

# 7

# Oil and Gas





### Introduction

Since oil, gas, and petrochemical industries play a vital role in Iran's economy, the data on them are presented in an exclusive chapter.

The Iranian oil industry came to existence by the exploitation of gas and oil from the first oil well in Masjed Soleyman (south-western Iran) in the year 1287(1908) on which some data are available. After nationalization of the oil industry in Esfand 1329, the National Iranian Oil Company (NIOC) managed to release some more data. The data furnished by the NIOC for the year 1334(1955) were reflected in the first statistical yearbook of Iran.

Also, the National Iranian Gas Company (NIGC), established in the year 1344, and the National Iranian Liquefied Gas Company (NILGC), established in 1366, have been regularly releasing data on liquefied natural gas (LNG) and liquefied petroleum gas (LPG) respectively.

The installation of the first fertilizer plant in the year 1342, was an introduction to the establishment of the National Petrochemical Company in the year 1343. Because of abundant resources of oil and gas available in the country, high value-added of the industry, and some other factors, production of chemicals and petrochemicals has received great attention.

The statistics appearing in this chapter are currently provided by Deputy for Planning and Supervision of hydrocarbon resources of the ministry of oil.

For additional information, provided by the Organization of the Petroleum Exporting Countries (OPEC), see Chapter 23 (International Statistics)

#### Definitions and concepts

**Crude oil:** a mixture of hydrocarbons that is extracted from natural underground reservoirs in some regions in the world. Crude petroleum mainly consists of saturated and unsaturated aliphatic hydrocarbons and some aromatic materials. In addition to hydrogen and carbon that are the main constituents of oil, it contains nitrogen, oxygen, sulphur, nickel, sodium, vanadium and iron as well. As a result of the changes in the amount of these elements, crude

oil is much diversified physically and chemically.

**Burning oil:** consisting of paraffin, petroleum and aromatic hydrocarbons, this product is used as heating and thermal power generation fuel and is one of the main constituents of jet fuel.

**Fuel oil:** a residual substance obtained from the distillation of crude oil in refineries. Because of its heavy hydrocarbon content, this product does not burn easily. It is one of the main fuels for ships and large manufacturing establishments including power generation plants.

**Gas oil:** obtained from the separation of burning oil from crude petroleum, this product is used as fuel for agricultural and industrial machinery and public transport vehicles and for thermal installations.

**Motor spirit:** a mixture of isomerized and circular hydrocarbons with different concentrations, to which certain organic compounds are added for easy burning.

**Jet fuel:** is used as engines fuel for fighter and passenger aircrafts. It is produced in different types in terms of mixture of high quality burning oil and other light oil products(Naphtha) with some additives to prevent rusting, reduce the risk of icing, etc. In international standards, it is known as JP4 and ATK.

**enriched gas (Natural gas):** gas obtained from oil and gas reservoirs, available as associated gas (such as gas extracted from Aghajari gas field), non-associated gas (such as Sarakhs and Sarkhun gas) or gas cap gas.

**Sweet gas:** enriched (natural) gas obtained from further refining, that is, separation of liquids and gaseous impurities from enriched gas.

**Liquefied gas:** a mixture of normal butane and propane, the proportion of which changes under environmental conditions and utilization and becomes liquid under a pressure of 100-110 pounds on square inch.

**Gas injection:** gas and/or water injected into oil reservoir for optimum utilization and preservation of resources.

**Gas customer:** the natural or legal person whose characteristics have been registered and who has been given a customer number after his/her submission of required documents and payment

of related costs based on formal procedure for admission of natural gas applicant.

**Gas consumer:** the person who consumes gas after subscription and operations of gas supply.

**Gas extension:** the lines which have been extended from transmission, feeding and network lines into the customer's private station.

**Polymer:** refers to heavy molecules with high carbon made out of molecules with low carbon in compositions of unsaturated paraffin hydrocarbons. Types of polymer include:

- (a) Major: polyethylenes, PVC, polypropylene, polystyrene, melamine crystal, polyester (PET) and ABS.
- (b) Engineering: polycarbonate and epoxy.
- (c) Rubbers: styrene-butadiene, polybutadiene, rubber.

#### **Chemicals**

- (a) Basics include ethylene, propylene, methanol, butadiene, C4 cut, butene-1.
- (b) Intermediates include ethylene oxide, ethylene glycols, acetic acid, vinyl acetate, EDC, VCM, ethanol amine, 2-ethyl-hexanol and butanols.
- (c) Minerals include light and dense sodium carbonate, sodium bicarbonate, argon, perchlorin, hydrochloric acid, chlorine (liquid), caustic soda, sodium hypochlorite, ammonium nitrate (explosive).

**Aromatics:** are unsaturated cyclic hydrocarbons consisting of one or more benzene rings (a six-carbon ring with three double bonds). Aromatics include benzene, toluene, mixed xylenes, p-xylene, o-xylene, ethyl benzene, monomer styrene and PTA.

**Fuel:** include propane, butane, pentane plus, pentane, pyrolysis gasoline, C4 raffinate, C6 raffinate, CFO, and MTBE.

#### **Fertilizers, pesticides and related materials**

- (a) Fertilizers include urea, ammonium nitrate, diammonium phosphate, ammonium sulphate.
- (b) Pesticides include alachlor, butachlor.
- (c) Related materials include ammonia, nitric acid, phosphoric acid, sulphuric acid, sulphur, chloroacetyl chloride.

#### **Selected information**

In the year 1388, a total of 750537 thousand barrels of crude oil were exported, which shows

a 13.3% decrease compared to the preceding year. Also in the same year, the amount of oil products exports was 17 mln liters per day due to a 6.3% increase compared to the preceding year. Furthermore, in that year, the production of some oil products in the total national refineries by cum/day is: liquefied gas 8362; motor spirit(without MTBE and consumption super gasoline) 59515, burning oil 18519 and gas oil 88702 which shows a 3.6, 15.6, -13.2 and 4.4 percent change compared to the preceding year, respectively.

Also in the same year, Abadan refinery with total 61146 cu m of oil products per day had the maximum share among the refineries of the country and Esfahan and Bandar Abbas stood at the second and third rank respectively.

In the year 1388, oil gas with the consumption of 33817 thousand cu m per day had the maximum share of consumption among all kinds of oil products and motor spirit with 23652 thousand cu m/day was at the second rank.

