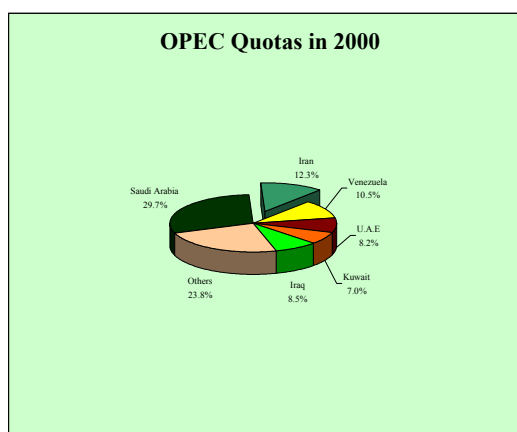


CHAPTER FOUR

ENERGY

As the impact of the South East Asian and Latin American financial crises subsided, the global economy started to recover from the beginning of 1999 and in 2000 managed to rebound with a growth of 4.7 percent. Along with this improvement in the world economy, the global demand for crude oil increased, and OPEC raised its members' production ceilings to prevent a sharp rise in crude oil prices.

In 2000, in order to sustain global economic growth and maintain the price of oil in the OPEC basket within the range of 22 to 28 US dollars, OPEC members raised their production ceiling by 3.7 million barrels per day (mb/d). Production thereby went up from 23.0 mb/d at the end of 1999 to 26.7 mb/d at the end of 2000. Despite the sustained rise in OPEC's production ceiling, the price of each barrel of OPEC basket stood at a higher level than the OPEC price ceiling of 28 dollars for the months of April, June, September, October and November 2000.



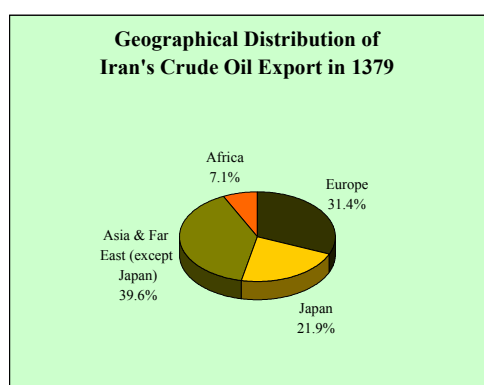
In accordance with OPEC's policy of maintaining stability in world oil prices, Iran's crude oil production reached 3.7 mb/d, showing an 8.5 percent increase. In this year, export of Iran's crude oil rose 12.8 percent, to stand at 2.3 mb/d, while export of oil products declined by 8.1 percent to total 181 thousand b/d.

On the basis of the 2nd FYDP (1374-1378) Law, it was prescribed that duties levied for the expansion of oil, gas, and electricity be paid into the Treasury and an equivalent sum as approved in the budget be paid to the respective organizations for the execution of development projects in energy sector. In the framework of the 3rd FYDP (1379-1383), these duties are excluded from the general budget and have been allocated exclusively to the respective industries. Hence, since the beginning of the 3rd FYDP, government development expenditures in oil, gas, and electricity sector was reduced, so that total payments to these sectors amounted to Rls. 515.2 billion, registering 93.9 percent decline compared to 1378. It is worth noting that, total duties of the mentioned sectors amounted to Rls. 11,511.3 billion. However, it is projected that investment in this sector will enjoy a significant rise during 1379, through the direct allocation of the said duties.

OPEC

In 1379, OPEC's average crude oil production reached 30.8 mb/d, registering a 5.2 percent rise, compared to the year before. The share of Middle-Eastern member countries rose by 6.3 percent and reached 21 mb/d. The share of other members registered a 2.9 percent growth and reached 9.8 mb/d. In the year under review, Saudi Arabian crude oil production stood at 9.1 mb/d and its share of total OPEC's crude oil production was 29.7 percent. At the 109th session of the OPEC Ministerial meeting held in March 2000, the production ceiling of OPEC members, with the exception of Iran, was increased to the ceiling which existed prior to March 1999. At its extraordinary conference held in June 2000, OPEC members increased their production ceiling to 25.4 million b/d, in order to support consumers and maintain price stability. Also, at its 111th meeting held in September 2000, in Vienna, OPEC again raised its production ceiling by 500 thousand b/d. In total, approximately 3.7 mb/d was added to the OPEC production ceiling in the wake of these four meetings.

