

In 2009 and the first quarter of 2010, crude oil prices surged remarkably. This was attributable to a number of factors inter alia, the G-20 summit decision to inject \$1.1 trillion into global economy to speed recovery; adherence of the OPEC member countries to their commitments regarding a reduction in their production levels; depreciation of US dollar; relative rise in international demand for oil, especially by China; and a fall in the U.S. commercial crude oil inventory.

The 151st Meeting of the OPEC Conference held in Algeria on December 17, 2008 agreed to cut 4.2 mb/d from the actual September 2008 OPEC-11 production (excluding Iraq), effective as of January 1, 2009. In the 152nd Meeting through 156th Meeting of the OPEC Conference, the production quotas of member countries were kept unchanged.

OPEC

Primary Energy Consumption

Primary energy consumption by the OPEC member countries increased from 634.9 million tons oil equivalent in 2008 to 655.5 million tons oil equivalent in 2009. Among primary energy sources, oil and natural gas are consumed by member countries to a large extent, while hydroelectricity and coal are used by Iran, Venezuela, and Algeria

sparingly. Middle East members (Saudi Arabia, Iran, Kuwait, United Arab Emirates, and Qatar), with a total consumption of 529.8 million tons oil equivalent, accounted for higher consumption as compared with other members (Venezuela, Ecuador, and Algeria). Iran, with 204.8 million tons oil equivalent, ranked first, followed by Saudi Arabia, with 191.5 million tons oil equivalent.

Crude Oil Reserves

OPEC crude oil reserves reached 1,029.4 billion barrels at end-2009, up by 0.1 percent compared with 2008 year-end. Among OPEC member countries, the largest reserves, by 264.6 billion barrels, belong to Saudi Arabia followed by Venezuela, with 172.3 billion barrels. Iran, with 137.6 billion barrels, ranked third among OPEC member countries.

Crude Oil Production

In 2009, average OPEC crude oil production, with 7.0 percent decrease, reached 33.1 mb/d compared with 2008. In this year, production of OPEC Middle East members, with 7.5 percent fall, totaled 22.8 mb/d and production of other members fell by 5.8 percent to 10.2 mb/d. The highest amount of production was related to Saudi Arabia, with 9.7 mb/d and a share of 29.4 percent.

OPEC Primary Energy Consumption in 2009¹ (million tons oil equivalent)

	Oil	Natural gas	Coal	Nuclear energy	Hydroelectricity	Total
Middle East members	254.6	272.5	1.4	0.0	1.3	529.8
Saudi Arabia	121.8	69.7	0.0	0.0	0.0	191.5
Iran	83.6	118.5	1.4	0.0	1.3	204.8
Kuwait	19.2	12.1	0.0	0.0	0.0	31.3
United Arab Emirates	21.8	53.2	0.0	0.0	0.0	75.0
Qatar	8.2	19.0	0.0	0.0	0.0	27.2
Other members	52.1	51.2	0.7	0.0	21.6	125.7
OPEC	306.8	323.7	2.1	0.0	22.9	655.5

Source: BP Statistical Bulletin, 2010

¹ Excludes Iraq, Libya, Nigeria, and Angola.

OPEC Crude Oil Proven Reserves (billion barrels)

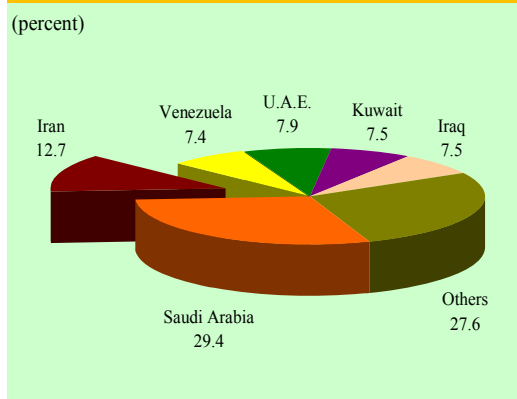
	Year-end			Percentage change		Share (percent)	
	2007▲	2008▲	2009	2008	2009	2008	2009
Middle East members	744.1	742.8	743.3	-0.2	0.1	72.2	72.2
Saudi Arabia	264.2	264.1	264.6	-0.1	0.2	25.7	25.7
Iran	138.2	137.6	137.6	-0.4	0.0	13.4	13.4
Iraq	115.0	115.0	115.0	0.0	0.0	11.2	11.2
Kuwait	101.5	101.5	101.5	0.0	0.0	9.9	9.9
United Arab Emirates	97.8	97.8	97.8	0.0	0.0	9.5	9.5
Qatar	27.3	26.8	26.8	-1.8	0.0	2.6	2.6
Other members	209.0	286.0	286.0	36.9	0.0	27.8	27.8
OPEC	953.0	1,028.8	1,029.4	8.0	0.1	100.0	100.0

