

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 24 (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 1393, a total of 490086 thousand barrels of crude oil were exported, which shows a 16.4% decrease compared to the preceding year. Also in the same year, the amount of oil products exports was 19 mln liters per day due to a 18.7% 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 9476; motor spirit (without MTBE and consumption super gasoline) 64888, burning oil 21640 and gas oil 83857 which shows a 8.6, 8.9, 8.8 and 8.8 percent decrease compared to the preceding year, respectively.

In the year 1393, oil gas with the consumption of 30683 thousand cu m per day had the maximum share of consumption among all kinds of oil products and motor spirit with 25135 thousand cu m/ day was at the second rank.

In the year 1393, the amount of motor spirit imports with a 45.4% increase reached 1451 mln liters compared to the preceding year.

In the year 1393, out of 1243 cities of the country, 1038 cities were supplied with piped gas and 46 cities were being supplied with piped gas which shows that 83.5 % of the country's cities are supplied with the piped gas.

The total production of the National Company of the Petrochemical Industries with a 9.7% increase compared to the preceding year reached 44511 thousand tons in the year 1393. Out of this amount, 15886 thousand tons valuing US \$ 10273 mln have been exported which shows a 23.8 and 4.1 percent increase, by volume and value, respectively compared to the previous year.

7.1. CRUDE OIL PRODUCTION CAPACITY (mln barrels)

| Description | 1375 | 1380 | 1385 | 1389 | 1390 | 1391 | 1392 | 1393 |
|----------------|------|------|------|------|------|------|------|------|
| Capacity | 1417 | 1533 | 1561 | 000 | 000 | 000 | 000 | 000 |

Source: Ministry of Oil.

7.2. CAPACITY OF DOMESTIC OIL REFINERIES (1000 barrels)

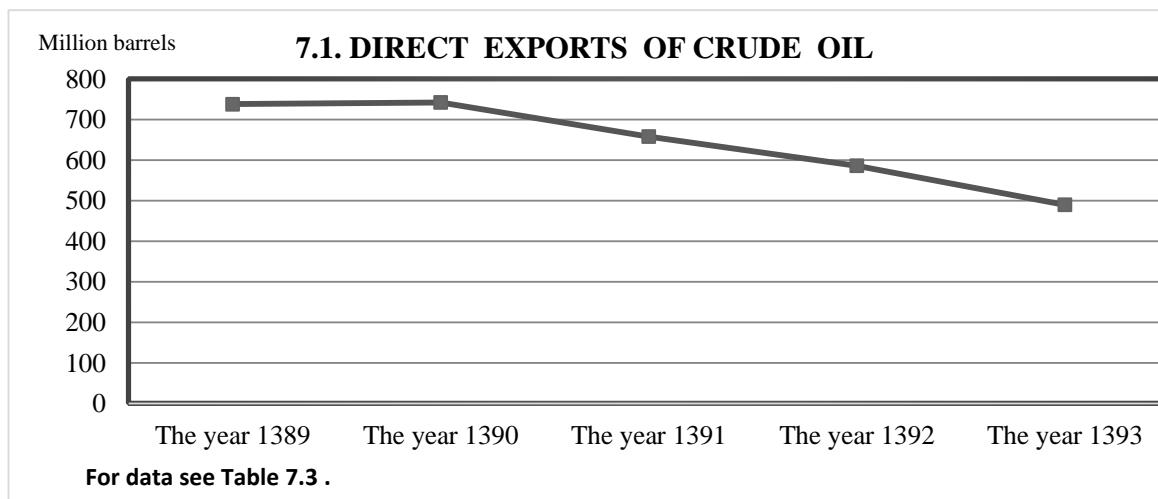
| Refinery | 1375 | 1380 | 1385 | 1389 | 1390 | 1391 | 1392 | 1393 |
|-----------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Total | 498296 | 501510 | 491655 | 520125 | 570130 | 570130 | 666125 | 666125 |
| Abadan | 143564 | 000 | 127750 | 127750 | 127750 | 127750 | 142350 | 142350 |
| Arak | 63035 | 000 | 54750 | 54750 | 91250 | 91250 | 91250 | 91250 |
| Esfahan | 130018 | 000 | 73000 | 73000 | 73000 | 73000 | 136875 | 136875 |
| Bandar Abbas | x | 000 | 84680 | 116800 | 116800 | 116800 | 116800 | 116800 |
| Tabriz..... | 41098 | 000 | 40150 | 40150 | 40150 | 40150 | 40150 | 40150 |
| Tehran..... | 85071 | 000 | 80300 | 80300 | 80300 | 80300 | 91250 | 91250 |
| Shiraz..... | 16256 | 000 | 14600 | 14600 | 14600 | 14600 | 21170 | 21170 |
| Kermanshah | 8564 | 000 | 9125 | 5475 | 8030 | 8030 | 8030 | 8030 |
| Lavan (distillation complex)..... | 10691 | 000 | 7300 | 7300 | 18250 | 18250 | 18250 | 18250 |

Source: Ministry of Oil.

7.3. DIRECT EXPORT OF CRUDE OIL AND OIL PRODUCTS

| Description | 1375 | 1380 | 1385 | 1389 | 1390 | 1391 | 1392 | 1393 |
|-------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Crude oil (1000 barrels) | 930006 | 730000 | 887881 | 737676 | 741939 | 658132 | 586081 | 490086 |
| Oil products (mln lit/day)... | 28 | 42 | 42 | 13 | 14 | 16 | 16 | 19 |

Source: Ministry of Oil.



