Introduction

The statistics appeared in this chapter have been provided as register records by the Ministry of Energy on two topics of "water" and "electricity".

Water

This section includes information on "underground waters", "reservoir dams", and "length of networks and number of water and sewage extensions". The related statistics have been added to the Statistical Yearbook of Iran since the year 1346.

Statistics on underground waters and reservoir dams have been provided by Water Resources Management Company and statistics on the length of networks and number of water and sewage extensions has been obtained from the Water and Sewage Engineering Company.

It is notworthy that Central and Internal basin, Hamun basin, and Sarakhs basin were renamed by Water Resources Management Organization as Central Plateau, Eastern Border and Qareh Qum, respectively, in the year 1383.

Electricity

Data related to electric power industry was first collected in the year 1343 by the then Ministry of Water and Power (renamed the Ministry of Energy in the year 1353). Since the year 1346, the Ministry has regularly provided the annual statistics on the power industrycomprising power generation, transmission, distribution, and consumption. The statistics, a part of which appears in some tables of this yearbook, are presented in various annual publications released by the Ministry.

Moreover, through two successive censuses of population and housing in the years 1365 and 1375, the SCI collected data on residential units and households benefiting from piped water and electricity which are reflected in Chapter 10, "Construction and Housing," of the yearbook.

Definitions and concepts

Water basin: see Chapter 1, Land and climate, Definitions and concepts.

Aquatic year: see Chapter 1, Land and climate, Definitions and concepts.

Water produced: the amount of water gained from various (surface and underground) water resources such as wells, springs, subterranean canals, dams and river basins.

Dam: a structure built against the flow of water to reserve water or change the direction of flow or manage it for satisfying different needs such as drinking, industry, irrigation (agriculture), electricity generation and control of flood.

Reservoir dam: a dam made for reserving, managing or controlling the flow of water to reserve it for procuring water for irrigation, drinking, industry, electricity generation and control of flood

Large reservoir dam: refers to all dams with a height of 15 metres or more as well as 10 to 15 metres high dams having a reservoir with a volume of 1 million cubic metres or more and/or a capacity of flood discharge of 2000 or more cubic metres per second.

Inflow: annual volume of water entered the reservoir of a dam through the river.

Outflow: total annual volume of water discharged from different outlets of a dam (weir, silt ejector channels, take-out gates, drainage channels) and evaporation.

Water extension: refers to the part of branched-off water pipes, containing pipe, related accessories,

with a profile appropriate to the water metre and the extension capacity of public water, which connects a private water distribution line or public water distribution network from installation place of the extension valve to the delivery point (valve following the watermetre).

Public water distribution network: a collection of interconnected pipe lines with needed pressure for distributing water for household, office and industrial consumption in a region or inside the city , all of which belong to the Water and Sewage Company.

Sewage extension: refers to the part of minor sewage pipelines, including pipes and related accessories, with a profile appropriate to siphon or contractual capacity, which carries joint sewages away from the siphon to the private line or to the public network for collecting sewages.

Public network for collection and transmission of sewage: refers to all installations and equipment, such as main collectors, used for collection and transmission of sewage to water treatment house and pump houses of urban sewage and public side networks, all belonging to the Water and Sewage Company. The network is not responsible for collection, transmission and disposal of rainfall water flowing on passages, flood channels and channels inside and outside cities located in the customers' estates.

Nominal capacity (registered nominal power): refers to the maximumexpected output of an electricity generator in designing condition defined by the manufacturer. Nominal power is usually installed in KVA or KW for smaller generators on the generator.

Actual capacity or actual power (registered power): refers to the maximum amount of electricity that could be generated by a generator while regarding the environmental conditions (altitude, temperature, and relative moisture).

Maximum coincidental power generated: refers to the sum of electric power generated at the peak of network load during a certain period. The sum of maximum coincidental power generated might be equal or less than the total capacity of the plants.

Gross generation: refers to the amount of electricity generated by a generator or a plant during a certain period which is measured on output series of the main or supplementary generators and stated in kilowatt hour (kWh) or megawatt hour (MWh).

Net generation: refers to the electricity measured at the point of transmission to the power grid. During a certain period, the net generation may be calculated by subtracting the gross internal consumption form the gross generation in the same period.

Other institutions: the institutions which generate electricity for their own consumption and also sell a part of their production to other institutions but are independent from the Ministry of Energy; some examples are, Esfahan Steelworks, Mobarakeh Steel Industries, Petrochemical Industries, Tabriz Tractor Industries, and Sarcheshmeh Copper Industries.

Interconnected network: the collection of production sites and regions of energy consumption around the country connected together with a network of transmission lines and high voltage stations. The network lets electricity exchange between the regions covered, and makes the export of electric energy possible.

Isolated network (generation and power consumption): refers to regional, provincial and island networks not connected with adjacent networks or interconnected network.

Load-demand: the power consumed during a certain period in a certain part of the network.

Maximum coincidental load: in a full interconnected electricity system, maximum coincidental load for a day, a week, a month, or a year refers to the sum of load at the peak of consumption in regions in megawatt. Where the interconnected system does not cover the total country, the maximum coincidental load may be calculated by adding up maximum load of interconnected network and load of separate regions in megawatt simultaneously. With regard to the difference between peak hours of consumption in different regions connected to the interconnected network, maximum coincidental load is less than the sum of the maximum loads of the regions.

Maximum non-coincidental load: the sum of the peak of consumption in different regions of the country during a certain period, which are not necessarily simultaneous.

Power Company: the companies (Ltd.) which are by law engaged in generation, transmission and distribution of electricity or in a part of such activities and provide the customers with electricity. The definition covers the water and power organizations as well.

Power plant: refers to the installation place of generators and related equipment.

Hydroelectric power plant: a power plant in which the potential energy of water accumulated at dams or flowing energy of rivers water is used to drive the hydroelectric turbine for electricity generation.

Thermal power plant: a power plant in which chemical energy inherent in solid, liquid, gaseous fuels is transformed into electricity. This definition covers nuclear, steam, gas, combined-cycle and diesel power plants.

Steam power plant: a kind of power plant in which thermal energy produced from liquid, solid and gas fuels is used for steam production and then driving the steam turbine to generate electricity.

Gas power plant: a type of power plant in which hot gas produced from the thermal energy in gas and liquid fuels drives gas turbine to generate electricity.

Combined-cycle power plant: a kind of power plant in which, in addition to electric energy in gas turbine, the heat in gases off the gas turbine is used for production of steam using a recycling steam kettle. The steam produced is transformed into electric energy in a steam turbo generator set.

Diesel power plant: a kind of power plant in which gas or liquid is used in cylinders to transform mechanical energy produced by coupled generator into electric energy.

Internal consumption: refers to the sum of electricity consumed internally by units and for non-technical cases, as well as consumption of lights, etc. in a power plant in a certain period in kilowatt-hour (kWh).

Losses: refers to the energy lost in transmission and distribution lines in a network or a certain system. Energy lost by transformers is considered as losses of transmission and distribution.

Sale or consumption of electricity: the amount of electricity sold to the consumers for various consumptions.

Energy produced by the fuel (thermal value): the amount of heat (kilo calorie or B.T.U.) produced through burning of the mass unit of a certain fuel.

Thermal output: considering that the thermal energy produced by 1 kWh is equal to 860 kcal, the output of thermal power plants (thermal output) is calculated through the following formula:

output(%) = (860/thermal energy consumed for 1 kWh of power generated) × 100

Line of power: the cables installed on poles to transmit the electric power from the production site (power plant) or substation to consumption places in different voltages.

Power transmission line: a line composed of conductors, insulators and other subsidiary equipment used for transmission of high amount of electricity, with high voltages in long distances between source points (power plants and receiving points.

Sub-transmission line: a collection of transmission lines with voltages from 63 to 132 kV.

Electricity customers: natural or legal persons whose specifications are registered by customers division according to the regulation of the power company after submitting the required documents and payment of the related costs, and are offered a customer number.

Household uses: electricity used by households to operate common electric appliances and for lights in residential units.

Public uses: electricity used for public services.

Agricultural uses: electricity used for pumping surface and underground water or repumping water for production of crops or carrying out agricultural activities. Agricultural activities are defined in ISIC Rev. 3.

Industrial uses: electricity used for doing jobs in establishments engaged in manufacturing and mining activities.

Distribution network: a collection consisting of ground and aerial medium voltage lines(20, 11 and 33 kv) and low voltage (220 and 380 v) and ground and aerial substations used for electricity distribution in a specific area .

Transmission and sub-transmission network: it consists of a series of substations, lines, cables and other electrical equipment connected from power plants to final consumers for energy transmission.

A line circuit or electrical cable: It consists of a number of electrically inseparable conductors that form a three-phase cable or another system and is able to transmit electrical energy from one place to another place.

Etectrical substation or power station: A site with a collection of installations and electrical equipment including transformers, switches, measurement instruments, inflow and outflow lines, a reactor, a capacitor and different grounds used for transmission and distribution of electricity. An electreical substation is a part of an electrical network centralized in a given site used for selective connection or disconnection of electrical circuits in a network. Also, it is possible to transmit electricity between networks used at different voltage levels.

Selected information

In aquatic year 1395-1396, the amount of annual discharge of the underground water resources was about 60592 mln cu m which had a 1.1 percent decrease in comparison to the aquatic year 1394-1395. It should be noted that out of 6 main basins, the central plateau with 50.3% had the maximum annual discharge.

In the year 1396, the inflow of the large reservoir dams amounted to 33796 mln cu m had a 17.0% decrease in comparison to the last year. In this year, 28608 mln cu m of large reservoir dams have been consumed, 69.0 percent of which belongs to the agricultural consumptions.

In the same year, over 7603 mln cu m of water is produced in the water and sewage companies of the country (urban and rural) out of which about 5609 mln cu m was sold. Sale of water increased by 3.0 percent compared to the preceding year. This is while that the production of water grew by 2.4 percent compared to the previous year.

In the year 1396, there were over 21 million and 835 thousand urban and rural water extensions which had a 2.9 percent increase in comparison to the preceding year. Out of this number about 16 million 271 thousand extensions were for the urban areas which had a 2.8% increase compared to the previous year.

In the year 1396, the gross electricity generation of institutions affiliated to the Ministry of Energy was about 133934 mln kilowatt hours, of which about 47.1 percent has been produced in the steam power plants. Furthermore, the gross electricity generation amount had a 6.5 percent increase compared to the preceding year.

In this year, 255026 mln kilowatt hours of domestic sold electricity was consumed by 34 million 836 thousand customers. In this respect, the amount of electricity sold and the number of electricity customers increased about 7.4 and 3.0 percent respectively compared to the preceding year.

Among all electricity customers in the year 1396, percentage of customers in the house, public,agricultural and manufacturing sectors was 80.7, 4.6, 1.2 and 0.7 percent, respectively. Also in this year, the percentage of the sold electricity which was consumed in the house, manufacturing, agricultural, public sectors and for the streets lighting was 32.7, 33.0, 15.4, 9.5 and 2.0 percent respectively.

At the end of the year 1396, a number of 57030 villages (about 4.5 mln rural households) were electrified which increased by 0.4% in comparison to the previous year.

9.1. UNDERGROUND WATER RESOURCES AND THEIR ANNUAL DISCHARGE(1) BY MAIN BASINS

(mln cu m)

Aquatic year and main basins	Total discharge	Deep well		Semi-deep well		Subterranean canals (Qanat)		Spring	
		Number	Annual discharge	Number	Annual discharge	Number	Annual discharge	Number	Annual discharge
1379-80	69549	118986	30757	314405	13263	33036	7962	49785	17566
1384-85	79837	155800	35843	432943	12778	36307	7527	112787	23690
1389-90	70482	191261	34367	497579	12479	39531	6259	159454	17378
1391-92.....	64932	200859	34545	569708	12164	41130	4736(2)	173598(2)	13481(2)
1392-93.....	61407	199087	33729	582426	12241	41149	4739(2)	174148(2)	10691(2)
1393-94.....	61094	196010	33125	593164	12204	41154	4718(2)	173283(2)	11041(2)
1394-1395	61262	194822	33139	599178	12263	41169	4661(2)	174228(2)	11192(2)
1395-1396	***60592***	***210689***	***32998***	***594968***	***12485***	***41011***	***4515***	***173452***	***10595***
Caspian Sea	6929	34400	2631	253917	1768	2813	236	77468	2295
Persian Gulf and Oman Sea	17373	42878	6585	105674	4132	4587	474	54369	6182
Lake Orumiyeh.....	2491	8012	995	99142	1227	1807	94	10517	176
Central Plateau.....	30488	117663	20659	126461	4997	26671	3189	27128	1644
Eastern Border	1300	1939	620	8505	330	3078	300	1386	50
Qareh Qum.....	2011	5797	1508	1269	33	2055	223	2584	247

1.Annual discharge for wells, subterranean canals and springs are updated annually based on selected sources.
2. Revised figures.
Source: Ministry of Energy.

