



Agency for Strategic planning  
and reforms of the  
Republic of Kazakhstan  
Bureau of National statistics

[www.stat.gov.kz](http://www.stat.gov.kz)

# Environmental protection in the Republic of Kazakhstan

## 2020-2024



Astana 2025

**Agency for Strategic planning and reforms of the Republic of Kazakhstan  
Bureau of National statistics**

# **Environmental protection in the Republic of Kazakhstan**

**2020-2024**

**Statistical compilation**

**Astana 2025**

Environmental protection in the Republic of Kazakhstan / statistical compilation / in English / 148 pages

Agency for Strategic planning and reforms of the Republic of Kazakhstan  
Bureau of National statistics

The compilation is available on the Internet-resource of the Bureau of National statistics of the Agency for Strategic planning and reforms of the Republic of Kazakhstan [www.stat.gov.kz](http://www.stat.gov.kz)

Address: 010000, Republic of Kazakhstan  
Astana city, Mangilik El avenue, 8  
House of Ministries, Entrance 4  
Agency for Strategic planning and reforms  
of the Republic of Kazakhstan  
Bureau of National statistics  
Unified contact center: 1446  
Email address: [e.stat@aspire.gov.kz](mailto:e.stat@aspire.gov.kz)  
Internet-resource: <http://stat.gov.kz>

Legend:

- - no phenomenon

0,0 - insignificant value

x - confidential data

... - no data

In some cases, minor discrepancies  
between the total and the sum of the items are due to  
rounding of the data.

## Foreword

The statistical compilation presents information describing the dynamics of the state of the environment, the availability and use of natural resources. In order to fully characterize the state of the environment, the compilation publishes materials on the protection of atmospheric air, water, land, forestry, hunting resources, the formation and use of production and consumption waste, specially protected natural territories, information on environmental protection costs for 2020-2024.

Statistical compilation prepared by the Bureau of National statistics of the Agency for Strategic planning and reforms of the Republic of Kazakhstan on the basis of these forms of national statistical supervision th received state statistics bodies of enterprises, organizations and the results of sampling and other forms of statistical observations, as well as information provided by the ministries and departments whose activities are related with nature management, environmental monitoring and environmental protection (Ministry of ecology and natural resources of the Republic of Kazakhstan, Ministry of Energy of the Republic of Kazakhstan, the Ministry of Health of the Republic of Kazakhstan, Ministry of Agriculture of the Republic of Kazakhstan, Ministry of industry and infrastructure development of the Republic of Kazakhstan, Republican State Enterprise «Kazhydromet», JSC «Zhasyl Damu»).

The compilation presents data on the environmental indicators recommended by the UNECE, and on the «green growth» indicators recommended by the OECD.

The compilation is intended for a wide range of users: economists, statisticians, employees of government bodies and financial and economic services, enterprises and organizations, scientists, entrepreneurs, the media.

## Content

1. Geographical characteristics of the Republic of Kazakhstan .....	6
2. Social factors .....	7
3. Economic factors .....	41
4. Ecological factors .....	51
5. Land resources .....	68
6. Water resources .....	78
7. Atmospheric air .....	96
8. Wastes .....	120
9. Forest resources .....	126
10. Specially Protected Natural Areas .....	131
11. Protection of the animal world .....	132
12. Energy .....	135
13. International comparisons .....	138
Methodological notes .....	144

# 1. Geographical characteristics of the Republic of Kazakhstan

## **Capital – Astana city**

The territory of the republic – 2 724,9 thousand square meters km

The population density is 7.4 people per 1 square km

The population size as of 01.01.2024 – 20 033,8 thousand people

The natural population growth – 11.56 ppm per 1 000 people

## **The largest mountain ranges, m:**

Khan-Tengri Peak (Saryzhaz Ridge) – 6 995

The peak of the 100 years of the VGO (Meridian ridge) – 6 276

Talgar Peak (Ilei Alatau) – 4 979

Mount Ishanbulak (Kungei Alatau) – 4 653

Mount Besbaskan (Zhetisu Alatau) – 4 622

Mount Metallurg (Ileysky Alatau) – 4 600

Muztau Peak (Altai Mountains, Katyn Ridge) – 4 506

Manas Peak (Talas Ridge) – 4 482

Mountain Ashutor (Teriskei Alatau) – 4 427

Mountain Muztau (Zhetisu Alatau) – 4 370

Komsomol Peak (Ilei Alatau) – 4 330

## **The largest lakes, thousand km**

Caspian Sea – 374

Aral Sea (Central Asia) – 41

Balkhash – 18.2

## **The length of the borders of the republic, km**

Total – 13 394

including:

with the Russian Federation – 7 591

with the Republic of Uzbekistan – 2 354

with the Kyrgyz Republic – 1 241

with Turkmenistan – 426

with China – 1 782

over the Caspian Sea – 600

On the territory of the republic flows 85 022 rivers and temporary streams.

## **The longest rivers, km**

Irtys – 4 248

length within the republic – 1 698

Esil – 2 450

length within the republic – 1 400

Zhaiyk – 2 428

length within the republic – 1 082

Syrdarya – 2 219

length within the republic – 1 400

**The largest region by territory is Aktobe region - 300 thousand square km.**

**The largest city in terms of population is Almaty – 2 292.1 thousand people**

## 2. Social factors

### 2.1 Main socio-demographic indicators

	2020	2021	2022	2023	2024
Total land (territory) <sup>1)</sup> thousand square meters km*	2 724.9	2 724.9	2 724.9	2 724.9	2 724.9
Population at the end of the year, thousand people	18 630.9	18 879.0	19 503.2	19 766.8	20 033.8
Population density, people per 1 square. km					
Percent of urban population	59.0	59.3	61.8	62.1	62.4
Percent of rural population	41.0	40.7	38.2	37.9	37.6
Life expectancy at birth, years	71.51	70.38	74.45	75.10	75.44
Infant mortality rate, per 1 000 live births	7.68	8.32	7.69	7.67	6.80
Number of doctors per 10 000 population <sup>2)</sup>	40.5	40.9	40.1	40.6	41.1
Employment rate, percent	95.1	95.1	95.1	95.3	95.3
Unemployment rate, percent	4.9	4.9	4.9	4.7	4.7
Real wage in percent of previous year	106.8	108.8	107.6	102.7	102.4
Percent of the population with incomes below the subsistence minimum	5.3	5.2	5.2	5.2	5.0
Percent of the population with incomes below the cost of the food basket	0.2	0.1	0.1	0.2	0.1
The crime rate per 10 000 people	862	810	797	700	655

<sup>1)</sup>According to the Committee on Land Management of the Ministry of Agriculture of the Republic of Kazakhstan.

<sup>2)</sup>According to the Ministry of Health of the Republic of Kazakhstan.

### 2.2 Natural population movement

	people								
	Births			Deaths			Natural increase		
	Total	including		Total	including		Total	including	
female		male	female		male	female		male	
2020	426 726	206 010	220 716	160 962	74 330	86 632	265 764	131 680	134 084
2021	445 875	215 902	229 973	181 216	87 117	94 099	264 659	128 785	135 874
2022	403 893	195 752	208 141	133 523	60 984	72 539	270 370	134 768	135 602
2023	388 428	187 869	200 559	130 686	59 247	71 439	257 742	128 622	129 120
2024	365 923	177 076	188 847	132 916	60 099	72 817	233 007	116 977	116 030

### 2.3 Natural movement of the population per 1 000 people

	at the end of the year								
	Births			Deaths			Natural increase		
	Total	including		Total	including		Total	including	
female		male	female		male	female		male	
2020	22.75	21.33	24.26	8.58	7.70	9.52	14.17	13.63	14.74
2021	23.47	22.08	24.93	9.54	8.91	10.20	13.93	13.17	14.73
2022	20.57	19.47	21.72	6.80	6.07	7.57	13.77	13.40	14.15
2023	19.52	18.45	20.64	6.57	5.82	7.35	12.95	12.63	13.29
2024	18.15	17.17	19.18	6.59	5.83	7.39	11.56	11.34	11.78

### 2.4 Growth structure and population density

	at the end of the year				
	2020	2021	2022	2023	2024
All population, end of period	18 878 966	19 503 159	19 766 807	20 033 842	20 283 399
including:					
men	9 159 956	9 513 784	9 647 701	9 783 814	9 910 837
women	9 719 010	9 989 375	10 119 106	10 250 028	10 372 562
Population density, people per 1 square, km	6.9	7.2	7.3	7.4	7.4
<b>Demographic load factors</b>					
younger and older than working age	698	727	740	748	748
younger than working age	521	537	542	542	535
older than working age, per 1 000 people of working age	178	189	198	205	212

## 2.5 Interstate migration

people

	2020			2021		
	arrived	left	migration balance	arrived	left	migration balance
Total	11 370	29 088	-17 718	11 039	32 256	-21 217
including:						
CIS country	8 277	25 747	-17 470	9 435	27 505	-18 070
Azerbaijan	176	32	144	377	47	330
Armenia	23	2	21	57	0	57
Belarus	42	234	-192	70	288	-218
Kyrgyzstan	465	85	380	561	122	439
Moldova	9	3	6	9	39	-30
Russia	3 599	25 126	-21 527	3 456	26 717	-23 261
Tajikistan	150	2	148	269	3	266
Turkmenistan	1 189	0	1 189	347	0	347
Uzbekistan	2 554	192	2 362	4 184	187	3 997
Ukraine	70	71	-1	105	102	3
Other country	3 093	3 341	-248	1 604	4 751	-3 147
Germany	175	2 249	-2074	183	3 138	-2 955
Israel	9	61	-52	10	165	-155
Canada	21	111	-90	28	101	-73
Mongolia	147	3	144	110	14	96
Turkey	312	53	259	217	97	120
USA	72	247	-175	62	338	-276
Greece	3	9	-6	2	21	-19
Latvia	0	0	0	0	0	0
Lithuania	0	0	0	0	0	0
Estonia	0	0	0	0	0	0
Georgia	99	8	91	95	4	91
Other countries	2 255	600	1 655	301	402	-101
country not specified	-	-	-	-	-	-

Continuation

	2022			2023			2024		
	arrived	left	migration balance	arrived	left	migration balance	arrived	left	migration balance
Total	17 425	24 147	-6 722	25 387	16 094	9 293	29 282	12 732	16 550
including:									
CIS country	15 000	20 128	-5 128	21 913	12 448	9 465	23 891	9 518	14 373
Azerbaijan	290	31	259	269	32	237	403	26	377
Armenia	50	2	48	77	1	76	73	9	64
Belarus	90	233	-143	155	210	-55	179	226	-47
Kyrgyzstan	709	175	534	1 022	232	790	842	317	525
Moldova	11	4	7	16	7	9	25	2	23
Russia	5 891	19 383	-13 492	11 711	11 737	-26	7 984	8 784	-800
Tajikistan	491	3	488	639	-	639	749	-	749
Turkmenistan	633	1	632	1 166	2	1 164	1 123	-	1 123
Uzbekistan	6 631	266	6 365	6 519	172	6 347	12 140	113	12 027
Ukraine	204	30	174	339	55	284	373	41	332
Other country	2 425	4 019	-1 594	3 474	3 646	-172	5 391	3 214	2 177
Germany	276	2 518	-2 242	324	2 283	-1 959	403	1 993	-1 590
Israel	33	123	-90	21	39	-18	46	21	25
Canada	37	129	-92	30	114	-84	41	113	-72
Mongolia	287	40	247	657	12	645	1 271	17	1 254
Turkey	249	97	152	315	58	257	527	41	486
USA	88	339	-251	128	452	-324	133	332	-199
Greece	5	21	-16	8	7	1	21	4	17
Latvia	-	-	-	12	4	8	10	6	4
Lithuania	-	-	-	13	6	7	3	7	-4
Estonia	-	-	-	1	1	-	3	2	1
Georgia	5	7	-2	236	8	228	238	3	235
Other countries	1 445	745	700	1 729	662	1 067	2695	2668	27
country not specified	-	-	-	-	-	-	-	-	-

## 2.6 Average life expectancy at birth in 2024

	number of years		
	Total population	Female	Male
<b>Republic of Kazakhstan</b>	75.44	79.42	71.33
Abay	75.02	79.67	69.63
Akmola	74.20	78.19	70.40
Aktobe	75.18	79.15	70.91
Almaty	74.79	78.61	71.12
Atyrau	75.29	79.30	71.07
Batys Kazakhstan	74.17	78.86	69.42
Zhambyl	75.53	79.55	71.62
Zhetisu	74.97	79.06	70.99
Karagandy	73.97	78.30	69.26
Kostanai	74.28	79.10	69.41
Kyzylorda	75.15	79.30	71.10
Mangystau	75.62	79.45	71.63
Pavlodar	74.07	78.06	69.83
Soltustik Kazakhstan	73.68	78.68	68.30
Turkistan	75.32	78.90	71.87
Ulytau	72.48	77.07	67.96
Shygys Kazakhstan	73.41	78.49	68.28
Astana city	78.52	81.68	74.77
Almaty city	78.78	81.82	75.64
Shymkent city	77.22	80.63	73.35

## 2.7 Life expectancy

	years				
	2020	2021	2022	2023	2024
Entire population	71.37	70.23	74.44	75.09	75.44
including:					
men	67.09	66.33	70.26	70.99	71.33
women	75.53	74.03	78.41	79.06	79.42

## 2.8 Mortality rates by cause in 2024

Classes of causes of death	Number of deaths, people			Mortality rate, per 100000 people		
	total	including		total	including	
		female	male		female	male
Total	132 916	60 099	72 817	6.59	5.83	7.39
including						
circulatory system diseases	29 684	18 017	11 667	147.25	174.73	118.48
accidents, poisoning and injuries	10 399	8 156	2 243	51.59	79.10	22.78
neoplasms	13 500	7 150	6 350	66.97	69.34	64.48
respiratory diseases	13 245	8 152	5 093	65.70	79.06	51.72
diseases of the digestive system	11 069	6 480	4 589	54.91	62.84	46.60
infectious and parasitic diseases	1 151	687	464	5.71	6.66	4.71

## 2.9 Maternal mortality\*

	Number of deaths of pregnant women, pregnant women, postpartum women, people	Per 100000 live births
	2020	156
2021	200	44.7
2022	70	17.0
2023	45	11.4
2024	37	10.1

\* According to the Ministry of Health of the Republic of Kazakhstan.

## 2.10 Infant mortality

Number of dead children under 1 per 1000 live births

	Mortality rate		
	total	female	male
2020	7.7	6.8	8.5
2021	8.3	7.7	8.9
2022	7.7	6.8	8.5
2023	7.7	6.7	8.5
2024	6.8	6.2	7.3

## 2.11 Mortality of children under 5 years old

per 1000 born

	Mortality rate		
	total	female	male
2020	9.28	8.13	10.36
2021	9.90	9.02	10.73
2022	9.88	8.76	10.93
2023	10.03	8.72	11.24
2024	9.30	8.45	10.10

## 2.12 Morbidity by disease groups\*

thousand cases

	2020	2021	2022	2023	2024
The number of registered diseases with the first established diagnosis – total, thousand cases	10 083.0	10 104.8	9 649.2	9 504.5	9 756.9
Of them:					
infectious and parasitic diseases	295.2	295.2	250.5	270.4	275.0
neoplasms	121.9	121.9	146.0	165.0	161.4
endocrine, nutritional and metabolic disorders	187.6	187.6	235.3	255.4	264.4
diseases of the blood, blood-forming organs and certain disorders involving the immune mechanism	266.3	266.3	221.7	196.3	197.4
mental and behavioral disorders	8.5	8.5	11.5	13.1	13.2
mental and behavioral disorders associated with the use of psychoactive substances	14.2	14.2	12.5	13.4	12.8
nervous system diseases	343.6	343.6	389.0	395.0	410.2
diseases of the eye and its adnexa	386.7	386.7	425.9	467.0	470.4
diseases of the ear and mastoid process	241.5	241.5	278.0	311.6	331.2
circulatory system diseases	567.2	567.2	514.1	553.5	563.5
respiratory diseases	4 333.1	4 333.1	3 934.4	3 660.9	3 781.1
diseases of the digestive system	781.1	781.1	763.3	782.4	792.2
diseases of the genitourinary system	664.4	664.4	567.4	578.2	597.3
complications of pregnancy, childbirth and the postpartum period	221.5	221.5	189.4	182.4	171.6
diseases of the skin and subcutaneous tissue	487.2	487.2	456.1	469.2	474.7
diseases of the musculoskeletal system and connective tissue	391.3	391.3	433.2	472.8	499.6
congenital anomalies (malformations), deformities and chromosomal abnormalities	72.8	72.8	73.9	73.6	75.8
symptoms, signs and abnormalities	34.3	34.3	51.8	73.5	78.6
Injuries, poisoning and some other consequences of external causes	520.5	520.5	489.7	525.0	544.0
Separate conditions arising in the perinatal period	4	4.1	25.3	45.7	42.4
Coronavirus infection	4.7	15.7	46.6	3.2	0.5

\* According to the Ministry of Health of the Republic of Kazakhstan.

