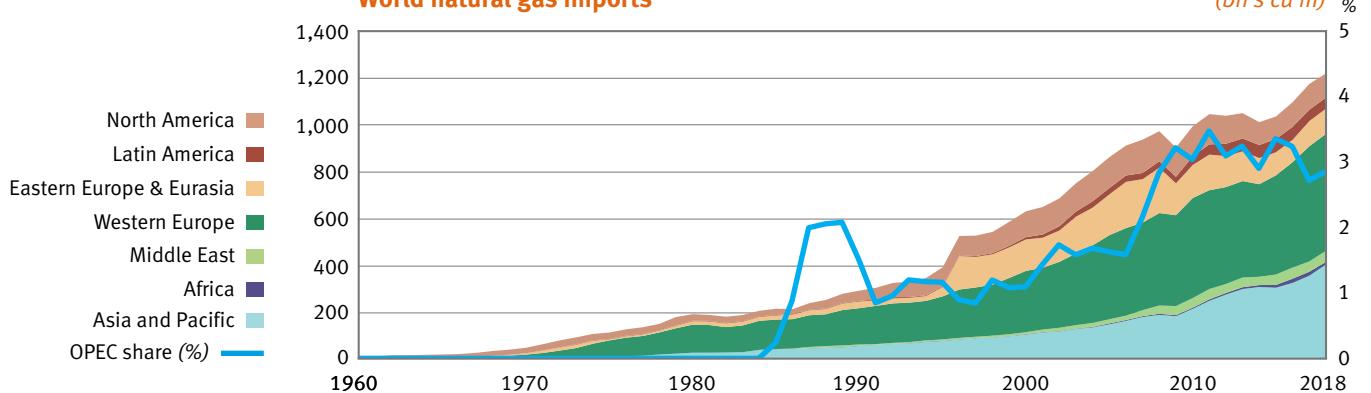
Notes:

Data may include re-exports and natural gas in transit.

Graph 9.5
World natural gas exports



Graph 9.6
World natural gas imports



Natural gas data

Table 9.6
World natural gas demand by country

(million s cu m)

	2014	2015	2016	2017	2018	% change 18/17
North America	857,551	875,487	889,068	892,200	966,036	8.3
Canada	104,510	104,027	111,934	124,522	117,876	-5.3
United States	753,041	771,460	777,134	767,678	848,160	10.5
Latin America	233,863	230,511	222,562	216,781	209,911	-3.2
Argentina	46,690	46,990	49,730	50,350	50,501	0.3
Bolivia	3,850	3,340	3,000	3,800	4,164	9.6
Brazil	37,780	39,390	33,910	34,390	38,517	12.0
Chile	4,646	4,779	5,323	5,396	6,164	14.2
Colombia	11,730	11,510	10,480	9,650	9,669	0.2
Ecuador	578	497	530	461	349	-24.2
Mexico	70,169	66,349	64,544	54,550	46,671	-14.4
Peru	7,670	7,670	8,930	7,650	7,497	-2.0
Trinidad & Tobago	23,010	21,850	18,350	20,280	22,202	9.5
Venezuela	23,720	24,076	23,715	26,204	20,117	-23.2
Others	4,020	4,060	4,050	4,050	4,060	0.2
Eastern Europe and Eurasia	661,835	648,223	629,325	668,601	688,554	3.0
Azerbaijan	10,030	10,880	10,180	9,420	12,041	27.8
Hungary	8,390	9,017	9,717	10,450	10,050	-3.8
Kazakhstan	14,150	13,610	14,450	17,180	20,101	17.0
Poland	17,835	18,196	19,108	20,381	20,836	2.2
Romania	11,400	10,970	10,990	11,410	11,116	-2.6
Russia	431,280	415,060	407,310	436,630	452,016	3.5
Turkmenistan	35,050	43,400	42,070	41,700	41,283	-1.0
Ukraine	38,710	35,520	30,520	33,950	33,995	0.1
Uzbekistan	50,440	48,150	41,520	41,680	42,514	2.0
Others	44,550	43,420	43,460	45,800	44,603	-2.6
Western Europe	419,841	435,059	463,098	485,798	467,391	-3.8
Austria	7,752	8,334	8,746	9,494	8,982	-5.4
Belgium	15,558	16,778	17,019	17,265	17,716	2.6
France	36,279	38,788	42,699	42,874	40,861	-4.7
Germany	77,611	81,292	89,133	92,010	85,316	-7.3
Italy	61,912	67,524	70,914	75,150	72,667	-3.3
Netherlands	40,277	40,139	42,032	46,438	42,955	-7.5
Spain	27,094	27,861	28,558	31,007	30,925	-0.3
Turkey	48,829	47,829	46,471	53,598	49,643	-7.4
United Kingdom	70,809	72,174	81,236	79,562	80,870	1.6
Others	33,720	34,340	36,290	38,400	37,456	-2.5
Middle East	460,049	482,609	493,004	544,200	562,507	3.4
Bahrain	16,010	16,170	16,000	16,500	16,820	1.9
IR Iran	174,600	184,900	188,598	231,103	242,367	4.9
Iraq	6,839	6,868	9,101	9,457	10,025	6.0
Kuwait	18,490	20,761	21,602	21,067	21,860	3.8