9.2. UNDERGROUND WATER RESOURCES AND THEIR ANNUAL ISCHARGE(1) BY REGIONAL WATER ORGANIZATIONS, AQUATIC YEAR 1395-1396 (mln cu m)

Ostan	Total discharge	Deep well		Semi-deep well		Subterranean		Spring	
		Number	Annual discharge	Number	Annual discharge	Number	Annual discharge	Number	Annual discharge
Total	***60592***	***210689***	***32998***	***594968***	***12485***	***41011***	***4515***	***173452***	***10595***
East Azarbayejan	1355	5672	568	53136	549	1968	137	3122	101
West Azarbayejan	2039	5092	943	58109	856	543	42	851	198
Ardebil	404	1802	170	4968	89	221	19	3354	125
Esfahan	4746	15775	1650	33334	1115	4203	678	8686	1304
Alborz	832	5318	667	10665	48	157	9	1735	107
Ilam	422	1318	282	803	30	4	1	744	109
Bushehr	514	1350	133	11800	328	45	13	179	40
Tehran	2722	31496	2255	11856	60	536	248	2501	159
Chaharmahal & Bakhtiyari	2045	2237	310	1767	149	775	56	4760	1531
South Khorasan	1211	2425	841	826	37	6250	266	2170	66
Khorasan-e-Razavi	4934	13542	3915	2952	93	6770	576	6337	350
North Khorasan	918	1875	366	5154	87	743	99	3450	367
Khuzestan	1640	3491	897	6958	345	2	1	1088	397
Zanjan	1160	3882	670	13607	299	725	34	5834	157
Semnan	923	2947	698	2000	35	738	70	1873	119
Sistan & Baluchestan	1982	1446	375	17530	1189	1282	377	897	41
Fars	8250	31840	4342	52287	2475	1737	402	2213	1031
Qazvin	1997	4251	1664	4240	148	312	59	13841	126
Qom	632	1323	499	5066	38	753	81	1397	15
Kordestan	1054	2736	356	15255	177	519	24	38592	497
Kerman	6396	16039	4494	18508	1337	2391	456	1587	110
Kermanshah	1464	3563	465	11577	484	402	29	11187	487
Kohgiluyeh & Boyerahmad	1201	697	95	1650	118	61	5	3049	983
Golestan	766	8871	432	26942	180	344	29	3766	125
Gilan	797	1001	134	51680	248	1	0	16215	415
Lorestan	964	3303	483	3846	122	1163	31	5692	329
Mazandaran	1844	14004	534	134963	604	34	0	21768	706
Markazi	2923	7818	1908	7320	337	4254	502	3159	176
Hormozgan	1532	4328	736	17573	617	169	33	639	147
Hamedan	1859	8303	1323	7822	214	1287	74	2386	249
Yazd	1065	2944	794	774	78	2622	163	380	29

1. Annual discharge for wells, subterranean canals and springs are updated annually based on selected sources.
Source: Ministry of Energy.

9.3. STATISTICS ON LARGE RESERVOIR DAMS[1] BY REGIONAL WATER ORGANIZATIONS

(mln cu m)

Year and reservoir dams	Inflow[2]	Outflow[2]			Water consumption[3]				
		Total	From turbines ducts for electricity generation	Other [4]	Total	Agriculture	Drinking	Manu-facturing	Other[5]
1380	30400	27311	18386	8925	11467	8819	1209	382	1058
1385	50873	54716	44913	9803	17157	13233	2276	589	1059
1390	33740	32822	17122	15700	25675	16175	2226	855	6419
1392	30048	31620	46742	×	27894	18489	3005	867	5164
1393	28223	30409	41233	-	26313	17880	2859	761	4813
1394	36155	30567	43461	-	25585	16703	3043	739	5099
1395	40695	39816	49268	-	30301	19694	3182	700	6724
1396	***33795 .8***	***37251 .1[6]***	***46993 .9***		***- 28608 .1[6]***	***19654 .9***	***3202 .3***	***697 .7***	***5106 .2***
East Azarbayejan	***4267 .3***	***4329 .3***	***3094 .1***	***4329 .3***	***2003 .1***	***1532 .6***	***46. 0***	***10. 0***	***414 .5***
Aras[2,7]	3311 .4	3246 .7	3094 .1	152 .5	1625. 0	1342. 0	0. 0	0. 0	283. 0
Sattarkhanahar	34 .9	46 .9	0. 0	46 .9	43. 0	23. 0	8. 0	4. 0	8. 0
Sahand[8]	127 .7	140 .8	0. 0	140 .8	88. 0	21. 0	4. 0	0. 0	63. 0
Zonuz	4 .5	6 .5	0. 0	6 .5	5 .8	2 .5	0. 0	0. 0	3 .3
Aydoghamush	90 .3	120. 0	0. 0	120. 0	65. 0	47. 0	0. 0	0. 0	18. 0
Arasbaran	10 .2	10 .2	0. 0	10 .2	8 .9	8 .9	0. 0	0. 0	0. 0
Khodaafarin[2]	3621. 0	3679 .8	0. 0	3679 .8	0. 0	0. 0	0. 0	0. 0	0. 0
Alavian	84. 0	90 .9	0. 0	90 .9	89. 0	53. 0	14. 0	6. 0	16. 0
Nahand	26 .4	27 .3	0. 0	27 .3	26 .5	0 .5	20. 0	0. 0	6. 0
Tajyar-e-Sarab	3 .1	1 .9	0. 0	1 .9	1 .7	1 .6	0. 0	0. 0	0 .1
Kord Kandi	6 .6	7 .1	0. 0	7 .1	4 .2	4 .2	0. 0	0. 0	0. 0
Ghale chai	43 .9	45 .4	0. 0	45 .4	46. 0	29. 0	0. 0	0. 0	17. 0
West Azarbayejan.	***2020 .2***	***1867 .6***	***98. 0***	***1769 .6***	***1695 .9***	***822 .1***	***240 .7***	***5 .1***	***628. 0***
Barun	70 .3	89. 0	0. 0	89. 0	83. 0	77. 0	6. 0	0. 0	0. 0
Shahid Ghanbari	36 .4	31 .9	0. 0	31 .9	26. 0	25. 0	0. 0	0. 0	1. 0
Aras 2	7 .9	5 .3	0. 0	5 .3	5 .4	5 .2	0. 0	0 .2	0. 0
Aghchai	112 .2	111 .7	0. 0	111 .7	75. 0	69. 0	0. 0	0. 0	6. 0
Bukan	1284 .6	1154 .1	0. 0	1154 .1	1090 .9	381 .8	161 .7	3. 0	544 .5
Shahrchay	179 .4	185 .5	0. 0	185 .5	169. 0	63. 0	51. 0	0. 0	55. 0
Mahabad	200 .9	143 .7	98. 0	45 .7	128. 0	103. 0	19. 0	1 .5	4 .5
Hasanlu	30 .2	51 .3	0. 0	51 .3	39 .4	33. 0	0. 0	0 .4	6. 0
Deriq Salmas	7 .6	9 .8	0. 0	9 .8	8. 0	8. 0	0. 0	0. 0	0. 0
Zola	52 .1	61 .6	0. 0	61 .6	57. 0	46. 0	0. 0	0. 0	11. 0
Qiqaj	12 .4	7 .9	0. 0	7 .9	7 .2	7 .2	0. 0	0. 0	0. 0
Saruq	26 .1	15 .7	0. 0	15 .7	7. 0	4. 0	3. 0	0. 0	0. 0
Ardebil	***135. 0***	***163 .8***	***0. 0***	***163 .8***	***140 .7***	***60 .4***	***35 .5***	***0. 0***	***44 .7***
Qurichay	12 .2	12. 0	0. 0	12. 0	11. 0	11. 0	0. 0	0. 0	0. 0
Gilarlu	1. 0	0 .9	0. 0	0 .9	0. 0	0. 0	0. 0	0. 0	0. 0
Moghadasardebili	6 .6	7. 0	0. 0	7. 0	6 .2	2 .4	0. 0	0. 0	3 .7
Saqizchi	6 .7	7 .1	0. 0	7 .1	3 .8	3 .5	0. 0	0. 0	0 .3

9.3. STATISTICS ON LARGE RESERVOIR DAMS[1] BY REGIONAL WATER ORGANIZATIONS (continued)

(mln cu m)

Year and reservoir dams	Inflow[2]	Outflow[2]			Water consumption[3]				
		Total	From turbines ducts for electricity generation	Other [4]	Total	Agriculture	Drinking	Manu-facturing	Other[5]
Yamchi	65 .7	67 .2	0. 0	67 .2	66 .2	30. 0	35 .5	0. 0	0 .7
Sabalan	42 .8	69 .6	0. 0	69 .6	53 .5	13 .5	0. 0	0. 0	40. 0
Esfahan	***1210 .2***	***1345 .5***	***929 .1***	***416 .5***	***1099 .6***	***580 .4***	***401. 0***	***60. 0***	***58 .2***
Hana	3 .9	5 .2	0. 0	5 .2	4. 0	4. 0	0. 0	0. 0	0. 0
Qareh Aqach	1 .6	4 .5	0. 0	4 .5	3 .1	3. 0	0. 0	0. 0	0 .1
Zayandehrud	987. 0	1109 .5	929 .1	180 .4	1081. 0	565. 0	401. 0	60. 0	55. 0
Golpayegan[9]	208 .1	211 .9	0. 0	211 .9	3. 0	0. 0	0. 0	0. 0	3. 0
Khamiran	5 .5	9 .9	0. 0	9 .9	8 .2	8 .1	0. 0	0. 0	0 .1
Baghkal-e-Khansar	4 .1	4 .6	0. 0	4 .6	3. 0	0 .3	0. 0	0. 0	0. 0
Ilam	***135 .4***	***163 .3***	***0. 0***	***163 .3***	***128 .1***	***80 .4***	***20. 0***	***0. 0***	***27 .7***
Ilam	57 .2	49 .9	0. 0	49 .9	42. 0	8. 0	20. 0	0. 0	14. 0
Doborj	58 .7	98 .5	0. 0	98 .5	74. 0	69. 0	0. 0	0. 0	5. 0
Kangir	19 .4	14 .9	0. 0	14 .9	12 .1	3 .4	0. 0	0. 0	8 .7
Bushehr	***125 .9***	***191. 0***	***0. 0***	***191. 0***	***162 .5***	***133. 0***	***0. 0***	***0. 0***	***29 .5***
Reis Ali delvari	125 .9	191. 0	0. 0	191. 0	162 .5	133. 0	0. 0	0. 0	29 .5
Tehran	***1735 .2***	***1670 .5***	***1310 .1***	***579 .8***	***1444 .5***	***459. 0***	***851. 0***	***4 .5***	***183. 0***
Lar	424 .1	421 .6	189 .9	231 .7	417. 0	83. 0	191. 0	0. 0	143. 0
Taleghan	467 .4	455 .7	338 .7	117. 0	420. 0	256. 0	144. 0	0. 0	20. 0
Karaj	422 .6	428 .7	422 .6	6 .1	296. 0	41. 0	255. 0	0. 0	0. 0
Latiyan[2]	355 .8	363 .7	358 .8	4 .9	196 .5	0. 0	182. 0	0 .5	14. 0
Mamlo[2]	227 .9	220 .2	0. 0	220 .2	115. 0	79. 0	79. 0	4. 0	6. 0
Chaharmahal&Bakhtiyari	***15 .6***	***24. 0***	***0. 0***	***24. 0***	***11 .7***	***10 .7***	***0. 0***	***1. 0***	***0. 0***
Choghakhor	15 .2	22 .7	0. 0	22 .7	11. 0	10. 0	0. 0	1. 0	0. 0
Naghan	0 .4	1 .4	0. 0	1 .4	0 .7	0 .7	0. 0	0. 0	0. 0
Surak	0. 0	0. 0	0. 0	0. 0	0. 0	0. 0	0. 0	0. 0	0. 0
South Khorasan	***11 .5***	***10 .1***	***0. 0***	***10 .1***	***8 .5***	***7 .6***	***0 .6***	***0. 0***	***0 .4***
Kerit	2 .2	1 .4	0. 0	1 .4	1 .2	1 .2	0. 0	0. 0	0. 0
Darreh Bid	0 .2	0 .2	0. 0	0 .2	0 .1	0 .1	0. 0	0. 0	0. 0
Parsa	1 .7	0 .6	0. 0	0 .6	0 .3	0 .3	0. 0	0. 0	0. 0
Farrokhi	0 .3	1 .5	0. 0	1 .5	1 .2	1 .2	0. 0	0. 0	0 .1
Nahrain	5 .4	3 .7	0. 0	3 .7	3 .9	3 .3	0 .6	0. 0	0. 0
Haji Abad	1 .2	1 .3	0. 0	1 .3	1 .2	1 .1	0. 0	0. 0	0. 0
Asadyieh	0 .4	1 .4	0. 0	1 .4	0 .7	0 .4	0. 0	0. 0	0 .3
Khorasan Razavi	***261 .1***	***383 .7***	***0. 0***	***383 .7***	***187. 0***	***76 .2***	***107 .2***	***0. 0***	***3 .7***
Tabarak Abad	9 .4	13 .7	0. 0	13 .7	10 .8	5 .1	2. 0	0. 0	3 .6
Shahid Yaghobi	1. 0	2 .6	0. 0	2 .6	1 .6	1 .6	0. 0	0. 0	0. 0
Sangerd	2 .9	2 .6	0. 0	2 .6	2 .8	2 .8	0. 0	0. 0	0. 0
Komayestan	2 .3	1 .8	0. 0	1 .8	0 .9	0 .9	0. 0	0. 0	0. 0
Yam	2. 0	2 .7	0. 0	2 .7	1 .6	1 .6	0. 0	0. 0	0. 0
Dusti[7]	172 .8	271 .3	0. 0	271 .3	89. 0	14. 0	75. 0	0. 0	0. 0
Toroq	10 .4	12 .4	0. 0	12 .4	11 .5	1 .5	10. 0	0. 0	0. 0