With a glance at the amount of oil products consumption in Ostans of the country, four Ostans including Tehran with 12.8 %, Esfahan with 10.3 %, Khorasan-e-Razavi with 6.2 % and Fars with 5.5 % comprise a total of 34.7 % of the total consumption of the country.

In the year 1388, the amount of motor spirit imports with a 1.6% increase reached 7665 mln liters compared to the preceding year. Also in 1387, the amount of gas delivered to the National Iranian Gas Company with a 9.4% increase reached 148097 mln cu m compared to the year 1386.

In the year 1388, out of 1105 cities of the country, 792 cities were supplied with piped gas and 57 cities were being supplied with piped gas which shows that 72 % of the country's cities are supplied with the piped gas. Meanwhile, Ostans of Hamedan, Markazi, Qom and Chaharmahal & Bakhtiari with 100% of piped gas cities stand at the first rank. The total production of the National Company of the Petrochemical Industries with a 14.6% increase compared to the preceding year reached 34433 thousand tons in the year 1388. Out of this amount, 14198 thousand tons valuing US \$ 9274 mln have been exported which shows a 15.9 and 18.2 percent increase, by volume and value respectively compared to the previous year.

**7. 1. CRUDE OIL PRODUCTION CAPACITY****(mln barrels)**

Description	1370	1375	1380	1384	1385	1386	1387	1388
Capacity .....	1248	1417	1533	1493	1561	1582	1601	000

*Source: Ministry of Oil.***7. 2. CAPACITY OF DOMESTIC OIL REFINERIES****(1000 barrels)**

Refinery	1370	1375	1380	1384	1385	1386	1387	1388
<b>Total</b> .....	<b>361903</b>	<b>498296</b>	<b>501510</b>	<b>532535</b>	<b>491655</b>	<b>488005</b>	<b>521550</b>	<b>520125</b>
Abadan .....	87859	143564	000	146000	127750	127750	128100	127750
Arak .....	×	63035	000	54750	54750	54750	54900	54750
Esfahan .....	121286	130018	000	91250	73000	73000	73200	73000
Bandar Abbas .....	×	×	000	84680	84680	84680	117120	116800
Tabriz .....	32089	41098	000	40880	40150	40150	40260	40150
Tehran .....	86650	85071	000	82125	80300	80300	80520	80300
Shiraz .....	15696	16256	000	14600	14600	14600	14640	14600
Kermanshah .....	10436	8564	000	10950	9125	5475	5490	5475
Lavan (distillation complex) .....	7887	10691	000	7300	7300	7300	7320	7300

*Source: Ministry of Oil.*

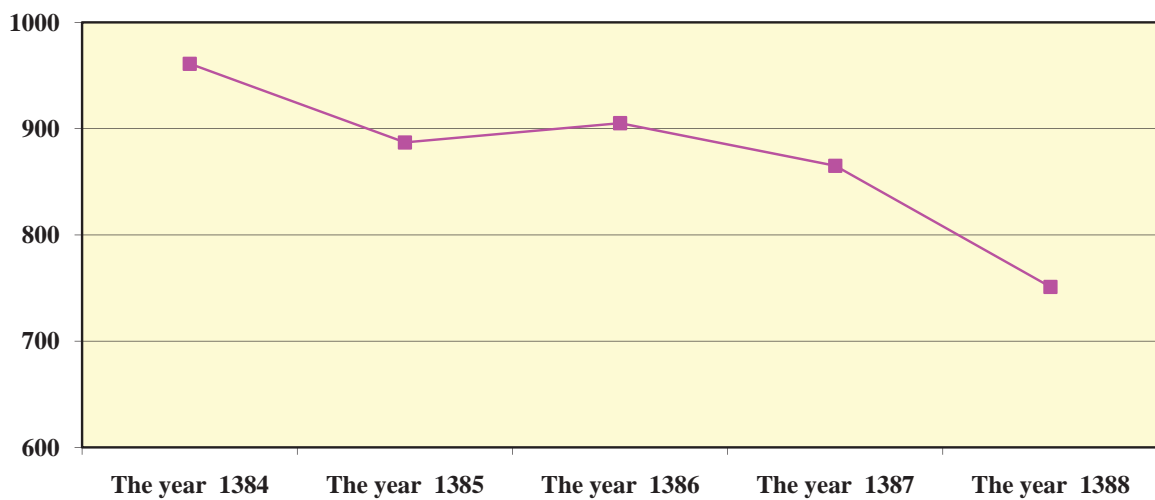
**7.3. DIRECT EXPORT OF CRUDE OIL AND OIL PRODUCTS**

Description	1370	1375	1380	1384	1385	1386	1387	1388
Crude oil (1000 barrels).....	901678	930006	730000	961155	887881	905086	865342	750537
Oil products (mln lit/day) ..	14	28	42	38	42	32	16	17

Source: Ministry of Oil.

**7.1. DIRECT EXPORTS OF CRUDE OIL**

Million barrels



For data see Table 7.3.

**7. 4. AVERAGE PRODUCTS OF REFINERIES**

(cu m/day)

Product	1370	1375	1380	1384	1385	1386	1387	1388
<b>Total.....</b>	<b>149363</b>	<b>206752</b>	<sup>(1)</sup> <b>245891</b>	<b>250987</b>	<sup>(1)</sup> <b>257313</b>	<sup>(1)</sup> <b>256633</b>	<sup>(1)</sup> <b>261506</b>	<sup>(1)</sup> <b>267628</b>
Liquefied gas.....	5546	7341	8298	8204	8016	7723	8071	8362
Motor spirit .....	23586	28321	<sup>(1)</sup> 37128	41332	<sup>(1)</sup> 44664	<sup>(1)</sup> 45080	<sup>(1)</sup> 51496	<sup>(1)</sup> 59515
Burning oil .....	19371	25221	27160	20269	21048	21680	21347	18519
Gas oil .....	41614	57870	70879	79214	80473	81549	84957	88702
Fuel oil .....	50170	68650	80152	76136	76205	73020	77132	76101
Jet fuels .....	2028	2323	3098	2929	3600	3426	3519	4188
Lubricants.....	645	1098	1221	000	000	000	000	000
Bitumen .....	5362	7593	8284	672	859	976	616	698
Other products <sup>(2)</sup> .....	1041	8337	10382	22231	24107	24837	22848	27879

