

In the first half of 1385, certain factors such as production cut in Nigerian crude oil, continuation of Iran's dispute with Europe over its peaceful nuclear program, and escalation of tensions in Iraq raised crude oil prices incrementally. In the second half of the year, this trend was reversed. In this context, OPEC, in an attempt, cut the production ceiling to avoid this downward trend in prices. The reduction in OPEC members production quota was made in two phases. In the first phase, on November 1<sup>st</sup>, 2006, the production ceiling was cut by 1.2 mb/d and in the second phase, on February 1<sup>st</sup>, 2007, by another 500,000 b/d.

## OPEC

### Primary Energy Consumption

Primary energy consumption by the OPEC Member Countries reached 660.7 mil-

lion tons oil equivalent in 2006, against 654.4 million tons oil equivalent in 2005. Among primary energy bearers, crude oil and natural gas are consumed by Member Countries to a large extent while hydroelectricity and coal are consumed by Iran, Venezuela, and Indonesia sparingly. Nuclear energy is not consumed by any of the OPEC Member Countries. Middle East members (Saudi Arabia, Iran, Kuwait, United Arab Emirates, and Qatar), with a total consumption of 442.5 million tons oil equivalent, had a higher amount of consumption as compared with other members (Venezuela, Indonesia, and Algeria). Iran, with 178.8 million tons oil equivalent, ranked the first among OPEC members and Saudi Arabia, with 158.9 million tons oil equivalent, ranked the second.

**OPEC PRIMARY ENERGY CONSUMPTION IN 2006<sup>(1)</sup>** (million tons oil equivalent)

	Oil	Natural gas	Coal	Nuclear energy	Hydroelectricity	Total
<b>Middle East members</b>	<b>210.0</b>	<b>227.6</b>	<b>1.1</b>	<b>0</b>	<b>3.8</b>	<b>442.5</b>
Saudi Arabia	92.6	66.3	0	0	0	<b>158.9</b>
Iran	79.3	94.6	1.1	0	3.8	<b>178.8</b>
Kuwait	14.0	11.6	0	0	0	<b>25.6</b>
United Arab Emirates	19.7	37.5	0	0	0	<b>57.2</b>
Qatar	4.4	17.6	0	0	0	<b>22.0</b>
<b>Other members</b>	<b>86.3</b>	<b>82.8</b>	<b>28.4</b>	<b>0</b>	<b>20.7</b>	<b>218.2</b>
<b>Total</b>	<b>296.3</b>	<b>310.4</b>	<b>29.5</b>	<b>0</b>	<b>24.5</b>	<b>660.7</b>

Source: BP Statistical Bulletin, 2007

(1) Excludes Iraq, Libya, and Nigeria.

## Chapter 3 ENERGY

### Crude Oil Reserves

OPEC crude reserves remained virtually unchanged at the previous year level of 905.6 billion barrels. Out of 11 OPEC Member Countries, the largest reserves belong to

Saudi Arabia, by 264.3 billion barrels, and Iran, by 137.5 billion barrels, followed by Iraq and Kuwait by 115 and 101.5 billion barrels, respectively.

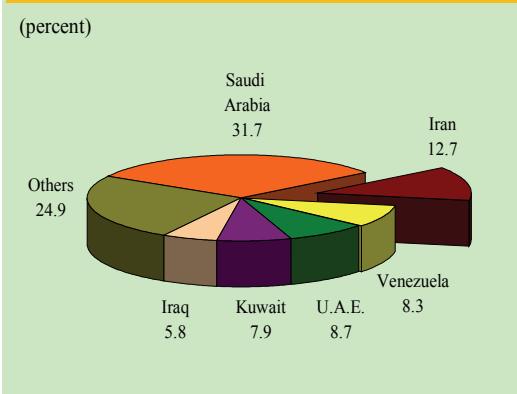
	OPEC CRUDE OIL PROVEN RESERVES				(billion barrels)	
	2004▲	2005▲	2006	Percentage change		Share (percent)
Middle East members	726.5	731.2	731.3	2005	2006	2005
Saudi Arabia	264.3	264.2	264.3	0	0	29.2
Iran	132.7	137.5	137.5	3.6	0	15.2
Iraq	115.0	115.0	115.0	0	0	12.7
Kuwait	101.5	101.5	101.5	0	0	11.2
United Arab Emirates	97.8	97.8	97.8	0	0	10.8
Qatar	15.2	15.2	15.2	0	0	1.7
Other members	170.8	174.3	174.3	2.0	0	19.2
Total	897.3	905.5	905.6	0.9	0	100.0
						100.0