9.3. STATISTICS ON LARGE RESERVOIR DAMS[1] BY REGIONAL WATER ORGANIZATIONS (continued)

(mln cu m)

Year and reservoir dams	Inflow[2]	Outflow[3]			Water consumption[4]				
		Total	From turbines ducts for electricity generation	Other[5]	Total	Agriculture	Drinking	Manu-facturing	Other[5]
Kardeh	6.3	5.3	0.0	5.3	4.9	2.8	2.2	0.0	0.0
Dehqan-e-Taybad	2.6	3.2	0.0	3.2	2.9	2.9	0.0	0.0	0.0
Fariman	8.3	10.5	0.0	10.5	11.0	11.0	0.0	0.0	0.0
Zavin Kalat	0.6	1.2	0.0	1.2	1.1	1.1	0.0	0.0	0.0
Chali Darreh	0.8	0.6	0.0	0.6	0.6	6.0	0.0	0.0	0.0
Dolatabad	1.2	1.2	0.0	1.2	1.1	11.0	0.0	0.0	0.0
Daroungar	4.7	8.5	0.0	8.5	8.1	8.1	0.0	0.0	0.0
Sad-e- Khaf	3.4	7.5	0.0	7.5	6.0	6.0	0.0	0.0	0.0
Ardak Chenaran	20.8	29.8	0.0	29.8	29.0	11.0	18.0	0.0	0.0
Qareh Tikan	6.7	2.2	0.0	2.2	1.5	1.5	0.0	0.0	0.0
Chahchahe	4.9	6.6	0.0	6.6	2.5	2.5	0.0	0.0	0.0
North Khorasan	***68.8***	***77.7***	***0.0***	***77.7***	***61.4***	***39.3***	***17.1***	***0.0***	***5.0***
Bidvaz	18.1	18.3	0.0	18.3	17.2	11.4	3.1	0.0	2.8
Barzu	13.3	18.5	0.0	18.5	16.2	13.1	3.0	0.0	0.0
Shirin Darreh	35.1	39.1	0.0	39.1	26.4	13.4	11.0	0.0	2.0
Chary	1.5	1.4	0.0	1.4	1.4	1.4	0.0	0.0	0.0
Gelul	0.8	0.3	0.0	0.3	0.3	0.1	0.0	0.0	0.2
Khuzestan	***14946.4***	***17452.1***	***39058.1***	***2010.5***	***16454.0***	***13096.0***	***653.0***	***574.0***	***2131.0***
Karkheh[2,10]	3274.2	3866.7	3213.3	653.4	3605.0	2375.0	240.0	24.0	966.0
Dez[10]	4630.7	4781.6	4692.4	89.2	4692.0	3976.0	12.0	45.0	659.0
Shahid Abbaspour[2,11]	6280.0	6819.0	6754.5	64.5	0.0	0.0	0.0	0.0	0.0
Karun 3[2,11]	4222.0	4986.5	4919.9	66.6	0.0	0.0	0.0	0.0	0.0
Marun	589.1	738.8	289.9	448.9	717.0	514.0	24.0	24.0	155.0
Masjed-Soleyman[2]	7191.9	7197.8	7184.9	12.9	0.0	0.0	0.0	0.0	0.0
Gotvand-e-Olia[2,10,11]	7583.0	7675.4	7482.4	193.0	7349.0	6145.0	377.0	481.0	346.0
Jareh	76.4	102.8	0.0	102.8	91.0	86.0	0.0	0.0	5.0
Seymareh[2,6]	2065.2	2144.8	1829.1	315.7	0.0	0.0	0.0	0.0	0.0
Karun 4[2,11,12]	2672.0	2755.4	2691.8	63.6	0.0	0.0	0.0	0.0	0.0
Zanjan	***70.0***	***56.7***	***0.0***	***56.7***	***30.1***	***6.0***	***18.0***	***0.0***	***6.1***
Tahem	17.1	20.7	0.0	20.7	18.5	0.4	18.0	0.0	0.2

9.3. STATISTICS ON LARGE RESERVOIR DAMS[1] BY REGIONAL WATER ORGANIZATIONS (continued)

(mln cu m)

Year and reservoir dams	Inflow[2]	Outflow[2]			Water consumption[3]				
		Total	From turbines ducts for electricity generation	Other[4]	Total	Agriculture	Drinking	Manu-facturing	Other[5]
Golabar	6.2	7.5	0.0	7.5	2.2	2.0	0.0	0.0	0.2
Kineh Vers	22	22.2	0.0	22.2	7.4	1.6	0.0	0.0	5.8
Talevar	24.6	6.3	0.0	6.3	2.0	2.0	0.0	0.0	0.0
Semnan	***13.6***	***12.8***	***0.0***	***12.8***	***11.1***	***5.6***	***4.5***	***0.0***	***1.0***
Kalpush	3.7	0.4	0.0	0.4	0.3	0.0	0.0	0.0	0.3
Damghan	9.9	12.4	0.0	12.4	10.8	5.6	4.5	0.0	0.7
Sistan&Baluchestan	***463.5***	***655.1***	***0.0***	***996.8***	***259.5***	***131.9***	***97.1***	***0.0***	***30.5***
Chahehnimeh 1, 2,3 [2]	504.7	530.6	0.0	530.6	107.5	29.5	64.0	0.0	14.0
Mashkid-e-Olia	7.5	9.4	0.0	9.4	3.1	0.0	3.1	0.0	0.0
Chahehnimeh 4[2]	284.7	395.8	0.0	395.8	106.0	100.0	0.0	0.0	6.0
Pishin	11.1	30.1	0.0	30.1	20.5	0.0	18.0	0.0	2.5
Shai Kelk	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Zirdan	10.3	26.1	0.0	26.1	20.5	2.0	10.5	0.0	8.0
Kheirabad	1.5	4.7	0.0	4.7	1.9	0.4	1.5	0.0	0.0
Fars	***685.3***	***633.0***	***40.7***	***633.7***	***345.1***	***147.2***	***78.7***	***14.0***	***105.2***
Salman Farsi	339.5	274.9	0.0	274.9	184.5	120.0	24.7	0.0	39.8
Tangab	40.8	59.2	0.0	59.2	30.1	1.1	0.0	0.0	29.0
Rudbal Darab	173.4	155.6	0.0	155.6	40.0	10.0	0.0	0.0	30.0
Dorudzan[2]	115.9	121.3	0.0	121.3	73.4	1.0	54.0	14.0	4.4
Izadkhast	0.6	0.3	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Mollasadra[2]	53.4	59.9	40.7	19.2	14.1	12.1	0.0	0.0	2.0
Sivand	3.1	3.1	0.0	3.1	3.0	3.0	0.0	0.0	0.0
Qom	***246.7***	***265.4***	***0.0***	***265.4***	***209.3***	***57.0***	***109.9***	***0.0***	***42.4***
Panzdah Khordad	22.0	16.7	0.0	16.7	7.3	0.0	0.9	0.0	6.4
Kucheri	224.6	248.7	0.0	248.7	202.0	57.0	109.0	0.0	36.0
Kordestan	***812.8***	***805.1***	***0.0***	***805.1***	***233.5***	***24.2***	***55.3***	***0.5***	***153.4***
Sural	11.0	10.2	0.0	10.2	3.2	0.0	0.0	0.0	3.2
Sang siyah	8.7	10.0	0.0	10.0	6.6	0.6	0.0	0.0	6.0
Qeshleq	100.6	96.4	0.0	96.4	79.7	15.9	46.0	0.5	17.3
Zarivar	35.6	27.8	0.0	27.8	12.0	0.0	0.0	0.0	12.0
Baneh	8.7	6.7	0.0	6.7	5.1	0.0	4.3	0.0	0.8
Azad	257.2	267.4	0.0	267.4	50.0	0.0	0.0	0.0	50.0
Garan	82.6	82.8	0.0	82.8	13.3	0.0	0.0	0.0	13.3
Zivieh	12.3	13.1	0.0	13.1	8.5	7.7	0.0	0.0	0.8
Siazakh	296.2	290.7	0.0	290.7	55.0	0.0	5.0	0.0	50.0
Kerman	***907.0***	***1036.5***	***291.9***	***744.7***	***935.2***	***169.1***	***21.0***	***0.3***	***744.8***
Jiroft	605.3	721.0	291.9	429.2	697.0	108.0	0.0	0.0	589.0
Tanguiyeh.	61.8	69.6	0.0	69.6	35.0	3.0	17.0	0.0	15.0
Nesa	182.9	189.8	0.0	189.8	181.0	53.0	0.0	0.0	128.0
Baft	57.0	56.1	0.0	56.1	22.2	5.1	4.0	0.3	12.8
Kermanshah	***2185.7***	***2036.7***	***459.6***	***1606.2***	***157.5***	***59.6***	***27.0***	***0.0***	***70.9***

9.3. STATISTICS ON LARGE RESERVOIR DAMS[1] BY REGIONAL WATER ORGANIZATIONS (continued)

(mln cu m)