## 2.13 The incidence of individual infectious and parasitic diseases\*

thousand cases

	2020	2021	2022	2023	2024
Acute intestinal infections	6.9	8.9	13.1	13.0	13.7
Typhoid and paratyphoid A, B, C	-	-	-	-	-
Salmonella infections	0.5	0.5	0.9	0.9	1.0
Viral hepatitis, total	0.6	0.2	0.5	2.0	2.5
Influenza and acute viral infections	613.1	1 162.4	1 502.4	4 177.6	5 204.7
Scarlet fever	2.2	1.9	7.9	7.3	4.5
Whooping cough	0.054	0.001	0.003	0.4	3.1
Tetanus	-	-	-	-	-
Measles	3.3	0.002	0.04	29.7	28.1

## 2.14 The incidence of individual infectious and parasitic diseases per 10000 population\*

	thousand cases				
	2020	2021	2022	2023	2024
Acute intestinal infections	37.1	47	66.4	65.6	67.02
Typhoid and paratyphoid A, B, C	-	-	-	-	-
Salmonella infections	2.7	2.6	4.9	4.7	4.8
Viral hepatitis, total	3.1	1.3	2.5	10.2	12.2
Influenza and acute viral infections	3269.0	6 117.5	7 610.7	20 992.7	25 818.5
Scarlet fever	11.7	10.3	40.4	36.9	22.2
Whooping cough	0.3	0.01	0.02	2.1	15.3
Tetanus	-	-	-	-	-
Measles	17.4	0.001	0.02	149.4	138.0

\* According to the branch of the Scientific and practical center for sanitary and epidemiological expertise and monitoring of The Republican State Enterprise with the right of economic management, the National Center for Public Health of the Republic of Kazakhstan

## 2.15 Morbidity related to the transmission by water\*

	thousand cases				
	2020	2021	2022	2023	2024
<b>Cholera</b>					
<b>Republic of Kazakhstan</b>	-	-	-	-	3
Almaty city	-	-	-	-	3(imported cases)
Astana city	-	-	-	-	-
<b>Typhoid fever</b>					
<b>Republic of Kazakhstan</b>	-	-	-	-	-
Almaty	-	-	-	-	-
Zhambyl	-	-	-	-	-
Astana city	-	-	-	-	-
Almaty city	-	-	-	-	-
<b>Acute intestinal infection</b>					
<b>Republic of Kazakhstan</b>	179	8 932	13 116	13 048	13 669
Abay	-	-	-	298	245
Akmola	3	299	323	394	324
Aktobe	16	915	1 209	1 090	1 359
Almaty	0	406	781	119	84
Atyrau	-	244	269	379	579
Batys Kazakhstan	11	46	654	683	708
Zhambyl	36	1 112	1 327	1 152	732
Zhetisu	-	-	-	1 139	1 179
Karagandy	0	739	1 030	834	803
Kostanay	1	535	605	616	570
Kyzylorda	30	893	1 838	1 542	1 265
Mangystau	1	144	197	156	609
Pavlodar	8	330	394	471	380
Soltustik Kazakhstan	-	264	285	270	317
Turkistan	25	349	539	528	399
Ulytau	-	-	-	75	37
Shygys Kazakhstan	8	870	931	578	594
Astana city	28	944	1 355	1 611	2 011
Almaty city	1	449	331	250	248
Shymkent city	11	393	1 048	863	1 228

\* According to the branch of the Scientific and practical center for sanitary and epidemiological expertise and monitoring of the Republican State Enterprise with the right of economic management, the National Center for Public Health of the Republic of Kazakhstan of the Ministry of Health of the Republic of Kazakhstan.

## 2.16 Incidence transmitted by airborne droplets\*

	thousand cases				
	2020	2021	2022	2023	2024
<b>Acute respiratory viral infection</b>					
<b>Republic of Kazakhstan</b>	610 453	1 161 815	1 501 338	4 175 491	5 204 661
Abay	-	-	-	51 819	70 595
Akmola	32 687	69 338	106 963	219 238	223 219
Aktobe	11 655	15 336	29 442	288 834	425 992
Almaty	35 856	72 508	70 642	266 910	562 188
Atyrau	3 508	3 620	6 700	177 774	152 075

Continuation

	2020	2021	2022	2023	2024
Batys Kazakhstan	31 382	59 756	58 854	242 074	245 636
Zhambyl	12 122	18 629	65 763	344 142	290 414
Zhetisu	-	-	-	114 597	250 629
Karagandy	64 925	74 699	61 380	78 117	141 581
Kostanay	56 306	93 847	111 223	142 124	170 576
Kyzylorda	20 114	30 176	28 543	80 030	135 510
Mangystau	14 424	26 237	23 181	26 244	121 143
Pavlodar	44 632	92 199	65 807	245 407	503 044
Soltustik Kazakhstan	46 083	44 509	45 148	74 512	129 124
Turkistan	8 443	9 869	7 776	250 186	283 328
Ulytau	-	-	-	5 934	10 173
Shygys Kazakhstan	80 084	114 084	134 157	220 402	316 140
Astana city	33 639	93 969	143 798	871 852	271 631
Almaty city	99 647	323 571	505 514	367 754	795 317
Shymkent city	14 946	19 468	36 447	107 541	106 346
		<b>Influenza</b>			
<b>Republic of Kazakhstan</b>	2 678	569	3 055	2 098	1 804
Abay	-	-	-	88	126
Akmola	375	1	40	1	5
Aktobe	201	16	257	30	150
Almaty	177	18	286	49	24
Atyrau	14	7	30	162	109
Batys Kazakhstan	181	98	78	98	72
Zhambyl	105	4	89	90	82
Zhetisu	-	-	-	182	30
Karagandy	150	33	330	66	41
Kostanay	71	33	206	67	79
Kyzylorda	188	7	300	322	79
Mangystau	122	101	83	118	162
Pavlodar	187	12	14	67	55
Soltustik Kazakhstan	422	8	282	24	102
Turkistan	-	16	56	38	26
Ulytau	-	-	-	6	3
Shygys Kazakhstan	113	55	434	57	242
Astana city	139	96	296	272	175
Almaty city	208	48	181	246	70
Shymkent city	25	16	93	115	172

\* According to the branch of the Scientific and practical center for sanitary and epidemiological expertise and monitoring of The Republican State Enterprise with the right of economic management, the National Center for Public Health of the Republic of Kazakhstan.

## 2.17 Tuberculosis incidence\*

	number of cases per 100 000 population				
	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	35.7	35.9	36.5	34.7	33.4
Abay	-	-	-	39.7	37.0
Akmola	42.0	41.5	39.0	38.7	34.4
Aktobe	36.8	35.5	39.3	37.3	36.3
Almaty	35.2	33.9	36.0	38.3	35.1
Atyrau	54.8	62.3	57.3	45.5	44.5
Batys Kazakhstan	44.3	44.2	47.2	44.2	43.5
Zhambyl	35.8	37.4	32.9	34.2	32.6
Zhetisu	-	-	-	38.4	37.9
Karagandy	34.7	32.8	40.7	37.4	35.0
Kostanay	44.4	42.2	48.1	40.4	39.1
Kyzylorda	48.5	46.1	48.8	47.9	45.1
Mangystau	46.0	43.0	41.8	31.8	35.8
Pavlodar	38.7	40.9	40.5	39.4	39.3
Soltustik Kazakhstan	40.1	33.9	39.3	40.6	35.7
Turkistan	26.5	27.5	26.1	24.4	24.0
Ulytau	-	-	-	37.5	50.1
Shygys Kazakhstan	36.9	41.8	41.9	42.7	40.9
Astana city	33.9	37.6	33.4	34.9	34.1
Almaty city	25.8	23.1	22.3	22.0	21.4
Shymkent city	23.5	28.3	27.2	25.7	23.8

\* According to the Ministry of Health of the Republic of Kazakhstan.

## 2.18 Incidence of malignant neoplasms\*

number of cases per 100 000 population

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	172.10	188.9	199.00	208.60	199.2
Abay			250.40	271.30	260.7
Akmola	213.10	231.6	244.30	265.70	252
Aktobe	164.40	188.5	181.00	202.40	192.5
Almaty	126.20	136.0	138.90	139.90	136.2
Atyrau	139.90	159.1	155.30	163.00	155.5
Batys Kazakhstan	199.30	211.2	226.80	244.00	227
Zhambyl	124.80	133.1	132.80	134.10	133.8
Zhetisu			181.00	193.90	192.5
Karagandy	235.70	270.6	301.70	323.30	316.5
Kostanay	260.10	277.0	320.60	329.70	305.1
Kyzylorda	149.90	144.3	142.10	154.80	162.2
Mangystau	99.10	115.4	131.80	134.20	129
Pavlodar	271.90	319.3	325.90	327.00	313.2
Soltustik Kazakhstan	304.00	320.5	328.50	347.30	331.7
Turkistan	78.90	78.0	89.60	95.40	98.9
Ulytau				214.40	188.3
Shygys Kazakhstan	255.90	294.1	360.30	368.90	332.2
Astana city	160.20	175.7	180.30	192.90	196.1
Almaty city	194.00	221.3	232.20	250.10	223.4
Shymkent city	113.20	120.7	115.30	124.80	120.4

\* Hereinafter, according to the Ministry of Health of the Republic of Kazakhstan.

## 2.19 Incidence of respiratory diseases\*

number of cases per 100 000 population

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	23 102.6	18 103.1	20 130.8	18 396.4	18 756.6
Abay		0.0	21 414.1	21 039.3	21 329.0
Akmola	20 106.7	16 390.6	15 343.2	15 302.2	18 326.4
Aktobe	15 760.9	12 810.3	15 498.4	14 904.4	14 933.6
Almaty	32 411.8	26 198.9	33 035.9	30 141.9	29 325.7
Atyrau	16 858.7	15 950.3	12 106.0	12 502.7	14 315.2
Batys Kazakhstan	17 153.0	11 206.6	17 204.9	17 461.1	18 034.4
Zhambyl	28 848.8	18 716.9	24 848.6	21 824.8	22 180.0
Zhetisu		0.0	16 992.4	13 830.2	14 225.5
Karagandy	23 812.5	27 810.4	24 957.3	22 285.4	21 087.8
Kostanay	26 296.9	17 872.0	24 913.3	24 872.1	26 264.3
Kyzylorda	17 511.7	12 269.1	14 477.6	14 299.0	14 780.7
Mangystau	15 473.7	13 850.3	11 923.2	10 305.6	8 721.8
Pavlodar	33 197.8	24 013.3	25 376.4	24 454.7	26 156.5
Soltustik Kazakhstan	26 029.1	21 317.5	27 447.1	27 384.5	27 706.9
Turkistan	10 946.0	6 158.9	7 182.0	6 615.7	7 175.7
Ulytau		0.0	15 594.4	12 979.2	12 906.1
Shygys Kazakhstan	24 305.1	20 076.7	22 225.2	22 069.7	24 661.3
Astana city	26 924.5	26 998.2	34 729.4	28 053.7	25 706.8
Almaty city	28 521.1	18 418.8	20 589.0	18 596.1	19 336.4
Shymkent city	19 324.2	12 144.0	13 262.8	10 386.5	11 632.9

\* Hereinafter, according to the Ministry of Health of the Republic of Kazakhstan.

## 2.20 Anemia incidence by age group\*

number of cases per 100 000 population

Age groups	2020	2021	2022	2023	2024
Total	1 209.2	880.2	887.1	820.7	887.1
Children 0-14 years old	2 190.7	1 535.5	1 525.1	1 460.9	1 549.4
Teenagers 15-17 years old	2 126.2	1 758.0	1 651.0	1 385.6	1 457.9
Adults 18 years and older	728.1	534.2	549.9	494.5	551.5

\* Hereinafter, according to the Ministry of Health of the Republic of Kazakhstan.

## 2.21 Anemia incidence by regions

number of cases per 100 000 population

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	123.4	132.9	520.1	875.5	887.1
Abay			1 083	999	1 005.5
Akmola	586.2	623.7	395.9	548.2	768.9
Aktobe		114.4	371.6	1 238.9	1 198.6
Almaty	1 943.4	1 428.7	1 884.5	1 196.2	1 252.7
Atyrau	1 548.6	1 602.6	1 603.1	1 528.5	1 527
Batys Kazakhstan	1 719.3	1 714.9	1 619	1 601	1 566.2
Zhambyl	1 988.7	922.4	1 030.1	1 232.7	1 163.6
Zhetisu			1 052.1	1 252.3	1 274.2
Karagandy	379.6	205.5	253.7	284.1	341.6
Kostanay	377.6	388.2	384	353.4	396.7
Kyzylorda	2 846.1	2 675.4	2 331	2 040.3	1 842.9
Mangystau	1 737.7	1 116	1 420.4	976.6	926.1
Pavlodar	473.3	481	439.5	409.7	398.5
Soltustik Kazakhstan			536.3	462.9	444.6
Turkistan	1 431.7	648.4	659.1	606.8	693.8
Ulytau			299.7	323.7	322.9
Shygys Kazakhstan	780.1	726.7	460.3	438.6	429.6
Astana city	482.3	470.3	578.7	708.1	636.1
Almaty city				605.9	666.7
Shymkent city	2 191.7	1 661.6	1 021.9	1 008.1	1 015.9

## 2.22 The number of patients with anemia consisting on the dispensary

people

Age groups	2020	2021	2022	2023	2024
Total	270 908	246 691	255 764	241 395	229 772
Children 0-14 years old	138 407	123 148	130 407	123 463	118 537
Teenagers 15-17 years old	15 095	13 075	13 008	12 267	11 736
Adults 18 years and older	117 406	110 468	112 349	105 665	99 499

## 2.23 Morbidity in ecologically unfavorable regions and the city of Almaty in 2024\*

number of cases per 100 000 population

	Republic of Kazakhstan	Shygys Kazakhstan	Kyzylorda	Karagandy	Almaty city
Active tuberculosis	33.4	40.9	45.1	35.0	21.4
Malignant neoplasms	199.2	332.2	162.2	316.5	223.4
Malignant neoplasms of the breast, people	27.7	39	19.5	40.7	33.4
Mental and behavioral disorders due to alcohol use	51.8	102.5	77.1	61.1	22.6
Mental and behavioral disorders	65.6	102.8	65.3	82.6	42.0

\* Hereinafter, according to the Ministry of Health of the Republic of Kazakhstan.

## 2.24 Incidence of skin and subcutaneous tissue diseases associated with exposure to radiation

number of cases

	2020	2021	2022	2023	2024
Sunburn	2	9	0	16	54
First degree sunburn	8	9	0	7	31
Second degree sunburn	4	4	0	3	10
Third degree sunburn	-	-	0	0	1
Another sunburn	5	2	0	9	20
Uncpecified sunburn	5	2	0	14	19
Other skin changes, caused by ultraviolet radiation	-	-	0	13	236
Drug phototoxic reaction	-	1	0	3	0
Drug photoallergic reaction	1	1	0	12	12
Photo contact dermatit [berloque dermatitis]	73	110	25	231	174
Solar urticaria	17	38	2	46	70
Polymorphic light mouse	-	1	0	0	20

	Continuation				
	2020	2021	2022	2023	2024
Other refined acute skin changes caused by ultraviolet radiation	11	9	0	3	7
Acute skin change caused by ultraviolet radiation, unspecified	-	-	0	1	3
Skin changes caused by chronic exposure to non-ionizing radiation	4	2	3	8	21
Actinic (photochemical) keratosis	3	3	0	17	5
Actinic reticuloid	-	-	0	1	9
Rhombic skin on the back of the head (neck)	-	-	0	1	3
Poikiloderma Sivatta	-	-	0	0	0
Senile atrophy (lethargy) of the skin	2	1	0	10	12
Actinic (photochemical) granuloma	-	1	0	0	0
Other skin changes, caused by chronic exposure to non-ionizing radiation	-	1	2	5	2
Skin change, caused by chronic exposure to non-ionizing radiation, unspecified	1	1	1	5	1
Radiation dermatitis radiation	-	-	0	0	3
Acute radiation dermatitis	-	-	0	1	2
Chronic radiation dermatitis	-	-	0	0	1
Radiation dermatitis, unspecified	-	-	0	0	2
Other diseases of the skin and subcutaneous tissue associated with radiation	2	2	4	23	7
Erythema burn (dermatitis ab igne)	3	1	1	11	12
Other specified diseases of the skin and subcutaneous tissue associated with radiation	3	3	2	14	5
Skin and subcutaneous tissue diseases associated with exposure to radiation, unspecified	3	3	1	8	4

## 2.25 Vaccination coverage of children<sup>1)</sup>

in percent

	2021	2022	2023	2024
BCG <sup>2)</sup>	96.1	93.4	93.0	94.3
AKDS-3 <sup>3)</sup>	95.3	98.6	96.7	98.0
MMR (under 2 years of age) <sup>4)</sup>	97.4	99.2	99.0	92.7
MMR (at the age of 6)	95.9	97.3	99.7	92.5

<sup>1)</sup> \*According to the Ministry of Health of the Republic of Kazakhstan, the percent of immunized children.

<sup>2)</sup> BCG - tuberculosis.

<sup>3)</sup> AKDS-3 – diphtheria, pertussis, tetanus, hepatitis B, Haemophilus influenzae type B.

<sup>4)</sup> MMR - a combined vaccine that protects against three infections: measles, mumps, and rubella.

## 2.26 The results of preventive examinations of children aged 0-14 years in 2024\*

	1000 examined children identified			
	with reduced hearing acuity	with reduced visual acuity	with scoliosis	with posture violation
<b>Republic of Kazakhstan</b>	1.9	11.3	1.7	2.3
Abay	0.6	10.8	2.2	1.1
Akmola	1.0	8.7	1.1	1.3
Aktobe	0.7	15.0	1.0	1.9
Almaty	4.7	4.2	3.8	5.2
Atyrau	1.3	32.6	1.0	0.8
Batys Kazakhstan	3.5	23.0	3.2	3.8
Zhambyl	1.0	3.3	1.1	0.7
Zhetisu	0.7	6.8	0.5	1.1
Karagandy	3.7	27.2	3.2	6.1
Kostanay	0.6	10.4	2.0	2.4
Kyzylorda	5.9	24.6	0.3	0.5
Mangystau	0.3	3.4	0.6	0.4
Pavlodar	1.8	17.1	5.3	6.5
Soltustik Kazakhstan	3.1	13.9	5.6	6.0
Turkistan	0.7	1.9	0.3	0.2
Ulytau	0.7	15.5	2.0	1.3

	1000 examined children identified			
	with reduced hearing acuity	with reduced visual acuity	with scoliosis	with posture violation
Shygys Kazakhstan	1.6	17.2	1.4	2.2
Astana city	2.2	15.3	2.1	4.5
Almaty city	0.9	9.0	1.8	2.2
Shymkent city	1.5	6.6	1.0	0.6

\* According to the Ministry of Health of the Republic of Kazakhstan.