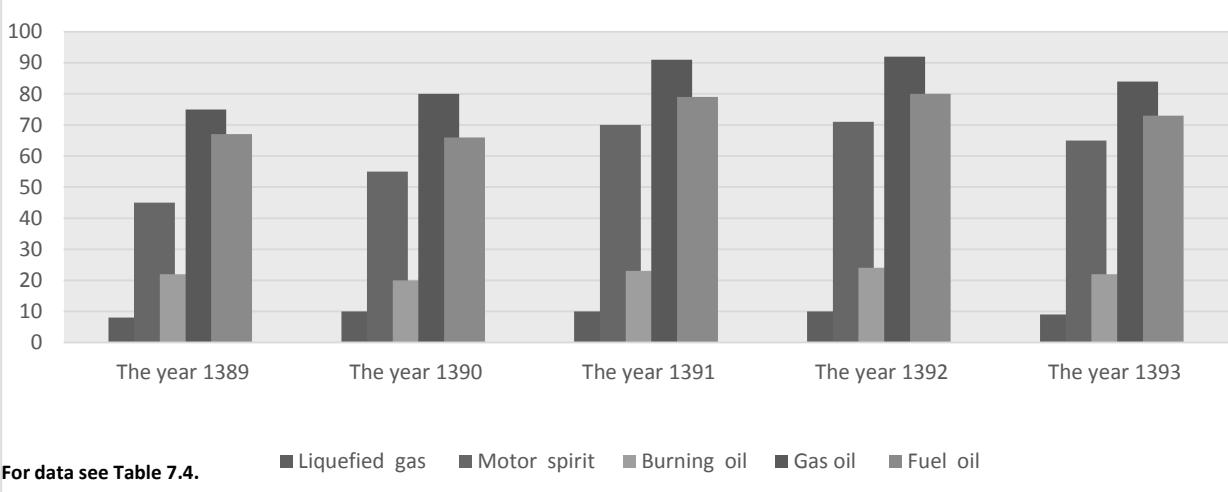
7.4. AVERAGE PRODUCTS OF REFINERIES (cu m/day)

| Product | 1375 | 1380 | 1385 | 1389 | 1390 | 1391 | 1392 | 1393 |
|-------------------------------------|---------------|------------------------------|------------------------------|------------|------------|------------|------------|------------|
| Total | 206752 | ⁽¹⁾ 245891 | ⁽¹⁾ 257313 | 000 | 000 | 000 | 000 | 000 |
| Liquefied gas | 7341 | 8298 | 8016 | 8427 | 10120 | 10303 | 10367 | 9476 |
| Motor spirit | 28321 | ⁽¹⁾ 37128 | ⁽¹⁾ 44664 | 45215 | 54820 | 70183 | 71216 | 64888 |
| Burning oil..... | 25221 | 27160 | 21048 | 21664 | 20199 | 23437 | 23739 | 21640 |
| Gas oil..... | 57870 | 70879 | 80473 | 75527 | 80352 | 91012 | 91982 | 83857 |
| Fuel oil..... | 68650 | 80152 | 76205 | 67015 | 65643 | 79087 | 80136 | 73045 |
| Jet fuels | 2323 | 3098 | 3600 | 000 | 000 | 000 | 000 | 000 |
| Lubricants | 1098 | 1221 | 000 | 000 | 000 | 000 | 000 | 000 |
| Bitumen | 7593 | 8284 | 859 | 000 | 000 | 000 | 000 | 000 |
| Other products ⁽²⁾ | 8337 | 10382 | 24107 | 000 | 000 | 000 | 000 | 000 |

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


7.5. AVERAGE OIL PRODUCTS BY REFINERY

(cu m/day)

| Year and product | Total | Abadan | Arak | Esfahan | Bandar Abbas |
|-------------------------------------|------------|------------|------------|------------|--------------|
| 1375 | 206752 | 61009 | 25978 | 53788 | x |
| 1380 | 245891 | 54486 | 25142 | 53947 | 41640 |
| 1385 | 257313 | 57485 | 28232 | 56649 | 42488 |
| 1389 | 000 | 000 | 000 | 000 | 000 |
| 1390 | 000 | 000 | 000 | 000 | 000 |
| 1391 | 000 | 000 | 000 | 000 | 000 |
| 1392 | 000 | 000 | 000 | 000 | 000 |
| 1393 | 000 | 000 | 000 | 000 | 000 |
| Liquefied gas | 000 | 000 | 000 | 000 | 000 |
| Motor spirit | 000 | 000 | 000 | 000 | 000 |
| Burning oil | 000 | 000 | 000 | 000 | 000 |
| Gas oil | 000 | 000 | 000 | 000 | 000 |
| Fuel oil | 000 | 000 | 000 | 000 | 000 |
| Jet fuels | 000 | 000 | 000 | 000 | 000 |
| Lubricants | 000 | 000 | 000 | 000 | 000 |
| Bitumen | 000 | 000 | 000 | 000 | 000 |
| Other products ⁽¹⁾ | 000 | 000 | 000 | 000 | 000 |