Year and reservoir dams	Inflow[2]	Outflow[2]			Water consumption[3]				
		Total	From turbines ducts for electricity generation	Other[4]	Total	Agriculture	Drinking	Manu-facturing	Other[5]
Gavshan[2]	249 .1	139 .4	0. 0	139 .4	83 .5	40. 0	25. 0	0. 0	18 .5
Soleymanshah[2]	54 .1	53 .6	0. 0	53 .6	17. 0	9. 0	2. 0	0. 0	6. 0
Gilangharb	2. 0	2 .2	0. 0	2 .2	0 .5	0 .5	0. 0	0. 0	0. 0
Shiyan	3 .5	0. 0	0. 0	0. 0	0. 0	0. 0	0. 0	0. 0	0. 0
Azadi	73 .3	46. 0	0. 0	46. 0	37 .3	0 .3	0. 0	0. 0	37. 0
Zagros	21 .9	19 .9	0. 0	19 .9	9 .3	6 .9	0. 0	0. 0	2 .4
Tang-e-Hammam	34 .7	18 .3	0. 0	18 .3	9 .8	2 .8	0. 0	0. 0	7. 0
Darian	1777 .2	1786 .2	459 .6	1326 .6	0. 0	0. 0	0. 0	0. 0	0. 0
Kohgiluyeh&Boyerahmad	***198 .7***	***268 .8***	***0. 0***	***268 .8***	***234 .5***	***50 .2***	***128. 0***	***3 .3***	***53. 0***
Kosar	195 .9	267 .8	0. 0	267 .8	233 .8	49 .5	128. 0	3 .3	53. 0
Shah Qasem..	2 .7	1. 0	0. 0	1. 0	0 .7	0 .7	0. 0	0. 0	0. 0
Golestan	***51 .7***	***55 .2***	***0. 0***	***55 .2***	***37 .4***	***22. 0***	***0. 0***	***5. 0***	***10 .4***
Voshmgir[2]	45 .9	57. 0	0. 0	57. 0	47. 0	44. 0	0. 0	0. 0	3. 0
Golestan [2]	113 .4	151 .3	0. 0	167 .6	113 .2	80 .7	0. 0	6. 0	26 .5
Alagol	2 .1	20. 0	0. 0	20. 0	1. 0	0. 0	0. 0	1. 0	0. 0
Bustan [2]	21 .8	25. 0	0. 0	25. 0	18 .8	12. 0	0. 0	0. 0	6 .8
Nomel(Kosar)	0 .9	2. 0	0. 0	2. 0	2 .1	2. 0	0. 0	0. 0	0 .1
Daneshmand	0. 0	0. 0	0. 0	0. 0	0. 0	0. 0	0. 0	0. 0	0. 0
Negarestan	7 .5	8 .4	0. 0	8 .4	6 .9	0 .7	0. 0	0. 0	6 .2
Gilan	***2036 .5***	***2123 .5***	***1227 .2***	***896 .3***	***1926 .7***	***1587. 0***	***125 .7***	***10. 0***	***204. 0***
Sefidrud	1887 .5	1939 .1	1227 .1	712. 0	1780 .7	1577. 0	15 .7	10. 0	178. 0
Shahr-e-Bijar	149. 0	184 .4	0 .2	184 .3	146. 0	10. 0	110. 0	0. 0	26. 0
Lorestan	***590 .5***	***714 .8***	***372 .4***	***342 .3***	***177 .3***	***84 .6***	***2. 0***	***0. 0***	***90 .8***
Maruk	59 .1	83 .9	0. 0	83 .9	45 .1	41. 0	0. 0	0. 0	4 .1
Tanghaleh	0 .3	0 .9	0. 0	0 .9	0 .6	0 .5	0. 0	0. 0	0. 0
Kaznar	0 .7	1 .5	0. 0	1 .5	1 .5	1 .2	0. 0	0. 0	0 .2
Khanabad	7 .5	10 .7	0. 0	10 .7	10 .6	8 .3	0. 0	0. 0	2 .3
Eyvashan	41 .2	69 .5	0. 0	69 .5	34. 0	31. 0	0. 0	0. 0	3. 0
Hozian	9. 0	4 .4	0. 0	4 .4	3 .6	2 .5	0. 0	0. 0	1 .1
Rudbar	472 .7	543 .9	372 .4	171 .5	82. 0	0. 0	2. 0	0. 0	80. 0
Mazandaran	***218 .1***	***323 .5***	***112 .6***	***210 .8***	***305 .6***	***228. 0***	***34. 0***	***0. 0***	***43 .6***
Shahid Rajaee	97 .2	165 .8	112 .6	53 .2	163 .9	133. 0	10 .9	0. 0	20. 0
Shiyadeh	2 .2	4. 0	0. 0	4. 0	4. 0	3 .8	0. 0	0. 0	0 .1
Berenjestanak	6 .2	7. 0	0. 0	7. 0	5 .8	3 .7	0. 0	0. 0	2 .1
Meijeran	20. 0	20 .6	0. 0	20 .6	18 .2	5 .6	9 .6	0. 0	3. 0
Salaheddinkola	5. 0	4 .9	0. 0	4 .9	4. 0	3 .8	0. 0	0. 0	0 .2
Farimsahra	0 .6	0 .4	0. 0	0 .4	0 .4	0 .2	0. 0	0. 0	0 .2
Sonbolrud	1 .8	1 .7	0. 0	1 .7	1 .4	0 .9	0. 0	0. 0	0 .5
Alimalat	3 .3	3 .5	0. 0	3 .5	1 .5	1 .1	0. 0	0. 0	0 .4
Alborz	81 .7	115 .6	0. 0	115 .6	106 .5	76. 0	13 .5	0. 0	17. 0

9.3. STATISTICS ON LARGE RESERVOIR DAMS[1] BY REGIONAL WATER ORGANIZATIONS (continued)

(mln cu m)

Year and reservoir dams	Inflow[2]	Outflow[2]			Water consumption[3]				
		Total	From turbines ducts for electricity generation	Other[4]	Total	Agriculture	Drinking	Manu-facturing	Other[5]
Markazi	***129.5***	***126.8***	***0.0***	***126.8***	***78.2***	***19.7***	***42.5***	***9.0***	***7.0***
Kamal Saleh	68.3	89.2	0.0	89.2	44.6	0.0	35.0	9.0	0.6
Saveh	61.2	37.6	0.0	37.6	33.6	19.7	7.5	0.0	6.4
Hormozgan	***75.2***	***240.8***	***0.0***	***240.8***	***135.4***	***83.9***	***51.5***	***0.0***	***0.0***
Esteqlal	13.2	82.7	0.0	82.7	54.7	16.7	38.0	0.0	0.0
Jegin	36.9	93.1	0.0	93.1	60.6	56.4	4.2	0.0	0.0
Shamil & Nian	25.1	65.0	0.0	65.0	20.1	10.8	9.3	0.0	0.0
Hamedan	***116.8***	***121.8***	***0.0***	***121.8***	***59.1***	***22.5***	***35.1***	***0.0***	***1.5***
Ekbatan[2]	55.4	59.8	0.0	59.8	36.2	4.7	31.0	0.0	0.5
Abshineh[2]	3.7	3.2	0.0	3.2	2.0	0.0	2.0	0.0	0.0
Shirinsu	0.2	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Kalan-e-Malayer	44.5	45.3	0.0	45.3	16.2	16.0	0.2	0.0	0.1
Sarabi	13.0	12.9	0.0	12.9	4.7	1.8	2.0	0.0	0.8

1. For the 168 large reservoir dams (based on the ICOLD definition) with the capacity of 48.9 bln.cu.m, almost equaling 95% of the total volume of the dams under use.

2. Total inflow and outflow were calculated through omission of the influence of being chain of(Latiyan and Mamlo dams in Tehran Ostan), (Shahid Abbaspur, Karun3, Karun 4, Masjed-Soleyman and Gotvand-e-Oliadams in Khuzestan Ostan), (Dorudzan and Mollasadra in Far sOstan), (Seymareh in Ilam Ostan and Karkheh in Khuzestan Ostan) ,(Golestan, Bustan and Voshmgir in Golestan Ostan),(Chahehnimeh 1,2,3 and 4 in Sistan&Baluchestan Ostan), (Ekbatan and Abshineh in Hamedan Ostan) and (Soleymanshah and Gavshan in Kermanshah Ostan) and (Aras and Khoda Afarin in East-Azarbayejan Ostan).Moreover, inflow volume is calculated through balance of volume changes in reservoir and amount of outflows.

3. The amount of water included for different consumption is the volume of water released for different consumption. With respect to the location of dams and the distance between them and consumption place, specially in agricultural sector, the water released for the agriculture is different from the volume of the water delivered to this sector. The difference is due to different reasons including middle basin, midway offtake, penetration, evaporation , etc.. Moreover, drinking water is the volume of water discharged from the dam.

4. Other outflows include evaporation, weir, dam take-out gates, slit ejection, direct pumping from reservoir, drainage and leaking.Moreover, difference between total and sum of parts is due to existence of some chain dams.

5. Other consumption including water at the time of stability of flow of the river.

6. Main difference between consumption (28.6 bln cu m) and net outflow(37.2 bln cu m) is related to outflow of border dams for neighboring countries, evaporation from all dams, weirs and other non-consumable outflows.

a- Aras, Bukan, Zayanderud, Taleghan, Karaj, Karkheh, Golpayegan, Gavshan and Kusar dams supply water both for their Ostans and other Ostans.

b- Seymareh dam is located in Ilam Ostan and Company for Development of Water Resources and Energy of Iran is responsible for this dam but due to its aquatic relationship with Karkheh dam, it is classified in Khuzestan Ostan.

c- Kucheri dam is located in Esfahan Ostan and Tehran Regional Company; however, due to supplying drinking water for Qom city accounting for the major consumption of the dam is included in Qom Ostan.

7. Outflow of Aras dam and Dusti dam is equal to total outflow of the dam, and consumptions only include Iran consumption.

8. In Sahand dam, 45 mln cu m was released without use due to the lack of water need and not finishing the downward network.

9. Major part of 208 mln cu m of inflow to the Golpayegan reservoir dam in the year 1396 relates to the transferring of the water from Dez branches to Qomrud.

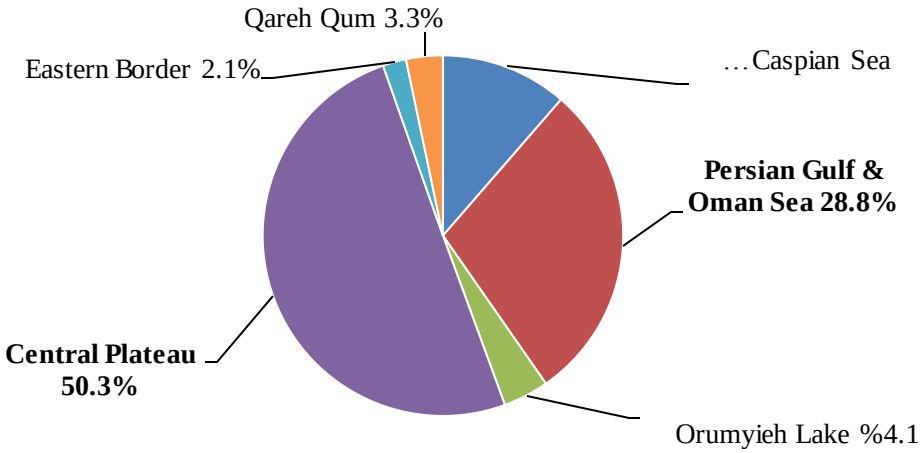
10.Major part of other consumption in dams of Dez, Karkheh and Gotvand-e-Olya were due to the improvement of drinking water.

11.The consumption from the chain dams of Shahid Abbaspour, Karun 3, Karun 4 and Gotvand-e-Olya is included in the consumption of Gotvand- e-Olya dam.

12. Karun 4 reservoir dam is located in Chaharmahal&Bakhtiyari Ostan. However, since it is located on the Karun river, it is classified in Khuzestan Ostan.