Table 9.6
World natural gas demand by country (million s cu m)

	2014	2015	2016	2017	2018	% change 18/17
Middle East (cont'd)						
Oman	20,410	21,920	21,870	22,070	22,335	1.2
Qatar	40,500	38,400	38,592	38,347	41,247	7.6
Saudi Arabia	102,380	104,450	106,852	115,000	118,000	2.6
United Arab Emirates	66,500	72,700	71,799	71,596	70,030	-2.2
Others	14,320	16,440	18,590	19,060	19,822	4.0
Africa	128,769	131,055	134,754	137,601	143,596	4.4
Algeria	37,498	39,019	39,546	40,373	44,429	10.0
Angola	732	770	770	780	785	0.6
Congo	918	908	846	680	867	27.5
Egypt	48,080	47,960	51,180	58,780	61,950	5.4
Equatorial Guinea	1,370	1,490	1,590	1,576	1,523	-3.3
Gabon	550	550	551	407	530	30.2
Libya	5,940	5,934	5,893	5,250	5,040	-4.0
Nigeria	18,370	18,445	18,168	12,795	10,756	-15.9
South Africa	4,750	4,900	4,960	4,880	4,862	-0.4
Tunisia	4,590	4,570	4,670	4,980	5,329	7.0
Others	5,970	6,510	6,580	7,100	7,526	6.0
Asia Pacific	697,971	700,070	724,550	762,180	824,072	8.1
Australia	39,495	42,541	41,680	43,980	45,211	2.8
Bangladesh	23,800	26,800	26,300	26,500	27,030	2.0
Brunei	3,190	3,480	3,100	2,880	2,590	-10.1
China	184,510	190,150	205,500	236,010	276,304	17.1
India	51,800	50,450	56,480	58,490	67,073	14.7
Indonesia	41,720	42,510	41,780	40,580	34,862	-14.1
Japan	127,682	123,080	122,321	121,377	121,905	0.4
Malaysia	35,180	31,380	32,380	33,730	35,417	5.0
Myanmar	3,440	3,590	4,000	4,310	4,612	7.0
New Zealand	5,257	5,000	5,049	5,068	4,454	-12.1
Pakistan	39,070	40,670	43,260	45,390	47,886	5.5
South Korea	47,587	42,979	45,530	45,185	50,582	11.9
Thailand	52,570	53,290	51,660	51,230	56,085	9.5
Vietnam	8,990	9,400	9,460	8,730	8,823	1.1
Others	33,680	34,750	36,050	38,720	41,237	6.5
Total world	3,459,879	3,503,015	3,556,361	3,707,361	3,862,067	4.2
<i>of which</i>						
OPEC	458,486	481,368	489,561	536,749	546,678	1.8
<i>OPEC percentage</i>	<i>13.3</i>	<i>13.7</i>	<i>13.8</i>	<i>14.5</i>	<i>14.2</i>	
OECD	1,613,242	1,639,921	1,686,020	1,705,189	1,759,456	3.2
FSU	609,040	594,500	573,160	608,430	669,967	10.1