| Year and product | Tabriz | Tehran | Shiraz | Kermanshah | Lavan (distillation complex) |
|-------------------------------------|------------|------------|------------|------------|------------------------------------|
| 1375 | 16944 | 34509 | 6510 | 3563 | 4451 |
| 1380 | 16668 | 37659 | 9113 | 3350 | 3885 |
| 1385 | 17031 | 38380 | 8975 | 3658 | 4417 |
| 1389 | 000 | 000 | 000 | 000 | 000 |
| 1390 | 000 | 000 | 000 | 000 | 000 |
| 1391 | 000 | 000 | 000 | 000 | 000 |
| 1392 | 000 | 000 | 000 | 000 | 000 |
| 1393 | 000 | 000 | 000 | 000 | 000 |
| Liquefied gas | 000 | 000 | 000 | 000 | 000 |
| Motor spirit | 000 | 000 | 000 | 000 | 000 |
| Burning oil | 000 | 000 | 000 | 000 | 000 |
| Gas oil | 000 | 000 | 000 | 000 | 000 |
| Fuel oil | 000 | 000 | 000 | 000 | 000 |
| Jet fuels | 000 | 000 | 000 | 000 | 000 |
| Lubricants | 000 | 000 | 000 | 000 | 000 |
| Bitumen | 000 | 000 | 000 | 000 | 000 |
| Other products ⁽¹⁾ | 000 | 000 | 000 | 000 | 000 |

1. Other oil products exclude semi-finished products, gas, hydrogen and sulfur.

Sources: Ministry of Oil.

7.6. CONSUMPTION OF OIL PRODUCTS

(1000 cu m)

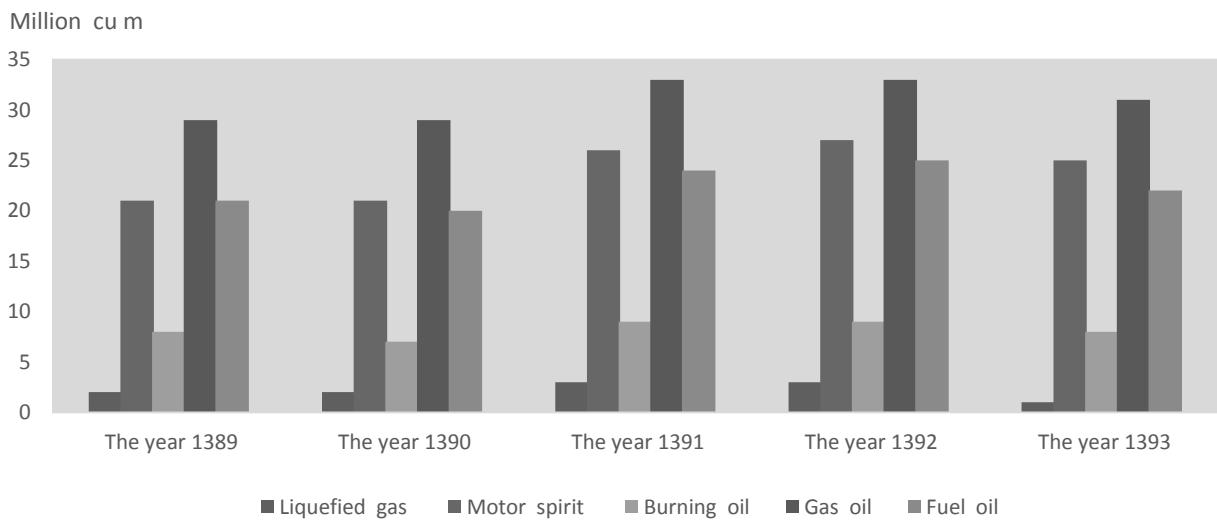
| Product | 1375 | 1380 | 1385 | 1389 | 1390 | 1391 | 1392 | 1393 |
|-----------------------------------|-------|-------|---------|-------|-------|-------|-------|-------|
| Motor spirit ⁽¹⁾ | 12056 | 16723 | 26887 | 21008 | 20884 | 26017 | 26992 | 25135 |
| Jet fuel G.P.4 | 165 | 157 | 99 | 000 | 000 | 000 | 000 | 000 |
| Jet fuel A. T. K | 716 | 943 | 1155 | 000 | 000 | 000 | 000 | 000 |
| Burning oil..... | 11148 | 8954 | 7199 | 7907 | 7257 | 8537 | 8665 | 7899 |
| Gas oil..... | 22873 | 25215 | 31471 | 28827 | 29427 | 33097 | 33428 | 30683 |
| Fuel oil | 15580 | 15245 | 15644 | 20710 | 19909 | 23516 | 24862 | 21920 |
| Lubricants | 330 | 390 | 000 | 000 | 000 | 000 | 000 | 000 |
| Bitumen | 2713 | 2100 | (2)4202 | 000 | 000 | 000 | 000 | 000 |
| Liquefied gas | 3366 | 4163 | 3922 | 2133 | 2739 | 3233 | 3087 | 1880 |
| Crude lubricants..... | 392 | 351 | 1668 | 000 | 000 | 000 | 000 | 000 |
| Benzine solvents | - | 12 | 42 | 000 | 000 | 000 | 000 | 000 |
| Naphtha | 143 | 2 | 42 | 000 | 000 | 000 | 000 | 000 |

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.

7.3. CONSUMPTION OF SOME OIL PRODUCTS



For data see Table 7.6.