## 2.27 Tuberculosis mortality

	number of cases per 100 000 population				
	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	1.98	1.85	1.63	1.33	1.19
Abay	1.56	1.88	1.47	1.48	1.82
Akmola	2.72	2.45	3.18	2.66	1.27
Aktobe	1.58	1.22	0.98	0.86	0.64
Almaty	1.21	1.12	0.67	0.79	0.84
Atyrau	2.30	1.96	1.60	1.43	1.27
Batys Kazakhstan	2.28	2.26	2.04	1.88	1.58
Zhambyl	1.94	1.49	1.24	1.64	1.31
Zhetisu	1.96	2.41	1.14	1.00	0.72
Karagandy	2.70	2.88	2.56	1.76	1.85
Kostanay	3.00	2.91	1.92	1.80	1.69
Kyzylorda	1.86	1.83	1.69	1.31	1.54
Mangystau	1.27	0.96	1.72	0.90	1.01
Pavlodar	2.00	1.47	1.46	1.06	1.33
Soltustik Kazakhstan	2.93	3.15	2.80	2.82	1.71
Turkistan	0.84	0.87	0.52	0.56	0.23
Ulytau	5.28	2.64	4.52	4.06	3.61
Shygys Kazakhstan	4.55	3.47	3.96	2.33	2.89
Astana city	1.97	2.46	1.58	1.51	1.01
Almaty city	2.05	1.40	1.88	1.09	1.19
Shymkent city	0.76	1.74	0.93	0.41	0.65

## 2.28 Mortality from respiratory diseases

	number of cases per 100 000 population				
	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	122.72	108.49	66.76	65.01	65.70
Abay	109.99	122.39	54.01	58.30	56.34
Akmola	120.03	116.84	67.61	75.00	67.16
Aktobe	186.83	133.15	98.76	95.10	98.04
Almaty	133.07	129.10	91.21	84.82	77.51
Atyrau	161.08	106.70	75.67	74.15	93.30
Batys Kazakhstan	139.63	145.76	97.41	99.61	99.48
Zhambyl	142.84	138.98	80.81	84.15	88.43
Zhetisu	189.46	216.76	125.8	106.11	101.41
Karagandy	92.54	75.97	49.08	47.40	52.53
Kostanay	177.39	191.27	122.2	125.37	132.89
Kyzylorda	136.45	58.25	45.75	50.73	47.51
Mangystau	97.92	44.47	27.23	28.57	36.43
Pavlodar	155.87	135.03	99.11	83.24	75.75
Soltustik Kazakhstan	273.65	337.92	175.4	156.74	166.88
Turkistan	76.67	71.20	33.98	38.34	40.92
Ulytau	124.11	60.81	47.93	41.53	45.16
Shygys Kazakhstan	92.16	152.98	69.71	51.33	48.10
Astana city	52.12	33.57	24.45	25.86	27.58
Almaty city	90.23	66.06	50.06	47.83	46.45
Shymkent city	106.91	58.54	29.99	38.11	39.71

## 2.29 Mortality from lack of safe water, safe sanitation and hygiene, and unintentional poisoning (SDG 3.9.2, 3.9.3)

per 100000 people

	2020	2021	2022	2023	2024
Mortality from a lack of safe water, safe sanitation and hygiene (from a lack of safe services in the field of water supply, sanitation and hygiene)	1.28	1.27	0.60	0.78	0.75
Mortality from unintentional poisoning	2.02	1.65	1.46	1.33	0.75

## 2.30 Accidents, poisonings and injuries

	Number of deaths, people					per 100000 people				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	10730	11 218	11 182	10 933	10 399	57.21	59.04	56.95	54.94	51.59
Abay	423	473	478	464	411	65.99	74.12	78.4	76.20	67.91
Akmola	639	632	596	547	500	86.96	86.17	75.7	69.42	63.48
Aktobe	453	491	491	521	480	51.05	54.57	53.2	55.79	50.82
Almaty	784	761	964	866	890	55.91	53.36	64.8	57.03	57.58
Atyrau	284	301	276	332	277	43.61	45.43	40.2	47.53	39.16
Batys Kazakhstan	477	472	485	480	472	72.39	71.15	70.7	69.50	67.95
Zhambyl	585	547	707	613	632	51.61	47.84	58.2	50.23	51.70
Zhetisu	445	459	513	527	467	67.23	69.14	73.4	75.46	67.08
Karagandy	859	887	878	879	854	74.78	77.37	77.4	77.44	75.27
Kostanay	822	875	752	649	577	94.93	101.68	90.3	78.09	69.70
Kyzylorda	300	345	383	332	300	37.11	42.04	46.2	39.63	35.54
Mangystau	248	325	294	293	284	34.94	44.47	38.9	37.71	35.68
Pavlodar	671	662	623	567	582	89.32	88.42	82.4	75.16	77.34
Soltustik Kazakhstan	555	510	442	411	399	101.72	94.49	82.4	77.24	75.84
Turkistan	818	951	890	925	872	40.33	46.22	42.4	43.41	40.59
Ulytau	151	160	157	166	124	66.46	70.51	71.0	74.94	56.00
Shygys Kazakhstan	842	921	726	765	737	116.17	127.74	99.1	104.99	101.58
Astana city	400	479	433	498	461	34.29	39.31	32.6	35.77	31.16
Almaty city	602	589	694	674	661	30.84	29.37	32.4	30.70	29.24
Shymkent city	372	378	400	424	419	35.22	34.58	33.7	35.12	33.81

## Accessibility of education

### 2.31 Gross enrollment ratio in higher education

in percent

	2020	2021	2022	2023	2024
Total in the country	64.1	62.6	59.1	54.4	56.5
including:					
men	58.1	56.3	53.6	49.9	50.9
women	70.4	69.2	64.9	59.1	62.3

The gross enrollment ratio of higher education is determined as the ratio of the number of students, regardless of age, studying in technical and vocational education organizations (ISCED-5) and universities (ISCED 6-8), to the total population aged 18-22 years.

### 2.32 Gross secondary school enrollment ratio

in percent

	2020	2021	2022	2023	2024
Total in the country	105.4	104.4	101.0	102.2	106.0
including:					
men	105.4	104.3	101.0	102.2	105.2
women	105.5	104.6	101.1	102.3	106.8

Note: The gross enrollment ratio of secondary education is defined as the ratio of the number of students, regardless of age, studying at the first stage of basic secondary and general secondary education (ISCED 2.3) and in technical and vocational education organizations (ISCED-3), to the total population at the age of 11-17 years.

### 2.33 The share of graduates in universities to the total number of students in them

in percent

	2020	2021	2022	2023	2024
Total in the country	26.6	26.4	28.0	26.5	23.6
including:					
men	11.8	11.9	12.5	11.6	10.5
women	14.8	14.5	15.5	14.9	13.1

### 2.34 The share of graduates in technical and vocational education organizations to the total number of students in them

in percent

	2020	2021	2022	2023	2024
Total in the country	30.6	29.8	26.4	25.7	28.5
including:					
men	16.3	15.6	13.8	13.5	13.7
women	14.3	14.2	12.6	12.2	14.8

### 2.35 Graduates of higher education institutions for environmental professions

people

Name of specialties	2020	2021	2022	2023	2024
Environment	897	705	711	1256	1 152
Occupational hygiene and safety at production sites	1 483	1 183	1 022	1414	1 430
Water resources and water use	275	287	220	134	113
Forestry	290	502	316	376	599
Total graduates in environmental professions	2 945	2 677	2 269	3 259	3 294
The share of graduates in environmental professions in the total number of graduates of higher educational institutions	1.9	1.8	1.4	2.1	2.2
For reference:					
Graduation of students of higher educational institutions	153 627	151 679	161 974	157 106	147 375

\*Amendments have been introduced in connection with the approval of the Classifier of Fields of Training for Higher and Postgraduate Education. Order of the Minister of Education and Science of the Republic of Kazakhstan dated October 13. 2018. No. 569. Registered with the Ministry of Justice of the Republic of Kazakhstan on October 17. 2018. No. 17565.

### 2.36 The number of employees engaged in harmful and adverse working conditions

people

	2020	2021	2022	2023
Total number of employees	1 645 247	1 641 593	1 671 149	1 692 214
Including:				
employed in conditions that do not meet sanitary and hygienic requirements	366 898	374 987	386 349	410 318
of them:				
working under the influence of increased noise and vibration	169 802	169 438	180 975	187 709
increased dustiness and gas contamination of the working area exceeding the MPC	119 666	120 556	128 135	131 389
adverse temperature conditions	62 202	61 660	64 571	65 575
engaged in heavy physical labor	94 319	93 647	102 668	107 166
working on equipment that does not meet safety requirements	3 556	4 168	2 121	1 893

continuation

	2024
List number of employees. people	1 719 268
Actual number of employees	1 614 995
including:	
engaged in the night shift	428 630
working under the influence of physical industrial factors	250 283

		Continuation
		2024
working under the influence of chemical industrial factors		57 116
working under the influence of biological industrial factors		12 474
engaged in heavy physical labor		122 611
working on equipment that does not meet safety requirements		2 758

*\*Indicators of the statistical form "Index 1-T (Working Conditions) annual frequency" were revised in connection with the approval of the Concept of Safe Labor of the Republic of Kazakhstan for 2024–2030 in 2024.*

### 2.37 The proportion in the total number of employees

					in percent
		2020	2021	2022	2023
Total number of employees		100.0	100.0	100.0	100.0
Including:					
employed in conditions that do not meet sanitary and hygienic requirements		22.3	22.8	23.1	24.2
of them:					
working under the influence of increased noise and vibration		10.3	10.3	10.8	11.1
increased dustiness and gas contamination of the working area exceeding the MPC		7.3	7.3	7.7	7.8
adverse temperature conditions		3.8	3.8	3.9	3.9
engaged in heavy physical labor		5.7	5.7	6.1	6.3
working on equipment that does not meet safety requirements		0.2	0.3	0.1	0.1

		continuation			
		2024			
Actual number of employees		100			
including:		26.5			
engaged in the night shift		15.5			
working under the influence of physical industrial factors		3.5			
working under the influence of chemical industrial factors		0.8			
working under the influence of biological industrial factors		7.6			
engaged in heavy physical labor		0.2			
working on equipment that does not meet safety requirements		0.2			

## 2.38 Number of employees employed in harmful and unfavorable working conditions in 2024

	Total number of employees	Actual number of employees	Of them		Including						working on equipment that does not meet safety requirements
			engaged in the night shift	engaged in conditions that do not meet sanitary and hygienic requirements	working under the influence of industrial factors	working under the influence of chemical industrial factors	working under the influence of biological industrial factors	engaged in heavy physical labor			
Industry, total	653 672	625 445	234 200	192 505	40 885	1 709	67 148	2 129	653 672		
including:											
mining and quarrying	193 665	187 228	96 031	75 243	12 859	173	33 491	1 748	193 665		
manufacturing industry	312 491	297 278	100 218	80 921	20 838	297	21 308	114	312 491		
Electricity, gas, steam and air conditioning	105 869	101 326	27 206	29 114	3 945	121	6 673	132	105 869		
water supply, sewerage system, waste collection and distribution control	41 647	39 613	10 745	7 227	3 243	1 118	5 676	135	41 647		
Construction	126 329	118 499	8 948	10 044	1 280	219	6 943	8	126 329		
Transport and warehousing	221 743	211 095	74 749	28 660	5 939	426	38 402	13	221 743		
Information and communication	69 145	65 525	2 988	525	1	-	167	-	69 145		
Professional, scientific and technical activities	50 969	48 122	5 369	3 331	2 105	3 631	1 979	100	50 969		
Health and social services	493 243	449 133	89 595	12 540	5 884	5 425	5 169	502	493 243		

people

### 2.39 The number of victims of accidents connected with work

	2020	2021	2022	2023	2024
The number of victims of accidents related to work, total, people	2 033	2 133	2 449	2 670	2 471
including:fatal	203	176	205	246	185
The number of people injured in work-related accidents per 1.000 employees, people	0.4	0.4	-	-	-
including:fatal	0.04	0.03	-	-	-

### 2.40 The distribution of the number of victims of accidents according to occupation

Name of groups	people				
	2020	2021	2022	2023	2024
Executives and civil servants	32	18	20	24	23
Professional specialists	180	186	221	253	250
Technicians and other professional support staff	153	156	157	171	192
Administration Officers	13	20	8	17	16
Service and sales staff	117	123	146	144	132
Farmers and workers in agriculture and forestry, fish farming and fisheries	32	32	32	23	29
Employees in industry, construction, transport and other related occupations	813	795	1 009	1 245	1 075
Production Equipment Operators,assemblers and drivers	361	519	602	514	453
Unqualified employees	302	260	235	255	274
Non-Employees	30	24	19	24	27

### 2.41 The number of victims of accidents by reasons

Causes of accidents	people				
	2020	2021	2022	2023	2024
Constructive defects of machines, mechanisms and equipment	13	14	7	19	15
Operation of defective machines, mechanisms and equipment	6	11	16	16	10
Violation of technological processes	22	17	10	14	20
Violation of safety requirements for vehicle operation	34	54	49	42	43
Violation of road traffic rules	200	165	163	165	168
Violation of railway traffic rules	3	-	1	1	9
Violation of air traffic rules	-	-	2	-	1
Violation of the rules of water transport traffic	-	-	1	-	-
Unsatisfactory work organization	269	266	257	278	276
The unsatisfactory technical condition of buildings, structures, maintenance of territories and deficiencies in the organization of workplaces	34	34	44	42	47
Deficiencies in learning safe labor practices	33	41	32	38	48
Insecurity or non-use of personal protective equipment	23	19	18	28	20
Insecurity of collective protection	4	11	7	6	1
Violation of labor and production discipline	34	39	40	40	26
Increased dust and gas pollution of the working area	5	10	5	6	13
Increased noise level	3	1	-	-	-
Increased vibration	1	-	-	1	1
Increased level of ionizing radiation	-	1	-	1	1
Contact with sources of infectious diseases	1	-	2	-	-
The impact on the human body physical overload	5	3	6	2	5
Violation of the established labor regime	4	6	6	1	1
Violation of the rules of safety and labor protection	258	276	234	301	311
Accidents	47	63	99	141	53
Gross negligence of the victim	733	688	687	775	744
Other	64	63	106	91	129

## 2.42 The number of deaths as a result of accidents

people

Causes of accidents	2020	2021	2022	2023	2024
Constructive defects of machines, mechanisms and equipment	1	1	1	3	3
Operation of defective machines, mechanisms and equipment	2	-	2	1	-
Violation of technological processes	3	3	2	3	5
Violation of safety requirements for vehicle operation	7	10	7	7	8
Traffic offense	19	20	26	16	14
Violation of air traffic rules	2	-	-	-	-
Violation of railway traffic rules	-	-	1	-	2
Unsatisfactory work organization	31	26	32	49	41
The unsatisfactory technical condition of buildings, structures, maintenance of territories and deficiencies in the organization of workplaces	5	3	10	2	3
Deficiencies in learning safe labor practices	1	5	4	1	1
Insecurity or non-use of personal protective equipment	1	1	2	3	2
Violation of labor and production discipline	10	9	8	6	5
Increased dust and gas pollution of the working area	2	1	1	-	4
Increased noise level	-	-	-	-	-
The impact on the human body physical overload	-	-	-	-	1
Violation of the established labor regime	1	-	1	-	-
Violation of the rules of safety and labor protection	42	19	22	32	26
Accidents	9	13	13	56	6
Gross negligence of the victim	62	61	60	57	51
Other	5	4	11	9	12

## 2.43 The number of victims of occupational diseases

	2020	2021	2022	2023	2024
The number of victims of occupational diseases, total, people	237	351	657	662	529
of these, the number of cases of diseases by type of disease:					
Toxic effects of metals	-	-	1	3	-
toxic effect of other inorganic substances	6	1	3	4	5
brucellosis	-	-	-	-	-
Lesions of the trigeminal nerve	-	-	-	-	-
bronchitis and pneumonitis caused by chemicals, gases, fumes and vapors	4	22	28	97	10
Respiratory tract inflammation caused by chemicals, gases, fumes and vapors, not classified elsewhere	1	15	10	-	-
Chemical respiratory conditions caused by chemicals, gases, fumes and vapors: emphysema (diffuse) (chronic), obliterating bronchitis (chronic) (acute), pulmonary fibrosis (chronic) – caused by inhalation of chemicals	10	38	38	97	12
Polyneuropathy caused by other toxic substances	-	-	-	-	-
kin diseases: epidermosis, contact dermatitis. photodermatitis. onychia. Paranechia, toxic melisma, oily folliculitis	-	-	-	-	-
Coal miner pneumoconiosis	4	5	14	1	5
Pneumoconiosis caused by dust containing silicon	49	33	89	136	128
Pneumoconiosis caused by other inorganic dust	1	1	2	1	1
A respiratory disease caused by specific organic dust (Byssinosis etc.)	1	-	4	-	1
Tuberculosis-associated pneumoconiosis	-	-	-	-	-
Professional bronchitis (dust. toxic-dust), including non-obstructive and obstructive	39	-	-	-	-
Other chronic sinusitis	-	-	-	-	-
Vibration disease	36	73	95	65	49
Two-way neurosensory hearing loss	28	22	33	39	33
Mixed conductive and sensorineural hearing loss bilateral	7	20	24	17	3
Autonomic-sensory (angioneurosis) polyneuropathy of hands	1	-	-	-	-
Other polyneuropathy	1	1	-	1	-
Coxarthrosis (hip joint arthrosis)	-	-	-	-	-