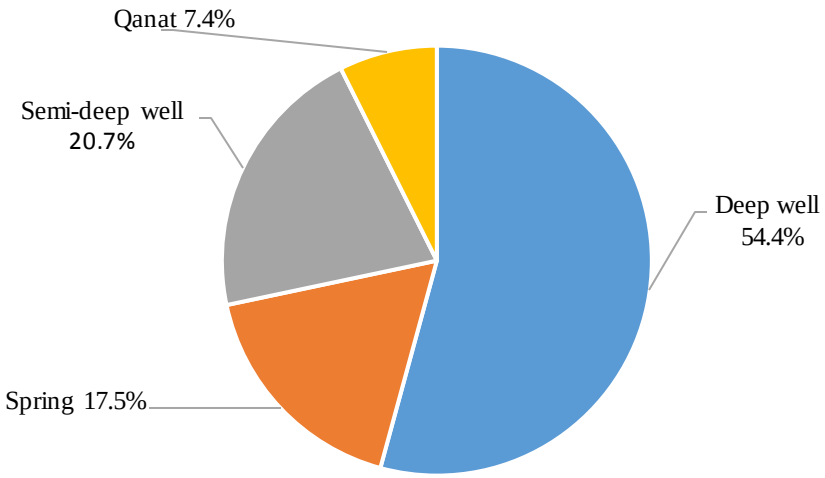
Source: Ministry of Energy.

9.1. ANNUAL DISCHARGE FROM UNDERGROUND WATER RESOURCES BY MAIN BASINS,THE ACQUATIC YEAR 1395-96



For data see Table 9.1.

9.2. PERCENTAGE OF ANNUAL DISCHARGE FROM UNDERGROUND WATER RESOURCES, THE YEAR 1395-96



For data see Table 9.1.

9. 4. DATA FOR CAPACITY OF RESERVOIRS, URBAN WATER DISTRIBUTION AND TRANSMISSION NETWORK

(cu m / km)

Year and Ostan	Capacity of Reservoirs in the network	Length of the network for water distribution	Length of pipelines for water transmission
1380	8402485	77955	13458
1385	10914721	119059	18500
1390	13101344	133163	25475
1392	13963308	141410	26994
1393	14136572	144084	27671
1394	14550118	146649	28222
1395	14760389	151108	28984
1396	***15000546***	***154058***	***29379***
East Azarbayejan	900135	9271	1154
West Azarbayejan	391230	4852	719
Ardebil	234580	2393	476
Esfahan	1060795	13562	2796
Alborz	473759	2895	715
Ilam	125100	1310	501
Bushehr	307650	3225	865
Tehran	3021060	15883	2499
Chaharmahal&Bakhtiyari	167000	1920	359
South Khorasan	139150	2182	577
Khorasan-e-Razavi	1085430	8449	2478
North Khorasan	144970	1337	291
Khuzestan	754324	9813	1744
Zanjan	160820	1637	297
Semnan	190017	2456	526
Sistan&Baluchestan	260440	4165	1393
Fars	915625	10067	2542
Qazvin	252400	1901	271
Qom	350800	2186	156
Kordestan	170395	4711	387
Kerman	690610	10011	1950
Kermanshah	301070	3001	547
Kohgiluyeh&Boyerahmad	118710	1462	297
Golestan	246870	2774	532
Gilan	383618	5041	668
Lorestan	273900	2683	552
Mazandaran	424072	7388	1063
Markazi	268795	3381	679
Hormozgan	387376	5901	1233
Hamedan	298338	2577	463
Yazd	501507	5627	649

Source: Water and Sewage Engineering Company.

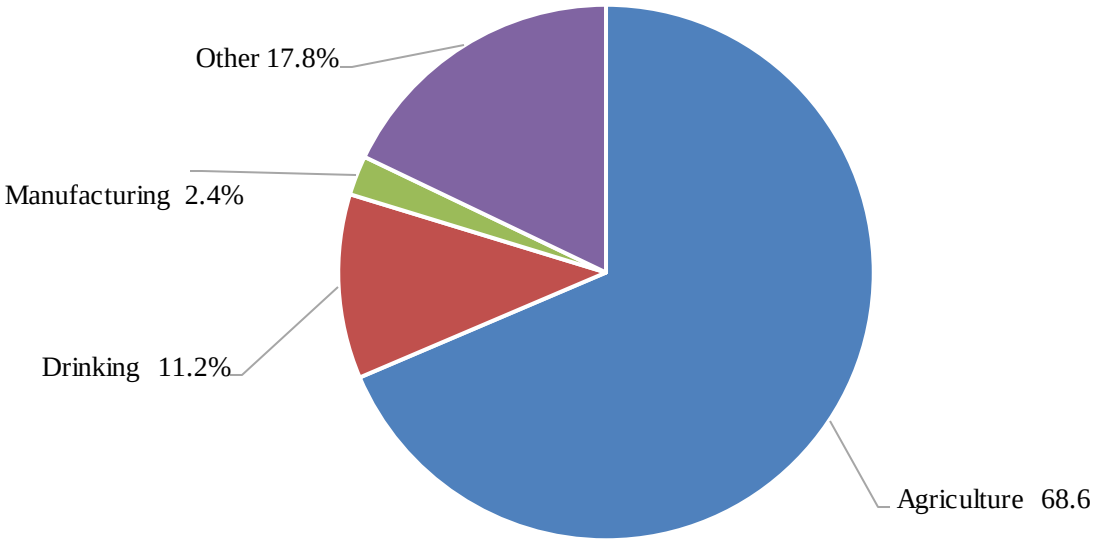
9. 5. DATA FOR WATER SUPPLY, PRODUCTION AND SALE CAPACITIES AND NUMBER OF EXTENTIONS OF URBAN WATER (1000 cu m/number)

Year and Ostan	Max. capacity of water supply (litre second)	Production (1000 cu m)	Sale[1] (1000 cu m)	Extensions (number)
1380	165328	4008252	2617518	8060690
1385	214154	5094428	3464452	10115430
1390	247392	5323362	3900727	12891481
1392	265281	5643076	4236009	14386295
1393	263019	5847738	4330157	14963718
1394	268138	6009000	4445000	15431590
1395	261971	6045392	4502617	15827243
1396	***247786***	***6162225***	***4633556***	***16270684***
East Azarbayejan	10701	248845	201590	1114479
West Azarbayejan	8694	198185	154235	626467
Ardebil	3711	81051	59910	319198
Esfahan	19945	435000	363000	1264590
Alborz	8811	253934	195170	406045
Ilam	1397	41793	32643	139874
Bushehr	3416	107730	77140	270600
Tehran	55449	1416240	1087880	1877299
Chaharmahal&Bakhtiyari	2195	51952	39645	229651
South Khorasan	2036	44991	30543	185160
Khorasan-e-Razavi	15665	390000	296000	1577397
North Khorasan	1652	41666	31413	186131
Khuzestan	23909	580000	371000	1011534
Zanjan	3282	72445	50850	224315
Semnan	2554	61439	44852	243371
Sistan&Baluchestan	5800	133316	94733	335618
Fars	13033	322000	242000	1109261
Qazvin	3360	81144	66259	298151
Qom	4968	115593	95175	311890
Kordestan	4633	111667	76224	350489
Kerman	6845	178925	129051	590746
Kermanshah	5722	154410	93756	378904
Kohgiluyeh&Boyerahmad	1393	39931	30002	159066
Golestan	3860	81284	60913	273213
Gilan	5874	153629	118095	465401
Lorestan	3772	109909	85599	390643
Mazandaran	8715	247520	178090	603881
Markazi	4736	111043	89520	314972
Hormozgan	3688	108633	87791	241766
Hamedan	4206	93527	71208	372287
Yazd	3764	94423	79269	398285

1.Water sale refers to water consumption.

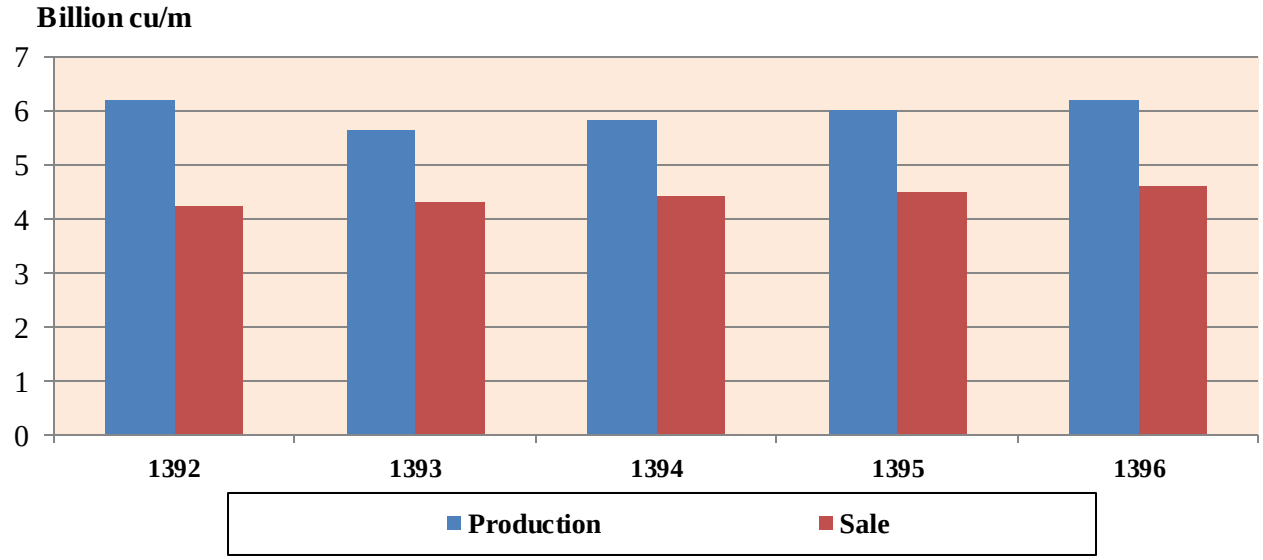
Source: Water and Sewage Engineering Company.

9.3. WATER CONSUMPTION OF LARGE RESERVOIR DAMS BY TYPE OF USE, THE YEAR 1396



For data see Table 9.3.

9.4. PRODUCTION AND SALE OF WATER IN URBAN AREAS BY URBAN WATER AND SEWAGE COMPANY



For data see Table 9.5.

9.6. DATA FOR WATER SUPPLY, PRODUCTION AND SALE NUMBER OF EXTENTIONS CAPACTTLES AND OF RURAL WATER

Year and Ostan	Max. capacity of water supply (litre second)	Production (1000 cu m)	Sale[1] (1000 cu m)	Extensions (number)
1385	51242	1019180	652929	3200860
1390	77038	1160295	794211	4415236
1392	78479	1311453	913055	4975782
1393	75623	1396408	964205	5155136
1394	77095	1390976	963604	5280728
1395	81054	1382449	947807	5392903
1396	***84306***	***1441038***	***975704***	***5564715***
East Azarbayejan	3647	77802	53206	328150
West Azarbayej an	2886	86700	62260	273794
Ardebil	896	28200	19945	117722
Esfahan	2125	57615	40925	243090
Alborz	2316	18925	9930	58626
Ilam	539	14680	10410	50701
Bushehr	1107	34000	20300	91572
Tehran	3520	54707	33720	150406
Chaharmahal&Bakhtiyari	3298	24600	16400	89273
South Khorasan	989	27734	17200	133997
Khorasan-e-Razavi	3995	118500	86700	584774
North Khorasan	970	27354	18366	114057
Khuzestan	4566	78360	47892	182853
Zanjan	1142	36009	19394	101557
Semnan	801	17038	9080	59200
Sistan&Baluchestan	1322	45330	32130	169187
Fars	10607	112700	80630	419563
Qazvin	1230	29547	21060	113820
Qom	628	15930	10100	32786
Kordestan	3581	26410	18116	124747
Kerman	2793	56900	42199	259559
Kermanshah	1903	35879	23593	133478
Kohgiluyeh & Boyerahmad	1440	14650	10485	60057
Golestan	3729	54452	36800	222987
Gilan	2664	80230	41770	295764
Lorestan	5243	35680	25570	132127
Mazandaran	4528	94287	66500	417150
Markazi	3961	33763	25324	144948
Hormozgan	4249	48560	36370	186133
Hamedan	2727	36480	26229	164772
Yazd	904	18016	13100	107865

1.Water sale refers to water consumption.
Source: Water and Sewage Engineering Company.