7.7. CONSUMPTION(1) OF MAJOR OIL PRODUCTS BY OSTAN, THE YEAR 1393 (cu m)

| Ostan | Motor spirit | Burning oil | Gas oil | Fuel oil | Liquefied gas |
|------------------------------|--------------|-------------|------------|------------|---------------|
| Total country | 000 | 000 | 000 | 000 | 000 |
| East Azarbeyjan | 000 | 000 | 000 | 000 | 000 |
| West Azarbeyjan | 000 | 000 | 000 | 000 | 000 |
| Ardebil | 000 | 000 | 000 | 000 | 000 |
| Esfahan | 000 | 000 | 000 | 000 | 000 |
| Alborz | 000 | 000 | 000 | 000 | 000 |
| Ilam | 000 | 000 | 000 | 000 | 000 |
| Bushehr | 000 | 000 | 000 | 000 | 000 |
| Tehran | 000 | 000 | 000 | 000 | 000 |
| Chaharmahal&Bakhtiyari | 000 | 000 | 000 | 000 | 000 |
| South Khorasan | 000 | 000 | 000 | 000 | 000 |
| Khorasan-e-Razavi | 000 | 000 | 000 | 000 | 000 |
| North Khorasan | 000 | 000 | 000 | 000 | 000 |
| Khuzestan | 000 | 000 | 000 | 000 | 000 |
| Zanjan | 000 | 000 | 000 | 000 | 000 |
| Semnan | 000 | 000 | 000 | 000 | 000 |
| Sistan&Baluchestan | 000 | 000 | 000 | 000 | 000 |
| Fars | 000 | 000 | 000 | 000 | 000 |
| Qazvin | 000 | 000 | 000 | 000 | 000 |
| Qom | 000 | 000 | 000 | 000 | 000 |
| Kordestan | 000 | 000 | 000 | 000 | 000 |
| Kerman | 000 | 000 | 000 | 000 | 000 |
| Kermanshah | 000 | 000 | 000 | 000 | 000 |
| Kohgiluyeh&Boyerahmad | 000 | 000 | 000 | 000 | 000 |
| Golestan | 000 | 000 | 000 | 000 | 000 |
| Gilan | 000 | 000 | 000 | 000 | 000 |
| Lorestan | 000 | 000 | 000 | 000 | 000 |
| Mazandaran | 000 | 000 | 000 | 000 | 000 |
| Markazi | 000 | 000 | 000 | 000 | 000 |
| Hormozgan | 000 | 000 | 000 | 000 | 000 |
| Hamedan | 000 | 000 | 000 | 000 | 000 |
| Yazd | 000 | 000 | 000 | 000 | 000 |

Source: Ministry of Oil.

7.8. IMPORTS OF OIL PRODUCTS BY TYPE (mln/lit)

| Product | 1375 | 1380 | 1385 | 1389 | 1390 | 1391 | 1392 | 1393 |
|-----------------------|-------------|-------------|--------------|------------|------------|------------|------------|------------|
| Total | 4395 | 2840 | 11897 | 000 | 000 | 000 | 000 | 000 |
| Motor spirit..... | 988 | 2840 | 10038 | 4505 | 000 | 400 | 998 | 1451 |
| Burning oil..... | 1976 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Gas oil | 1427 | 0 | 1858 | 1266 | 000 | 0 | 186 | 122 |
| Aviation spirit | 4 | 0 | 2 | 000 | 000 | 000 | 000 | 000 |

Sources: Ministry of Oil.

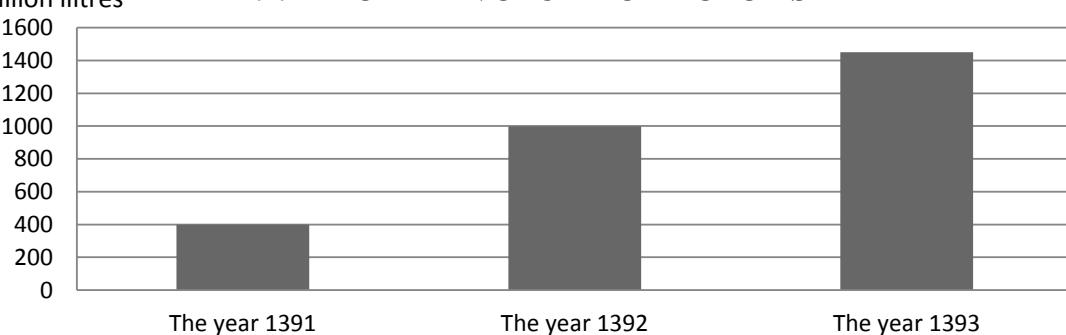
7.9. TRANSPORTATION OF OIL PRODUCTS BY MEANS OF TRANSPORT (mln ton kms)

| Means of transport | 1375 | 1380 | 1385 | 1389 | 1390 | 1391 | 1392 | 1393 |
|---------------------|--------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Total | 22809 | 32429 | 39185 | 36290 | 34249 | 38618 | 38354 | 37192 |
| Pipelines | 15347 | 21056 | 25194 | 24011 | 21854 | 23773 | 24496 | 22485 |
| Railway | 1804 | 1977 | 2547 | 1482 | 1661 | 2233 | 2557 | 2082 |
| Road vehicles | 5643 | 7893 | 8995 | 7293 | 7844 | 8885 | 7717 | 9565 |
| Tankers | (¹)15 | 1503 | 2449 | 3504 | 2890 | 3727 | 3584 | 3060 |

1.Excluding Oil Products Transports by Large Vessels.