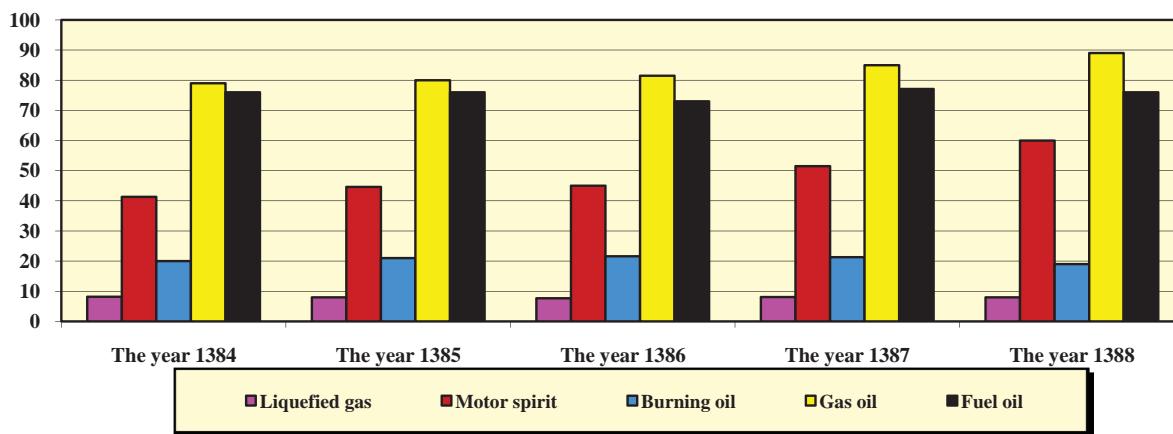
1. Motor spirit includes basic gasoline, MTBE, consumption super gasoline etc; however MTBE and consumption super gasoline are not included in the total.

2. Other oil products exclude Semi-finished products, gas, hydrogen and sulfur.

Sources: Ministry of Oil.

**7.2. SELECTED OIL PRODUCTS OF REFINERIES**

1000 cu m/day



For data see Table 7.4.

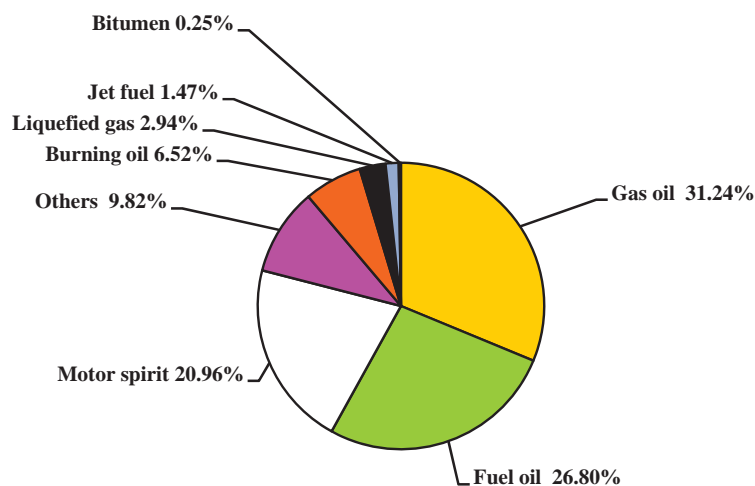
**7. 5. AVERAGE OIL PRODUCTS BY REFINERY****(cu m/day)**

Year and product	Total	Abadan	Arak	Esfahan	Bandar Abbas	Tabriz	Tehran	Shiraz	Kerma nshah	Lavan (distillation complex)
1370.....	149363	36842	×	50295	×	12853	35578	6145	4313	3337
1375.....	206752	61009	25978	53788	×	16944	34509	6510	3563	4451
1380.....	245891	54486	25142	53947	41640	16668	37659	9113	3350	3885
1384.....	250987	52961	25891	58801	42684	17428	37210	8114	3593	4305
1385.....	257313	57485	28232	56649	42488	17031	38380	8975	3658	4417
1386.....	<sup>(1)</sup> 256633	59789	27654	58196	42349	16237	35748	8738	3434	4486
1387.....	<sup>(1)</sup> 261506	63431	27048	56554	43939	17429	36123	8820	3395	4767
<b>1388.....</b>	<b><sup>(1)</sup>267628</b>	<b>61146</b>	<b>26275</b>	<b>57889</b>	<b>49682</b>	<b>17087</b>	<b>38713</b>	<b>8825</b>	<b>3545</b>	<b>4465</b>
Liquefied gas .....	8362	1509	941	2084	1316	576	1492	258	135	51
Motor spirit .....	<sup>(1)</sup> 59515	12875	4378	12506	14837	2651	7764	2505	984	1013
Burning oil .....	18519	3608	2721	3520	3322	2002	2504	238	604	0
Gas oil .....	88702	18516	8890	20159	14727	6176	14316	3115	1060	1743
Fuel oil .....	76101	23933	6374	12229	17058	3599	7888	1881	1479	1659
Jet fuels .....	4188	28	385	1530	405	0	1621	219	0	0
Lubricants .....	000	000	000	000	000	000	000	000	000	000
Bitumen .....	698	358	0	0	0	0	0	339	0	0
Other products <sup>(2)</sup> .....	27879	5089	2584	9950	3085	2344	4482	847	-503	0

1. Motor spirit includes basic gasoline, MTBE, consumption super gasoline etc; however MTBE and consumption super gasoline are not included in the total.

2. Other oil products exclude Semi-finished products, gas, hydrogen and sulfur.

Sources: Ministry of Oil.

**7.3. AVERAGE PRODUCTION OF VARIOUS OIL PRODUCTS : THE YEAR 1388**

For data, see Table 7.5.