Source: BP Statistical Bulletin, 2007

### Crude Oil Production

In the review year, average OPEC crude oil production, with 0.4 percent rise, reached 34.2 mb/d (41.9 percent of world crude oil production), as compared with the previous year. Increase in the OPEC production quota was in line with the targets such as market regulation and provision of sufficient supply to stabilize the oil market. In this year, production of OPEC Middle East members, with 1.5 percent rise, reached 24 mb/d. Production of other members reached 10.2 mb/d, down by 2.1 percent.

Figure 3.1. OPEC members' quotas in 2006



	OPEC CRUDE OIL PRODUCTION <sup>(1)</sup>				(thousand b/d)	
	2004▲	2005▲	2006	Percentage change		Share (percent)
Middle East members	23,044	23,654	24,007	2005	2006	2005
Saudi Arabia	10,638	11,114	10,859	4.5	-2.3	32.6
Iran	4,248	4,268	4,343	0.5	1.8	12.5
Iraq	2,030	1,833	1,999	9.7	9.1	5.4
Kuwait	2,482	2,643	2,704	6.5	2.3	7.8
United Arab Emirates	2,656	2,751	2,969	3.6	7.9	8.1
Qatar	990	1,045	1,133	5.5	8.4	3.1
Other members	10,131	10,413	10,195	2.8	-2.1	30.6
Total	33,175	34,067	34,202	2.7	0.4	100.0
						100.0

Source: BP Statistical Bulletin, 2007

(1) Includes NGL, shale oil, and oil sands.

## OPEC Production Ceiling

OPEC production ceiling remained at 28 mb/d as of July 1<sup>st</sup>, 2005. At its 142<sup>nd</sup> Meeting in Vienna, OPEC decided to lower output ceiling by 1.2 mb/d as of November 1<sup>st</sup>, 2006. This reduction was in an effort to prevent the downward trend in oil prices. To this end and due to the continued falling prices, OPEC, in its 143<sup>rd</sup> session in Nigeria on December 14<sup>th</sup>, 2006, cut its output by another 500,000 b/d. Iran's share in production cut was 73 thousand b/d.

OPEC PRODUCTION QUOTA (thousand b/d)			
	July 2005	November 2006	February 2007
Saudi Arabia	9,099	8,719	8,561
Iran	4,110	3,934	3,861
Other members <sup>(1)</sup>	14,791	14,147	13,878
<b>Production ceiling <sup>(1)</sup></b>	<b>28,000</b>	<b>26,800</b>	<b>26,300</b>

Source: www.opec.org

(1) Excludes Iraq.

## Oil Consumption

In 2006, average consumption of oil by OPEC Member Countries <sup>(1)</sup> grew by 1.3 percent to 6.3 mb/d. The highest and the lowest amounts of consumption were related to Saudi Arabia and Qatar with 2 and 0.1 mb/d, respectively. Iran's oil consumption was 1.7 mb/d in 2006, comprising 26.4 percent of total consumption by OPEC Member Countries <sup>(2)</sup>.

## Natural Gas Proven Reserves

OPEC natural gas proven reserves reached 89.6 trillion cubic meters in 2006, up by 1.3 percent compared with the previous year. The largest reserves belong to Iran and Qatar, with 28.1 and 25.4 trillion cubic meters, respectively.

OPEC OIL CONSUMPTION <sup>(1)</sup>				(thousand b/d)			
	2004▲	2005▲	2006	Percentage change		Share (percent)	
<b>Middle East members</b>	<b>4,085.6</b>	<b>4,274.4</b>	<b>4,467.5</b>	<b>4.6</b>	<b>4.5</b>	<b>68.5</b>	<b>70.6</b>
Saudi Arabia	1,805.2	1,890.6	2,005.4	4.7	6.1	30.3	31.7
Iran <sup>(2)</sup>	1,574.7	1,607.5	1,669.0	2.1	3.8	25.8	26.4
Kuwait	265.8	302.3	274.6	13.7	-9.2	4.8	4.3
United Arab Emirates	355.5	376.5	408.2	5.9	8.4	6.0	6.5
Qatar	84.3	97.6	110.3	15.7	13.0	1.6	1.7
<b>Other members</b>	<b>1,908.8</b>	<b>1,966.6</b>	<b>1,856.0</b>	<b>3.0</b>	<b>-5.6</b>	<b>31.5</b>	<b>29.4</b>
<b>Total <sup>(3)</sup></b>	<b>5,994.4</b>	<b>6,241.0</b>	<b>6,323.5</b>	<b>4.1</b>	<b>1.3</b>	<b>100.0</b>	<b>100.0</b>