Sources: Ministry of Oil.

Million litres

7.4. IMPOTRED VOLUME OF MOTOR SPIRIT


For data see Table 7.8.

7.10. PRODUCTION OF ENRICHED GAS BY SOURCE OF PRODUCTION (mln cu m/day)

| Resource | 1375 | 1380 | 1385 | 1389 | 1390 | 1391 | 1392 | 1393 |
|------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Total..... | 234 | 312 | 464 | 617 | 631 | 622 | 635 | 682 |
| Associated gas | 83 | 88 | 96 | 103 | 104 | 77 | 76 | 78 |
| Gas cap gas..... | 53 | 51 | 38 | 36 | 30 | 32 | 30 | 29 |
| Gas of independent gas fields..... | 97 | 172 | 330 | 478 | 497 | 513 | 528 | 575 |

Source: Ministry of Oil.

7.11. PRODUCTION OF SWEET GAS BY SOURCE OF PRODUCTION (mln cu m/day)

| Resource | 1375 | 1380 | 1385 | 1389 | 1390 | 1391 | 1392 | 1393 |
|------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Total | 166 | 257 | 364 | 000 | 000 | 000 | 000 | 000 |
| Associated gas | 32 | 37 | 41 | 000 | 000 | 000 | 000 | 000 |
| Gas cap gas | 45 | 49 | 30 | 000 | 000 | 000 | 000 | 000 |
| Gas of independent gas fields..... | 89 | 171 | 293 | 000 | 000 | 000 | 000 | 000 |

Sources: Ministry of Oil.

7.12. CONSUMPTION OF NATURAL GAS (mln cu m)

| Description | 1375 | 1380 | 1385 | 1389 | 1390 | 1391 | 1392 | 1393 |
|--|-------|-------|--------|------|------|------|------|------|
| Flared gas..... | 12737 | 000 | 15851 | 000 | 000 | 000 | 000 | 000 |
| Gas delivered to National Iranian Gas Company ⁽¹⁾ | 43220 | 66007 | 117256 | 000 | 000 | 000 | 000 | 000 |
| Gas injection | 21404 | 27521 | 26663 | 000 | 000 | 000 | 000 | 000 |

1. 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 | Cities supplied with piped gas ⁽¹⁾ | | Cities being supplied with piped gas ⁽³⁾ |
|------------------------------|---|---------------------|--|
| | Number ⁽²⁾ | Number of household | |
| 1375 | 223 | 000 | 69 |
| 1380 | 400 | 000 | 79 |
| 1385 | 615 | 11457949 | 82 |
| 1389 | 924 | 000 | 000 |
| 1390 | 966 | 000 | 000 |
| 1391 | 996 | 000 | 000 |
| 1392 | 1020 | 000 | 000 |
| 1393 | 1038 | 000 | 46 |
| East Azarbayejan | 59 | 000 | 0 |
| West Azarbayejan | 34 | 000 | 1 |
| Ardebil | 26 | 000 | 0 |
| Esfahan | 103 | 000 | 0 |
| Alborz ⁽⁴⁾ | 000 | 000 | 000 |
| Ilam | 16 | 000 | 3 |
| Bushehr | 32 | 000 | 0 |
| Tehran ⁽⁴⁾ | 60 | 000 | 1 |
| Chaharmahal&Bakhtiyari | 38 | 000 | 0 |
| South Khorasan | 16 | 000 | 5 |
| Khorasan-e-Razavi | 69 | 000 | 3 |
| North Khorasan | 20 | 000 | 0 |
| Khuzestan | 72 | 000 | 1 |
| Zanjan | 19 | 000 | 0 |
| Semnan | 19 | 000 | 0 |
| Sistan&Baluchestan | 1 | 000 | 4 |
| Fars | 79 | 000 | 8 |
| Qazvin | 22 | 000 | 2 |
| Qom | 6 | 000 | 0 |
| Kordestan | 28 | 000 | 0 |
| Kerman | 40 | 000 | 8 |
| Kermanshah | 24 | 000 | 1 |
| Kohgiluyeh&Boyerahmad | 14 | 000 | 1 |
| Golestan | 29 | 000 | 0 |
| Gilan | 51 | 000 | 0 |
| Lorestan | 22 | 000 | 0 |
| Mazandaran | 49 | 000 | 5 |
| Markazi | 35 | 000 | 1 |
| Hormozgan | 8 | 000 | 1 |
| Hamedan | 29 | 000 | 0 |
| Yazd | 18 | 000 | 1 |