Table 9.7
World LNG carrier fleet by size

(1,000 cu m)

	2014		2015		2016		2017		2018	
	no	capacity								
up to 19,999	23	208	23	208	23	208	24	222	27	239
20,000–39,999	1	23	1	23	5	137	7	192	10	275
40,000–59,999	–	–	–	–	–	–	–	–	–	–
60,000–99,999	13	982	11	839	9	684	9	684	9	684
100,000 and over	349	54,138	380	59,200	406	63,548	434	68,430	458	72,740
Total world	386	55,351	415	60,270	443	64,577	474	69,528	504	73,938

Notes:

Figures as at year-end.

General notes

Definitions

Barrels per calendar day (b/cd): the total number of barrels processed in a refinery within 24 hours, reflecting all operational limitations (eg routine inspections, maintenance, repairs etc).

Barrels per stream day (b/sd): the number of barrels of input that a refining facility can process within 24 hours, operating at full capacity under optimal crude and product slate conditions.

Biofuels: transportation fuels derived from biomass include fuel ethanol and biodiesel, whereby these fuels are usually blended with petroleum fuels. Ethanol is an alcohol made by fermenting starch or sugar, notably from (corn) grains and sugar cane. Biodiesel is made primarily from vegetable oils (eg palm oil, soybean oil) or from other oily sources (such as waste cooking grease).

Completion: the installation of permanent equipment for the production of oil or gas.

Composite barrel: a consumption weighted average of retail prices (including taxes) of the main groups of refined petroleum products.

Crude oil: a mixture of hydrocarbons that exists in a liquid phase in natural underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. For statistical purposes, volumes reported as crude oil include:

- liquids technically defined as crude oil;
- small amounts of hydrocarbons that exist in the gaseous phase in natural underground reservoirs, but which are liquid at atmospheric pressure after being recovered from oil well (casing head) gas in lease separators;
- small amounts of non-hydrocarbons produced with the oil;
- very heavy and extra-heavy crude oils with viscosity less than 10,000 mPa-s (centipoises) at original reservoir conditions.

Distillates: middle distillate type hydrocarbons; includes products similar to number one and number two heating oils and diesel fuels.

These products are used for space heating, diesel engine fuel and electrical power generation.

Dry hole: a well found to be incapable of producing either oil or gas in sufficient quantities to justify completion as an oil or gas well.

Exports of petroleum products: excludes international air and marine bunkers.

Gasoline: a mixture of relatively volatile hydrocarbons, with or without small quantities of additives, that have been blended to form a fuel suitable for use in internal combustion engines; includes gasoline used in aviation.

Geneva I agreement: agreement of January 1972 between some OPEC Member Countries and the major international oil companies, which had the effect of establishing an index for quarterly adjustments of posted crude oil prices on the basis of the arithmetic average of the deviations of the exchange rates of nine major currencies against the US dollar. This was modified to an import-weighted index in 1978, accounting for exchange rates and inflation rate. The present ‘modified Geneva I + US dollar’ currency basket includes the US dollar, the euro, the Japanese yen, the UK pound and the Swiss franc.

Kerosene: medium hydrocarbon distillates in the 150° to 280° C distillation range; used as a heating fuel as well as for certain types of internal combustion engines. Includes jet fuel, which is a fuel of naphtha or of kerosene type, suitable for commercial or military purposes in aircraft turbine engines.