Source: BP Statistical Bulletin, 2007

(1) Includes domestic demand for oil, aviation and navy fuel, fuel for refineries and oil wastes.

(2) Estimations by the BP are more than those published by the Ministry of Petroleum.

(3) Excludes Iraq, Nigeria, and Libya.

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OPEC NATURAL GAS PROVEN RESERVES					(trillion cubic meters)		
	2004▲	2005▲	2006	Percentage change ○		Share (percent)	
	2004▲	2005▲	2006	2005	2006	2005	2006
<b>Middle East members</b>	<b>70.2</b>	<b>70.6</b>	<b>71.7</b>	<b>0.7</b>	<b>1.5</b>	<b>79.8</b>	<b>80.0</b>
Saudi Arabia	6.8	6.8	7.1	-0.5	4.4	7.7	7.9
Iran	26.7	27.6	28.1	3.2	1.8	31.2	31.4
Iraq	3.2	3.2	3.2	0	0.9	3.6	3.6
Kuwait	1.6	1.6	1.8	0	14.5	1.8	2.0
United Arab Emirates	6.1	6.1	6.1	0.7	0	6.9	6.8
Qatar	25.8	25.4	25.4	-1.5	0	28.7	28.3
<b>Other members</b>	<b>18.3</b>	<b>17.8</b>	<b>17.9</b>	<b>-2.6</b>	<b>0.3</b>	<b>20.2</b>	<b>20.0</b>
<b>Total</b>	<b>88.5</b>	<b>88.5</b>	<b>89.6</b>	<b>0</b>	<b>1.3</b>	<b>100.0</b>	<b>100.0</b>

Source: BP Statistical Bulletin, 2007

### Production of Natural Gas<sup>(1)</sup>

In the review year, OPEC production of natural gas amounted to 518.6 billion cubic meters, showing 3.3 percent growth compared with 2005. Iran, with 105 billion cubic meters, had the lion's share in OPEC natural gas production, accounting for 20.2 percent of total production. Algeria, with 84.5 billion cubic meters and constituting 16.3 percent of total production, ranked the second.

### Consumption of Natural Gas

In 2006, OPEC consumption of natural gas reached 344.9 billion cubic meters, indicating a rise of 2.8 percent compared with the year before. Middle East members, with a share of 73.3 percent in total, consumed 252.9 billion cubic meters of natural gas, up on 2005 by 2.9 percent.

OPEC NATURAL GAS PRODUCTION					(billion cubic meters)		
	2004▲	2005▲	2006	Percentage change		Share (percent)	
	2004▲	2005▲	2006	2005	2006	2005	2006
<b>Middle East Members</b>	<b>254.0</b>	<b>277.2</b>	<b>288.5</b>	<b>9.1</b>	<b>4.1</b>	<b>55.2</b>	<b>55.6</b>
Saudi Arabia	65.7	71.2	73.7	8.4	3.5	14.2	14.2
Iran	91.8	100.9	105.0	9.9	4.1	20.1	20.2
Kuwait	11.0	12.3	12.9	11.8	4.9	2.5	2.5
United Arab Emirates	46.3	47.0	47.4	1.5	0.9	9.4	9.1
Qatar	39.2	45.8	49.5	16.8	8.1	9.1	9.5
<b>Other members</b>	<b>212.4</b>	<b>224.6</b>	<b>230.1</b>	<b>5.7</b>	<b>2.4</b>	<b>44.8</b>	<b>44.4</b>
<b>Total<sup>(1)</sup></b>	<b>466.4</b>	<b>501.8</b>	<b>518.6</b>	<b>7.6</b>	<b>3.3</b>	<b>100.0</b>	<b>100.0</b>

Source: BP Statistical Bulletin, 2007

(1) Excludes Iraq.