Continuation

	2020	2021	2022	2023	2024
Gonarthrosis (arthrosis of the knee joint)	-	-	-	-	-
Other arthrosis	5	15	25	31	20
Damage to the intervertebral discs of the cervical spine	2	8	1	1	1
Damage to the intervertebral discs of other departments	85	57	211	60	82
Other dorsopathies, not elsewhere classified	-	-	-	-	-
Osteoporosis in diseases classified elsewhere	-	-	-	-	-
Respiratory tuberculosis, confirmed bacteriologically and histologically	3	-	-	2	-
asthma	2	-	-	-	-
asthmatic status	-	-	-	-	-
other acquired musculoskeletal deformities and connective tissues	2	-	-	-	-
Seropositive rheumatoid arthritis	1	-	-	-	-
Toxic encephalopathy	1	-	-	-	2
Other respiratory conditions caused by chemicals, gases, fumes and vapors	61	200	289	414	274

#### 2.44 Deaths from road-traffic accidents

	Number of deaths, people					per 100000 people				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	2126	2 261	2 715	2 635	2 443	11.34	11.90	13.8	13.2	12.1
Abay	39	62	86	85	74	6.08	9.72	14.1	14.0	12.2
Akmola	90	89	150	89	87	12.25	12.13	19.1	11.3	11.1
Aktobe	93	153	154	142	135	10.48	17.01	16.7	15.2	14.3
Almaty	232	219	272	272	297	16.54	15.36	18.2	17.9	19.2
Atyrau	95	61	75	98	70	14.59	9.21	10.9	14.0	9.9
Batys Kazakhstan	88	84	102	86	83	13.36	12.66	14.9	12.4	12.0
Zhambyl	170	159	209	200	215	15.00	13.91	17.2	16.4	17.6
Zhetisu	106	130	126	156	130	16.02	19.58	18.0	22.3	18.7
Karagandy	145	128	197	160	156	12.62	11.16	17.4	14.1	13.8
Kostanay	95	98	157	109	88	10.97	11.39	18.8	13.1	10.6
Kyzylorda	99	120	129	114	113	12.25	14.62	15.6	13.6	13.4
Mangystau	84	78	89	113	109	11.84	10.67	11.8	14.5	13.7
Pavlodar	67	69	116	84	82	8.92	9.22	15.3	11.1	10.9
Soltustik Kazakhstan	57	48	71	45	44	10.45	8.89	13.2	8.5	8.4
Turkistan	331	359	308	367	299	16.32	17.45	14.6	17.2	13.9
Ulytau	35	32	34	36	37	15.40	14.10	15.4	16.2	16.7
Shygys Kazakhstan	39	45	91	73	42	5.38	6.24	12.4	10.0	5.8
Astana city	65	93	113	126	110	5.57	7.63	8.5	9.0	7.4
Almaty city	90	96	148	166	134	4.61	4.79	6.9	7.6	5.9
Shymkent city	106	138	88	114	138	10.04	12.62	7.5	9.4	11.1

#### 2.45 Unequal distribution of income\*

in percent

	Proportion of population with incomes lower than*		Depth poverty*	Severity of poverty*	Gini coefficient		Income ratio of 10% of the most and least well-off population, times
	subsistence minimum	food basket cost			for 10% of population groups	for 20% of population groups	
2020	5.3	0.2	0.8	0.2	0.291	0.276	5.9
2021	5.2	0.1	0.8	0.2	0.294	0.279	6.0
2022	5.2	0.1	0.8	0.2	0.285	0.271	5.7
2023	5.2	0.2	0.9	0.3	0.290	0.275	6.0
2024	5.0	0.1	0.8	0.2	0.296	0.281	6.2

\* Hereinafter, data are obtained using the income equivalence scale.

#### 2.46 The share of population with incomes used for consumption is below the subsistence minimum

in percent

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	5.3	5.2	5.2	5.2	5.0
Abay	10.2	6.8	5.9	8.0	7.3
Akmola	5.9	6.4	6.0	5.3	5.0

Continuation

	2020	2021	2022	2023	2024
Aktobe	3.5	3.7	4.4	4.2	4.5
Almaty	2.8	3.4	3.8	3.6	3.8
Atyrau	3.0	3.3	3.3	2.6	2.9
Batys Kazakhstan	3.9	4.4	4.2	4.3	4.2
Zhambyl	5.8	5.3	5.0	5.2	5.5
Zhetisu	5.7	5.7	5.5	7.8	7.6
Karagandy	3.5	3.7	3.8	3.0	2.8
Kostanay	3.5	3.4	5.0	3.5	3.6
Kyzylorda	5.8	5.5	5.0	6.2	5.0
Mangystau	5.7	8.6	8.1	7.0	7.3
Pavlodar	3.9	3.9	3.9	3.9	3.9
Soltustik Kazakhstan	6.7	5.5	5.7	4.9	4.4
Turkistan	12.2	9.8	9.7	9.0	8.5
Ulytau	1.3	1.1	2.2	4.9	5.7
Shygys Kazakhstan	4.0	4.6	4.8	4.2	4.1
Astana city	1.5	2.2	1.9	2.4	2.7
Almaty city	4.9	5.2	4.8	5.1	4.5
Shymkent city	5.0	5.5	6.6	6.4	5.6

### 2.47 The share of the rural population with incomes below the subsistence minimum

in percent

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	3.7	3.8	4.0	4.1	3.8
Abay	-	6.3	5.1	7.9	7.0
Akmola	4.7	5.7	5.8	5.9	5.5
Aktobe	2.3	2.6	3.3	2.7	2.9
Almaty	2.6	2.7	4.6	3.6	4.3
Atyrau	0.6	0.7	1.5	0.8	1.0
Batys Kazakhstan	2.1	2.4	2.3	2.5	2.3
Zhambyl	3.7	3.1	2.8	2.9	3.0
Zhetisu	-	2.8	3.5	6.0	6.7
Karagandy	3.0	3.8	4.0	3.1	2.9
Kostanay	2.1	2.3	3.4	1.8	2.9
Kyzylorda	4.0	5.2	4.3	7.0	4.9
Mangystau	2.5	2.9	2.4	2.3	2.5
Pavlodar	3.3	3.4	3.3	3.3	3.4
Soltustik Kazakhstan	5.1	3.9	3.1	3.5	2.4
Turkistan	9.9	7.6	7.2	5.4	5.2
Ulytau	-	0.9	2.2	4.5	4.6
Shygys Kazakhstan	4.7	2.4	2.4	2.1	1.8
Astana city	1.5	2.2	1.9	2.4	2.7
Almaty city	4.9	5.2	4.8	5.1	4.5
Shymkent city	5.0	5.5	6.6	6.4	5.6

### 2.48 The share of the rural population with incomes below the subsistence minimum

in percent

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	7.6	7.2	7.3	7.0	6.9
Abay	-	7.4	7.3	8.2	7.7
Akmola	6.9	7.0	6.4	4.6	4.2
Aktobe	6.4	6.6	7.4	8.6	9.3
Almaty	4.3	3.5	3.7	3.6	3.6
Atyrau	5.9	6.4	5.5	4.9	5.3
Batys Kazakhstan	6.0	6.5	6.6	6.7	6.7
Zhambyl	7.2	6.7	6.6	7.0	7.4
Zhetisu	-	7.0	7.0	9.3	8.3
Karagandy	3.0	3.6	2.7	2.3	2.5
Kostanay	5.6	4.9	7.7	6.3	4.8
Kyzylorda	7.2	5.7	5.6	5.4	5.0
Mangystau	7.9	12.5	12.9	10.9	11.4
Pavlodar	5.3	5.1	5.2	5.2	5.2
Soltustik Kazakhstan	8.0	7.0	8.2	6.3	6.3
Turkistan	12.7	10.5	10.5	10.1	9.6

Continuation

	2020	2021	2022	2023	2024
Ulytau	-	2.9	2.5	6.1	9.9
Shygys Kazakhstan	9.6	9.6	9.5	8.5	8.8

#### 2.49 The share of population with income used for consumption is lower than the cost of the food basket

in percent

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	0.2	0.1	0.1	0.2	0.1
Abay	-	0.1	0.1	1.1	0.4
Akmola	0.3	0.5	0.4	0.5	0.2
Aktobe	...	...	...	...	...
Almaty	0.2	0.1	...	0.4	0.1
Atyrau	...	...	...	...	...
Batys Kazakhstan	...	...	...	...	...
Zhambyl	0.1	0.2	...	...	0.1
Zhetisu	-	...	0.2	0.8	0.1
Karagandy	0.4	0.2	0.2	0.3	...
Kostanay	...	0.1	0.0	0.1	0.1
Kyzylorda	...	0.1	...	...	...
Mangystau	0.2	0.5	0.1	0.3	...
Pavlodar	0.2	...	...	...	...
Soltustik Kazakhstan	0.2	...	0.2	0.1	0.1
Turkistan	0.3	0.2	0.1	0.2	0.1
Ulytau	-	...	...	0.6	0.5
Shygys Kazakhstan	0.2	...	0.6	0.2	0.4
Astana city	...	0.1	...	0.2	...
Almaty city	0.2	0.3	0.2	0.1	0.1
Shymkent city	...	...	0.1	0.3	0.7

#### 2.50 The share of the urban population with income used for consumption is lower than the cost of the food basket

in percent

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	0.1	0.1	0.1	0.2	0.1
Abay	-	...	...	1.5	0.3
Akmola	0.2	0.4	0.4	0.6	0.3
Aktobe	...	...	...	...	...
Almaty	...	...	...	...	0.5
Atyrau	...	...	...	...	...
Batys Kazakhstan	...	...	...	...	...
Zhambyl	...	...	...	...	...
Zhetisu	-	...	...	...	0.1
Karagandy	0.6	0.2	0.2	0.4	...
Kostanay	...	...	...	...	...
Kyzylorda	...	0.1	...	...	...
Mangystau	...	...	...	...	...
Pavlodar	0.3	...	...	...	...
Soltustik Kazakhstan	0.1	...	0.1	...	0.3
Turkistan	0.2	...	0.1	...	-
Ulytau	0.4	...	...	0.6	0.4
Shygys Kazakhstan	...	...	...	...	0.3
Astana city	...	0.1	...	0.2	...
Almaty city	0.2	0.3	0.2	0.1	0.1
Shymkent city	...	...	0.1	0.3	0.7

#### 2.51 The share of the rural population with income used for consumption is lower than the cost of the food basket

in percent

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	0.2	0.2	0.1	0.3	0.1
Abay	-	...	0.2	0.4	0.6
Akmola	0.5	0.6	0.4	0.4	0.1

Continuation

	2020	2021	2022	2023	2024
Aktobe	0.2	...	...	...	...
Almaty	0.2	0.1	...	0.4	...
Atyrau	...	...	...	...	...
Batys Kazakhstan	...	...	...	...	...
Zhambyl	0.1	0.4	...	...	0.1
Zhetisu	-	...	0.4	1.5	0.1
Karagandy	0.1	...	0.1	...	...
Kostanay	0.0	0.2	0.1	0.4	0.3
Kyzylorda	...	0.1	...	...	...
Mangystau	0.4	0.8	0.1	0.5	...
Pavlodar	...	...	...	...	...
Soltustik Kazakhstan	0.2	...	0.3	0.1	...
Turkistan	0.3	0.3	0.1	0.3	0.1
Ulytau	-	...	...	0.6	0.8
Shygys Kazakhstan	0.5	0.1	1.7	0.7	0.7

## 2.52 The spread of poverty in Kazakhstan

in percent

	2020	2021	2022	2023	2024
<b>Share of the population of regions to the national population</b>					
<b>Republic of Kazakhstan</b>	100.0	100.0	100.0	100.0	100.0
Abay	-	3.1	3.1	3.0	3.0
Akmola	3.9	3.8	4.0	3.9	3.9
Aktobe	4.7	4.8	4.7	4.7	4.7
Almaty	11.0	7.1	7.6	7.7	7.7
Atyrau	3.5	3.5	3.5	3.5	3.5
Batys Kazakhstan	3.5	3.5	3.5	3.5	3.4
Zhambyl	6.0	6.0	6.2	6.1	6.0
Zhetisu	-	4.0	3.5	3.5	3.4
Karagandy	7.3	5.7	5.8	5.7	5.6
Kostanay	4.6	4.5	4.2	4.2	4.1
Kyzylorda	4.3	4.1	4.0	4.0	4.2
Mangystau	3.8	3.9	3.9	3.9	4.0
Pavlodar	4.0	3.9	3.8	3.8	3.7
Soltustik Kazakhstan	2.9	2.8	2.7	2.7	2.6
Turkistan	10.8	10.9	10.7	10.7	10.6
Ulytau	-	1.5	1.1	1.1	1.1
Shygys Kazakhstan	7.2	4.0	3.7	3.6	3.6
Astana city	6.3	6.5	6.9	7.2	7.5
Almaty city	10.5	10.6	11.0	11.1	11.3
Shymkent city	5.7	5.8	6.1	6.1	6.2
<b>Share of the poor population of the regions to the nationwide number of poor</b>					
<b>Republic of Kazakhstan</b>	100.0	100.0	100.0	100.0	100.0
Abay	-	4.1	3.5	4.7	4.4
Akmola	4.3	4.7	4.6	4.0	3.9
Aktobe	3.1	3.4	3.9	3.8	4.2
Almaty	8.3	4.6	5.6	5.4	5.8
Atyrau	2.0	2.2	2.2	1.8	2.1
Batys Kazakhstan	2.6	2.9	2.8	2.9	2.9
Zhambyl	6.7	6.1	5.9	6.2	6.6
Zhetisu	-	4.3	3.7	5.3	5.3
Karagandy	4.1	4.1	4.1	3.2	3.2
Kostanay	3.1	2.9	4.1	2.8	3.0
Kyzylorda	4.5	4.4	3.9	4.8	4.0
Mangystau	4.1	6.4	6.0	5.3	5.8
Pavlodar	2.9	2.9	2.9	2.8	2.9
Soltustik Kazakhstan	3.6	3.0	2.9	2.5	2.3
Turkistan	25.0	20.6	19.9	18.6	18.1
Ulytau	-	0.3	0.5	1.0	1.3
Shygys Kazakhstan	8.9	3.5	3.4	3.0	2.9
Astana city	1.8	2.8	2.4	3.3	4.0
Almaty city	9.6	10.5	10.0	11.0	10.3
Shymkent city	5.4	6.1	7.7	7.6	7.0

## 2.53 Poverty indicators

in percent

	2020	2021	2022	2023	2024
<b>Share of poverty</b>					
<b>Republic of Kazakhstan</b>	5.3	5.2	5.2	5.2	5.0
Abay	-	6.8	5.9	8.0	7.3
Akmola	5.9	6.4	6.0	5.3	5.0
Aktobe	3.5	3.7	4.4	4.2	4.5
Almaty	4.0	3.4	3.8	3.6	3.8
Atyrau	3.0	3.3	3.3	2.6	2.9
Batys Kazakhstan	3.9	4.4	4.2	4.3	4.2
Zhambyl	5.8	5.3	5.0	5.2	5.5
Zhetisu	-	5.7	5.5	7.8	7.6
Karagandy	3.0	3.7	3.8	3.0	2.8
Kostanay	3.5	3.4	5.0	3.5	3.6
Kyzylorda	5.8	5.5	5.0	6.2	5.0
Mangystau	5.7	8.6	8.1	7.0	7.3
Pavlodar	3.9	3.9	3.9	3.9	3.9
Soltustik Kazakhstan	6.7	5.5	5.7	4.9	4.4
Turkistan	12.2	9.8	9.7	9.0	8.5
Ulytau	-	1.1	2.2	4.9	5.7
Shygys Kazakhstan	6.5	4.6	4.8	4.2	4.1
Astana city	1.5	2.2	1.9	2.4	2.7
Almaty city	4.9	5.2	4.8	5.1	4.5
Shymkent city	5.0	5.5	6.6	6.4	5.6
<b>Depth of poverty</b>					
<b>Republic of Kazakhstan</b>	0.8	0.8	0.8	0.9	0.8
Abay	-	1.1	0.9	1.9	1.6
Akmola	1.0	1.2	1.2	0.9	1.0
Aktobe	0.6	0.6	0.7	0.8	0.8
Almaty	0.6	0.5	0.5	0.7	0.6
Atyrau	0.2	0.2	0.3	0.2	0.3
Batys Kazakhstan	0.7	0.7	0.8	0.7	0.6
Zhambyl	0.7	0.5	0.5	0.7	0.3
Zhetisu	-	0.9	0.9	1.2	1.1
Karagandy	0.6	0.6	0.7	0.6	0.5
Kostanay	0.5	0.5	0.6	0.5	0.5
Kyzylorda	0.8	0.7	0.5	0.7	0.5
Mangystau	1.6	1.6	1.9	1.6	1.1
Pavlodar	0.6	0.6	0.6	0.6	0.7
Soltustik Kazakhstan	1.2	0.8	0.9	0.6	0.6
Turkistan	1.6	1.3	1.2	1.4	1.1
Ulytau	-	0.2	0.2	1.0	1.0
Shygys Kazakhstan	1.1	0.7	1.1	0.7	0.6
Astana city	0.2	0.3	0.3	0.5	0.5
Almaty city	0.8	1.0	1.0	0.9	0.7
Shymkent city	0.7	0.9	1.1	1.4	1.6
<b>Severity of poverty</b>					
<b>Republic of Kazakhstan</b>	0.2	0.2	0.2	0.3	0.2
Abay	-	0.3	0.2	0.7	0.5
Akmola	0.3	0.4	0.4	0.3	0.3
Aktobe	0.1	0.1	0.2	0.2	0.2
Almaty	0.2	0.1	0.1	0.3	0.2
Atyrau	0.0	0.0	0.0	0.0	0.0
Batys Kazakhstan	0.1	0.1	0.2	0.1	0.1
Zhambyl	0.1	0.1	0.1	0.2	0.1
Zhetisu	-	0.2	0.2	0.4	0.3
Karagandy	0.2	0.2	0.2	0.2	0.1
Kostanay	0.1	0.1	0.1	0.1	0.1
Kyzylorda	0.2	0.2	0.1	0.1	0.1
Mangystau	0.6	0.5	0.6	0.5	0.2
Pavlodar	0.2	0.1	0.1	0.1	0.1
Soltustik Kazakhstan	0.4	0.2	0.2	0.1	0.1
Turkistan	0.4	0.3	0.2	0.3	0.3
Ulytau	-	0.0	...	0.3	0.3
Shygys Kazakhstan	0.3	0.2	0.4	0.2	0.2
Astana city	0.0	0.1	0.1	0.2	0.1
Almaty city	0.2	0.3	0.3	0.2	0.2
Shymkent city	0.2	0.2	0.3	0.4	0.6

## 2.54 Share of low-income population depending on the size of households in 2024

	Households consisting				
	from 1 person	from 2 persons	from 3 persons	from 4 persons	from 5 and more persons
Total population, people					
the proportion of the population with					
Lower incomes:					
subsistence minimum, in					
percent	0.12	0.50	1.17	2.45	9.33
food basket cost, in percent	...	0.03	0.01	0.09	0.23

## 2.55 Share of income of the population by 10 percent (decile) population groups\*

in percent

	Percent of population income by decile groups									
	1 (with the lowest income)	2	3	4	5	6	7	8	9	10 (with the highest incomes)
2020	4.15	5.27	6.05	6.81	7.67	8.71	10.05	11.90	14.78	24.61
2021	4.22	5.31	6.02	6.75	7.56	8.58	9.92	11.76	14.73	25.15
2022	4.30	5.47	6.14	6.84	7.66	8.65	9.95	11.76	14.68	24.55
2023	4.11	5.38	6.08	6.81	7.68	8.71	10.0	11.86	14.78	24.59
2024	4.03	5.26	5.99	6.76	7.60	8.66	10.03	11.87	14.84	24.98

\* Hereinafter, without an equivalence scale, according to established incomes.