Source: BP Statistical Bulletin, 2010

OPEC Production Ceiling

Having reviewed the oil market outlook, including overall supply/demand projections for the year 2009, in particular the first and second quarters, the OPEC Conference, in its 151st Meeting held in Algeria on December 17, 2008, agreed to cut 4.2 mb/d from the actual September 2008 OPEC-11 production (excluding Iraq), effective as of January 1, 2009. In the 152nd Meeting held in Vienna on March 15, 2009, the production ceiling remained unchanged. In the 153rd Meeting held in Vienna on May 28, 2009, the Conference decided to maintain current production levels as well as production allocations unchanged.

Figure 3.1. OPEC members' production quotas in 2009



OPEC Crude Oil Production¹

(thousand b/d)

	2007▲	2008▲	2009	Percentage change		Share (percent)	
				2008	2009	2008	2009
Middle East members	23,647	24,692	22,836	4.4	-7.5	69.4	69.0
Saudi Arabia	10,449	10,846	9,713	3.8	-10.4	30.5	29.4
Iran	4,322	4,327	4,216	0.1	-2.6	12.2	12.7
Iraq	2,143	2,423	2,482	13.1	2.4	6.8	7.5
Kuwait	2,636	2,782	2,481	5.5	-10.8	7.8	7.5
United Arab Emirates	2,900	2,936	2,599	1.3	-11.5	8.3	7.9
Qatar	1,197	1,378	1,345	15.2	-2.4	3.9	4.1
Other members	10,957	10,875	10,239	-0.7	-5.8	30.6	31.0
OPEC	34,604	35,568	33,076	2.8	-7.0	100.0	100.0

Source: BP Statistical Bulletin, 2010

¹ Includes NGL, shale oil, and oil sands as well.

In its 154th Meeting of the Conference in Vienna on September 9-10, 2009, 155th Conference in Luanda (Capital of Angola) on December 22, 2009, and 156th Conference in Vienna on March 17, 2010, OPEC kept the production ceiling and quotas unchanged. Iran's Minister of Petroleum was the Alternate President of this conference.

6.6 mb/d. The highest amount of consumption was related to Saudi Arabia by 2.6 mb/d, and the lowest to Qatar by 0.2 mb/d. Iran's consumption was 1.7 mb/d, accounting for 26.4 percent of total OPEC consumption².

OPEC Production Quotas¹

(thousand b/d)

	November 2008 (reduction in quotas)	January 2009 (reduction in quotas) ²
Saudi Arabia	466	..
Iran	199	..
Other members	835	..
OPEC	1,500	4,200

Source: www.opec.org

¹ Excludes Iraq and Indonesia.² Reduction in production ceiling is based on September 2008 production by member countries. Meanwhile, the exact amount of reduction in production quotas of each member has not been published.**Oil Consumption**

In 2009, average oil consumption in OPEC member countries¹ grew by 4.4 percent to

¹ Excludes Iraq, Nigeria, Libya, and Angola.**Natural Gas Proven Reserves**

OPEC natural gas proven reserves totaled 91.2 trillion cubic meters at end-2009, showing 1.1 percent increase compared with the previous year-end. Iran and Qatar, with 29.6 and 25.4 trillion cubic meters, respectively, have the largest reserves among member countries.

Production of Natural Gas³

In 2009, OPEC natural gas production increased by 1.2 percent to 508.8 billion cubic meters. Iran, with 131.2 billion cubic meters, had the highest share of OPEC natural gas production by 25.8 percent. Qatar, with a production of 89.3 billion cubic meters of natural gas and a share of 17.5 percent, ranked second.

² Estimations by the BP are more than those published by the Ministry of Petroleum.³ Includes commercial production and consumed gas.

OPEC Oil Consumption¹ (thousand b/d)

	2007 ▲	2008 ▲	2009	Percentage change		Share (percent)	
				2008	2009	2008	2009
Middle East members	4,857	5,193	5,438	6.9	4.7	82.2	82.5
Saudi Arabia	2,212	2,390	2,614	8.0	9.4	37.8	39.6
Iran ²	1,685	1,761	1,741	4.5	-1.2	27.9	26.4
Kuwait	338	370	419	9.4	13.1	5.9	6.3
United Arab Emirates	448	475	455	6.0	-4.0	7.5	6.9
Qatar	174	198	209	13.3	6.0	3.1	3.2
Other members	1,082	1,125	1,156	4.0	2.8	17.8	17.5
OPEC³	5,939	6,318	6,595	6.4	4.4	100.0	100.0

Source: BP Statistical Bulletin, 2010 ¹Includes domestic demand for oil, aviation and navy fuel, fuel for refineries and oil wastes. ²Data related to Iran are overestimated. ³Excludes Iraq, Nigeria, Libya, and Angola.