(1) Includes commercial production and consumed gas.

OPEC NATURAL GAS CONSUMPTION <sup>(1)</sup>					(billion cubic meters)		
	2004	2005 ▲	2006	Percentage change		Share (percent)	
				2005	2006	2005	2006
<b>Middle East members</b>	<b>225.3</b>	<b>245.9</b>	<b>252.9</b>	<b>9.1</b>	<b>2.9</b>	<b>73.3</b>	<b>73.3</b>
Saudi Arabia	65.7	71.2	73.7	8.4	3.5	21.2	21.4
Iran	93.4	102.4	105.1	9.6	2.6	30.5	30.5
Kuwait	11.0	12.3	12.9	11.8	4.9	3.7	3.7
United Arab Emirates	40.2	41.3	41.7	2.7	1.0	12.3	12.1
Qatar	15.0	18.7	19.5	24.7	4.3	5.6	5.7
<b>Other members</b>	<b>85.2</b>	<b>89.6</b>	<b>92.0</b>	<b>5.2</b>	<b>2.7</b>	<b>26.7</b>	<b>26.7</b>
<b>Total</b>	<b>310.5</b>	<b>335.5</b>	<b>344.9</b>	<b>8.1</b>	<b>2.8</b>	<b>100.0</b>	<b>100.0</b>

Source: BP Statistical Bulletin, 2007

(1) Excludes Iraq, Nigeria, and Libya.

## IRAN <sup>(1)</sup>

### Production and Export of Crude Oil

In 1385, Iran's average crude oil production, in adherence to the quotas set by the OPEC, reached 4.1 million barrels a day. In this year, the average crude oil export fell by 6.5 percent and was limited to 2.4 mb/d, while export of oil products went up by 8.6 percent to 266 thousand b/d. Total oil exports (including crude oil and oil products) amounted to 2.7 mb/d, showing a fall of 5.2 percent compared with 1384. The share of crude oil exports in total oil exports was 90.1 percent. The average spot price of each barrel of crude oil export grew by 10.3 percent to \$58.58.

In the review year, the share of Asia in Iran's crude oil exports was 55.2 percent, of which 38.8 percentage points were related to Asia and the Far East and 16.4 percentage points to Japan. Of total crude oil exports, 38.4 percent belonged to Europe, up by 14.6 percent compared with 1384. Meanwhile, 6.1 percent of crude oil was exported to Africa.

In this year, the average price of major oil products remained unchanged at last year levels. Therefore, each liter of gasoline, gas oil, kerosene, and fuel oil was sold for Rls. 800, 165, 165, and 94.5, respectively.

Domestic consumption of oil products amounted to 1,492 thousand barrels a day. Consumption of gas oil and gasoline reached 500 and 422 thousand barrels a day, accounting for respectively 33.5 and 28.3 percent of total consumption of oil products.

### Natural Gas

In 1385, with the development of gas supply systems in urban and rural areas, domestic consumption of natural gas amounted to 121.2 billion cubic meters, growing by 13.6 percent compared with 1384. Exports of natural gas rose by 18.8 percent to 5.7 billion cubic meters.

(1) Source: Ministry of Petroleum and Ministry of Energy

## Electricity

In the review year, total electricity generation increased by 8 percent compared with 1384 and amounted to 192.2 billion kWh. Of total generated electricity, 186.1 billion kWh (96.9 percent) was related to power plants affiliated to the Ministry of Energy and 6 billion kWh (3.1 percent) to other institutions.

The highest amount of electricity was generated by steam power plants (89.6 billion kWh) and the least by diesel power plants (0.2 billion kWh). The highest growth in electricity generation (19 percent) was related to hydroelectric plants. The amount of electricity generated by steam power plants

was reduced by 1.9 percent and the amount of electricity generated by gas and combined cycle power plants grew by 18.2 percent to 77.1 billion kWh.

Consumption of electricity grew by 9.5 percent to 147 billion kWh, the highest growth being related to the agriculture sector by 14.1 percent. In public, residential, commercial, and industrial sectors, consumption grew by 13.2, 10.1, 8 and 7 percent, respectively; however, in street lighting sector, it fell by one percent. The lion's share of electricity consumption was related to residential sector by 34 percent, followed by industrial sector by 31 percent.