9.7. DATA FOR CAPACITY OF RESERVOIRS, RURAL WATER DISTRIBUTION AND TRANSMISSION NETWORK

(cu m / km)

Year and Ostan	Capacity of Reservoirs in the network	Length of the network for water distribution	Length of pipelines for water transmission
1385	2914866	116474	64500
1390	3292684	155248	87848
1392	3480029	162781	93498
1393	3332951	167234	95094
1394	3483849	171609	100713
1395	3628788	172980	103705
1396	***3803553***	***178848***	***107610***
East Azarbayejan	223468	8275	7273
West Azarbayejan	147200	6813	4973
Ardebil	102467	3593	2424
Esfahan	138189	5340	2890
Alborz	40875	1188	597
Ilam	60699	1366	1639
Bushehr	71505	3449	1945
Tehran	137739	2614	1176
Chaharmahal&Bakhtiyari	87984	2911	1852
South Khorasan	121648	3202	4227
Khorasan-e-Razavi	311807	13085	8856
North Khorasan	84729	2734	1986
Khuzestan	146373	12343	8184
Zanjan	81557	3178	2435
Semnan	39574	1185	798
Sistan &Baluchestan	177401	8884	6182
Fars	269349	12322	7236
Qazvin	66562	2449	1659
Qom	51706	882	739
Kordestan	86528	2532	2773
Kerman	216891	13223	5943
Kermanshah	124868	5131	3067
Kohgiluyeh & Boyerahmad	94104	3653	2773
Golestan	88755	5155	3111
Gilan	139673	17602	3922
Lorestan	67128	4591	3938
Mazandaran	181420	11033	4557
Markazi	95355	4326	2120
Hormozgan	124575	6827	4468
Hamedan	121234	4519	2192
Yazd	102190	4443	1675

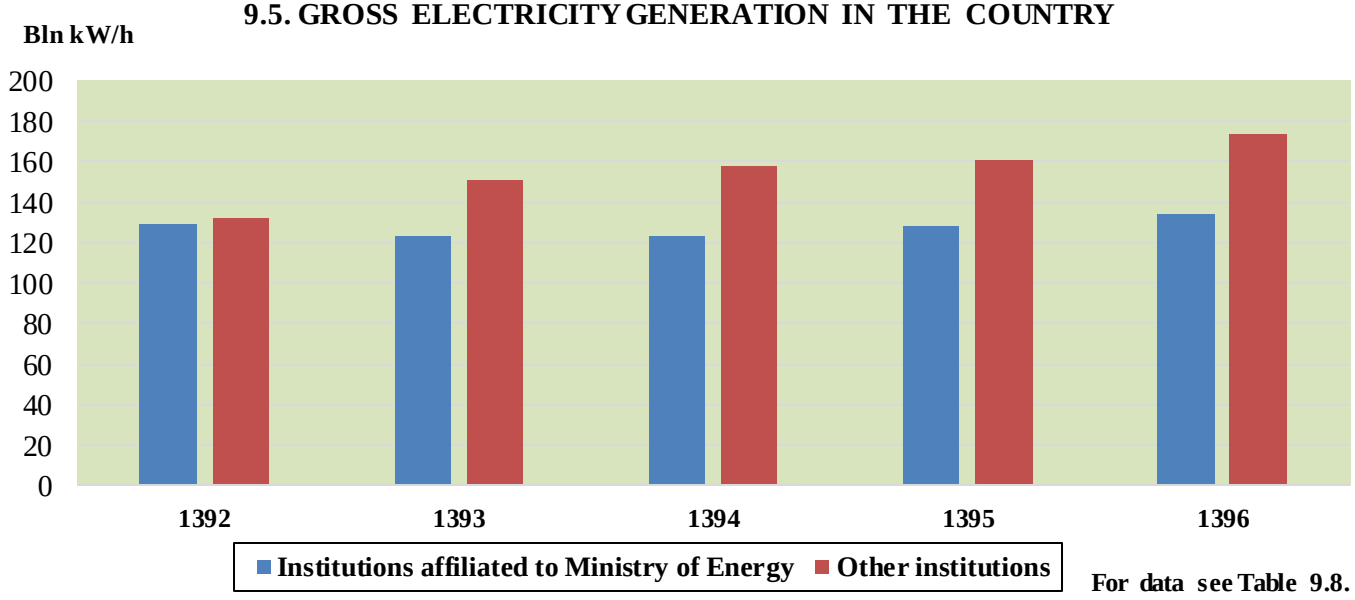
Source: Water and Sewage Engineering Company.

9.8. NOMINAL CAPACITY AND GROSS ELECTRICITY GENERATION OF INSTALLED GENERATORS

Year	Nominal capacity ((1000 kW h)			Gross electricity generation (mln kW h)		
	Total	Institutions affiliated to the Ministry of Energy	Other institutions	Total	Institutions affiliated to the Ministry of Energy	Other institutions
1380	34233	28043	6190	129996	124275	5721
1385	45151	40909	4242	192534	181538	10996
1390	65212	52252	12960	240063	208413	31650
1392	70278	35897(1)	34381(1)	262192	129539(1)	132653(1)
1393	73160	35075	38085	274480	123151	151329
1394	74103	34945	39158	280688	123215	157473
1395	76428	35764	40664	289196	128291	160905
1396	***78794***	***36511***	***42283***	***307968***	***133934***	***174034***

1. In the year 1392, a remarkable number of power plants in public sector were ceded to private sector. This led to decrease in the figures related to the institutions affiliated to the Ministry of Energy and the increase in the figures for other institutions affiliated to the private sector.
Source: Ministry of Energy.

9.5. GROSS ELECTRICITY GENERATION IN THE COUNTRY



For data see Table 9.8.

9.9. CAPACITY OF INSTALLED GENERATORS AND MAXIMUM POWER GENERATED AT THE POINT OF PEAK CONSUMPTION OF THE POWER PLANTS (1000 kW)

Year and type of generator	Nominal capacity (nominal power)	Actual capacity (actual capacity)	Power generated at the point of peak consumption
1380	28944	26496	21853
1385	45288	40985	32997
1390	65212	57522	42245
1392	70279	61907	45659
1393	73160	63987	46696
1394	74103	64707	49116
1395	76428	66598	51579
1396	***78794***	***68321***	***54016***
Ministry of energy	36511	33216	27414
Hydroelectric	11953	11953	9068
Steam	11241	10630	9043
Gas	6362	4966	4133
Combined cycle	5389	4257	4072
Diesel	438	284	91
Atomic	1020	1020	1008
Renewable	107	107	0
Large scale industries	5905	4878	1096
Steam	589	490	329
Gas	5316	4388	767
Private sector	36378	30226	25505
Steam	4000	3772	3170
Gas	14241	11523	9694
Combined cycle	17777	14571	12642
Renewable	361	361	0

Source: Ministry of Energy.

9. 10. CAPACITY OF INSTALLED GENERATORS AND GROSS ELECTRICITY GENERATION OF POWER PLANTS: THE YEAR 1396

Ostan	Nominal capacity(1000 kW)	Actual capacity (1000 kW)	Gross generation (mln kW h)
Total	***78794***	***68321***	***307968***
East Azarbayejan	1737	1593	7585
West Azarbayejan	1408	1140	6047
Ardebil	1023	827	3099
Esfahan	5120	4577	26510
Alborz	1780	1502	9306
Ilam	675	643	530
Bushehr	5505	4738	18997
Tehran[(1)]	6456	5162	24338
Chaharmahal&Bakhtiyari	1052	1051	1195
South Khorasan	796	596	3099
Khorasan-e-Razavi	3631	3091	16151
North Khorasan	1147	897	3733
Khuzestan	15294	14186	36413
Zanjan	747	599	2759
Semnan	663	534	2270
Sistan &Baluchestan	1497	1193	5311
Fars	4851	3726	21736
Qazvin	2180	1973	12065
Qom	743	624	4313
Kordestan	981	791	4645
Kerman	3607	2752	17371
Kermanshah	1544	1374	7565
Kohgiluyeh & Boyerahmad	17	17	23
Golestan	976	885	2754
Gilan	2839	2625	15008
Lorestan	575	535	533
Mazandaran	3467	3333	12514
Markazi	1341	1256	7864
Hormozgan	3347	2835	15910
Hamedan	1053	1053	6617
Yazd	2742	2211	11708

Source: Ministry of Energy.

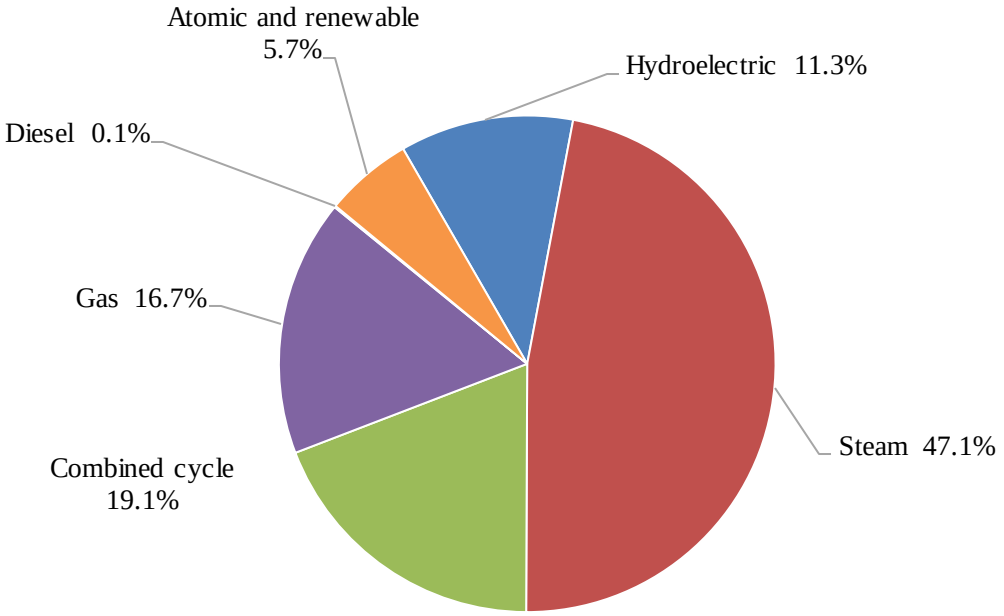
9. 11. ELECTRICITY GENERATION AND INTERNAL CONSUMPTION OF THE POWER PLANTS

(mln kWh)

Year and type of generator	Gross generation	Internal consumption of plants	Net generation
1380	127169	6123	121046
1385	192535	7773	184762
1390	240063	8442	231621
1392	262192	8727	253465
1393	274480	8426	266054
1394	280689	7888	272801
1395	289196	8285	280911
1396	***307968***	***8810***	***299159***
Ministry of energy	133935	4888	129047
Hydroelectric	15051	73	14978
Steam	63104	4287	58817
Combined cycle	25624	403	25221
Gas	22465	118	22348
Diesel	94	6	88
Atomic	7514	0	7514
Renewable	81	0	81
Large scale industries	7905	209	7696
Steam	2203	175	2028
Gas	5702	34	5668
Private sector	166129	3714	162415
Steam	25030	1775	23255
Gas	51310	267	51043
Combined cycle	89454	1672	87782
Renewable	334	0	334

Source: Ministry of Energy.

9.6. SHARE OF ELECTRICITY GENERATORS TYPES OF THE POWER PLANTS AFFILIATED TO THE MINISTRY OF ENERGY FROM GROSS GENERATION OF POWER , THE YEAR 1396



For data see Table 9.11.