## 2.56 Share of income of the population by 10 percent (decile) population groups in 2020

in percent

	1	2	3	4	5	6	7	8	9	10	Total
<b>Republic of Kazakhstan</b>	4.15	5.27	6.05	6.81	7.67	8.71	10.05	11.90	14.78	24.61	100.0
Akmola	3.88	5.22	6.15	7.11	8.11	9.13	10.40	12.16	14.84	23.00	100.0
Aktobe	4.57	5.50	6.26	7.14	8.04	9.15	10.36	12.27	14.91	21.80	100.0
Almaty	4.18	5.35	6.07	6.89	7.73	8.82	10.19	11.95	15.08	23.74	100.0
Atyrau	5.36	6.45	7.20	7.93	8.64	9.48	10.54	11.70	13.86	18.84	100.0
Batys Kazakhstan	4.76	5.96	6.68	7.38	8.20	9.28	10.48	12.06	14.40	20.80	100.0
Zhambyl	5.05	6.37	7.07	7.66	8.35	9.07	10.08	11.39	13.86	21.10	100.0
Karagandy	3.58	4.77	5.73	6.82	7.91	9.11	10.51	12.06	15.00	24.51	100.0
Kostanay	4.57	5.63	6.41	7.23	8.11	9.11	10.24	11.74	14.13	22.83	100.0
Kyzylorda	4.94	6.09	6.85	7.72	8.48	9.39	10.43	11.95	14.16	19.99	100.0
Mangystau	5.41	7.29	7.81	8.18	8.73	9.43	10.37	11.60	13.49	17.69	100.0
Pavlodar	3.83	5.22	6.12	6.93	7.89	8.98	10.35	12.07	14.95	23.66	100.0
Soltustik Kazakhstan	3.47	4.88	5.98	6.85	7.94	9.15	10.55	12.50	15.37	23.31	100.0
Turkistan	5.64	6.89	7.44	8.08	8.73	9.42	10.32	11.54	13.37	18.57	100.0
Shygys Kazakhstan	3.60	4.51	5.36	6.40	7.53	8.87	10.46	12.51	15.77	24.99	100.0
Astana city	5.34	6.29	6.75	7.44	8.17	9.05	10.28	11.80	13.97	20.91	100.0
Almaty city	3.45	4.75	5.73	6.72	7.74	8.96	10.38	12.33	15.64	24.30	100.0
Shymkent city	5.50	6.82	7.38	7.98	8.71	9.52	10.53	11.81	13.75	18.00	100.0

## 2.57 Share of income of the population by 10 percent (decile) population groups in 2021

in percent

	1	2	3	4	5	6	7	8	9	10	Total
<b>Republic of Kazakhstan</b>	4.22	5.31	6.02	6.75	7.56	8.58	9.92	11.76	14.73	25.15	100.0
Akmola	3.96	5.1	6.09	7.05	8.03	9.07	10.39	12.06	14.73	23.52	100.0
Aktobe	4.54	5.27	5.83	6.78	7.8	8.82	10.29	12.23	14.75	23.7	100.0
Almaty	4.32	5.45	6.22	6.96	7.71	8.83	10.14	12.07	15.06	23.25	100.0
Atyrau	5.39	6.32	6.99	7.65	8.36	9.22	10.18	11.67	13.86	20.36	100.0
Batys Kazakhstan	4.89	6.04	6.61	7.26	8.1	8.99	10.24	11.77	14.2	21.91	100.0
Zhambyl	5.38	6.59	7.15	7.66	8.23	9.00	10.03	11.35	13.86	20.74	100.0
Karagandy	3.65	4.83	5.73	6.7	7.8	8.93	10.22	12.03	14.91	25.19	100.0
Kostanay	4.41	5.76	6.65	7.45	8.25	9.14	10.19	11.78	14.06	22.31	100.0
Kyzylorda	5.00	6.28	7.00	7.73	8.43	9.15	10.03	11.46	13.75	21.17	100.0
Mangystau	5.40	7.10	7.70	8.20	8.90	9.50	10.50	11.70	13.30	17.80	100.0
Pavlodar	3.98	4.95	5.71	6.54	7.48	8.65	10	11.87	14.91	25.92	100.0
Soltustik Kazakhstan	3.59	5.1	5.99	6.9	7.91	8.98	10.34	12.13	15.16	23.91	100.0
Turkistan	5.53	6.92	7.53	8.15	8.77	9.51	10.25	11.28	13.11	18.95	100.0
Shygys Kazakhstan	3.73	4.6	5.5	6.45	7.55	8.77	10.3	12.31	15.47	25.31	100.0

Continuation

	1	2	3	4	5	6	7	8	9	10	Total
Astana city	4.71	5.79	6.47	7.25	8.07	9.04	10.24	11.78	14.38	22.27	100.0
Almaty city	3.4	4.74	5.65	6.55	7.55	8.74	10.17	12.36	15.52	25.32	100.0
Shymkent city	5.67	7.1	7.6	8.15	8.61	9.37	10.25	11.47	13.49	18.28	100.0

## 2.58 Share of income of the population by 10 percent (decile) population groups in 2022

in percent

	1	2	3	4	5	6	7	8	9	10	Total
<b>Republic of Kazakhstan</b>	4.30	5.47	6.14	6.84	7.66	8.65	9.95	11.76	14.68	24.55	100.0
Abay	4.88	5.77	6.46	7.20	7.87	8.73	10.25	12.14	15.05	21.67	100.0
Akmola	4.03	5.30	6.22	7.09	8.07	9.09	10.28	12.09	14.82	23.01	100.0
Aktobe	4.39	5.18	5.84	6.69	7.64	8.77	10.29	12.01	14.62	24.58	100.0
Almaty	4.72	5.79	6.30	7.03	7.78	8.66	9.90	11.74	14.45	23.64	100.0
Atyrau	5.40	6.48	7.20	7.85	8.53	9.23	10.21	11.64	13.44	20.03	100.0
Batys Kazakhstan	5.02	6.41	6.93	7.57	8.27	9.27	10.47	12.15	14.44	19.47	100.0
Zhambyl	5.55	6.61	7.10	7.56	8.18	8.88	9.93	11.48	14.05	20.67	100.0
Zhetisu	4.55	6.11	6.32	7.31	7.67	8.72	9.98	11.96	15.16	22.24	100.0
Karagandy	3.50	4.90	5.74	6.66	7.70	8.85	10.24	12.14	14.94	25.33	100.0
Kostanay	4.48	5.62	6.57	7.48	8.43	9.41	10.58	11.99	14.30	21.15	100.0
Kyzylorda	5.02	6.23	6.93	7.72	8.39	9.31	10.27	11.75	13.89	20.48	100.0
Mangystau	5.39	7.27	7.89	8.44	8.89	9.59	10.36	11.40	13.26	17.51	100.0
Pavlodar	4.38	5.31	5.90	6.64	7.55	8.73	10.29	11.90	14.67	24.62	100.0
Soltustik Kazakhstan	3.79	5.17	6.14	7.16	8.15	9.26	10.47	11.97	14.77	23.12	100.0
Turkistan	5.27	6.60	7.28	8.00	8.62	9.41	10.28	11.50	13.46	19.58	100.0
Ulytau	4.09	5.01	5.57	6.27	8.39	8.96	10.31	12.87	15.84	22.70	100.0
Shygys Kazakhstan	3.39	4.40	5.49	6.49	7.66	9.06	10.66	12.70	15.67	24.48	100.0
Astana city	4.75	5.88	6.46	7.21	8.02	9.07	10.42	12.11	14.78	21.32	100.0
Almaty city	3.50	4.87	5.73	6.65	7.58	8.75	10.18	12.13	15.34	25.26	100.0
Shymkent city	5.44	7.06	7.62	8.17	8.72	9.21	10.03	11.42	13.45	18.89	100.0

## 2.59 Share of income of the population by 10 percent (decile) population groups in 2023

in percent

	1	2	3	4	5	6	7	8	9	10	Total
<b>Republic of Kazakhstan</b>	4.11	5.38	6.08	6.81	7.68	8.71	10.00	11.86	14.78	24.59	100.00
Abay	4.17	5.55	6.34	7.07	7.95	9.07	10.02	12.01	15.02	22.80	100.00
Akmola	3.99	5.26	6.15	6.99	7.97	9.07	10.47	12.31	14.92	22.87	100.00
Aktobe	4.37	5.33	5.89	6.73	7.61	8.85	10.32	12.13	14.59	24.18	100.00
Almaty	4.92	6.19	6.79	7.40	8.08	9.04	10.13	11.68	14.47	21.30	100.00
Atyrau	5.57	6.45	7.10	7.72	8.39	9.16	10.12	11.34	13.73	20.42	100.00
Batys Kazakhstan	4.94	6.34	6.95	7.62	8.40	9.32	10.31	11.70	13.65	20.77	100.00
Zhambyl	4.87	6.06	6.59	7.10	7.87	8.95	10.19	11.78	14.58	22.01	100.00
Zhetisu	3.96	5.06	5.89	6.83	7.70	8.91	10.23	12.07	14.98	24.37	100.00
Karagandy	3.64	4.90	5.90	6.82	7.83	8.99	10.38	12.25	15.02	24.27	100.00
Kostanay	4.19	5.54	6.47	7.28	8.16	9.06	10.24	11.80	14.10	23.16	100.00
Kyzylorda	4.89	6.30	7.15	7.78	8.45	9.23	10.20	11.70	14.18	20.12	100.00
Mangystau	5.52	7.55	8.00	8.44	8.98	9.58	10.35	11.39	13.03	17.16	100.00
Pavlodar	4.13	5.05	5.77	6.69	7.59	8.72	9.95	11.88	14.59	25.63	100.00
Soltustik Kazakhstan	3.72	5.12	6.13	7.07	7.90	8.91	10.26	11.85	14.60	24.44	100.00
Turkistan	5.09	6.49	7.17	7.77	8.48	9.26	10.18	11.54	13.82	20.20	100.00
Ulytau	3.27	4.61	5.45	6.32	7.30	8.36	10.00	12.75	15.92	26.02	100.00
Shygys Kazakhstan	3.73	4.71	5.58	6.74	8.03	9.28	10.68	12.78	15.87	22.60	100.00
Astana city	4.24	5.41	6.24	6.93	7.78	8.85	10.02	11.61	14.29	24.63	100.00
Almaty city	3.43	4.83	5.88	6.97	8.18	9.40	10.66	12.44	15.10	23.11	100.00
Shymkent city	5.12	6.96	7.54	8.00	8.52	9.17	10.08	11.40	13.65	19.56	100.00

## 2.60 Share of income of the population by 10 percent (decile) population groups in 2024

in percent

	1	2	3	4	5	6	7	8	9	10	Total
<b>Republic of Kazakhstan</b>	4.03	5.26	5.99	6.76	7.60	8.66	10.03	11.87	14.84	24.98	100.00
Abay	4.41	5.51	6.10	6.88	7.80	8.85	10.23	12.06	14.70	23.45	100.00
Akmola	3.70	5.05	6.06	6.81	7.77	9.03	10.43	12.21	15.01	23.93	100.00
Aktobe	4.40	5.41	6.10	6.96	8.00	9.05	10.46	12.24	14.69	22.68	100.00
Almaty	5.03	6.15	6.75	7.46	8.22	9.02	10.09	11.59	14.52	21.16	100.00

Continuation

	1	2	3	4	5	6	7	8	9	10	Total
Atyrau	5.30	6.42	7.07	7.78	8.50	9.23	10.17	11.82	14.06	19.66	100.00
Batys Kazakhstan	4.82	6.15	6.74	7.45	8.21	9.07	10.26	11.66	14.09	21.56	100.00
Zhambyl	4.97	6.14	6.57	7.06	7.73	8.73	9.85	11.60	14.68	22.68	100.00
Zhetisu	3.65	5.15	6.31	7.22	8.16	9.06	10.30	12.18	14.72	23.25	100.00
Karagandy	3.57	4.93	5.84	6.90	7.96	9.08	10.57	12.54	15.54	23.06	100.00
Kostanay	4.13	5.54	6.45	7.31	8.29	9.30	10.44	12.00	14.50	22.04	100.00
Kyzylorda	4.77	6.13	6.90	7.63	8.37	9.28	10.22	11.75	14.19	20.76	100.00
Mangystau	5.75	7.28	7.94	8.59	9.07	9.77	10.51	11.57	13.10	16.42	100.00
Pavlodar	3.91	5.03	5.76	6.53	7.46	8.57	10.00	12.15	15.34	25.26	100.00
Soltustik Kazakhstan	3.79	5.12	6.00	6.89	7.79	8.86	10.19	12.00	14.81	24.55	100.00
Turkistan	5.20	6.45	7.13	7.85	8.62	9.39	10.43	11.64	13.77	19.55	100.00
Ulytau	3.49	4.94	5.78	6.71	7.82	8.84	10.36	12.57	15.47	24.04	100.00
Shygys Kazakhstan	3.89	4.99	5.99	7.05	8.24	9.45	10.84	12.63	15.32	21.61	100.00
Astana city	3.89	5.19	5.96	6.83	7.77	8.67	9.86	11.70	14.33	25.80	100.00
Almaty city	3.42	4.64	5.65	6.76	7.88	9.03	10.32	12.09	15.30	24.90	100.00
Shymkent city	5.08	7.14	7.75	8.13	8.67	9.19	10.10	11.40	13.47	19.07	100.00

## 2.61 Improvement of housing stock

in percent

	2020	2021	2022	2023	2024
The share of the total area of the total housing stock, (in percent) equipped:					
water supply	98	98	98.2	98.3	98.4
sewage	71	73	74.0	76.1	77.6
central heating	42	43	43.9	45.1	45.6
gas	87	87	85.7	85.2	85.0
central hot water supply	37	37	37.7	38.4	38.9
in an oah or shower	43	43	44.2	45.7	46.3
floor electric stoves	12	12	13.2	13.7	14
The share of the total area of urban housing stock, (in percent) equipped:					
it is one in the supply	100	100	99.7	99.7	99.8
to the analysis	88	89	89.8	90.5	91.3
central heating	64	64	65.1	66.4	66.6
gas	81	81	79.5	79.0	78.8
central hot water supply	56	56	56.7	57.5	57.7
bath or shower	63	62	63.2	64.4	64.4
floor electric stoves	17	18	19.4	20.0	20.3
The share of the total area of rural housing stock, (in percent) equipped:					
it is one in the supply	96	96	95.4	95.6	95.8
to the analysis	41	42	44.5	48.8	5.1
central heating	4	4	4.3	4.6	4.7
gas	97	97	97.2	97.1	97.1
central hot water supply	2	2	2.1	2.1	2.1
in a constant or shower	7	8	8.6	10.3	10.9
floor electric stoves	2	2	1.6	1.8	1.8

## 2.62 The quality of decentralized water supply for the reporting year based on sanitary-chemical and microbiological indicators

	Sanitary-chemical indicators			Microbiological indicators		
	of which do not meet sanitary standards	%	of which do not meet sanitary standards	%	of which do not meet sanitary standards	%
<b>Republic of Kazakhstan</b>	3 922	286	7.3	3 792	131	3.5
Abay	5	0	0.0	9	3	33.3
Akmola	0	0	0.0	0	0	0.0
Aktobe	161	3	1.9	161	3	1.9
Almaty	6	0	0.0	4	0	0.0
Atyrau	0	0	0.0	0	0	0.0
Batys Kazakhstan	0	0	0.0	0	0	0.0
Zhambyl	-	-	0.0	-	0	0.0
Zhetisu	282	5	1.8	236	2	0.8
Karagandy	399	3	0.8	247	0	0.0

Continuation

	Sanitary-chemical indicators			Microbiological indicators		
	of which do not meet sanitary standards	%	of which do not meet sanitary standards	%	of which do not meet sanitary standards	%
Kostanay	1 549	147	9.5	1 523	45	3.0
Kyzylorda	50	5	10.0	50	6	12.0
Mangystau	148	43	29.1	178	0	0.0
Pavlodar	25	2	8.0	25	0	0.0
Soltustik Kazakhstan	740	55	7.4	742	8	1.1
Turkistan	8	1	12.5	6	5	83.3
Ulytau	53	4	7.5	55	4	7.3
Shygys Kazakhstan	372	18	4.8	460	47	10.2
Astana city	-	-	0.0	-	-	0.0
Almaty city	120	0	0.0	92	8	8.7
Shymkent city	-	-	0.0	-	-	0.0
DSEC on transport	4	0	0.0	4	0	0.0

\* Hereinafter, according to the Committee of Sanitary and Epidemiological Control of the Ministry of Health of the Republic of Kazakhstan.