OPEC Natural Gas Proven Reserves (trillion cubic meters)

	Year-end			Percentage change		Share (percent)	
	2007 ▲	2008 ▲	2009	2008	2009	2008	2009
Middle East members	72.3	73.9	74.3	2.3	0.5	82.0	81.4
Saudi Arabia	7.3	7.6	7.9	3.6	4.6	8.4	8.7
Iran	28.1	29.6	29.6	5.3	0.0	32.8	32.5
Iraq	3.2	3.2	3.2	0.0	0.0	3.5	3.5
Kuwait	1.8	1.8	1.8	0.0	0.0	2.0	2.0
United Arab Emirates	6.4	6.4	6.4	-0.1	0.0	7.1	7.0
Qatar	25.5	25.4	25.4	-0.4	0.0	28.1	27.8
Other members	16.2	16.3	17.0	0.6	4.2	18.0	18.6
OPEC¹	88.5	90.2	91.2	2.0	1.1	100.0	100.0

Source: BP Statistical Bulletin, 2010 ¹Excludes Angola and Ecuador.

OPEC Natural Gas Production (billion cubic meters)

	2007 ▲	2008 ▲	2009	Percentage change		Share (percent)	
				2008	2009	2008	2009
Middle East members	312.0	336.7	359.3	7.9	6.7	67.0	70.6
Saudi Arabia	74.4	80.4	77.5	8.1	-3.7	16.0	15.2
Iran	111.9	116.3	131.2	3.9	12.8	23.1	25.8
Kuwait	12.1	12.8	12.5	5.4	-2.0	2.5	2.5
United Arab Emirates	50.3	50.2	48.8	-0.2	-2.8	10.0	9.6
Qatar	63.2	77.0	89.3	21.8	16.0	15.3	17.5
Other members	167.2	165.9	149.5	-0.7	-9.9	33.0	29.4
OPEC¹	479.1	502.6	508.8	4.9	1.2	100.0	100.0

Source: BP Statistical Bulletin, 2010 ¹Excludes Iraq, Angola, and Ecuador.

Consumption of Natural Gas

In 2009, OPEC consumption of natural gas amounted to 359.6 billion cubic meters, showing a rise of 3.2 percent compared with the previous year. Consumption of natural gas by Middle East members reached 302.7 billion cubic meters, up by 3.6 percent compared with 2008 and constituting 84.2 percent of total consumption.

Iran

Production and Export of Crude Oil

In 1388, Iran's average crude oil production, in adherence to the quotas set by the OPEC, reached 3.6 mb/d. Average crude oil export declined by 13.3 percent to 2.1 mb/d and exports of oil products increased by 12.3 percent to 109 thousand b/d. Total oil exports (including crude oil and oil products), with a reduction of 12.3 percent, amounted to 2.2 mb/d. In this year, crude oil exports had a share of 94.9 percent in total oil exports. The average spot price of each barrel of crude oil export decreased by 14.2 percent to \$68.96, compared with 1387.

In the review year, Asia had a share of 67.8 percent in Iran's crude oil export, of which 16.4 percent was related to Japan and

51.4 percent to other Asian countries and the Far East. The shares of Europe and Africa in Iran's crude oil export were 26.9 and 5.3 percent, respectively.

In this year, the price of major oil products remained virtually unchanged. Therefore, each liter of gasoline was sold for Rls. 1,000, gas oil Rls. 165, kerosene Rls. 165, and fuel oil Rls. 95.

Domestic consumption of oil products stood at 1,511 thousand b/d in 1388. Consumption of gas oil and gasoline amounted to 489 and 402 thousand b/d, respectively, constituting 32.4 and 26.6 percent of total consumption of oil products.

Natural Gas

In 1388, with the development of gas supply systems in urban and rural areas, domestic consumption of natural gas increased by 6.4 percent to 141.2 billion cubic meters. Meanwhile, the share of "residential, commercial and industrial" sector in total consumption was 51.3 percent, "power plants" 29.9 percent, "major industries" 16.4 percent, and "transportation" 2.4 percent.