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

2. The number of cities are based on the definitions given by the Ministry of Oil.

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

4. Statistics for Alborz are included with Tehran.

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 | Villages supplied with piped gas ⁽¹⁾ | | Villages being supplied with piped gas ⁽³⁾ |
|-----------------------------|---|---------------------|---|
| | Number ⁽²⁾ | Number of household | |
| 1375 | 000 | 000 | 000 |
| 1380 | 000 | 000 | 000 |
| 1385 | 4199 | 000 | 2250 |
| 1389 | 10186 | 000 | 000 |
| 1390 | 12205 | 000 | 000 |
| 1391 | 14114 | 000 | 000 |
| 1392 | 15874 | 000 | 000 |
| 1393 | 17522 | 000 | 5024 |
| East Azarbayejan | 1280 | 000 | 304 |
| West Azarbayejan | 385 | 000 | 318 |
| Ardebil | 567 | 000 | 307 |
| Esfahan | 1249 | 000 | 12 |
| Alborz ⁽⁴⁾ | 000 | 000 | 000 |
| Ilam | 162 | 000 | 133 |
| Bushehr | 159 | 000 | 208 |
| Tehran ⁽⁴⁾ | 566 | 000 | 34 |
| Chaharmahal&Bakhtiari | 374 | 000 | 60 |
| South Khorasan | 109 | 000 | 44 |
| Khorasan-e-Razavi | 1221 | 000 | 319 |
| North Khorasan | 381 | 000 | 149 |
| Khuzestan | 1175 | 000 | 169 |
| Zanjan | 269 | 000 | 210 |
| Semnan | 179 | 000 | 47 |
| Sistan&Baluchestan | 1 | 000 | 189 |
| Fars | 800 | 000 | 226 |
| Qazvin | 294 | 000 | 20 |
| Qom | 104 | 000 | 11 |
| Kordestan | 872 | 000 | 140 |
| Kerman | 563 | 000 | 187 |
| Kermanshah | 326 | 000 | 604 |
| Kohgiluyeh&Boyerahmad | 434 | 000 | 95 |
| Golestan | 708 | 000 | 68 |
| Gilan | 1285 | 000 | 564 |
| Lorestan | 544 | 000 | 232 |
| Mazandaran | 1645 | 000 | 68 |
| Markazi | 859 | 000 | 78 |
| Hormozgan | 7 | 000 | 8 |
| Hamedan | 832 | 000 | 93 |
| Yazd | 172 | 000 | 127 |

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

2. The number of cities are based on definitions given by the Ministry of Oil.

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

Statistics for Alborz are included with Tehran.

Source: Ministry of Oil

7.15. TYPES OF GAS EXTENSIONS⁽¹⁾, 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 | |
| 1375 | 2420738 | 2905678 | 2811331 | 92863 | 1484 | 000 |
| 1380 | 3719086 | 5025658 | 4828282 | 194078 | 3298 | 000 |
| 1385 | 6170548 | 9292175 | 8839347 | 439264 | 13564 | 100588 |
| 1389 | 7968070 | 13318764 | 000 | 000 | 000 | 141091 |
| 1390 | 8516839 | 14717210 | 000 | 000 | 000 | 144519 |
| 1391 | 8976941 | 16136287 | 000 | 000 | 000 | 142367 |
| 1392 | 9431324 | 17508187 | 000 | 000 | 000 | 145538 |
| 1393..... | 9818230 | 18771822 | 17586332 | 1112590 | 72900 | 163558 |
| East Azarbeyejan | 578646 | 1321685 | 1176984 | 137968 | 6733 | 6446 |
| West Azarbeyejan | 328716 | 720227 | 653806 | 65636 | 785 | 4491 |
| Ardebil | 189109 | 377684 | 348056 | 28452 | 1176 | 1931 |
| Esfahan | 995154 | 1567086 | 1485210 | 73433 | 8443 | 18488 |
| Alborz | 000 | 000 | 000 | 000 | 000 | 000 |
| Ilam | 72675 | 101862 | 98673 | 2913 | 276 | 451 |
| Bushehr | 115647 | 90797 | 89134 | 1355 | 308 | 12331 |
| Tehran | 1467426 | 3383812 | 3137409 | 233668 | 12735 | 26050 |
| Chaharmahal&Bakhtiyari | 164673 | 266003 | 248634 | 16374 | 995 | 1108 |
| South Khorasan | 82002 | 162415 | 154523 | 7680 | 212 | 1211 |
| Khorasan-e-Razavi | 787277 | 1888404 | 1766489 | 110995 | 10920 | 10919 |
| North Khorasan | 123691 | 228722 | 211933 | 16369 | 420 | 2541 |
| Khuzestan | 577324 | 828220 | 809251 | 18439 | 530 | 14573 |
| Zanjan | 142608 | 257870 | 239617 | 17372 | 881 | 2022 |
| Semnan | 127233 | 247279 | 227270 | 17969 | 2040 | 2146 |
| Sistan&Baluchestan | 6977 | 6403 | 6288 | 115 | 0 | 83 |
| Fars | 622960 | 1113415 | 1061800 | 49382 | 2233 | 9347 |
| Qazvin | 169065 | 342552 | 317808 | 22549 | 2195 | 3554 |
| Qom | 160637 | 338494 | 324191 | 12539 | 1764 | 2356 |
| Kordestan | 224680 | 408348 | 384246 | 22557 | 1545 | 2667 |
| Kerman | 297465 | 479845 | 462364 | 17005 | 476 | 4123 |
| Kermanshah | 207500 | 454549 | 432305 | 20586 | 1658 | 3290 |
| Kohgiluyeh&Boyerahmad | 93667 | 133378 | 128787 | 4221 | 370 | 439 |
| Golestan | 254775 | 464488 | 445043 | 17966 | 1479 | 2514 |
| Gilan | 455154 | 797705 | 744669 | 50299 | 2737 | 5637 |
| Lorestan | 204475 | 413668 | 396242 | 16855 | 571 | 1429 |
| Mazandaran | 621610 | 1037656 | 977427 | 54804 | 5425 | 5575 |
| Markazi | 255841 | 472059 | 440735 | 28119 | 3205 | 5856 |
| Hormozgan | 5580 | 6224 | 5892 | 177 | 155 | 4632 |
| Hamedan | 297217 | 519300 | 490258 | 28025 | 1017 | 2378 |
| Yazd | 188446 | 341672 | 321288 | 18768 | 1616 | 4967 |