9. 12. GROSS ELECTRICITY GENERATION OF HYDROELECTRIC POWER PLANTS BY REGIONAL WATER ORGANIZATION AND TYPE OF DAM (1000 kW hours)

Year and regional water organization	Total		Concrete arch		Earth		Other	
	Number	Generation	Number	Generation	Number	Generation	Number	Generation
1380	13	5056652	8	4902159	5	154493	-	-
1385	29	18168964	13	12634896	18	5550129	12	182164
1390	46	13287425	26	8489912	9	4707067	11	90446
1392	48	14469847	26	8709761	11	5751593	11	8493
1393	48	13862370	26	8003593	11	5842814	11	15960
1394	51	14086848	28	8518422	12	5523407	11	45019
1395	52	16419181	28	9412166	13	6945188	11	61827
1396	***58***	***15051012***	***28***	***7946516***	***15***	***7020383***	***15***	***84113***
East Azarbayejan	0	0	0	0	0	0	0	0
West Azarbayejan	2	71318	0	0	2	71318	0	0
Ardebil	1	50421	0	0	0	0	1	50421
Esfahan	2	114267	2	114267	0	0	0	0
Alborz	2	199182	1	147747	1	51434	0	0
Ilam	1	456258	1	456258	0	0	0	0
Tehran	3	303267	2	161150	1	142117	0	0
Chaharmahal &Bakhtiyari	3	1188746	2	1187876	0	0	1	870
Khorasan-e-Razavi	3	1547	2	0	0	0	1	1547
Khuzestan	7	10852793	3	5511055	4	5341738	0	0
Fars	3	23629	1	5007	2	18622	0	0
Qom	1	13839	0	0	0	0	1	13839
Kordestan	1	51166	0	0	1	51166	0	0
Kerman	1	106364	1	106364	0	0	0	0
Kermanshah	2	118610	1	3238	1	115372	0	0
Kohgiluyeh &Boyerahmad	5	22899	3	12553	0	0	2	10346
Gilan	5	217025	2	216874	1	151	2	0
Lorestan	5	387458	3	1722	1	384799	1	937
Mazandaran	7	866070	3	22404	1	843666	3	0
Markazi	3	1266	1	0	0	0	2	1266
Hamedan	1	4887	0	0	0	0	1	4887

Source: Ministry of Energy.

9. 13. GROSS ELECTRICITY GENERATION, FUEL CONSUMPTION, ENERGY GENERATION AND OUTPUT OF THERMAL POWER PLANTS AFFILIATED TO THE MINISTRY OF ENERGY, LARGE SCALE INDUSTRIES AND PRIVATE SECTOR

Year and type of ownership of the power plant	Gross electricity generation (mln kw hours)	Fuel consumed			Energy generated from fuel consumption (bln kcal)	Thermal energy consumed to generate one kWh of electricity (kcal)	Output (percent)
		Gas oil (mln lit)	Fuel oil (mln lit)	Natural gas (mln cu m)			
1380	122081	1618	6799	24012	295114	2414	35 .6
1385	174280	4362	7587	32168	393246	2403	35 .8
1390	227428	9406	12019	38901	530623	2333	36 .9
1392	242908	12186	10816	36648	565332	2327	37. 0
1393	255869	8872	10273	50172	606707	2371	36 .3
1394	263392	6084	6946	58424	606045	2301	37 .4
1395	265774	5867	4483	61782	604856	2276	37 .8
1396	***284988***	***4841***	***3687***	***69382***	***651960***	***2288***	***37 .6***
Power plants affiliated to the Ministry of Energy.	111288	1199	3269	26743	261906	2353	36 .5
Large scale industries	7905	3	0	2450	23265	2943	29 .2
Private sector	165794	3639	417	40188	366789	2212	38 .9

Source: Ministry of Energy.

9.14.GENERATION, INTERNAL CONSUMPTION OF POWER PLANTS, PURCHASE,LOSSES AND SALES OF ELECTRIC POWER OF INSTITUTIONS AFFILIATED TO THE MINISTRY OF ENERGY (mln kWh)

Description	Year							
	1380	1385	1390	1392	1393	1394	1395	1396
Gross generation	124275	181538	208414	129540	123150	123215	128292	133934
Less: Internal consumption of plants.....	5942	7064	7985	5386	4583	4548	4520	4887
Net generation	118333	174474	200429	124154	118567	118667	123772	129047
Plus: Electricity purchased from large-scale industries(1).....	5721	10997	23637	125273	141834	147920	149743	164071
Less: Distribution and transmission networks losses	20857	35566	34102	37407	34610	33297	33513	33772
Net sales	97476	144831	188917	211094	225541	233043	239903	259346
Net exports	305	233	5012	7879	5888	5732	2467	4320
Domestic sales.....	97171	144598	183905	203215	219653	227311	237436	255026

1.Other institutions include large scale industries and private plants.
Source: Ministry of Energy.

9.15. MAXIMUM COINCIDENTAL AND NON-COINCIDENTAL LOADS OF REGIONAL POWER COMPANIES (1000 kW)

Description	Maximum coincidental load
1380	23220
1385	33453
1390	41481
1392	44724
1393	46204
1394	48462
1395	50926
1396	***53414***
Azarbayejan Regional Power Company	2963
Esfahan Regional Power Company	3516
Bakhtar Regional Power Company	2371
Tehran Regional Power Company	9845
Khorasan Regional Power Company	3233
Khuzestan Regional Power Company	7670
Zanjan Regional Power Company	1427
Semnan Regional Power Company	451
Sistan&Baluchestan Regional Power Company	1295
Gharb Regional Power Company	1563
Fars Regional Power Company	4706
Kerman Regional Power Company	1849
Gilan Regional Power Company	1473
Mazandaran Regional Power Company	3815
Hormozgan Regional Power Company	2273
Yazd Regional Power Company	892
Kish Water and Power Company	160
Large scale industries	3913

Source: Ministry of Energy.

9.16. ELECTRIC POWER TRANSMISSION LINES (km circuits)

Year	Transmission lines		Sub-transmission lines	
	400 kV	230 kV	132 kV	63 and 66 kV
1380	9924	20731	13857	29400
1385	12404	25634	18582	37974
1390[1]	18625	29158	22092	44956
1392	19915	30300	22665	46240
1393	19995	30732	22919	47105
1394	20205	30869	23046	47506
1395	20477	31324	23413	48063
1396	***20617***	***31589***	***23504***	***48295***

1.In the year 1390, statistical data for power transmission lines of the country were revised and decreased in some cases.
Source:Ministry of Energy.

9.17. CAPACITY OF POWER TRANSMISSION SUB-STATIONS OF THE COUNTRY (MVA)

Year and Ostan	Transmission sub-stations		Sub-transmission sub-stations	
	400 kV	230 kV	132 kV	63 and 66 kV
1380	22458	37287	12762	31265
1385	29633	53816	18489	43987
1390	46708	67412	25352	59759
1392	54303	71605	27838	63270
1393	57143	75024	29269	65061
1394	59273	76532	29829	67080
1395	62183	80470	30865	69456
1396	***64093***	***82045***	***32251***	***72794***
East-Azarbayejan	1715	2960	2645	728
West-Azarbayejan	630	1805	2029	15
Ardebil	500	805	0	793
Esfahan	5560	5050	0	7541
Alborz	1000	2236	0	2706
Ilam	0	1240	559	740
Bushehr	3395	2056	1777	1954
Tehran	10200	11150	0	12939
Chaharmahal&Bakhtiyari	850	0	0	980
South Khorasan	1000	0	850	0
Khorasan-e-Razavi	3758	160	6320	1012
North Khorasan	1000	0	878	0
Khuzestan	7895	7902	10570	0
Zanjan	1715	1250	0	2102
Semnan	1600	2010	0	1368
Sistan&Baluchestan	630	2890	30	2675
Fars	4440	4245	640	6777
Qazvin	400	1555	0	2245
Qom	0	1370	0	1580
Kordestan	0	1515	80	1115
Kerman	2670	4830	4072	360
Kermanshah	1230	2265	0	2100
Kohgiluyeh&Boyerahmad	400	490	521	0
Golestan	700	1730	0	1743
Gilan	1000	3125	120	2721
Lorestan	1000	1945	0	1887
Mazandaran	2630	3505	0	4373
Markazi	2000	2675	0	3121
Hormozgan	3090	6947	825	5140
Hamedan	600	1815	0	1973
Yazd	2485	2519	335	2108

Source: Ministry of Energy.

9.18. NUMBER OF CUSTOMERS BY TYPE OF CONSUMPTION (consumer)

Year and Ostan	Total	Household	Public	Agricultural	Industrial	Other
1380	16345450	13682563	523505	77556	91468	1970358
1385	20559946	16989284	748964	138137	152202	2531359
1390	27164768	22224100	1082528	284781	174255	3399104
1392	30287179	24670834	1282618	329995	193628	3810104
1393	31671635	25739069	1382124	352628	206088	3991726
1394	32831066	26619546	1465251	378147	216515	4151607
1395	33824208	27354153	1543440	400257	225296	4301062
1396	***34835756***	***28100586***	***1611382***	***422260***	***236372***	***4465156***
East Azarbayejan	1773492	1398196	76187	19521	15770	263818
West Azarbayejan	1207593	983506	31676	19890	5783	166738
Ardebil	532748	440134	22916	4003	3123	62572
Esfahan	2536105	2008423	93775	44840	31138	357929
Alborz	1275979	1037667	80416	4952	6548	146396
Ilam	214116	179115	7929	2903	1082	23087
Bushehr	443852	360302	16092	4710	2620	60128
Tehran	6730763	5123058	515156	11539	43703	1037307
Chaharmahal&Bakhtiyari	350838	294512	11045	6414	2537	36330
South Khorasan	355199	298282	15097	4932	2547	34341
Khorasan-e-Razavi	2722705	2259774	101488	20943	18705	321795
North Khorasan	338941	288383	11732	3352	1620	33854
Khuzestan	1591785	1320005	52714	9932	4439	204695
Zanjan	428309	350792	15126	8167	2864	51360
Semnan	365871	284743	21190	5664	4776	49498
Sistan&Baluchestan	777335	654678	26228	12178	2521	81730
Fars	1973969	1629983	66859	43267	13381	220479
Qazvin	581154	468089	36479	5832	4414	66340
Qom	541529	440030	18511	3711	6217	73060
Kordestan	621840	521030	19847	9493	2721	68749
Kerman	1132557	964803	30953	15457	5269	116075
Kermanshah	742985	624014	25300	7346	2748	83577
Kohgiluyeh&Boyerahmad	241999	210009	7660	2402	1009	20919
Golestan	700575	575615	32625	10103	2828	79404
Gilan	1378560	1086590	67613	18869	5578	199910
Lorestan	616175	526623	16594	8111	2884	61963
Mazandaran	1897829	1512208	86141	73892	13170	212418
Markazi	697193	576354	27039	9750	6923	77127
Hormozgan	701338	572080	33380	8767	3293	83818
Hamedan	718866	589316	28578	12079	5421	83472
Yazd	643556	522272	15036	9241	10740	86267

Source: Ministry of Energy.