OPEC Natural Gas Consumption¹ (billion cubic meters)

	2007 ▲	2008 ▲	2009	Percentage change		Share (percent)	
				2008	2009	2008	2009
Middle East members	268.4	292.1	302.7	8.8	3.6	83.8	84.2
Saudi Arabia	74.4	80.4	77.5	8.1	-3.7	23.1	21.5
Iran	113.0	119.3	131.7	5.5	10.4	34.2	36.6
Kuwait	12.1	12.8	13.4	5.4	5.0	3.7	3.7
United Arab Emirates	49.2	59.5	59.1	20.9	-0.6	17.1	16.4
Qatar	19.7	20.2	21.1	2.5	4.5	5.8	5.9
Other members	57.0	56.5	56.9	-0.8	0.7	16.2	15.8
OPEC	325.4	348.6	359.6	7.1	3.2	100.0	100.0

Source: BP Statistical Bulletin, 2010

¹ Excludes Iraq, Nigeria, Libya, and Angola.

Chapter 3 ENERGY

Electricity

In 1388, Iran's electricity generation amounted to 222.3 billion kWh, up by 3.0 percent compared with the previous year. Of total generated electricity, 196 billion kWh (88.2 percent) was related to power plants affiliated to the Ministry of Energy and 26.3 billion kWh (11.8 percent) to other institutions (including private sector and large industries).

The highest amount of electricity was generated by gas and combined cycle power plants (95.5 billion kWh) and the lowest by hydroelectric, diesel, and wind power plants (7.8 billion kWh). Hydroelectric, diesel, and wind power plants accounted for the highest growth in electricity generation by 25.5 percent. The amount of electricity generated by steam power plants was reduced by 1.1 percent.

In 1388, consumption of electricity grew by 4.4 percent to 169.0 billion kWh. The highest growth of consumption was related to the agriculture sector by 8.2 percent. Electricity consumption in public sector grew by 7.2 percent, residential sector 6.7 percent, industrial sector 1.6 percent and commercial sector 0.2 percent. Consumption of electricity for street lighting, however, dropped by 10.5 percent. Residential and industrial sectors had the highest shares in the consumption of electricity by 33.6 and 31.5 percent, respectively.

4th Five-Year Development Plan

In development documents of "oil and gas" and "electricity and renewable energies" sectors, included in the 4th FYDP Law, certain targets have been set.

4th Plan Targets for Oil, Gas, and Electricity

		Base year						Average growth rate (percent)
		1383	1384	1385	1386	1387	1388	
Production of gasoline, gas oil, kerosene, and fuel oil	Million liters a day	218	221	227	218	219	260	3.6
Consumption of gasoline, gas oil, kerosene, and fuel oil	Million liters a day	195	200	206	211	216	225	2.9
Exports of oil products	Million liters a day	44	59	66	61	65	63	7.4
Imports of oil products	Million liters a day	23	29	38	49	57	20	-2.5
Production of natural gas	Million cubic meters a day	361	392	400	450	525	623	11.5
Gas available for injection	Million cubic meters a day	82	94	98	116	149	149	12.7
Gas required for injection	Million cubic meters a day	111	117	161	180	219	234	16.1
Production of condensates	Million cubic meters a day	140	250	250	330	450	450	26.3
Imports of gas	Million cubic meters a day	19	16	21	22	22	24	4.8
Exports of gas	Million cubic meters a day	16	19	24	27	27	27	11.0
Gas customers	Thousand	7,500	8,250	8,940	9,580	10,150	10,700	7.4
Electricity customers	Thousand	18,900	19,800	20,750	21,750	22,800	23,950	4.9
Generation of electricity (gross)	Billion kWh	161.2	174.9	189.7	205.8	223.3	242.2	8.5
Consumption of electricity	Billion kWh	125.5	136.6	148.8	162.1	176.5	192.2	8.9
Nominal capacity of power plants affiliated to the Ministry of Energy	Megawatts	36,279	39,500	43,200	47,500	52,000	56,500	9.3
Actual capacity of power plants affiliated to the Ministry of Energy	Megawatts	32,953	36,344	39,817	43,608	47,850	52,560	9.8

Source: Development documents of "oil and gas" and "electricity and renewable energies" sectors, included in the 4th FYDP Law

Based on the targets of the 4th FYDP, production of gasoline, gas oil, kerosene, and fuel oil was projected to rise from 218 million liters a day in 1383 to 260 million liters a day in 1388. Actual production was 228 million liters a day in the review year.

According to the 4th FYDP, it was determined that consumption of the above-mentioned products should increase from 195 million liters a day in 1383 to 225 million liters a day in 1388. Actual consumption of these products in 1388 was 239 million liters a day. Implementation of 2007 gasoline rationing plan in Iran largely led to a reduction in the consumption of gasoline. Meanwhile, replacing natural gas for gas oil caused the consumption of gas oil to fall. However, gas oil consumption was still higher than the target set in the 4th FYDP for 1388.