I. 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 ⁽¹⁾ |
|---------------------------------|-------------|------------|------------|------------|--------------|-----------|------------|-----------|------------|------------------------------------|
| 1375 | 1829 | 312 | 173 | 492 | × | 130 | 257 | 47 | 28 | 389 |
| 1380 | 1395 | 310 | 175 | 442 | 235 | 134 | 23 | 49 | 26 | 0 |
| 1385 | 1489 | 295 | 189 | 392 | 201 | 101 | 234 | 54 | 23 | 0 |
| 1389 ⁽²⁾ | 1770 | 382 | 200 | 408 | 269 | 112 | 309 | 60 | 22 | 0 |
| 1390 ⁽²⁾ | 1871 | 438 | 231 | 452 | 241 | 119 | 287 | 58 | 21 | 0 |
| 1391 ⁽²⁾ | 1828 | 363 | 277 | 427 | 254 | 120 | 302 | 53 | 17 | 0 |
| 1392 ⁽²⁾ | 1988 | 273 | 542 | 399 | 273 | 116 | 304 | 56 | 17 | 0 |
| 1393⁽²⁾ | 2042 | 293 | 599 | 403 | 282 | 94 | 295 | 50 | 20 | 0 |

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

2. Including total delivery of liquefied gas for Lavan Refinery from the year 1389 to the year 1393.

Source: Ministry of Oil.

7.17. TOTAL PRODUCTION⁽¹⁾ OF NATIONAL PETROCHEMICAL COMPANY BY MAIN CATEGORIES (1000 tons)

| Category | 1375 | 1380 | 1385 | 1389 | 1390 | 1391 | 1392 | 1393 |
|---|--------------|--------------|----------------------------|--------------|--------------|--------------|--------------|--------------|
| Total | 10007 | 12543 | ⁽²⁾¹⁸⁰⁰⁰ | 40175 | 42736 | 41063 | 40574 | 44511 |
| Polymers | 594 | 780 | 1396 | 3895 | 4182 | 4637 | 4923 | 5325 |
| Chemicals..... | 2262 | 3070 | 5178 | 12695 | 13779 | 12933 | 13097 | 14782 |
| Aromatics | 407 | 1032 | 1241 | 3295 | 3283 | 3323 | 3390 | 3086 |
| Hydrocarbons | 2293 | 2911 | 5787 | 12495 | 12837 | 11734 | 11471 | 12622 |
| Fertilizers, pesticides and related materials | 4451 | 4750 | 4398 | 7795 | 8655 | 8436 | 7693 | 8696 |

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; blnrials)**

| Category | 1375 | | 1380 | | 1385 | | 1389 | |
|---|---------------|---------------|---------------|---------------|------------------------------|-------------------------------|----------------|----------------|
| | Quantity | Value | Quantity | Value | Quantity | Value | Quantity | Value |
| Total | 3140.0 | 2117.0 | 4180.0 | 6053.0 | ⁽¹⁾ 6066.0 | ⁽¹⁾ 26520.0 | 10531.7 | 67692.4 |
| Polymers | 434.0 | 1029.0 | 741.0 | 3300.0 | 1063.0 | 9681.0 | 1501.0 | 20091.4 |
| Chemicals | 389.0 | 389.0 | 580.0 | 1016.0 | 1018.0 | 5033.0 | 2386.8 | 15564.3 |
| Aromatics | 95.0 | 114.0 | 248.0 | 512.0 | 497.0 | 4539.0 | 868.0 | 8582.9 |
| Hydrocarbons | 425.0 | 136.0 | 501.0 | 316.0 | 1554.0 | 6003.0 | 3884.0 | 18130.6 |
| Fertilizers, pesticides and related materials | 1797.0 | 444.0 | 2110.0 | 909.0 | 1934.0 | 1264.0 | 1891.9 | 5323.2 |

| Category | 1390 | | 1391 | | 1392 | | 1393 | |
|---|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|
| | Quantity | Value | Quantity | Value | Quantity | Value | Quantity | Value |
| Total | 11858.0 | 111244.0 | 13273.0 | 174777.0 | 14524.8 | 313766.0 | 16332.3 | 333488.5 |
| Polymers | 2271.0 | 38568.0 | 2424.0 | 65633.2 | 2610.0 | 97330.5 | 2654.7 | 108964.0 |
| Chemicals | 3368.0 | 29981.0 | 3642.0 | 38978.4 | 703.9 | 22308.0 | 4400.4 | 79551.0 |
| Aromatics | 1035.0 | 13183.0 | 1003.0 | 19626.3 | 3620.0 | 72306.7 | 1175.9 | 35567.1 |
| Hydrocarbons..... | 4072.0 | 25654.0 | 4277.0 | 43364.8 | 5734.6 | 111215.0 | 5831.3 | 92847.4 |
| Fertilizers, pesticides and related materials | 1112.0 | 3858.0 | 1927.0 | 7174.5 | 1856.3 | 10605.0 | 2269.9 | 16559/0 |