With regard to the downward trend of crude prices in late 2000, at the 113th session of OPEC held in January 2001, ten members cut their production ceiling by 1.5 mb/d due to seasonal adjustments in the demand for oil in the second quarter of the year. As the global economy slowed down in the second half of 2000, OPEC, at its 114th session, in March 2001, reduced its production ceiling, at which point, Iran's production quota was set at 3.6 mb/d, constituting 14.7 percent of OPEC's total production.



OPEC AVERAGE CRUDE OIL PRODUCTION

(thousand b/d)

	1999	2000	Percentage change	Share (percent)	
				1999	2000
Saudi Arabia	8,550	9,145	7.0	29.2	29.7
Iran	3,550	3,770	6.2	12.1	12.2
United Arab Emirates	2,325	2,515	8.2	7.9	8.1
Kuwait	2,025	2,150	6.2	6.9	7.0
Iraq	2,580	2,625	1.7	8.8	8.5
Qatar	725	795	9.7	2.5	2.6
Middle Eastern Members Total	19,755	21,000	6.3	67.4	68.1
Venezuela	3,175	3,235	1.9	10.8	10.5
Nigeria	2,030	2,105	3.7	6.9	6.8
Indonesia	1,405	1,430	1.8	4.8	4.7
Others	2,935	3,055	4.1	10.1	9.9
Other members Total	9,545	9,825	2.9	32.6	31.9
Grand Total OPEC	29,300	30,825	5.2	100.0	100.0

Iran Crude Oil Production

In 1379, average crude oil production of Iran reached 3.7 mb/d, showing an 8.5 percent rise compared with the previous year.

Exports

Iran's oil exports, including exports of oil products, rose by 11.0 percent and reached 2.5 mb/d, and the proportionate share of crude oil to oil products was 92.8 percent and 7.2 percent, respectively.

In the year under review, export of crude oil enjoyed 12.8 percent growth and amounted to 2.3 million b/d, while export of oil products fell by 8.1 percent to total 181 thousand b/d. The average price of each barrel of crude oil increased to \$ 25.26, registering a 28.2 percent rise as compared with the previous year.

Geographical Distribution of Crude Oil Exports

In 1379, out of total crude oil exports, 61.5 percent was exported to Asia, a noticeable increase as compared with 1378. Japan's proportionate share declined to 21.9 percent, as did Europe's share to 31.4 percent, which was significantly lower than in 1378. Moreover, 7.1 percent of crude oil export went to Africa. In 1378, there was no crude oil export to the American and Oceania continents.

Refinery Developments

In 1379, the crude oil delivered to domestic refineries fell by 3.2 percent and totaled 1.3 mb/d. The Esfahan refinery registered the greatest reduction in crude oil input and received 27 thousand b/d less than the previous year.

CRUDE OIL DELIVERED TO DOMESTIC REFINERIES

(thousand barrels per day)

	1378	1379	Percentage change	Share percent
Abadan	312	310	-0.6	23.6
Isfahan	280	253	-9.6	19.2
Tehran	210	200	-4.8	15.2
Arak	150	150	0	11.4
Bandar Abbas	220	220	0	16.7
Other (1)	188	183	-2.7	13.9
Total	1,360	1,316	-3.2	100.0

Source: Ministry of Petroleum

(1) Includes Tabriz, Shiraz, Kermanshah refineries, and Lavan Topping Plant.

The highest portion of crude oil, 23.6 percent, went to the Abadan refinery with 310 thousand b/d, while Lavan Topping plant, with 21 thousand b/d, 1.6 percent, had the lowest share.

Domestic Consumption of Oil Products

In 1379, the average consumption of oil products reached 1,099 thousand b/d, showing 2.8 percent decline compared to 1378. Overall oil products consumption declined in this year, with the exception of fuel oil which grew by 2.7 percent or 231 thousand b/d.

In the year under review, consumption of gas oil registered the highest share in domestic consumption of oil products (31.7 percent) and reached 348 thousand b/d.

Domestic Prices of Oil Products

During 1379, the average price of oil products was increased by 10 percent in line with the 1379 Budget Bill, hence, prices of gasoline, gas oil, kerosene, and fuel oil increased respectively from Rls. 350, 100, 100, and 50 to Rls.385, 110, 110, and 55 per liter.