## 7. 6. CONSUMPTION OF OIL PRODUCTS

(1000 cu m)

Product	1370	1375	1380	1384	1385	1386	1387	1388
Motor spirit <sup>(1)</sup> .....	8991	12056	16723	24415	26887	23526	24482	23652
Jet fuel G.P.4.....	237	165	157	120	99	93	105	94
Jet fuel A. T. K.....	445	716	943	1028	1155	1180	1183	1384
Burning oil .....	8774	11148	8954	7446	7199	7470	6740	6496
Gas oil .....	20164	22873	25215	28718	31471	32760	33606	33817
Fuel oil .....	12842	15580	15245	13355	15644	16539	17210	16408
Lubricants .....	346	330	390	000	000	000	000	000
Bitumen .....	2038	2713	2100	000	<sup>(2)</sup> 4202	4364	3629	4507
Liquefied gas .....	2694	3366	4163	4026	3922	3990	4016	4380
Crude lubricants .....	297	392	351	000	1668	1597	1290	784
Benzine solvents .....	13	-	12	000	42	50	37	27
Naphtha .....	60	143	2	000	42	49	37	36

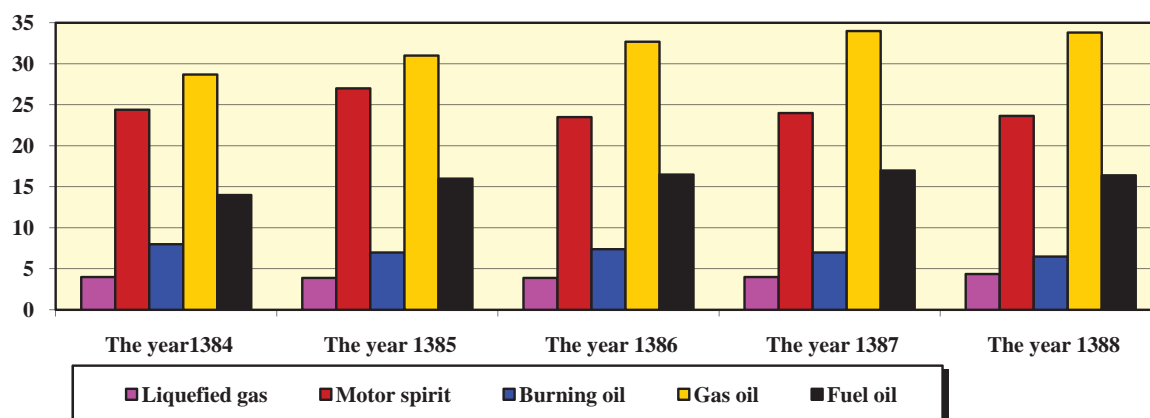
1. Including regular, super, and unleaded gasoline.

2. Unit of measurement is regarded as thousand tons and includes VB (primary material of tar) as well.

Sources: Ministry of Oil.

## 7.4. CONSUMPTION OF SOME OIL PRODUCTS

Million cu m



For data, see Table 7.6.

**7. 7. CONSUMPTION<sup>(1)</sup> OF MAJOR OIL PRODUCTS BY OSTAN, 1388****(cu m)**

Ostan	Motor spirit	Burning oil	Gas oil	Fuel oil <sup>(2)</sup>	Liquefied gas <sup>(3)</sup>
<b>Total country</b> .....	<b>23651758</b>	<b>6496462</b>	<b>33817288</b>	<b>16407742</b>	<b>000</b>
East Azarbayejan.....	964919	239744	1014327	1489507	000
West Azarbayejan .....	797612	769772	1262628	349656	000
Ardebil .....	320490	174199	547208	32793	000
Esfahan .....	1805783	402240	3193589	2865360	000
Ilam .....	150151	110162	217623	88143	000
Bushehr .....	373589	33692	828285	243728	000
Tehran .....	5394876	267884	3642063	953948	000
Chaharmahal&Bakhtiyari .....	230230	69610	253887	21410	000
South Khorasan .....	160768	130980	446855	180058	000
Khorasan-e-Razavi.....	1639609	611083	2021095	678815	000
North Khorasan .....	177901	132777	262862	52507	000
Khuzestan .....	1234331	76940	2495506	488394	000
Zanjan.....	288274	173443	445229	109832	000
Semnan.....	259207	37854	577777	180677	000
Sistan&Baluchestan .....	726160	335904	2121993	694249	000
Fars .....	1566939	304951	2106962	404702	000
Qazvin .....	417376	129552	1026839	1468460	000
Qom .....	388704	20690	643692	228428	000
Kordestan .....	378188	363758	625885	34031	000
Kerman .....	944640	196199	1813154	492833	000
Kermanshah .....	493089	381881	674648	815427	000
Kohgiluyeh&Boyerahmad .....	172752	59046	144847	8927	000
Golestan .....	408051	131138	529965	77055	000
Gilan.....	870581	373611	840878	12714	000
Lorestan.....	373144	221514	592253	101588	000
Mazandaran.....	1228714	345636	1097014	1088800	000
Markazi .....	458295	108078	1163708	1046616	000
Hormozgan.....	549952	21345	1355319	802597	000
Hamedan .....	432404	164654	631113	797577	000
Yazd .....	445029	108125	1240084	598910	000

1. Consumption statistics include borderline sales and excludes Banking and exports.

2. Including fuel for power plants.

3. Information relates to local shipment.

Source: Ministry of Oil.

**7. 8. IMPORTS OF OIL PRODUCTS BY TYPE****(mln/lit)**

Product	1370	1375	1380	1384	1385	1386	1387	1388
<b>Total .....</b>	<sup>(1)</sup> <b>7436</b>	<b>4395</b>	<b>2840</b>	<b>9162</b>	<b>11897</b>	<b>9497</b>	<b>11262</b>	<b>9919</b>
Motor spirit .....	635	988	2840	9056	10038	6957	7543	7665
Burning oil .....	2309	1976	0	0	0	0	0	0
Gas oil .....	4298	1427	0	106	1858	2540	<sup>(2)</sup> 3719	2254
Aviation spirit .....	0	4	0	000	2	0	0	000

1. Difference between the total and sum of parts is due to the inclusion in the total of imports of 194 million litres motor oils in the year 1370.

2. Imports of gas oil includes the total gas oil imports and shipment of Heavy End from the petrochemistry.

Sources: Ministry of Oil.