### 2.63 Sanitary-chemical indicators of tap water quality by region

	Sanitary-chemical indicators					
	samples were tested	of which do not meet sanitary standards	%	samples were tested	of which do not meet sanitary standards	%
	2023			2024		
<b>Republic of Kazakhstan</b>	46 845	1 466	3.1	30 604	1 204	3.9
Abay	1 380	8	0.6	77	4	5.2
Akmola	63	24	38.1	35	3	8.5
Aktobe	2 201	53	2.4	2 249	55	2.4
Almaty	6 779	119	1.8	0	0	0
Atyrau	66	2	3.0	15	5	33.3
Batys Kazakhstan	3 592	308	8.6	24	1	4.2
Zhambyl	334	4	1.2	14	0	0
Zhetisu	1 641	95	5.8	3 025	134	4.4
Karagandy	5 850	79	1.4	6 031	111	1.8
Kostanay	3 588	173	4.8	4 142	212	5.1
Kyzylorda	2 531	72	2.8	2 590	64	2.4
Mangystau	1 984	159	8.0	2 582	300	11.6
Pavlodar	2 559	149	5.8	609	22	3.6
Soltustik Kazakhstan	1 362	14	1.0	2 232	138	6.2
Turkistan	6 230	85	1.4	146	13	8.9
Ulytau	1 428	5	0.4	1 105	35	3.1
Shygys Kazakhstan	1 811	53	2.9	1 123	46	4.0
Astana city	575	31	5.4	759	46	6.0
Almaty city	885	0	0.0	2 377	0	0
Shymkent city	1 737	31	1.8	438	6	1.3
DSEC on transport	249	2	0.8	1 031	9	0.8

### 2.64 Microbiological indicators of tap water quality by region

	Microbiological indicators					
	samples were tested	of which do not meet sanitary standards	%	samples were tested	of which do not meet sanitary standards	%
	2023			2024		
<b>Republic of Kazakhstan</b>	48 969	755	1.5	30 390	459	1.5
Abay	1 298	5	0.4	89	5	5.6
Akmola	57	9	15.8	29	4	13.8
Aktobe	2 201	4	0.2	2 248	5	0.2
Almaty	6 341	68	1.1	0	0	0
Atyrau	66	1	1.5	12	1	8.3
Batys Kazakhstan	3 668	189	5.2	31	0	0
Zhambyl	207	1	0.5	5	0	0
Zhetisu	1 291	100	7.7	2 391	56	2.3

Continuation

	Microbiological indicators							
	samples were tested		of which do not meet sanitary standards	%	samples were tested		of which do not meet sanitary standards	%
	2023			2024				
Karagandy	5 342	1	0.0	4 683	4	0.08		
Kostanay	3 318	33	1.0	4 082	25	0.6		
Kyzylorda	2 675	19	0.7	2 584	5	1.0		
Mangystau	3 755	26	0.7	3 664	104	2.8		
Pavlodar	2 795	81	2.9	43	2	4.6		
Soltustik Kazakhstan	1 437	8	0.6	2 481	5	0.2		
Turkistan	6 876	91	1.3	177	17	9.6		
Ulytau	1 409	0	0.0	1 082	0	0		
Shygys Kazakhstan	1 734	83	4.8	1 996	105	5.2		
Astana city	561	8	1.4	790	8	1.0		
Almaty city	896	2	0.2	2 210	3	0.1		
Shymkent city	2 746	18	0.7	776	0	0		
DSEC on transport	296	8	2.7	1 017	110	10.8		

## 2.65 The state of tap water quality based on microbiological indicators in the Republic of Kazakhstan

	Coliphage index, units.		Giardia cysts, units.		
	samples were tested	Including positive ones	samples were tested	Including positive ones	%
2020	3 265	5	1 367	36	2.6
2021	1 341	2	1 204	3	0.2
2022	1 259	0	1 058	2	0.9
2023	1 449	0	1 880	1	0.05
2024	616	0	258	0	0.0

## 2.66 Water quality of category I reservoirs based on sanitary-chemical and parasitological indicators by region within the Republic of Kazakhstan for the years 2023-2024

	Water samples tested at water use sites											
	sanitary-chemical indicators, units				pesticide content, units				cysts of protozoa, units			
	samples were tested		including above the Maximum Allowable Concentration (MAC)		samples were tested		including above the Maximum Allowable Concentration (MAC)		samples were tested		including positive findings	
	2023	2024	2023	2024	2023	2024	2023	2024	2023	2024	2023	2024
<b>Republic of Kazakhstan</b>	1 548	1 915	168	310	936	896	0	0	3 758	3 853	102	115
Abay	10	8	0	0	0	0	0	0	92	111	0	0
Akmola	157	154	32	29	0	0	0	0	192	621	48	62
Aktobe					0	200	0	0	109	200	0	1
Almaty	290	333	2	12	0	1	0	0	494	439	0	1
Atyrau	211	379	35	209	278	222	0	0	278	426	11	10
Batys Kazakhstan	128	239	1	5	21	7	0	0	410	420	0	2
Zhambyl	143	67	65	21	0	0	0	0	0	28	0	0
Zhetisu	73	133	0	7	0	14	0	0	213	173	0	0
Karagandy	87	93	0	0	91	72	0	0	381	342	7	8
Kostanay	54	48	1	6	76	32	0	0	106	174	0	1
Kyzylorda					4	0	0	0	119	82	6	8
Mangystau						0	0	0		0		0
Pavlodar	47	99	2	2	71	7	0	0	187	167	0	0
Soltustik Kazakhstan	15	29	0	0	26	53	0	0	125	81	0	0
Turkistan	195	163	0	2	259	12	0	0	252	164	0	7
Ulytau	18	8	11	1	13	14	0	0	97	69	1	0
Shygys Kazakhstan	61	97	7	5	7	7	0	0	87	84	0	0
Astana city	8	12	0	1	36	160	0	0	238	170	14	15
Almaty city	36	28	2	0	0	0	0	0	352	102	0	0
Shymkent city					54	95	0	0	26	0	15	0
DSEC on transport	15	25	10	10	0	0	0	0	0	0	0	0

## 2.67 Water quality of category I reservoirs based on microbiological indicators by region within the Republic of Kazakhstan for the years 2023-2024

	Water samples tested at water use sites for bacteriological indicators											
	LKP index (Lactose- positive coliform bacteria index)		of which exceed the established standard		pathogens of diseases		of which with positive results		tested for coliphages		of which exceed the established standard	
	2023	2024	2023	2024	2023	2024	2023	2024	2023	2024	2023	2024
<b>Republic of Kazakhstan</b>	5 650	5 759	535	564	3 763	4 023	0	1	4 863	4 573	132	89
Abay	95	192	11	25	164	195	0	0	94	192	0	0
Akmola	367	740	82	94	188	499	0	0	313	743	4	7
Aktobe	109	200	0	0	218	218	0	1	109	218	0	0
Almaty	587	456	32	22	6	0	0	0	587	430	0	17
Atyrau	278	382	60	100	278	613	0	0	278	382	15	2
Batys Kazakhstan	734	599	47	24	126	118	0	0	114	152	2	2
Zhambyl	133	163	7	10	78	155	0	0	159	205	32	15
Zhetisu	350	567	4	10	0	0	0	0	302	64	0	0
Karagandy	558	428	2	0	294	222	0	0	665	461	1	0
Kostanay	245	202	6	6	179	202	0	0	234	202	0	3
Kyzylorda	86	121	28	13	86	51	0	0	86	51	6	3
Mangystau		0		0		0		0		0		0
Pavlodar	303	288	0	6	292	288	0	0	324	288	0	0
Soltustik Kazakhstan	255	70	0	3	255	51	0	0	255	70	0	0
Turkistan	434	284	6	10	458	284	0	0	434	284	0	4
Ulytau	89	42	0	0	127	73	0	0	106	41	0	0
Shygys Kazakhstan	312	281	10	18	0	89	0	0	98	41	0	0
Astana city	318	241	65	80	632	482	0	0	318	241	54	16
Almaty city	336	308	164	126	336	308	0	0	336	308	18	20
Shymkent city	46	175	6	17	46	175	0	0	46	175	0	0
DSEC on transport	15	20	5	0	0	0	0	0	5	25	0	0

## 2.68 Water quality indicators of category I water bodies based on sanitary-chemical, parasitological, and microbiological indicators across the territory of the Republic of Kazakhstan for the years 2023-2024

	The proportion of water samples not meeting regulatory requirements											
	sanitary- chemical		pesticide content		cysts of protozoa		LKP index (Lactose- positive coliform bacteria index)		Pathogens of diseases		coliphages	
	2023	2024	2023	2024	2023	2024	2023	2024	2023	2024	2023	2024
<b>Republic of Kazakhstan</b>	10.9	16.2	0	0	0.7	1.0	6.0	6.9	0	0	3.0	2.7
Abay	0.0	0.0	0	0	0.0	0	0	0	0	0	0	0
Akmola	20.4	18.8	0	0	26.7	4.5	24.3	0.8	0	0	0	0
Aktobe												
Almaty	0.7	3.6	0	0	0.0	0	0	7.2	0	0	0	7.5
Atyrau	16.6	55.1	0	0	0.5	0.2	15.2	22.4	0	0	1.0	0.6
Batys Kazakhstan	0.8	2.1	0	0	0.0	0	0.6	2.0	0	0	0	0
Zhambyl	45.5	31.3	0	0	0.0	0	0	0	0	0	45.7	14.4
Zhetisu	0.0	5.3	0	0	0.0	0	0	0	0	0	0	0
Karagandy	0.0	0.0	0	0	0.0	0	0	0	0	0	0	0
Kostanay	1.9	12.5	0	0	0.0	3.8	0	8.8	0	0	0	0
Kyzylorda												
Mangystau												
Pavlodar	4.3	2.0	0	0	0.0	0	0	0	0	0	0	0
Soltustik Kazakhstan	0.0	0.0	0	0	0.0	0	0	23.0	0	0	0	0
Turkistan	0.0	1.2	0	0	0.0	10.5	0	7.4	0	0	0	0
Ulytau	61.1	12.5	0	0	0.0	0	0	0	0	0	0	0
Shygys Kazakhstan	11.5	5.2	0	0	0.0	0	0	3.7	0	0	0	0
Astana city	0.0	8.3	0	0	0.0	0	0	0	0	0	0	0
Almaty city	5.6	0.0	0	0	0.0	0	19.0	10.7	0	0	0	0
Shymkent city	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DSEC on transport	66.7	40.0	0	0	0.7	0	33.0	0	0	0	0	0

## 2.69 Water quality in Republic of Kazakhstan

units

	Sanitary-chemical indicators			Microbiological indicators		
	samples were tested	of which do not meet sanitary standards	%	samples were tested	of which do not meet sanitary standards	%
2020	31 205	1 786	5.7	32 299	983	3.0
2021	30 507	1 604	5.2	36 177	1 007	2.8
2022	30 692	1 278	4.2	33 702	779	2.3
2023	46 845	1 466	3.1	48 969	755	1.5
2024	30 604	1 204	3.9	30 390	459	1.5

\* According to the branch of the Scientific and practical center for sanitary and epidemiological expertise and monitoring of the Republican State Enterprise with the right of economic management, the National Center for Public Health of the Republic of Kazakhstan.

## 2.70 Provision of water supply and sanitation services to the population in the Republic of Kazakhstan

	2020	2021	2022	2023	2024
Public access to water services, including					
in cities	97.5	98.1	98.4	98.9	99.42
in villages	90.1	93	94.8	96.6	98.0
Provision of the population with centralized water supply, including					
in cities	97.5	98.1	98.4	99	99.42
in villages	88.1	90.4	92.1	92.3	95.29
Public access to centralized water disposal systems, including					
in cities	...	...	...	...	...
in villages	...	...	...	...	...
Coverage of the population with wastewater treatment, including					
in cities	70.5	75.7	77.1 <sup>1</sup>	77.2	79
in villages	...	...	...	...	.....

\* Hereinafter, according to the Ministry of industry and construction of the Republic of Kazakhstan.

Coverage of the population with wastewater treatment in cities of republican significance and regional centers.

## 2.71 Public access to water supply services

as a percent to the total population

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>					
in cities:	97.5	98.1	98.4	98.9	99.42
in villages	90.1	93	94.8	96.6	98.0
<b>Abay</b>					
in cities:	-	-	92.8	92.8	94.28
in villages	-	-	90.6	92.9	92.67
<b>Akmola</b>					
in cities:	98.8	95.1	95.3	97.2	99.0
in villages	88.8	89.3	93	95.2	96.6
<b>Aktobe</b>					
in cities:	99.5	99.6	100	100	100
in villages	88.8	91.3	95	97	98.28
<b>Almaty</b>					
in cities:	98.4	99.5	99.9	100	100
in villages	98.3	99.1	99.3	99.3	99.38
<b>Atyrau</b>					
in cities:	100	100	100	100	100
in villages	98.5	99.0	99.3	99.6	99.78
<b>Batys Kazakhstan</b>					
in cities:	96.9	97.8	100	100	100
in villages	88.0	89.8	92.0	95	97.3
<b>Zhambyl</b>					
in cities:	88.9	91.0	92	97.5	98
in villages	82.2	88.8	92	94.9	98
<b>Zhetisu</b>					
in cities:	-	-	100	100	100

Continuation

	2020	2021	2022	2023	2024
in villages	-	-	98.8	98.9	99.3
Karagandy					
in cities:	98.0	98.5	98.5	98.8	99.4
in villages	90.8	91.8	92.9	93.6	97.9
Kostanay					
in cities:	97.8	98.0	98.2	98.6	99
in villages:	64.7	97.8	80.4	86.7	91.3
Kyzylorda					
in cities:	98.0	100	100	100	100
in villages:	97.6	97.8	98.1	98.5	98.6
Mangystau					
in cities:	100	100	100	100	100
in villages:	92.2	96.2	100	100	100
Pavlodar					
in cities:	94.5	95.0	96	97	98.5
in villages:	88.4	94	95.1	98.1	99.1
Soltustik Kazakhstan					
in cities:	100	100	100	100	100
in villages:	82.1	83.5	85	88.3	97.5
Turkistan					
in cities:	97.9	99.4	99.4	99.8	100
in villages:	92.1	93.3	94.3	97.3	98.0
Ulytau					
in cities:	-	-	100.	100	100
in villages:	-	-	95.1	97.2	97.3
Shygys Kazakhstan					
in cities:	98.6	98.1	99.7	99.9	99.9
in villages:	81.4	93	95.5	97	98.4
Astana city					
in cities:	96.5	98.1	98.9	99	99.9
Almaty city					
in cities:	98.3	98.5	99	99.3	99.6
Shymkent city					
in cities:	95.6	98.0	98.5	98.5	99.5

## 2.72 Provision of centralized water supply to the population

as a percent to the total population

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>					
in cities:	97.5	98.1	98.4	99	99.42
in villages	88.1	90.4	92.1	92.3	95.29
Abay					
in cities:	-	-	92.8	92.8	94.28
in villages	-	-	79	82	83.2
Akmola					
in cities:	98.8	95.1	95.3	97.8	99.0
in villages	82.7	82.9	86.7	88	89.1
Aktobe					
in cities:	99.5	99.6	100	98.7	100
in villages	88.8	90.1	92.3	94	95.03
Almaty					
in cities:	98.4	99.5	99.9	100	100
in villages	98.3	99.1	99.3	99.3	99.46
Atyrau					
in cities:	100	100	100	100	100
in villages	98.5	99.0	99.3	99.3	99.78
Batys Kazakhstan					
in cities:	96.9	97.8	100	100	100
in villages	88.0	89.5	90.7	93.6	95.5
Zhambyl					
in cities:	88.9	91.0	92	97.5	98
in villages	82.2	88.8	92	94.6	98.6
Zhetisu					
in cities:	-	-	100	100	100
in villages	-	-	98.8	98.9	99.3

Continuation

	2020	2021	2022	2023	2024
Karagandy					
in cities:	98.0	98.5	98.5	98.8	99.4
in villages	90.8	91.8	92.9	91.7	96.5
Kostanay					
in cities:	97.8	98.0	98.2	98.6	99
in villages:	63.1	64.7	69.9	74	78.9
Kyzylorda					
in cities:	98.0	100	100	100	100
in villages:	97.3	97.8	98.1	98.3	98.4
Mangystau					
in cities:	100	100	100	100	100
in villages:	92.2	96.2	99.3	99.9	99.71
Pavlodar					
in cities:	94.5	95	96	97	98.5
in villages:	82.4	88	89.3	92.1	93.5
Soltustik Kazakhstan					
in cities:	100	100	100	100	100
in villages:	51.9	49.9	57	60.3	66.1
Turkistan					
in cities:	97.9	99.4	99.4	99.8	100
in villages:	92.1	93.3	94.3	97.3	98.0
Ulytau					
in cities:	-	-	100	100	100
in villages:	-	-	95.1	95.1	96.5
Shygys Kazakhstan					
in cities:	98.6	99.1	99.7	99.9	99.9
in villages:	77.9	87.2	89.5	90.7	92.8
Astana city	96.5	98	98.9	100	99.9
Almaty city	98.3	98.5	99	99.3	99.6
Shymkent city	95.6	98	98.5	99	99.5