Natural gas liquids (NGLs): those reservoir gases liquefied at the surface in lease separators, field facilities or gas processing plants. NGLs consist of field condensates and natural gas plant products such as ethane, pentane, propane, butane and natural gasoline.

Natural gas: a mixture of hydrocarbon compounds and small quantities of various non-hydrocarbons existing in the gaseous phase or in solution with oil in natural underground reservoirs at reservoir conditions. The natural gas volumes refer to Standard Conditions of 60° F, 14.73 psia (15.6° C, 760 mm/Hg).

Gross production: the total flow of natural gas from oil and gas reservoirs of associated-dissolved and non-associated gas.

Marketed production: corresponds to gross production, minus the volumes of gas flared or re-injected into fields, minus the shrinkage.

Re-injection: the total volume of natural gas produced from oil and gas completions, processed through gas-processing plants and field facilities, and used for gas lift, gas injection and cycling operations.

Shrinkage: volume shrinkage due to purification and/or extraction of natural gas liquids, gas used as input to GTL plants, lease separators plant, own consumption, as well as any other losses caused by spillage, evaporation, etc.

Non-conventional oil: includes synthetic crude oil from tar sands, oil shale, etc, liquids derived from coal liquefaction(CTL) and gas liquefaction (GTL), hydrogen and emulsified oils (eg Orimulsion), non-hydrocarbon compounds added to or blended with a product to modify fuel properties (octane, cetane, cold properties, etc) of substances like alcohols (methanol, ethanol), ethers (such as MTBE (methyl tertiary butyl ether), ETBE (ethyl tertiary butyl ether), TAME (tertiary amyl methyl ether) or esters (eg rapeseed or dimethylester, etc) and chemical compounds such as TML (tetramethyl lead) or TEL (tetraethyl lead) and detergents.

Oil demand: inland delivery, including refinery fuels and losses, as well as products from gas plants, including international air and marine bunkers, as well as direct crude burning.

Oil or gas well: a well completed for the production of oil or gas from one or more zones or reservoirs.

Oil supply: consists of crude oil natural gas liquids and non-conventional oil production.

OPEC Basket: the OPEC Reference Basket (ORB) price was introduced on January 1, 1987. Up to June 15, 2005, it was the arithmetic average of seven selected crudes. These were: Saharan Blend (Algeria); Minas (Indonesia); Bonny Light (Nigeria); Arab Light (Saudi Arabia); Dubai (United Arab Emirates); Tia Juana Light (Venezuela); and Isthmus (Mexico). Mexico is not a Member of OPEC. As of June 16, 2005, the ORB is calculated as a production-weighted average of the OPEC Basket of crudes. These are: Saharan Blend (Algeria); Girassol (Angola, as of January 2007); Djeno (Congo, as of June 2018), Oriente (Ecuador, as of October 19, 2007); Zafiro (Equatorial Guinea, as of May 25, 2017); Rabi Light (Gabon, as of July 1, 2016); Iran Heavy (IR Iran); Basrah Light (Iraq); Kuwait Export (Kuwait); Es Sider (Libya); Bonny Light (Nigeria); Qatar Marine (Qatar); Arab Light (Saudi Arabia); Murban (United Arab Emirates); and Merey (Venezuela).

Output of petroleum products: the total amount of petroleum products produced from refinery input in a given period, excluding refinery fuels.

Petroleum products: products obtained from the processing of crude oil, unfinished oils, NGLs and other hydrocarbon compounds. These include aviation gasoline, motor gasoline, naphtha, kerosene, jet fuel, distillate fuel oil, residual fuel oil, liquefied petroleum gas, lubricants, paraffin wax, petroleum coke, asphalt and other products.

Proven crude oil reserves: the estimated quantities of all liquids statistically defined as crude oil. They consist of those quantities of crude oil which by analysis of geoscience and engineering data can be estimated with reasonable certainty to be commercially recoverable, from a given date forward, from known reservoirs and under defined economic conditions, operating methods and government regulations (*source: SPE – Petroleum Resources Management System*).