**7. 9. TRANSPORTATION OF OIL PRODUCTS BY MEANS OF TRANSPORT****(mln ton kms)**

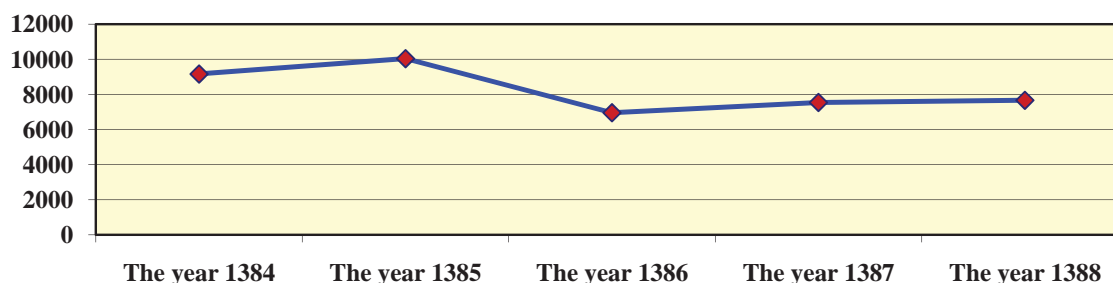
Means of transport	1370	1375	1380	1384	1385	1386	1387	1388
<b>Total .....</b>	<b>19575</b>	<b>22809</b>	<b>32429</b>	<b>35297</b>	<b>39185</b>	<b>38001</b>	<b>41813</b>	<b>40899</b>
Pipelines .....	12534	15347	21056	23877	25194	25138	27492	27721
Railway .....	1560	1804	1977	1782	2547	2171	2282	1914
Road vehicles .....	4531	5643	7893	7968	8995	8726	8268	8574
Tankers .....	950	<sup>(1)</sup> 15	1503	1670	2449	1966	3771	2690

1. Excluding oil products transport by large vessels.

Sources: Ministry of Oil.

**7.5. IMPORTED VOLUME OF MOTOR SPIRIT**

Million litres



For data, see Table 7.8.

**7. 10. PRODUCTION OF ENRICHED GAS BY SOURCE OF PRODUCTION (mln cu m/day)**

Resource	1370	1375	1380	1384	1385	1386	1387	1388
<b>Total.....</b>	<b>204</b>	<b>234</b>	<b>312</b>	<b>435</b>	<b>464</b>	<b>506</b>	<b>552</b>	<b>583</b>
Associated gas.....	71	83	88	95	96	100	101	101
Gas cap gas.....	58	53	51	39	38	40	42	37
Gas of independent gas fields .....	76	97	172	301	330	366	409	445

Source: Ministry of Oil.

**7. 11. PRODUCTION OF SWEET GAS BY SOURCE OF PRODUCTION (mln cu m/day)**

Resource	1370	1375	1380	1384	1385	1386	1387	1388
<b>Total.....</b>	<b>132</b>	<b>166</b>	<b>257</b>	<b>362</b>	<b>364</b>	<b>403</b>	<b>432</b>	<b>469</b>
Associated gas .....	29	32	37	40	41	44	<sup>(1)</sup> 44	<sup>(3)</sup> 42
Gas cap gas.....	37	45	49	29	30	28	31	28
Gas of independent gas fields .....	66	89	171	293	293	330	<sup>(2)</sup> 357	<sup>(4)</sup> 399

1. From the total sweet gas refined from associated gases sources, 0.31 million cubic meters per day are from the output of Khark petro chemistry and the rest is from the output of gas and liquefied gas manufacturers.

2. Including sweet gas produced in gas refineries and liquefied gas 1600 and gas manufacturers; the information of sweet gas produced in refineries is based on the operation report of the National Gas Company.

3. From the total sweet gas refined from associated gases sources, 0.26 million cubic meters per day are from the output of Khark petrochemistry, 0.13 million cubic meters per day are from the output of Masjed Soleyman refineries, and the rest is from the output of gas and liquefied gas manufacturers.

4. Including sweet gas produced in gas refineries and liquefied gas 1600 and gas manufacturers and the output of Marun Separation Unit; the information of sweet gas produced in refineries is based on the operation report of the National Gas Company.

Sources: Ministry of Oil.

**7. 12. CONSUMPTION OF NATURAL GAS (mln cu m)**

Description	1370	1375	1380	1384	1385	1386	1387	1388
Flared gas .....	11090	12737	000	15837	15851	15740	<sup>(1)</sup> 15356	<sup>(1)</sup> 15696
Gas delivered to National Iranian Gas Company <sup>(2)</sup> .....	21900	43220	66007	108288	117256	135332	<sup>(2)</sup> 148097	000
Gas injection .....	17385	21404	27521	28163	26663	25971	28448	28840

1. Excluding flared gas in refineries and southern Pars complexes.

2. Gas delivered by National Iranian Gas Company includes extraction of ethane and liquefied gas.

Source: Ministry of Oil.

**7. 13. CITIES SUPPLIED OR BEING SUPPLIED WITH PIPED GAS AND HOUSEHOLDS COVERED IN THIS PROGRAMME AT THE END OF THE YEAR**

Year and Ostan	Number of cities	Cities supplied with piped gas <sup>(1)</sup>		Cities being supplied with piped gas <sup>(2)</sup>
		Number of cities	Number of household	
1375.....	678	223	000	69
1380.....	889	400	000	79
1384.....	1015	570	000	99
1385.....	1016	615	11457949	82
1386.....	1061	661	12026276	87
1387.....	1082	<sup>(3)</sup> 687	<sup>(3)</sup> 8872395	<sup>(3)</sup> 83
<b>1388.....</b>	<b>1105</b>	<b>792</b>	<b>15713784</b>	<b>57</b>
East Azarbayejan.....	58	55	979317	1
West Azarbayejan.....	38	32	555624	1
Ardebil.....	23	19	219529	3
Esfahan.....	98	89	1386985	4
Ilam.....	21	4	33111	0
Bushehr.....	31	15	14467	5
Tehran.....	56	54	4562350	0
Chaharmahal&Bakhtiari.....	27	27	173568	0
South Khorasan.....	23	5	56125	4
Khorasan-e-Razavi.....	72	55	1384757	4
North Khorasan.....	18	15	139053	0
Khuzestan.....	55	45	617777	3
Zanjan.....	18	11	175993	1
Semnan.....	17	15	183909	1
Sistan&Baluchestan.....	37	0	0	0
Fars.....	86	59	768039	6
Qazvin.....	25	21	267770	1
Qom.....	6	6	277143	0
Kordestan.....	25	19	245855	2
Kerman.....	62	29	328766	5
Kermanshah.....	29	13	298713	8
Kohgiluyeh&Boyerahmad.....	16	13	92253	0
Golestan.....	25	24	312880	1
Gilan.....	51	45	552313	2
Lorestan.....	23	14	266708	0
Mazandaran.....	52	36	836723	4
Markazi.....	31	31	315647	1
Hormozgan.....	31	2	5	0
Hamedan.....	27	27	398931	0
Yazd.....	24	12	269473	0