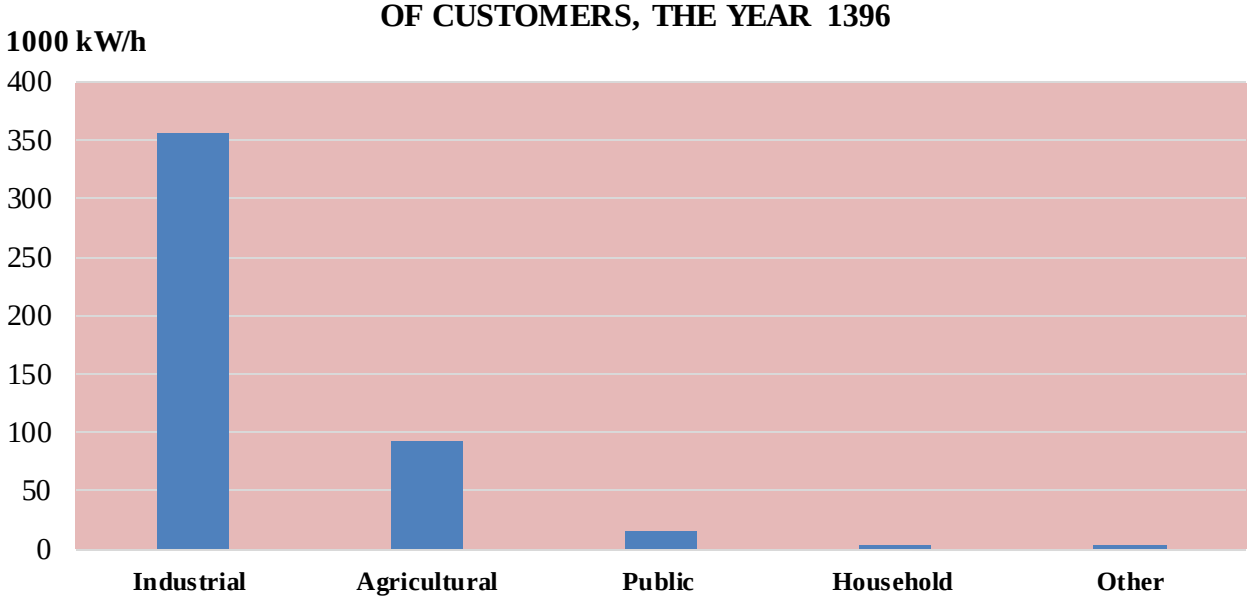
9.19. DOMESTIC SALE OF ELECTRICITY OF IRAN'S OSTANS BY TYPE OF CONSUMPTION

(mln KW/h)

Year and Ostan	Total	Household	Public	Agricultural	Industrial	Streets lighting	Other
1380	96811	32891	11951	11079	30379	4117	6394
1385	144598	48085	18329	17666	46590	4608	9320
1390	183905	56771	16808	29965	63945	3752	12664
1392	203215	64379	17833	33126	70733	3765	13378
1393	219653	71163	19767	35188	74294	3837	15404
1394	227790	76103	22196	36089	72705	4017	16680
1395	237436	78378	22914	36222	77603	4699	17620
1396	***255026***	***83403***	***24328***	***39379***	***84218***	***5017***	***18681***
East Azarbayejan	8519	2460	666	1072	3475	194	652
West Azarbayejan	5320	1942	405	1170	1258	138	405
Ardebil	1754	659	189	268	436	60	142
Esfahan	23588	4050	1125	3064	13865	388	1097
Alborz	6557	2187	660	750	2170	147	643
Ilam	1508	643	203	275	257	35	95
Bushehr	6829	4194	1135	317	591	114	479
Tehran	34366	11739	6123	2646	7348	523	5987
Chaharmahal&Bakhtiyari	1872	477	112	591	523	79	91
South Khorasan	1637	429	156	470	409	83	90
Khorasan-e-Razavi	16118	4396	1156	4624	4438	392	1112
North Khorasan	1514	442	112	361	480	36	83
Khuzestan	31128	15224	2552	2709	8698	468	1477
Zanjan	4113	592	172	631	2525	61	133
Semnan	2992	505	217	636	1447	60	127
Sistan&Baluchestan	5761	2988	901	920	413	189	351
Fars	15375	4643	1331	5076	2982	323	1020
Qazvin	4345	856	266	969	1974	71	210
Qom	3612	1183	360	598	1097	71	304
Kordestan	2490	979	189	547	566	50	159
Kerman	12443	3134	709	4099	3843	241	416
Kermanshah	3615	1387	550	471	869	118	219
Kohgiluyeh&Boyerahmad	1751	774	305	169	328	69	105
Golestan	3381	1595	292	623	527	109	235
Gilan	5813	2406	533	522	1516	165	671
Lorestan	3756	994	548	767	1200	99	148
Mazandaran	8643	3716	807	1048	2001	287	785
Markazi	7799	1045	305	1275	4841	110	223
Hormozgan	15403	5661	1649	853	6330	129	780
Hamedan	4053	1093	326	1151	1197	94	192
Yazd	8968	1014	273	707	6613	111	251

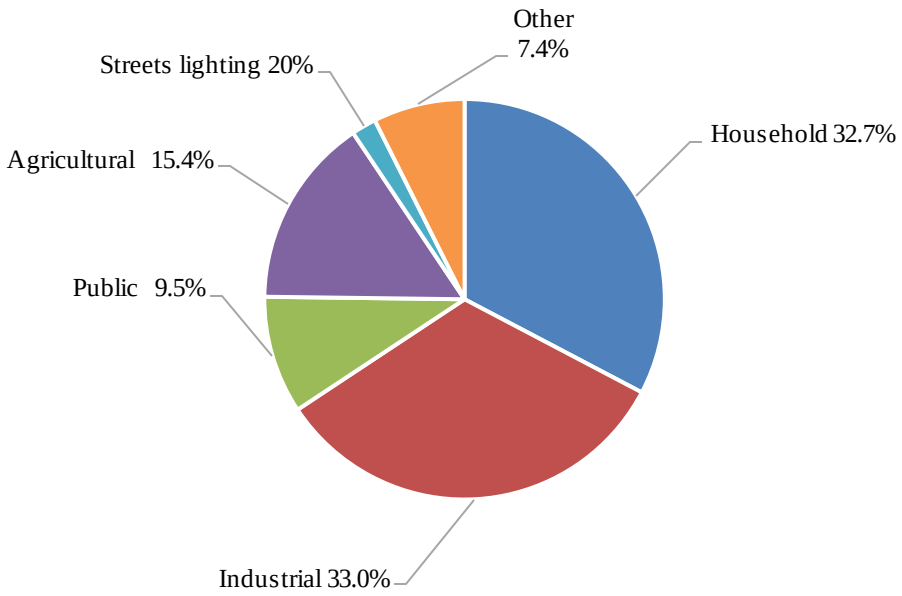
Source: Ministry of Energy.

9.7. AVERAGE ELECTRICITY CONSUMPTION BY TYPE OF CUSTOMERS, THE YEAR 1396



For data see Tables 9.18. and 9.19.

9.8. DOMESTIC SALE OF ELECTRICITY BY TYPE OF USE, THE YEAR 1396



For data see Table 9.19.

9.20. NUMBER OF VILLAGES, RURAL HOUSEHOLDS ENJOYING ELECTRICITY AND CHARACTERISRICS OF ELECTRICITY TRANSMITING INSTALLATIONS TO VILLAGES

Year and Ostan	Village	Household enjoying electricity	Length of power disribution lines with medium pressure(km)	Length of power disribution lines with low pressure(km)	Number of distribution transformers	Capacity of distribution transformers (MVA)
1380	45359	4056072	120580	89359	54162	5688
1385	50985	4427849	138330	93464	64718	6812
1390	54116	4452795	139429	98390	72186	7283
1392	55191	4469565	141066	98986	73625	7361
1393	55664	4476786	142096	99299	74228	7389
1394	56170	4484170	143292	99618	7417	74866
1395	56793	4492752	145049	99958	76735	7687
1396	***57030***	***4496797***	***145421***	***100091***	***77003***	***7698***
East Azarbayejan	2869	297385	8472	5649	3039	318
West Azarbayejan	2899	210232	5681	4077	2997	289
Ardebil	1595	70257	4507	3582	1591	117
Esfahan	1762	296865	4817	4535	3034	274
Alborz	224	21841	512	489	237	30
Ilam	628	44764	1461	809	695	72
Bushehr	512	39849	1486	1228	821	112
Tehran	599	152791	1267	1625	1084	152
Chaharmahal&Bakhtiyari	740	85454	575	982	524	59
South Khorasan	1484	124857	3494	2307	1743	129
Khorasan-e-Razavi	3259	327165	7228	4608	3559	310
North Khorasan	926	93887	3290	1887	1127	84
Khuzestan	3754	206755	7928	3517	7774	1131
Zanjan	921	91462	3817	2038	1018	118
Semnan	501	35938	2814	953	477	51
Sistan&Baluchestan	4489	244147	15390	6283	6448	583
Fars	3214	283508	9085	5917	4628	432
Qazvin	854	72829	2612	2237	1119	168
Qom	189	18234	410	248	189	16
Kordestan	1773	127272	5326	2159	1855	187
Kerman	5113	239428	12717	7803	8019	656
Kermanshah	2517	127282	4352	2549	2601	257
Kohgiluyeh&Boyerahmad	1641	54718	3314	1404	2122	229
Golestan	895	106236	1630	1197	1016	69
Gilan	3028	287618	4547	10202	4798	422
Lorestan	2701	102814	5507	2696	2535	190
Mazandaran	3000	262097	4659	5945	3067	221
Markazi	1190	124312	4700	4086	1387	173
Hormozgan	1706	126936	8125	5015	4409	580
Hamedan	1127	165010	3402	2981	2074	195
Yazd	920	54854	2296	1082	1016	73

Source: Ministry of Energy

9.21. EXCHANGE OF ELECTRICITY WITH NEIGHBORING COUNTRIES

Year	Exports					
	Total	Nakhjavan	Turkey	Armenia	Azerbaijan	Turkminestan
1380	1049	389	251	224	185	0
1385	2774	561	576	316	11	2
1390	8668	56	1118	57	0	8
1392	11586	65	2395	82	0	3
1393	9660	66	2179	86	0	1
1394	9880	50	1723	45	0	0
1395	6688	48	297	105	1	0
1396	***8130***	***40***	***0***	***51***	***3***	***0***

Year	Exports		
	Pakistan	Afghanistan	Iraq
1380	0	0	0
1385	172	134	1002
1390	271	557	6601
1392	414	796	7831
1393	446	819	6063
1394	457	782	6822
1395	482	731	5024
1396	***570***	***662***	***6803***

Year	Energy exchange	Imports					
		Total	Nakhjavan	Turkey	Armenia	Azerbaijan	Turkminestan
1380	305	745	0	0	315	430	0
1385	233	2541	0	0	428	536	1576
1390	5012	3656	57	0	1508	2	2089
1392	7879	3707	65	0	1103	6	2533
1393	5888	3772	65	0	1051	3	2653
1394	5732	4148	50	0	1344	4	2751
1395	2467	4221	51	0	1133	4	3033
1396	4278	***3852***	***38***	***0***	***1412***	***2***	***2399***

Year	Imports		
	Pakistan	Afghanistan	Iraq
1380	0	0	0
1385	0	0	0
1390	0	0	0
1392	0	0	0
1393	0	0	0
1394	0	0	0
1395	0	0	0
1396	***0***	***0***	***0***

Source: Ministry of Energy.

9.22. ELECTRICITY DISTRIBUTION NETWORK OF THE COUNTRY BY OSTAN BY OSTAN, THE YEAR 1396

Ostan	Length of power distribution network lines with medium voltage(km)	Length of power distribution network lines with low voltage (km)	Number of distribution network transformers	Capacity of distribution network transformers (MVA)
Total	***425133***	***361985***	***687193***	***119361***
East Azarbayejan	17721	15439	23960	3772
West Azarbayejan	15075	12084	19047	2535
Ardebil	7346	6136	6597	920
Esfahan	26038	27316	45456	8622
Alborz	5115	7609	14397	2950
Ilam	4859	2699	6040	1034
Bushehr	7941	6642	16270	3776
Tehran	24554	41309	64506	20834
Chaharmahal&Bakhtiyari	6517	4931	8305	1059
South Khorasan	12565	5609	9235	1002
Khorasan-e-Razavi	33065	24011	39721	6917
North Khorasan	6762	4493	6893	815
Khuzestan	22137	19345	53131	12673
Zanjan	8207	5716	9472	1472
Semnan	7302	3983	7869	1356
Sistan&Baluchestan	23900	12874	22862	2785
Fars	36543	24953	65994	8486
Qazvin	7032	5205	11885	1919
Qom	3944	3743	7448	1870
Kordestan	10246	5764	11987	1398
Kerman	31383	21735	42562	5179
Kermanshah	11584	6823	16777	2041
Kohgiluyeh&Boyerahmad	4911	3545	7515	1169
Golestan	7545	7481	17157	2318
Gilan	9042	19401	19053	3161
Lorestan	10013	5753	15885	1849
Mazandaran	15799	23199	44201	5778
Markazi	11633	8357	15972	2371
Hormozgan	15598	9659	25585	5113
Hamedan	10311	8043	16196	2234
Yazd	10447	8127	15215	1952

Source: Ministry of Energy.