### 2.73 Coverage of the population by wastewater treatment

as a percent to the total population

	2020	2021	2022	2023	2024
Republic of Kazakhstan					
in cities:	70.5	75.7	77.1	68.6	79
in villages	...	...	...	5.0	6.0
Abay					
in cities:	-	-	67.7	37.6	41.80
in villages	-	-	...	3.0	0.0
Akmola					
in cities:	72.1	79.1	100	79.0	100
in villages	...	...	...	8.8	9.5
Aktobe					
in cities:	67.4	95.6	100	92.8	100
in villages	...	...	...	0.0	0.0
Almaty					
in cities:	95.1	55.9	100	72.0	87.2
in villages	...	...	...	3.0	2.68
Atyrau					
in cities:	37.2	54.1	65.9	66.8	66.8
in villages	...	...	...	0.0	6.81
Batys Kazakhstan					
in cities:	91.2	91.2	91.5	94.7	98
in villages	...	...	...	0.0	0.0
Zhambyl					
in cities:	0.0	0.0	0.0	0.0	0
in villages	...	...	...	0.0	0.3
Zhetisu					
in cities:	-	-	58	44.4	100
in villages	-	-	...	...	1.8
Karagandy					
in cities:	66.0	72.9	74.2	71.0	74.38
in villages	...	...	...	20.6	24.5
Kostanay					

Continuation

	2020	2021	2022	2023	2024
in cities:	100	94.8	0.0	37.2	0.0
in villages:	...	...	...	8.7	9.0
Kyzylorda					
in cities:	48.9	55.0	57	40.0	61.8
in villages:	...	...	...	1.2	1.05
Mangystau					
in cities:	93.1	93.1	100	94.0	100
in villages:	...	...	...	0.0	9.0
Pavlodar					
in cities:	76.1	88.0	88.5	89.0	89.5
in villages:	...	...	...	0.0	0
Soltustik Kazakhstan					
in cities:	74.4	74.4	86.4	74.4	86.1
in villages:	...	...	...	0.6	0.7
Turkistan					
in cities:	25.7	33.2	27.9	37.9	47.1
in villages:	...	...	...	8.7	8.8
Ulytau					
in cities:	-	-	86.2	56.1	88.10
in villages:	-	-	...	0.0	38.23
Shygys Kazakhstan					
in cities:	72.0	74.0	80.7	80.5	80.9
in villages:	...	...	...	30.6	30.9
Astana city	100.0	100.0	100.0	100.0	100
Almaty city	80.0	92.5	92.5	85.7	94.1
Shymkent city	50.2	54.0	60	65.0	70

## 2.74 Respondents' opinion on satisfaction with the quality of drinking water

in percent

	Total respondent	2020				2021			
		satisfied	partially satisfied	not satisfied	difficult to answer	satisfied	partially satisfied	not satisfied	difficult to answer
<b>Republic of Kazakhstan</b>	100.0	47.1	42.5	10.0	0.4	44.1	46.5	9.1	0.3
Akmola	100.0	45.4	33.5	20.4	0.7	42.6	35.1	21.5	0.8
Aktobe	100.0	15.8	81.7	2.5	-	11.1	84.4	4.3	0.2
Almaty	100.0	73.6	22.9	2.2	1.3	74.6	21.2	3.0	1.2
Atyrau	100.0	65.9	29.3	2.3	2.5	66.5	28.6	4.5	0.4
Batys Kazakhstan	100.0	46.4	40.0	13.2	0.4	41.2	53.1	5.5	0.2
Zhambyl	100.0	79.3	16.7	3.8	0.2	80.7	15.3	4.0	...
Karagandy	100.0	19.9	48.7	31.1	0.3	22.4	51.5	26.0	0.1
Kostanay	100.0	24.0	60.6	15.2	0.2	24.4	52.2	23.2	0.2
Kyzylorda	100.0	65.3	31.5	2.4	0.8	63.2	35.4	1.1	0.3
Mangystau	100.0	55.2	42.3	2.5	-	59.3	39.3	1.4	...
Pavlodar	100.0	44.4	46.2	9.3	0.1	43.6	51.7	4.7	...
Soltustik Kazakhstan	100.0	31.7	55.6	12.7	-	32.2	58.2	9.6	...
Turkistan	100.0	62.8	36.3	0.9	-	49.8	48.6	1.6	...
Shygys Kazakhstan	100.0	55.4	37.0	7.5	0.1	50.6	46.3	3.1	...
Astana city	100.0	31.0	56.5	12.0	0.5	17.8	62.0	19.9	0.3
Almaty city	100.0	22.7	60.0	17.3	-	23.5	66.1	10.4	...
Shymkent city	100.0	79.5	19.7	0.2	0.6	68.3	30.0	0.2	1.5

Continuation

	2022				2023			
	satisfied	partially satisfied	not satisfied	difficult to answer	satisfied	partially satisfied	not satisfied	difficult to answer
<b>Republic of Kazakhstan</b>	43.0	47.5	9.0	0.5	42.9	46.2	10.5	0.4
Abay	38.8	33.8	27.1	0.3	43.9	56.1	-	-
Akmola	38.4	58.7	2.3	0.6	39.1	34.7	25.5	0.7
Aktobe	69.8	26.2	3.2	0.8	35.7	61.8	2.0	0.5
Almaty	58.3	30.6	10.7	0.4	74.3	23.7	0.8	1.2
Atyrau	41.0	52.9	5.0	1.1	37.3	49.3	13.0	0.4
Batys Kazakhstan	80.7	14.4	4.3	0.6	32.2	51.5	15.3	1.0
Zhambyl	30.0	42.9	25.7	1.4	77.1	21.5	1.4	-
Zhetisu	23.6	64.1	12.3	0.0	74.0	21.4	3.8	0.8

Continuation

	2022				2023			
	satisfied	partially satisfied	not satisfied	difficult to answer	satisfied	partially satisfied	not satisfied	difficult to answer
Karagandy	71.7	26.3	0.0	2.0	23.4	44.3	31.6	0.7
Kostanay	65.6	30.7	2.7	1.0	32.8	60.8	6.4	-
Kyzylorda	49.6	43.0	7.4	0.0	45.9	52.2	1.9	-
Mangystau	26.9	63.8	9.3	0.0	62.7	33.6	3.7	-
Pavlodar	44.2	55.4	0.2	0.2	46.2	46.1	7.7	-
Soltustik Kazakhstan	45.3	47.3	7.4	0.0	21.5	68.6	9.9	-
Turkistan	22.1	61.5	15.9	0.5	52.1	47.3	0.4	0.2
Ulytau	14.3	75.6	10.1	0.0	36.7	19.1	44.2	-
Shygys Kazakhstan	59.9	37.4	1.8	0.9	42.0	45.3	12.7	-
Astana city	43.0	47.5	9.0	0.5	37.0	43.8	17.9	1.3
Almaty city	38.8	33.8	27.1	0.3	15.7	67.9	16.3	0.1
Shymkent city	38.4	58.7	2.3	0.6	64.8	33.3	1.5	0.4

Continuation

	2024				
	satisfied	partially satisfied	not satisfied	difficult to answer	
<b>Republic of Kazakhstan</b>		44.9	47.4	7.2	0.5
Abay		68.7	29.4	1.5	0.4
Akmola		35.9	43.3	18.9	1.9
Aktobe		34.4	64.7	0.5	0.4
Almaty		61.5	33.5	2.8	2.2
Atyrau		45.5	48.8	4.7	1.0
Batys Kazakhstan		46.2	44.2	9.6	-
Zhambyl		78.2	21.4	0.1	0.3
Zhetisu		72.9	23.9	1.1	2.1
Karagandy		22.7	60.7	16.6	-
Kostanay		24.2	72.4	3.4	-
Kyzylorda		44.3	53.1	2.6	-
Mangystau		91.5	7.9	0.6	-
Pavlodar		74.5	23.0	2.5	-
Soltustik Kazakhstan		18.5	74.7	6.7	0.1
Turkistan		67.0	33.0	-	-
Ulytau		32.7	33.3	33.3	0.7
Shygys Kazakhstan		45.2	45.5	9.3	-
Astana city		26.8	57.9	14.2	1.1
Almaty city		16.0	70.6	13.4	-
Shymkent city		63.7	34.8	1.5	-

### 2.75 Respondents' opinion on satisfaction with the cleanliness of the air (absence of emissions, smoke, dust and dirt)

in percent

	Total respondents	2020				2021			
		satisfied	partially satisfied	not satisfied	difficult to answer	satisfied	partially satisfied	not satisfied	difficult to answer
<b>Republic of Kazakhstan</b>	100.0	45.2	46.7	7.8	0.3	44.8	47.8	7.0	0.4
Akmola	100.0	50.0	41.5	7.0	1.5	50.9	41.8	6.7	0.6
Aktobe	100.0	14.8	81.8	3.3	0.1	12.7	83.8	3.3	0.2
Almaty	100.0	76.4	21.6	1.9	0.1	75.4	22.3	1.4	0.9
Atyrau	100.0	58.3	35.9	2.3	3.5	58.4	34.2	7.0	0.4
Batys Kazakhstan	100.0	45.0	51.2	3.5	0.3	49.8	46.4	3.2	0.6
Zhambyl	100.0	73.7	25.0	1.0	0.3	76.2	23.3	0.5	...
Karagandy	100.0	16.5	63.1	20.2	0.2	22.4	59.1	18.2	0.3
Kostanay	100.0	45.4	52.3	2.3	-	41.1	57.3	1.6	...
Kyzylorda	100.0	58.9	37.4	3.7	-	64.5	34.5	0.7	0.3
Mangystau	100.0	43.5	50.7	5.8	-	52.2	46.6	0.8	0.4
Pavlodar	100.0	34.8	54.1	11.1	-	39.2	49.2	11.6	...
Soltustik Kazakhstan	100.0	45.0	47.4	7.6	-	45.4	51.3	3.3	...
Turkistan	100.0	62.3	37.2	0.5	-	54.9	44.8	0.3	...
Shygys Kazakhstan	100.0	38.9	39.1	22.0	-	40.5	46.4	13.1	...
Astana city	100.0	31.2	61.7	6.1	1.0	20.2	72.7	6.9	0.2
Almaty city	100.0	17.7	68.7	13.4	0.2	22.2	60.0	17.8	...
Shymkent city	100.0	56.1	43.7	...	0.2	64.6	32.4	0.6	2.4

Continuation

	2022				2023			
	satisfied	partially satisfied	not satisfied	difficult to answer	satisfied	partially satisfied	not satisfied	difficult to answer
<b>Republic of Kazakhstan</b>	42.7	50.4	6.3	0.6	42.9	47.6	9.1	0.4
Abay	-	-	-	-	37.2	61.8	1.0	-
Akmola	50.5	43.7	4.4	1.4	47.4	44.9	7.0	0.7
Aktobe	34.9	63.6	0.9	0.6	30.0	68.1	1.4	0.5
Almaty	70.8	27.0	1.0	1.2	73.6	24.2	0.4	1.8
Atyrau	50.9	35.9	12.4	0.8	43.0	38.2	18.4	0.4
Batys Kazakhstan	43.7	52.0	2.1	2.2	41.0	52.7	5.9	0.4
Zhambyl	79.3	19.7	0.5	0.5	72.9	26.2	0.9	-
Zhetisu	-	-	-	-	84.1	14.2	1.1	0.6
Karagandy	25.2	52.6	20.9	1.3	22.2	55.5	22.0	0.3
Kostanay	38.7	61.1	0.2	-	47.3	52.5	-	0.2
Kyzylorda	71.5	26.7	-	1.8	46.3	51.2	2.3	0.2
Mangystau	49.9	47.8	0.9	1.4	45.8	47.7	5.1	1.4
Pavlodar	41.2	46.6	12.2	-	46.4	48.3	5.3	-
Soltustik Kazakhstan	36.6	59.5	3.9	-	34.2	60.6	5.2	-
Turkistan	57.5	42.2	0.3	-	52.5	47.2	0.3	-
Ulytau	-	-	-	-	30.2	35.1	34.7	-
Shygys Kazakhstan	33.8	51.8	14.4	-	28.7	44.2	27.1	-
Astana city	20.9	72.1	6.8	0.2	41.0	49.9	8.9	0.2
Almaty city	12.0	78.5	9.4	0.1	12.8	63.8	23.4	-
Shymkent city	56.6	38.5	4.2	0.7	60.7	35.2	3.3	0.8

Continuation

	2024			
	satisfied	partially satisfied	not satisfied	difficult to answer
<b>Republic of Kazakhstan</b>	45.6	47.2	6.7	0.5
Abay	53.4	44.6	1.7	0.3
Akmola	44.9	48.4	5.7	1.0
Aktobe	27.9	70.7	0.8	0.6
Almaty	64.8	31.4	1.4	2.4
Atyrau	47.0	44.0	6.4	2.6
Batys Kazakhstan	47.5	49.3	3.1	0.1
Zhambyl	73.8	25.6	0.5	0.1
Zhetisu	78.4	19.1	0.4	2.1
Karagandy	24.6	56.4	19.0	-
Kostanay	62.1	37.9	-	-
Kyzylorda	44.9	53.6	1.5	-
Mangystau	92.2	7.2	0.6	-
Pavlodar	73.1	24.5	2.4	-
Soltustik Kazakhstan	27.3	68.7	4.0	-
Turkistan	63.2	36.7	0.1	-
Ulytau	25.0	57.4	17.6	-
Shygys Kazakhstan	27.2	57.2	15.6	-
Astana city	27.0	59.2	12.9	0.9
Almaty city	14.9	69.2	15.9	-
Shymkent city	60.8	37.7	1.5	-

\* Note: According to the population survey "Quality of life of the population", which is an integral part of the program of sample surveys of households to assess the standard of living.

## 2.76 The main performance indicators of water supply companies

	2020	2021	2022	2023	2024
Number of water supply facilities	3 786	3 830	3 844	4 117	4 190
Number of individual water supply networks	1 164	1 162	1 183	1 201	1 213
Number of street water taps (booths. columns. taps)	16 689	16 085	15 124	14 687	13 732
Number of accidents	1 895	1 870	1 917	1 459	1 398
of these, on ad networks	1 712	1 620	1 385	1 042	988
Length of water pipes	85 105.9	88 718.0	93 511.9	99 962.5	103 986.7
Replaced networks	706.6	448.0	655.6	614.2	633.6
Length of worn-out water supply networks	17 241	17 412	18 529	18 588	19 946
Repaired several of	567.5	471.8	389.0	501.6	464.7
Them, major repairs	303.8	180.0	161.7	253.2	246.5

Continuation

	2020	2021	2022	2023	2024
The performance of the construction of water supply system	32 918.1	33 127.6	32 428.4	32 568.3	33 075.6
The production capacity of the water supply	14 456.63	13 818.016	13 552.968	13 595.948	13 591.079
Number of pumping stations	5 587	5 705	5 967	6 222	6 328
Number of water treatment plants	396	405	425	518	509
Water supplied to the network	2 412 266.9	2 474 160.4	2 390 578.3	2 675 648.9	2 626 649.8
Water was released to consumers, of which	1 205 611.1	1 286 944.0	1 330 153.3	1 372 897.4	1 361 020.7
to the population for	573 698.8	609 157.5	635 617.0	671 941.9	663 966.4
the utility needs of enterprises for	154 427.4	166 717.8	182 534.8	176 694.6	176 096.2
the production needs of enterprises	357 997.0	378 578.0	367 723.9	372 485.9	360 223.2
to other consumers	119 488.0	132 490.8	144 277.7	151 775.1	160 735
Spent on own production needs	960 901.2	938 561.7	834 680.9	1 052 514.6	1 018 671.7
Leakage and unrecorded consumption.					
thousand sq.m	246 752.5	249 735.9	226 382.3	248 484.9	252 836.6
Average daily water release per resident, liter	83.8	87.8	88.7	92.5	90.2

### 2.77 The main performance indicators of water disposal companies

	2020	2021	2022	2023	2024
Length of drainage system networks	16 886.3	17 231.4	17 727.4	18 042.4	18 215.8
Replaced networks	79.2	118.1	74.4	84.1	126.6
Design capacity of pumping stations of the drainage system	8 317.7	8 547.0	9 384.1	9 526.7	9 725.4
Number of pumping stations for water disposal systems	1 420	1 464	1 475	1 520	1 547
Number of discharge stations (points)	73	76	73	76	79
Number of wastewater treatment plants	244	245	252	290	288
Waste water skipped	682 889.2	706 702.1	713 986.7	722 574.8	736 587.5
Waste water passed through treatment facilities	578 676.2	596 913.9	621 967.7	632 189.6	633 329.5
of these, biological treatment facilities	501 153.9	517 229.7	537 112.7	554 010.6	575 027.1
Discharged treated wastewater into natural water bodies (river, lake, sea)	462 753.1	474 354.8	374 754.5	463 641.0	465 860.2

### 3. Economic factors

#### 3.1 Main economic indicators

	2020	2021	2022	2023	2024
Index of physical volume of GDP, as a percent of the previous year	97.5	104.3	103.2	105.1	105.0
Index of physical volume of GDP, as a percent of 1990	215.8	225.1	...	244.1	256.3
GDP at current prices, million tenge	70 649 033.2	83 951 587.9	103 765 518.2	119 442 289.7	136 693 318.3
GDP at current prices, million USD	171 083.7	197 055.6	225 342.1	261 756.9	291 183.8
GDP per capita, tenge	3 766 810.2	4 418 504.6	5 284 726.7	6 002 027.1	6 780 886.4
GDP per capita, USD					
Share of industry, as a percent of GDP	9 121.7	10 371.5	11 476.6	13 153.4	14 444.6
GDP per capita, USD	27.1	29.6	29.5	26.8	26.1
Dwelling houses, th. 1.meters (total area)	15 332	16 910	15 667	17 827	19 124
Foreign trade turnover with non-CIS countries*, million USD	61 269.6	68 498.5	98 393.1	102 659.4	104 245.9
including:					
export	38 389.5	47 827.5	69 004.9	62 622.9	65 867.1
import	22 880.1	20 671.0	29 388.2	40 036.5	38 378.7
Foreign trade turnover with CIS countries*, million USD	25 200.2	33 237.9	37 134.3	36 891.6	37 826.1
including:					
export	9 151.3	12 493.5	15 588.1	16 515.8	15 806.9
import	16 049.0	20 744.4	21 546.2	20 375.8	22 019.2