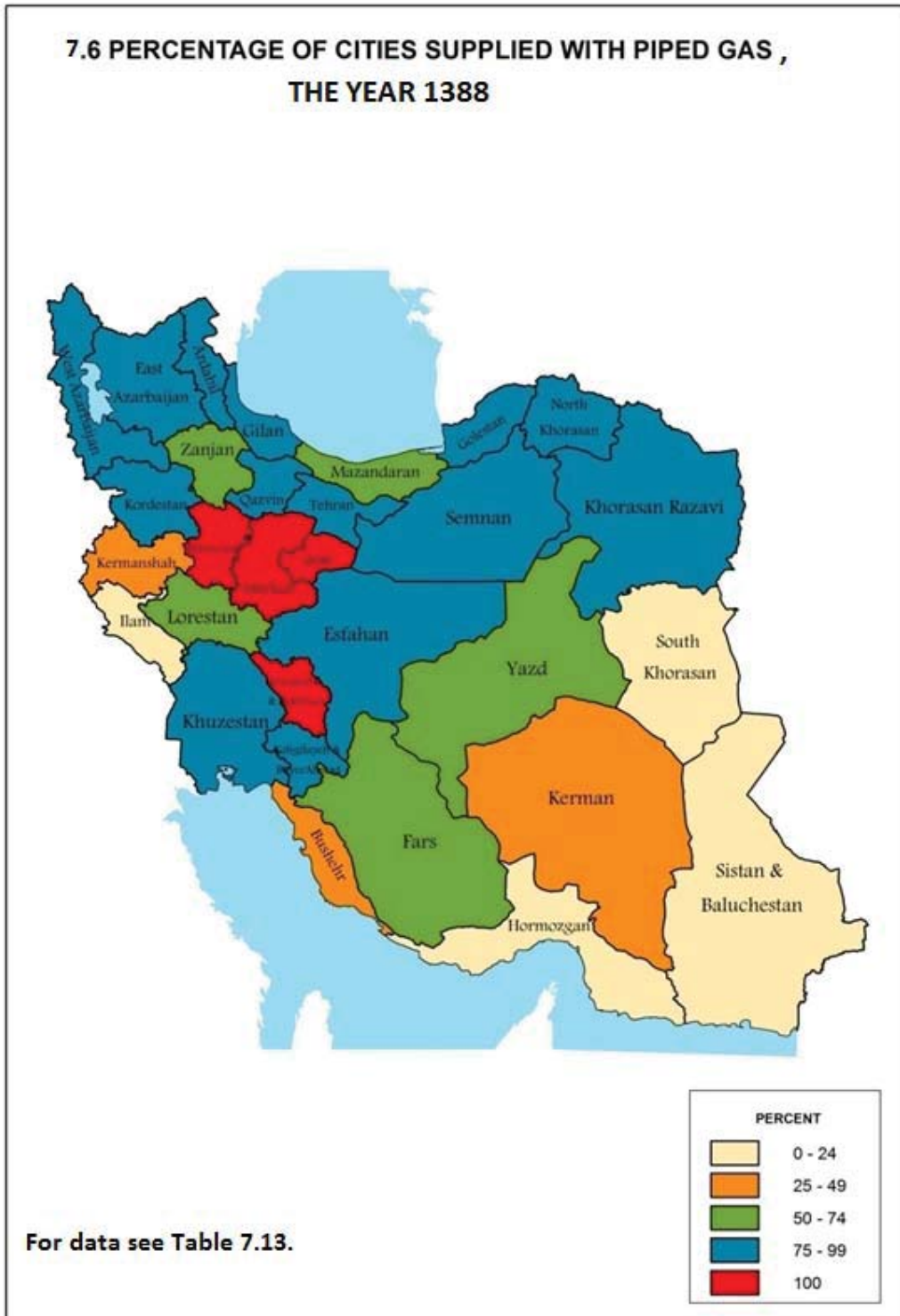
1. Including all cities parts of which are gas consumers.

2. Including cities where piped gas supply operations have already started.

3. Excluding Tehran Province.

Sources: Ministry of Oil,

-Ministry of the Interior.



#### 7.14. VILLAGES SUPPLIED OR BEING SUPPLIED WITH PIPED GAS AND HOUSEHOLDS COVERED IN THIS PROGRAMME AT THE END OF THE YEAR

Year and Ostan	Number of village	Villages supplied with piped gas <sup>(1)</sup>		Villages being supplied with piped gas <sup>(2)</sup>
		Number	Number of household	
1375.....	000	000	000	000
1380.....	000	000	000	000
1384.....	000	000	000	000
1385.....	47313	4199	000	2250
1386.....	48237	5659	1129085	3733
1387.....	36914	7364	1364119	2635
<b>1388.....</b>	<b>40675</b>	<b>8705</b>	<b>1939493</b>	<b>2711</b>
East Azarbayejan.....	2751	787	210244	188
West Azarbayejan.....	2756	133	37325	104
Ardebil.....	1722	205	32996	52
Esfahan.....	935	686	153914	154
Ilam.....	108	8	1412	39
Bushehr.....	398	28	4889	9
Tehran.....	666	456	227655	86
Chaharmahal&Bakhtiyari.....	821	249	52681	133
South Khorasan.....	974	1	0	14
Khorasan-e-Razavi.....	3582	489	113578	123
North Khorasan.....	479	169	32266	21
Khuzestan.....	4003	462	70049	252
Zanjan.....	937	81	17933	46
Semnan.....	425	127	23354	1
Sistan&Baluchestan.....	000	0	0	0
Fars.....	769	535	65610	230
Qazvin.....	899	127	38223	123
Qom.....	129	71	12869	10
Kordestan.....	1740	249	30809	137
Kerman.....	2500	173	47842	88
Kermanshah.....	1344	116	17068	138
Kohgiluyeh&Boyerahmad.....	283	230	11105	53
Golestan.....	984	439	104961	96
Gilan.....	2694	683	140396	87
Lorestan.....	2857	143	23812	58
Mazandaran.....	3122	1198	285396	66
Markazi.....	1232	350	59565	96
Hormozgan.....	000	0	0	0
Hamedan.....	1084	465	106123	84
Yazd.....	481	45	17418	223

1. Including all villages parts of which are gas consumers.

2. Including villages where piped gas supply operations have already started.

Source: Ministry of Oil.