Investment in Oil Sector

With the exclusion of revenues from duties levied on oil industry from the general budget and its direct allocation to oil sector, the volume of government development expenditures in the oil sector dropped significantly to a figure of Rls. 59.7 billion. It is worth noting that in accordance with the 2nd FYDP Law, duties levied on oil sector made up the bulk of government development expenditures for that industry during 1374-1378. After this period these duties were directly transferred to the oil sector. In the year under review, Rls. 26.1 billion was allocated to energy research program within the framework of social affairs.

Natural Gas

Production of natural gas, excluding oil well gas injections, grew by 3.9 percent in comparison to 1378 and amounted to 83.2 billion cubic meters. Of this figure, 62.8 billion cubic meters was allocated for domestic consumption, showing 7.0 percent rise over 1378. In addition, 6.6 billion cubic meters was also allocated to other local and petrochemical uses. This year 83.4 percent of the natural gas produced was used domestically and the remainder was flared. No export of natural gas took place in this year.

In view of the exclusion of gas revenues out of the duties levied on gas industry from the general budget, this sector was excluded from receiving government development expenditures in 1379.

Electricity

In 1379, approximately 121 billion kw/h of electricity was generated, a 7.1 percent rise as compared to the previous year. Out of total electricity generated, 115.0 billion kw/h or 95.3 percent, was generated by the Ministry of Energy affiliated power plants, while the remaining 5.6 billion kw/h was produced by other institutions.

In the year under review, out of total electricity generated, about 77.8 billion kw/h, or 64.5 percent, was generated by steam power plants, 33.1 billion kw/h, or 27.5 percent by gas and combined cycle plants, 3.6 billion kw/h or 3.0 percent by hydro power turbine, and 4.0 billion kw/h or 3.0 percent, by diesel power plants.

Steam power plant electricity generation registered a rise of 10.1 percent and held the highest share in electricity generation. At the same time, due to the continuing drought, electricity generated by hydro power plants declined by 26.4 percent.

In the year under review, electricity consumption rose by 6.7 percent to total 90.4 billion kw/h. The agricultural sector enjoyed the highest consumption growth of generated electricity totaling 9.1 billion kw/h which was an increase of 14.1 percent over the 8 billion kw/h consumption figure for the previous year. Electricity consumption figures also rose for other sectors of the economy namely industrial, general, commercial, and household groups, which registered increases of 9.2, 6.1, 7.6, and 5.1 percent respectively. Street lighting consumption decreased by 10.4 percent. Industrial and household uses respectively held 34.6 and 32.0 percent shares in consumption and together consumed the highest amount of total electricity consumption.

By the end of 1378, in accordance with the 3rd FYDP, the Council of Economy increased the average selling price of electricity by 10 percent. This increased the average price of electricity per kw/h from Rls.72 in 1378 to Rls. 80 in 1379.

During 1379, with the exclusion of revenues received from duties levied on electricity from the general budget and its direct allocation to the concerned sector, the volume of government development expenditures in the electricity sector was substantially reduced. In this

year, the volume of government payments to this sector reached Rls. 455.5 billion, registering an 84.6 percent decline compared with the preceding year. Of this figure, Rls. 405.3 billion, or 98.9 percent, was allocated to national expenditures and Rls. 5.2 billion, or 1.1 percent, as provincial expenditures. Out of total investments in electricity sector, Rls. 288.2 billion, or 63 percent, was paid for transmission program costs and Rls. 162 billion, or 35.6 percent, for generating programs.

CONSUMPTION OF ELECTRICITY BY GROUPS

(million kw/h)

	1378	1379	Percentage change		Share (percent)	
			1378	1379	1378	1379
Household	29,754	31,266	3.7	5.1	35.1	34.6
Industry	26,504	28,937	9.8	9.2	31.3	32.0
General	10,622	11,271	50.1	6.1	12.5	12.5
Commercial	5,567	5,991	-34.4	7.6	6.6	6.6
Agriculture	8,019	9,147	18.2	14.1	9.5	10.1
Others	4,190	3,754	69.2	-10.4	4.9	4.2
Total	84,656	90,366	9.0	6.7	100.0	100.0