Proven natural gas reserves: are the estimated quantities of all hydrocarbons statistically defined as natural gas. They consist of those quantities of natural gas (associated and non-associated) which by analysis of geoscience and engineering data can be estimated with reasonable certainty to be commercially recoverable, from a given date forward, from known reservoirs and under defined economic conditions, operation methods and government regulations (*source: SPE – Petroleum Resources Management System*).

Refinery capacity (charge): the input (feed) capacity of refinery processing facilities.

Refinery capacity (operable): the maximum amount of input to atmospheric distillation units that can be processed in an average 24-hour period.

Refinery throughput: oil input into an atmospheric distillation unit.

Residual fuel oil: fuels obtained as liquid still bottoms from the distillation of crude used alone or in blends with heavy liquids from other refinery process operations. It is used for the generation of electric power, space heating, vessel bunkering and various industrial purposes.

Rig: a derrick complete with engine-house and other equipment necessary for drilling oil and gas wells.

Well (exploratory and development): a hole drilled for the purpose of finding or producing crude oil or natural gas, or providing services related to the production of crude oil and natural gas.

Country groupings

(OPEC Member Countries are shown in bold.)

North America: Canada, Greenland, St Pierre and Miquelon, United States.

Latin America: Antigua, Argentina, Bahamas, Barbados, Belize, Bermuda, Bolivia, Brazil, British Virgin Islands, Cayman Islands, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, **Ecuador**, El Salvador, French Guiana, Grenada, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Jamaica, Martinique, Mexico, Montserrat, Nicaragua, Panama (including Panama Canal Zone), Paraguay, Peru, Puerto Rico, St Kitts-Nevis-Anguilla, St Lucia, St Vincent, Suriname, Trinidad & Tobago, Turks and Caicos Islands, United States Virgin Islands, Uruguay, **Venezuela** and Other Latin America.

Eastern Europe and Eurasia: Albania, Armenia, Azerbaijan, Belarus, Bulgaria, Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Poland, Romania, Russia, Slovakia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

Western Europe: Austria, Belgium, Bosnia and Herzegovina, Cyprus, Croatia, Denmark (including Faroe Islands), Finland, France (including Andorra and Monaco), Germany, Gibraltar, Greece, Iceland, Ireland, Italy (including San Marino and the Holy See), Luxembourg, Malta, Montenegro, Netherlands, Norway (including Svalbard and Jan Mayen Islands), Portugal, Serbia, Slovenia, Spain (including Canary Islands), Sweden, Switzerland (including Liechtenstein), Republic of North Macedonia, Turkey, United Kingdom and Other Western Europe.

Middle East: Bahrain, **Islamic Republic of Iran, Iraq, Jordan, Kuwait,** Lebanon, Oman, Qatar, **Saudi Arabia,** Syrian Arab Republic, **United Arab Emirates** (Abu Dhabi, Ajman, Dubai, Fujairah, Ras al-Khaimah, Sharjah, Umm al-Qaiwain), Yemen and Other Middle East.

Africa: **Algeria, Angola,** Benin, Botswana, British Indian Ocean Territory, Burkina Faso, Burundi, Cameroon (United Republic of), Cape Verde, Central African Republic, Chad, Comoros, **Congo,** Congo (Democratic Republic of the), Djibouti, Egypt, **Equatorial Guinea,** Eritrea, Eswatini, Ethiopia, **Gabon,** Gambia (The), Ghana, Guinea, Guinea-Bissau, Côte d'Ivoire, Kenya, Lesotho, Liberia, **Libya,** Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, **Nigeria,** Reunion, Rwanda, St Helena, São Tomé and Príncipe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Sudans (including South Sudan and Sudan), Tanzania, Togo, Tunisia, Uganda, Western Sahara, Zambia and Zimbabwe.