**7. 15. TYPES OF GAS EXTENSIONS <sup>(1)</sup>, NATURAL GAS CONSUMERS BY TYPE AND CONSUMPTION OF NATURAL GAS AT THE END OF THE YEAR**

Year and Ostan	Extension (number)	Number of Natural gas consumers (consumer)				Consumption (mln cu m/year)
		Total	Residential	Commercial	Industrial	
1370.....	1373828	1241662	1206696	33988	978	000
1375.....	2420738	2905678	2811331	92863	1484	000
1380.....	3719086	5025658	4828282	194078	3298	000
1384.....	5703103	8401358	8007704	383519	10135	94946
1385.....	6170548	9292175	8839347	439264	13564	100588
1386.....	6586460	10184436	000	000	000	114469
1387.....	7001815	11097058	10502309	572583	22166	122708
<b>1388.....</b>	<b>7509908</b>	<b>12151000</b>	<b>11472673</b>	<b>650498</b>	<b>27829</b>	<b>135177</b>
East Azarbayejan.....	486413	909407	823995	84142	1270	6631
West Azarbayejan .....	253080	471501	433090	37961	450	3138
Ardebil .....	135204	230066	213295	16146	625	1433
Esfahan .....	812865	1145770	1098339	43430	4001	15163
Ilam .....	28616	33496	33111	381	4	77
Bushehr .....	24811	12970	12699	260	11	8539
Tehran .....	1319222	2243783	2085242	151636	6905	24003
Chaharmahal&Bakhtiyari	126291	180486	171101	8816	569	1031
South Khorasan .....	32516	50971	49628	1328	15	403
Khorasan-e-Razavi.....	567152	1209097	1156278	50763	2056	9641
North Khorasan .....	84419	139180	129373	9603	204	2105
Khuzestan .....	398199	481391	470553	10565	273	12766
Zanjan.....	98396	151501	141883	9179	439	987
Semnan.....	90984	160851	149237	10608	1006	1197
Sistan&Baluchestan .....	0	0	0	0	0	0
Fars .....	470170	712360	682132	29145	1083	8809
Qazvin .....	128309	215991	201641	13290	1060	3870
Qom .....	142598	242756	232272	9483	1001	2033
Kordestan .....	136498	216837	203971	12325	541	1871
Kerman .....	194935	294896	284509	10123	264	3159
Kermanshah .....	164474	295295	284489	10744	62	2583
Kohgiluyeh&Boyerahmad	61858	84326	81380	2864	82	500
Golestan .....	192430	291710	282207	9327	176	1460
Gilan.....	325114	510275	479702	29762	811	4566
Lorestan.....	144394	262389	252978	9290	121	1412
Mazandaran.....	509489	716624	681369	33140	2115	5547
Markazi .....	199061	315090	296574	16633	1883	4318
Hormozgan.....	743	5	1	1	3	3893
Hamedan .....	240419	347955	328895	18773	287	2230
Yazd .....	141248	224021	212729	10780	512	1812

1. Including extensions not yet utilized.

Source: Ministry of Oil.



**7. 16. LIQUEFIED GAS DELIVERED BY REFINERIES FOR DISTRIBUTION (1000 tons)**

Year	Total	Abadan	Arak	Esfahan	Bandar Abbas	Tabriz	Tehran	Shiraz	Kermanshah	Reservation centres <sup>(1)</sup>
1370.....	<sup>(2)</sup> 1498	237	×	465	×	118	225	38	15	261
1375.....	1829	312	173	492	×	130	257	47	28	389
1380.....	1395	310	175	442	235	134	23	49	26	0
1384.....	1609	289	178	444	207	130	283	54	24	0
1385.....	1489	295	189	392	201	101	234	54	23	0
1386.....	1571	293	209	426	198	110	260	50	25	0
1387.....	000	000	000	000	000	000	000	000	000	000
<b>1388.....</b>	<b>1903</b>	<b>304</b>	<b>191</b>	<b>423</b>	<b>267</b>	<b>116</b>	<b>523</b>	<b>52</b>	<b>27</b>	<b>000</b>

1. Since the year 1370, shipment from Rey reservoir has been included elsewhere.

2. Difference between the total and sum of parts is due to 139 thousand tons liquefied gas delivered from Mahshahr & Marun.

Sources: Ministry of Oil.

**7. 17. TOTAL PRODUCTION<sup>(1)</sup> OF NATIONAL PETROCHEMICAL COMPANY BY MAIN CATEGORIES (1000 tons)**

Category	1375	1380	1384	1385	1386	1387	1388
<b>Total .....</b>	<b>10007</b>	<b>12543</b>	<b>15756</b>	<b><sup>(2)</sup>18000</b>	<b><sup>(2)</sup>23869</b>	<b><sup>(2)</sup>30040</b>	<b><sup>(2)</sup>34433.3</b>
Polymers .....	594	780	988	1396	1420	1812	3193
Chemicals.....	2262	3070	4477	5178	6372	9555	10771
Aromatics .....	407	1032	1180	1241	1506	2027	2124/3
Hydrocarbons .....	2293	2911	4511	5787	9484	10514	11906
Fertilizers, pesticides and related materials .....	4451	4750	4600	4398	5087	6132	6439

1. Including internal consumption of petrochemical complexes.

2. Including existing complexes and three entrusted complexes, Arak, Esfahan and Khark.

Source: Ministry of Oil.