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

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

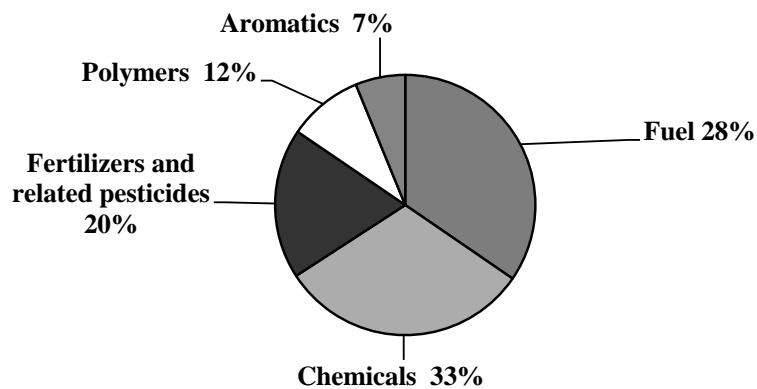
| Category | 1375 | | 1380 | | 1385 | | 1389 | |
|---|---------------|--------------|---------------|--------------|------------------------------|------------------------------|----------------|----------------|
| | Quantity | Value | Quantity | Value | Quantity | Value | Quantity | Value |
| Total | 2656.0 | 507.0 | 4011.0 | 795.0 | ⁽¹⁾ 6044.0 | ⁽¹⁾ 3299.0 | 17860.7 | 11558.6 |
| Polymers | 128.0 | 70.0 | 142.0 | 73.0 | 360.0 | 429.0 | 1963.2 | 2344.1 |
| Chemicals | 322.0 | 93.0 | 651.0 | 118.0 | 1687.0 | 774.0 | 5176.5 | 2554.8 |
| Aromatics | 08175.0 | 48.0 | 385.0 | 117.0 | 440.0 | 454.0 | 292.0 | 271.3 |
| Hydrocarbons | 1255.0 | 235.0 | 2010.0 | 442.0 | 3010.0 | 1545.0 | 7499.0 | 5499.5 |
| Fertilizers, pesticides and related materials | 766.0 | 61.0 | 823.0 | 45.0 | 547.0 | 97.0 | 2930.0 | 888.9 |

| Category | 1390 | | 1391 | | 1392 | | 1393 | |
|---|----------------|----------------|--------------|----------------|----------------|---------------|----------------|----------------|
| | Quantity | Value | Quantity | Value | Quantity | Value | Quantity | Value |
| Total | 18193.0 | 14662.4 | 15757 | 12061.3 | 12827.0 | 9869.1 | 15886.0 | 10273.0 |
| Polymers | 1638.0 | 2546.9 | 1937.0 | 2498.9 | 2488.0 | 3509.1 | 2511.1 | 3293.4 |
| Chemicals | 5567.0 | 3508.3 | 4357 | 2138.4 | 3727.3 | 2046.0 | 5008.6 | 1991.7 |
| Aromatics | 536.0 | 773.4 | 270.0 | 389.1 | 247.0 | 341.0 | 952.1 | 1111.5 |
| Hydrocarbons | 6452.0 | 6241.7 | 5432.0 | 5183.9 | 3180.0 | 2942.0 | 3785.1 | 2646.3 |
| Fertilizers, pesticides and related materials | 4000.0 | 1592.1 | 3761.0 | 1851.0 | 3185.0 | 1031.0 | 3628.9 | 1230.1 |

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

Source: Ministry of Oil.

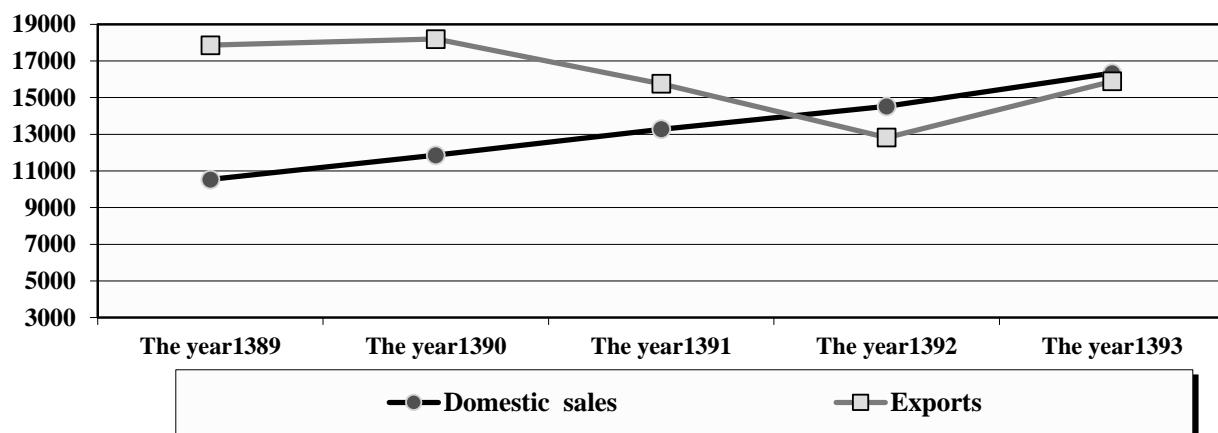
7.5. TOTAL PRODUCTION OF NATIONAL PETROCHEMICAL COMPANY BY MAIN CATEGORIES OF PRODUCTS, THE YEAR 1393



For data see Table 7.17.

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

Thousand tons



For data see Tables 7.18 and 7.19.