Objectives of the 4th FYDP in terms of development of oil refineries were not fully realized, therefore, export of oil products was lower than Plan targets while the import of oil products was higher than expected in 1388.

Production of natural gas was targeted to rise from 361 million cubic meters a day in 1383 to 623 million cubic meters a day in 1388. In the final year of the Plan, production of natural gas reached 582.7 million cubic meters a day, indicating 6.5 percent under-realization.

The target set in the 4th FYDP for the amount of gas injected into oil wells in 1388 was 149 million cubic meters a day. However, merely 79 million cubic meters of gas was injected into oil wells per day. Therefore, net amount of produced natural gas (production of natural gas minus injection of natural gas into oil wells) was set at 474 million cubic meters a day in 1388. However its performance by 503.7 million cubic meters a day was 6.3 percent higher than the set target.

Production of condensates was forecast to top 450 million cubic meters a day on average in 1388. Actual production of condensates was 338.8 million cubic meters a day (75.1 percent realization).

It was envisaged in the Plan that exports and imports of natural gas should reach 27 and 24 million cubic meters a day, respectively. Actual performance figures of exports and imports of natural gas were 18.6 and 15.9 million cubic meters a day, showing 68.9 and 66.3 percent realization, respectively.

Based on the 4th FYDP, number of gas customers was set at 10,700 thousand for 1388. However, the actual number of customers in 1388 was 12,151 thousand persons, registering 13.6 percent excess realization.

Number of electricity customers was forecast to reach 23,950 thousand in 1388. In this year, the number of electricity customers was 24,191 thousand, which was one percent higher than the set target.

Performance of Oil Sector during 4th FYDP

(million liters a day)

	Base year						Average growth rate (percent)
	1383	1384	1385	1386	1387	1388	
Production of gasoline, gas oil, kerosene, and fuel oil	215	218	222	221	228	228	1.2
Consumption of gasoline, gas oil, kerosene, and fuel oil	195	208	222	216	224	239	4.2
Exports of oil products	41.2	38.7	39.1	28.4	26.3	25	-9.5
Imports of oil products	22.8	25.1	32.6	26	28.3	26	2.7

Source: Iran Energy Balance, 1388; Review of Energy Statistics during 1988-2010; Ministry of Energy

Natural Gas Performance during 4th FYDP

		Base year 1383	1384	1385	1386	1387	1388	Average growth rate (percent)
Production of natural gas	Million cubic meters a day	407.5	435.8	464.5	505.7	551.9	582.7	7.4
Gas injection	Million cubic meters a day	80.1	77.3	73.1	87.7	77.7	79.0	-0.3
Production of condensates	Thousand barrels a day	195.9	214.7	233.2	256.3	288.7	338.8	11.6
Imports of gas	Million cubic meters a day	16.0	14.2	17.2	16.9	19.4	15.9	-0.2
Exports of gas	Million cubic meters a day	9.6	13.0	15.7	15.4	12.9	18.6	14.1
Number of gas customers	Thousand	7,485	8,405	9,302	10,184	11,091	12,151	10.2

Source: Iran Energy Balance, 1388; Review of Energy Statistics during 1988-2010; Ministry of Energy

Generation of electricity (gross) amounted to 221.4 billion kWh in 1388. The target of the Plan had been set at 242.2 billion kWh.

Consumption of electricity was set at 192.2 billion kWh for 1388. This target was realized by 87.2 percent as the actual

electricity consumption reached 167.5 billion kWh.

Nominal capacity of power plants was targeted at 56.5 gigawatts and actual capacity at 52.6 gigawatts. Performance figures were 47.3 and 42.3 gigawatts, representing 83.7 and 80.4 percent realization, respectively.

Performance of Electricity Sector during 4th FYDP

		Base year 1383	1384	1385	1386	1387	1388	Average growth rate (percent)
Number of electricity customers	Thousand	18,806	19,648	20,559	21,546	22,739	24,191	5.2
Generation of electricity (gross)	Billion kWh	162.9	178.1	192.7	204	214.5	221.4	6.3
Sale of electricity	Billion kWh	124.5	132.9	144.6	152.3	161.4	167.5	6.1
Nominal capacity of power plants affiliated to the Ministry of Energy	Megawatts	36,270	38,237	41,080	43,918	46,031	47,299	5.5
Actual capacity of power plants affiliated to the Ministry of Energy	Megawatts	32,850	34,854	37,540	40,077	41,981	42,255	5.2