### 7. 18. QUANTITY AND VALUE OF NPC'S DOMESTIC SALES BY MAIN CATEGORIES (1000 tons; bln rials)

Category	1375		1380		1384	
	Quantity	Value	Quantity	Value	Quantity	Value
<b>Total</b> .....	<b>3140</b>	<b>2117</b>	<b>4180</b>	<b>6053</b>	<b>4893</b>	<b>16052</b>
Polymers.....	434	1029	741	3300	867	6914
Chemicals.....	389	394	580	1016	898	3417
Aromatics .....	95	114	248	512	202	1313
Hydrocarbons.....	425	136	501	316	941	3185
Fertilizers, pesticides and related materials .....	1797	444	2110	909	1985	1223

Category	1385		1386		1387		1388	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
<b>Total</b> .....	<sup>(1)</sup> <b>6066</b>	<sup>(1)</sup> <b>26520</b>	<sup>(1)</sup> <b>6383</b>	<sup>(1)</sup> <b>32307</b>	<sup>(1)</sup> <b>7566</b>	<sup>(1)</sup> <b>40056</b>	<sup>(1)</sup> <b>7870</b>	<sup>(1)</sup> <b>46788</b>
Polymers .....	1063	9681	1152	11367	1300	15468	1445	16513
Chemicals .....	1018	5033	909	5733	1078	5276	1361	7985
Aromatics .....	497	4539	538	4739	502	4441	572	4925
Hydrocarbons.....	1554	6003	1653	8414	2197	11537	2489	12885
Fertilizers, pesticides and related materials .....	1934	1264	2131	2054	2489	3334	2003	4480

1. Including existing complexes and three entrusted complexes, Arak, Esfahan and Khark.

Source: Ministry of Oil.

### 7. 19. QUANTITY AND VALUE OF NPC'S EXPORTS BY MAIN CATEGORIES (1000 tons; mln dollars)

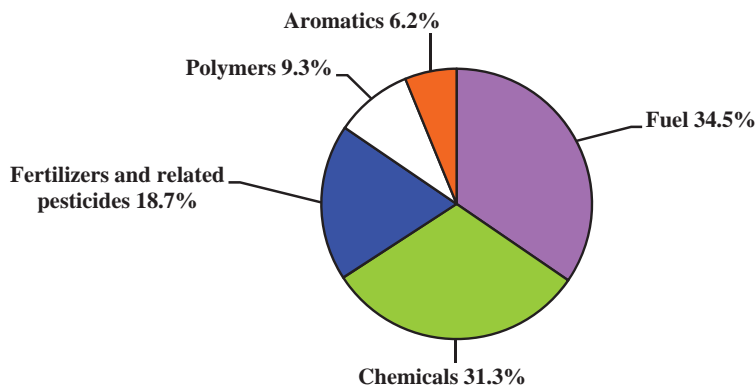
Category	1375		1380		1384	
	Quantity	Value	Quantity	Value	Quantity	Value
<b>Total</b> .....	<b>2656</b>	<b>507</b>	<b>4011</b>	<b>795</b>	<b>5216</b>	<b>2323</b>
Polymers .....	128	70	142	73	174	193
Chemicals.....	332	93	651	118	1398	480
Aromatics .....	175	48	385	117	564	471
Hydrocarbons .....	1255	235	2010	442	2325	1084
Fertilizers, pesticides and related materials .....	766	61	823	45	755	95

Category	1385		1386		1387		1388	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
<b>Total</b> .....	<sup>(1)</sup> <b>6044</b>	<sup>(1)</sup> <b>3299</b>	<sup>(1)</sup> <b>9530</b>	<sup>(1)</sup> <b>6060</b>	<sup>(1)</sup> <b>12254</b>	<sup>(1)</sup> <b>7843</b>	<sup>(1)</sup> <b>14198</b>	<sup>(1)</sup> <b>9274</b>
Polymers .....	360	429	300	398	826	858	1693	1729
Chemicals.....	1687	774	3203	1432	3160	1751	3790	3133
Aromatics .....	440	454	598	636	732	610	687	553
Hydrocarbons .....	3010	1545	4471	3336	6115	4026	6210	3456
Fertilizers, pesticides and related materials .....	547	97	958	258	1421	599	1818	403

1. Including existing complexes and three entrusted complexes, Arak, Esfahan and Khark.

Source: Ministry of Oil.

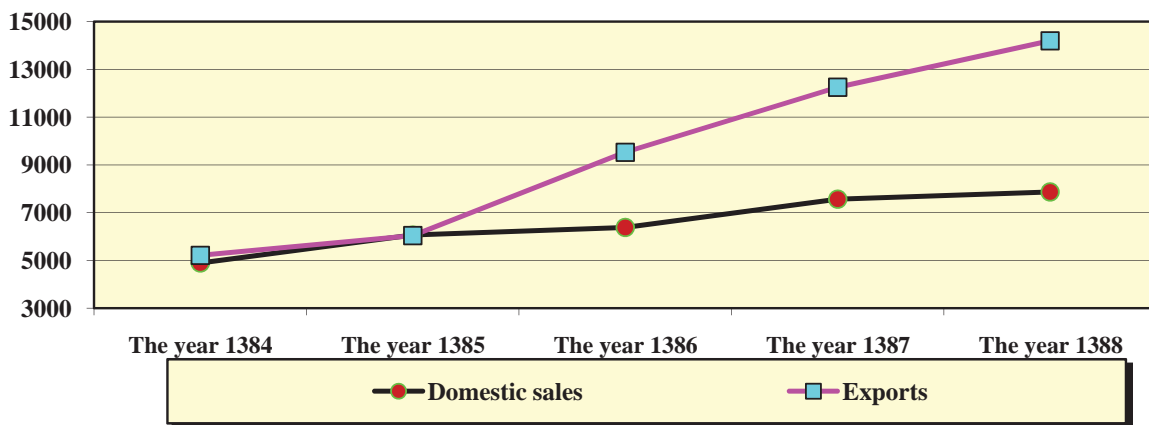
**7.7. TOTAL PRODUCTION OF NATIONAL PETROCHEMICAL COMPANY  
BY MAIN CATEGORIES OF PRODUCTS: 1388**



For data, see Table 7.17.

**7.8. VOLUME OF DOMESTIC SALES AND EXPORTS BY THE  
NATIONAL PETROCHEMICAL COMPANY**

Thousand tons



For data see Tables 7.18 and 7.19.