Asia and Pacific: Afghanistan, American Samoa, Antarctica, Australia, Bangladesh, Bhutan, Brunei, Cambodia, Canton and Enderbury Islands, People's Republic of China (PRC), Hong Kong Special Administrative Regions (SAR of the PRC), Macau SAR of the PRC, Christmas Island, Cocos (Keeling) Islands, Cook Islands, Fiji, French Polynesia, Guam, India, Indonesia, Japan, Johnston Island, Kiribati, Korea (Democratic People's Republic of), Korea (Republic of), Lao People's Democratic Republic, Malaysia, Maldives, Midway Islands, Mongolia, Myanmar, Nauru, Nepal, New Caledonia, New Zealand, Niue, Norfolk Island, Pacific Islands (Trust Territory), Pakistan, Papua New Guinea, Philippines, Pitcairn Island, Samoa, Singapore, Solomon Islands, Sri Lanka, Thailand, Tokelau, Tonga, Tuvalu, Vanuatu, Vietnam, Wake Island, Wallis, Futuna Islands and Other Asia and Pacific.

Economic organizations

Organization of the Petroleum Exporting Countries (OPEC) — Members: Algeria (1969), Angola (2007), Congo (2018), Ecuador (reactivated membership in 2007), Equatorial Guinea (2017), Gabon (rejoined OPEC in 2016), the Islamic Republic of Iran (1960), Iraq (1960), Kuwait (1960), Libya (1962), Nigeria (1971), Saudi Arabia (1960), United Arab Emirates (1967), Venezuela (1960).

Organization for Economic Co-operation and Development (OECD) — Members: Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Latvia, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States and Other OECD.

Former Soviet Union (FSU): Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

Abbreviations

Symbols:

- na Not available.
- nap Not applicable.
- Zero, nil or negligible.

Currencies:

\$	US dollar	XAF	Central African Franc (Congo, Gabon and Equatorial Guinea)	LYD	Libyan dinar
€	Euro			NGN	Nigerian naira
DZD	Algerian dinar	IRR	Iranian rial	SAR	Saudi Arabian riyal
AOA	Angolan new kwanza	IQD	Iraqi dinar	AED	United Arab Emirates dirham
\$	Ecuador	KWD	Kuwaiti dinar	VES	Bolívar soberano

Miscellaneous:

b	barrel(s)	dwt	deadweight tonnage	m b	million barrels
b/d	barrels per day	fob	free on board	NCV	net calorific value
b/cd	barrels per calendar day	ft	feet	NCF	non-conventional
b/sd	barrels per stream day	GDP	gross domestic product	NOC	national oil company
b/yr	barrels per year	GTL	gas to liquids	NGLs	natural gas liquids
bn	billion	LHS	left-hand side	RHS	right-hand side
bn b	billion barrels	LNG	liquefied natural gas	s cu m	standard cubic metres
cif	cost, insurance and freight	LPG	liquefied petroleum gas	t	tonne
cu m	cubic metres	m	million		

Rounding: In all tables totals may not add up due to independent rounding.

Selected oil companies

ADCO	Abu Dhabi Company for Onshore Oil Operations	NNPC	Nigerian National Petroleum Corporation
ADMA	Abu Dhabi Marine Areas	NOC	National Oil Corporation (Libya)
ADMA-OPCO	Abu Dhabi Marine Operating Company	NODCO	National Oil Distribution Company (Qatar)
ADNOC	Abu Dhabi National Oil Company	NPHR	New Port Harcourt Refinery
ADOC	Abu Dhabi Oil Company	Oasis	Oasis Oil Company of the Libya, Inc
Agip	Agip SpA	Occidental	Occidental Petroleum Corporation
Agoco	Arabian Gulf Oil Company (Libya)	OMV	OMV Aktiengesellschaft
Amerada Hess	Amerada Hess Corporation	PDVSA	Petroleos de Venezuela SA
AOC	Arabian Oil Company	Perenco	
Aramco	Saudi Arabian Oil Company (Saudi Aramco)	Pertamina	Perusahaan Pertambangan Minyak Dan Gas Bumi Negara
Arco	Atlantic Richfield Company	Petroecuador	National oil company of Ecuador
Asameria	Asameria Oil	Petroindustrial	Refinery operations company of Ecuador
Ashland	Ashland Oil	Petromer Trend	Petromer Trend Corporation
BP	BP plc	Petromin	General Petroleum and Mineral Organization of Saudi Arabia
Braspetro	Petrobras Internacional SA	Petroproduccion	Exploration and production oil company of Ecuador
Brega Marketing	Brega Petroleum Marketing Company	Phillips	Phillips Petroleum Company
Buttes	Buttes Gas & Oil Company	PPMC	Pipeline and Products Marketing Company (Nigeria)
Calasiatic	Calasiatic Petroleum Company	QGPC	Qatar General Petroleum Corporation (now Qatar Petroleum)
Caltex (PT)	PT Caltex Pacific Indonesia	Royal Dutch/Shell	Royal Dutch Petroleum Company, The Netherlands, and Shell Transport and Trading Co, UK
ChevronTexaco	ChevronTexaco Corporation	SNPC	Société Nationale des Pétroles du Congo
Conoco	Continental Oil Company	Sonangol	Sociedade Nacional de Combustíveis de Angola
Corpoven	Corpoven SA	Sonatrach	Société Nationale de Transport et de Commercialisation des Hydrocarbures
DPC	Dubai Petroleum Company	Stancal	Standard Oil Company of California
EGPC	Egyptian General Petroleum Corporation	PT Stanvac	PT Stanvac Indonesia
ExxonMobil	ExxonMobil Corporation	Tenneco	Tenneco Incorporated
GASCO	Abu Dhabi Onshore Gas Company	Tesoro	Tesoro Indonesia Petroleum Corporation
Getty	Getty Oil Corporation	Topco	Texas Overseas Petroleum Company
GOC	Gabon Oil Company	Total	Total
Gulf	Gulf Oil Corporation	Union Oil	Union Oil Company of California
Hispanoil	Hispanica de Petroleos SA	VOO	Veba Oil Operations (Libya)
INOC	Iraq National Oil Company	Waha Oil	Waha Oil Company (Libya)
Inpex	Indonesia Petroleum Ltd	Wintershall	Wintershall AG
JORC	Jeddah Oil Refinery Company	WRPC	Warri Refinery & Petrochemical Company
KRPC	Kaduna Refinery & Petrochemical Company	Zadco	Zakum Development Company
KNPC	Kuwait National Petroleum Company KSC	ZOC	Zueitina Oil Company (Libya)
KOC	Kuwait Oil Company KSC		
Lagoven	Lagoven SA		
Maraven	Maraven SA		
Maxus	Maxus Energy Corporation		
Mobil	Mobil Oil Corporation		
NIGC	National Iranian Gas Company		
NIIOC	National Iranian Oil Company		

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Conversion factors

Crude oil

Standard factors	Metric tonne	Long ton	Barrels	Cubic metres (<i>kilolitres</i>)
Metric tonne	1	0.984	7.33	1.165
Long ton	1.016	1	7.45	1.128
Barrels	0.136	0.134	1	0.159
Cubic metres (<i>kilolitres</i>)	0.858	0.887	6.289	1

By country (b/tonne)

Algeria	8.05153
Angola	7.12980
Congo	7.11264
Ecuador	6.90632
Equatorial Guinea	7.18425
Gabon	7.60013
IR Iran	7.38161
Iraq	7.37905
Kuwait	7.27604
Libya	7.57006
Nigeria	7.36997
Saudi Arabia	7.32271
United Arab Emirates	7.56491
Venezuela	6.68816
OPEC	7.34497

Petroleum products (b/tonne)

Gasoline	8.4998
Kerosene	7.7652
Distillates	7.2296
Residuals	6.6208

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