#### 3.2 Structure of gross domestic product

	Share of economic sectors in total GDP, as a percent				
	2020	2021	2022	2023	2024
Agriculture, forestry and fisheries	5.4	5.1	5.2	3.8	3.8
Industry	27.1	29.6	29.5	26.8	26.1
Mining and quarrying	12.2	14.1	14.5	13.0	12.0
Manufacturing industry	13.1	13.6	13.4	12.2	12.4
Electricity, gas, steam and air conditioning	1.6	1.6	1.4	1.4	1.5
Water supply; sewer system, control over the collection and distribution of waste	0.2	0.3	0.2	0.2	0.2
Construction	6.1	5.7	5.3	5.6	6.0
Wholesale and retail trade; car and motorcycle repair	17.2	16.8	16.4	18.2	19.0
Transport and storage	6.8	6.8	6.2	5.6	5.7
Accommodation and food services	1.0	1.0	1.0	1.1	1.2
Information and Communication	2.4	2.3	2.1	2.2	2.2
Financial and insurance activities	3.4	2.8	3.1	3.3	3.4
Real estate operations	7.2	6.5	6.5	7.5	8.5
Professional, scientific and technical activities	4.1	3.7	3.3	3.5	3.1
Administrative and support activities	2.3	2.0	2.1	2.4	2.4
Public Administration and Defense; compulsory social security	1.9	1.8	1.9	2.0	1.9
Education	3.6	3.9	4.1	4.5	4.2
Health and social services	2.6	2.9	2.9	2.9	3.0
Arts, entertainment and recreation	0.9	0.9	0.9	0.9	0.9
The provision of other types of services	2.5	2.3	2.3	2.1	2.3
Activities of households employing domestic workers and producing goods and services for their own consumption	0.1	0.1	0.1	0.2	0.2
Total by industry	94.6	94.2	92.9	92.6	93.9
Gross value added	94.6	94.2	92.9	92.6	93.9
Net taxes on products and imports	5.4	5.8	7.1	7.4	6.1
Product and Import Taxes	5.8	6.1	7.5	7.7	6.4
Subsidies for products and imports	0.4	0.4	0.4	0.3	0.3
Gross domestic product	100	100	100	100	100

Note: The calculations were made in accordance with the new Methodology for assessing the unobservable economy registered in the Ministry of Justice of the Republic of Kazakhstan (№19215 of 08.08.2019).

### 3.3 Gross disposable income in the Republic of Kazakhstan

million tenge

	2020	2021	2022	2023	2024
Gross disposable income	64 951 498.4	73 295 142.5	91 300 066.9	106 967 044.9	-

### 3.4 Labor productivity indices in the Republic of Kazakhstan

percent

	2020	2021	2022	2023	2024
In general, in the economy	97.5	103.3	101.3	104.7	103.7
Agriculture, forestry and fisheries	105.2	98.4	116.3	101.4	117.2
Industry	100.0	102.8	99.1	104.4	100.1
Mining and quarrying	97.1	101.5	100.2	103.8	97.9
Manufacturing industry	104.3	104.0	98.9	105.4	103.3
Electricity, gas, steam and air conditioning	100.7	105.2	101.8	104.9	97.4
Water supply; sewer system, control over the collection and distribution of waste	97.0	107.2	95.4	95.5	102.2
Construction	112.4	106.5	107.3	118.1	111.3
Wholesale and retail trade; car and motorcycle repair	97.4	102.4	101.4	106.7	107.9
Transport and storage	79.9	111.3	96.4	115.5	105.8
Accommodation and food services	82.3	106.9	98.7	96.1	94.5
Information and Communication	112.0	110.9	96.1	96.2	105.1
Financial and insurance activities	101.9	102.9	102.4	93.6	101.0
Real estate operations	93.7	95.7	103.7	116.9	100.2
Professional, scientific and technical activities	95.6	104.9	91.8	94.6	100.3
Administrative and support activities	97.7	99.3	105.9	105.8	97.9
Public Administration and Defense; compulsory social security	102.6	105.9	98.2	100.0	103.4
Education	105.5	102.2	102.8	98.7	100.0
Health and social services	101.8	100.6	96.5	98.9	100.3
Arts, entertainment and recreation	106.1	108.2	100.3	94.1	83.5
The provision of other types of services	79.8	95.2	99.3	92.6	92.9

### 3.5 The relative importance of trade

	2020	2021	2022	2023	2024
2017 gross domestic product at constant prices (PPP), billion international dollars	475.2	494.6	512.0	...	...
2021 gross domestic product at constant prices (PPP), billion international dollars	623.7	650.5	671.3	705.5	739.4
Commodity circulation, billion US dollars	86.5	101.7	135.5	139.6	142.1
Export of goods, billion US dollars	47.5	60.3	84.6	79.1	81.7
Import of goods, billion US dollars	38.9	41.4	50.9	60.4	60.4
The relative importance of trade (the ratio of turnover to GDP) to 2017 prices, in percent	18.2	20.6	26.5	...	...
The relative importance of trade (the ratio of turnover to GDP) to 2021 prices, in percent	13.9	15.6	20.2	19.8	19.2

### 3.6 The average cost of labor in trade

tenge

	2020		2021		2022		2023		2024	
	per employee	for 1 hour worked by an employee	per employee	for 1 hour worked by an employee	per employee	for 1 hour worked by an employee	per employee	for 1 hour worked by an employee	per employee	for 1 hour worked by an employee
total	2 776.4	1.7	3 255.3	2.0	4 113.7	2.4	4 813.0	2.9	5 348.6	3
Industry	4 246.6	2.6	4 576.2	2.8	5 897.0	3.5	7 070.6	4.2	7 965.3	4.7
Agriculture, Forestry and Fisheries	1 520.5	0.9	1 806.6	1.0	2 325.4	1.3	2 757.9	1.6	3 308.5	1.9
Construction	3 020.4	1.9	3 737.3	2.2	5 539.6	3.2	6 235.1	3.6	6 661.9	3.7
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	2 394.6	1.5	2 884.1	1.7	3 523.6	2.1	4 233.5	2.5	4 730.2	2.3
Transportation and Storage	3 300.7	2.0	3 896.6	2.4	5 375.1	3.3	6 334.3	3.7	7 233.3	4.3

Continuation

	2020		2021		2022		2023		2024	
	per employee	for 1 hour worked by an employee	per employee	for 1 hour worked by an employee	per employee	for 1 hour worked by an employee	per employee	for 1 hour worked by an employee	per employee	for 1 hour worked by an employee
Accommodation and Food Service Activities	2 216.5	1.4	2 718.0	1.6	3 559.1	2.0	4 084.3	2.2	4 545.8	2.6
Information and Communication	3 626.6	2.2	4 273.6	2.6	5 476.7	3.3	7 514.1	4.4	9 264.4	5.3
Financial and Insurance Activities	4 422.4	3.0	5 393.6	3.5	7 711.8	5.0	8 304.0	5.0	10 477.6	6.5
Real Estate Activities	2 230.1	1.3	2 319.9	1.4	2 989.2	1.6	3 260.0	2.2	3 940.2	2.6
Professional, Scientific and Technical Activities	4 349.3	2.6	4 825.0	3.0	5 804.8	3.6	6 627.0	4.0	7 695.8	4.5
Administrative and Support Service Activities	2 407.0	1.4	2 753.2	1.6	3 541.9	2.0	4 229.8	2.4	4 564.1	2.5
Education	2 083.9	1.3	2 613.8	1.6	3 191.2	1.9	3 625.4	2.2	3 935.9	2.3
Human Health and Social Work Activities	2 114.2	1.3	2 813.2	1.7	3 121.1	1.9	3 650.0	2.2	3 955.2	2.3
Arts, Entertainment and Recreation	2 046.3	1.2	2 035.7	1.3	2 592.2	1.5	3 003.2	1.7	3 590.2	2.1
Other Service Activities	2 180.6	1.3	2 557.7	1.9	2 842.0	1.7	3 148.0	1.8	3 339.2	2.0

### 3.7 Consumer price index

percent

	2020	2021	2022	2023	2024
Goods and services	106.8	108.0	115.0	114.5	108.7
Foodstuffs	110.4	110.8	119.0	115.2	106.0
Non-grocery goods	105.5	106.9	114.0	114.8	107.9
Paid services for the population	103.3	105.5	110.3	113.2	113.5

### 3.8 Indexes of physical volume of industrial production

as a percent of the previous year

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	99.5	103.6	101.2	104.4	103.2
Abay	106.8	109.5	110.1	104.3	100.4
Akmola	106.8	108.1	113.8	111.9	100.1
Aktobe	102.6	102.4	101.2	95.2	104.8
Almaty	102.5	111.9	109.1	106.9	106.3
Atyrau	94.5	102.8	98.3	111.2	97.0
Batys Kazakhstan	103.9	92.6	99.5	106.7	102.4
Zhambyl	103.3	106.0	110.5	100.3	103.3
Zhetisu	104.3	113.5	101.6	105.3	106.0
Karagandy	101.2	100.9	98.1	97.9	113.3
Kostanay	107.8	110.6	96.0	105.7	102.7
Kyzylorda	87.1	101.8	98.4	104.5	101.7
Mangystau	94.1	98.3	101.9	99.0	102.7
Pavlodar	101.2	102.5	99.8	100.7	105.1
Soltustik Kazakhstan	105.1	107.2	104.6	114.4	104.6
Turkistan	96.1	105.6	93.1	103.0	112.0
Ulytau	88.7	89.0	103.5	98.3	107.9
Shygys Kazakhstan	101.1	100.1	102.3	100.7	102.7
Astana city	102.8	115.6	103.3	102.0	110.1
Almaty city	105.2	125.3	109.1	110.1	98.6
Shymkent city	99.1	105.2	106.1	102.9	104.6

### 3.9 The volume of industrial production (goods, services) by economic activity

million tenge

	2020	2021	2022	2023	2024
Industry - total	27 028 506	37 606 243	48 777 089	46 992 553	51 469 084
including:					
mining industry	11 785 557	17 976 976	24 926 378	21 925 367	22 902 616
coal mining, lignite	335 981	395 505	642 254	539 717	546 153
crude oil and natural gas					
production	8 274 652	13 181 562	19 372 319	16 086 957	16 349 010
metal ore mining	2 256 236	3 370 042	3 471 012	3 884 676	4 537 895
other mining industries	231 665	341 134	501 785	409 590	429 861
technical services in the field of					
mining industry	687 023	688 733	939 008	1 004 427	1 039 697
manufacturing industry	13 232 696	17 121 392	21 161 830	22 048 167	25 051 001
of them:					
food production	1 957 241	2 287 783	3 070 130	3 184 949	3 286 395
beverage industry	443 428	565 288	770 298	904 197	937 657
tobacco production	211 590	237 126	285 119	282 651	293 850
manufacture of textiles	75 997	84 888	109 313	129 306	118 801
manufacture of wearing apparel	53 627	54 440	65 558	89 471	85 108
manufacture of leather and					
related products	13 098	14 299	18 360	18 628	15 401
manufacture of wood and cork					
products, except furniture;					
manufacture of products from					
straw and materials for weaving	26 283	29 667	40 207	64 207	65 033
paper and paper products	71 073	93 028	128 940	138 848	146 535
production of coke and refined					
petroleum products	837 535	1 104 216	1 153 691	1 135 396	1 267 308
manufacture of industrial					
products	476 329	573 589	924 575	1 006 761	1 190 833
manufacture of rubber and					
plastic products	257 931	343 216	455 830	448 755	451 694
manufacture of other non-					
metallic mineral products	732 210	965 149	1 205 247	1 281 378	1 441 926
metallurgical industry	5 662 784	7 676 586	9 036 308	8 191 948	9 876 844
manufacture of finished metal					
products, except machinery and					
equipment	291 109	334 446	398 693	480 557	586 631
engineering	1 823 922	2 386 182	3 151 710	4 317 538	4 835 626
manufacture of other finished					
products	48 334	44 587	46 685	59 985	70 695
power supply, gas, steam and air					
conditioning	1 740 718	2 150 972	2 327 194	2 590 673	2 995 320
water supply; sewage system,					
control over the collection and					
distribution of waste	269 535	356 902	361 686	428 346	520 146
collection, treatment and					
distribution of water	112 616	127 525	139 610	200 399	233 969

### 3.10 Employment in the economy

	2020	2021	2022	2023	2024
Employed in the economy, total	8 732.0	8 807.1	8 971.5	9 081.9	9 214.2
Agriculture, forestry and fisheries	1 175.1	1 176.4	1 108.9	1 078.0	1 027.9
Industry	1 089.2	1 098.0	1 121.2	1 121.7	1 157.8
Mining and quarrying	276.9	277.9	274.8	277.5	284.3
Manufacturing industry	581.8	585.6	613.7	605.6	625.9
Electricity, gas, steam and air conditioning	149.0	150.1	148.1	149.2	155.1
Water supply; sewer system, control over the collection and					
distribution of waste	81.5	84.3	84.6	89.6	92.5
Construction	630.9	641.4	658.9	642.2	665.5
Wholesale and retail trade; car and motorcycle repair	1 421.3	1 451.9	1 497.9	1 514.0	1 529.0
Transport and storage	617.5	609.5	640.6	648.5	670.1
Accommodation and food services	193.7	190.9	198.4	214.4	232.5
Information and Communication	159.7	161.7	166.5	187.8	188.5
Financial and insurance activities	189.0	184.9	186.3	201.8	202.5
Real estate operations	158.4	168.4	166.1	151.1	162.9

Continuation

	2019	2020	2021	2022	2023
Professional, scientific and technical activities	254.7	247.3	253.7	265.1	263.6
Administrative and support activities	285.5	287.5	280.8	272.8	277.2
Public Administration and Defense; compulsory social security	489.3	484.1	508.5	524.3	517.0
Education	1 109.5	1 120.1	1 142.3	1 183.0	1 198.4
Health and social services	512.4	526.0	561.2	577.7	583.9
Arts, entertainment and recreation	138.4	134.7	137.9	139.4	154.2
The provision of other types of services	307.5	324.4	342.5	360.2	383.3
Activities of households employing domestic workers and producing goods and services for their own consumption	-	-	-	-	-
Activities of extraterritorial organizations and bodies	-	-	-	-	-
The number of unemployed, thousand people	448.8	449.6	458.3	452.2	449.8

### 3.11 Labor force share and unemployment rate

thousand people

	2020	2021	2022	2023	2024
Work force	9 180.8	9 256.8	9 429.8	9 534.1	9664.0
Employed population:	8 732.0	8 807.1	8 971.5	9 081.9	9214.2
wage-earners	6 686.7	6 710.2	6 847.3	6 893.4	7015.1
self-employed workers	2 045.4	2 096.9	2 124.2	2 188.5	2199.1
Labor share	69.2	69.3	68.7	68.5	68.2
Unemployment rate	4.9	4.9	4.9	4.7	4.7

### 3.12 Sown area of agricultural crops

thousand hectares

	2020	2021	2022	2023	2024
Total sown area	22 656.2	22 978.4	23 365.1	24 016.9	23 311.2
of them:					
Cereals (including rice) and legumes	15 861.9	16 065.5	16 096.2	17 480.3	16 676.9
Sugar beet	20.9	21.7	11.6	19.7	25.2
Potatoes	192.8	195.2	198.9	188.3	121.9
Vegetables	162.7	168.1	169.7	164.8	125.1
Bakhchi	101.9	109.8	100.4	107.6	98.1
Oilseeds	2 898.3	3 093.3	3 463.4	2 799.5	2 935.0
of them sunflower	756.1	958.5	1 090.7	1 157.4	1 287.1

### 3.13 Harvested crop area

thousand hectares

	2020	2021	2022	2023	2024
Cereals (including rice) and legumes	15 685.9	15 800.7	16 011.7	16 657.3	16 551.8
Sunflower	749.9	939.8	1 090.5	1 127.1	1 256.7
Sugar beet	14.4	12.1	9.0	13.5	25.0
Potatoes	193.8	194.4	198.7	93.0*	120.2
Vegetables	163.2	168.4	169.9	155.0*	125.6

### 3.14 Gross harvest of main crops

in all categories of farms, thousand tons

	2020	2021	2022	2023	2024
Cereals (including rice) and legumes	20 065.3	16 375.9	22 030.5	17 096.6	25 204.8
Sunflower	844.3	1 031.8	1 304.3	1 236.4	1 834.4
Sugar beet	466.3	332.2	305.6	510.2	1 268.8
Potatoes	4 006.8	4 031.6	4 080.5	2 046.8*	2 634.6
Vegetables	4 340.7	4 512.0	4 610.2	4 215.1*	3570.1

### 3.15 Yield of main crops

in all categories of farms, centners per hectare

	2020	2021	2022	2023	2024
Cereals (including rice) and legumes	12.8	10.4	13.8	10.3	15.2
Sunflower	11.3	11.0	12.0	11.0	14.6
Sugar beet	323.2	275.5	341.4	379.0	507.3
Potatoes	206.7	207.4	205.4	220.1*	219.1
Vegetables	265.9	268.0	271.3	271.9*	284.2

### 3.16 Livestock and poultry

in all categories of farms. at the end of the year, thousand heads

	2020	2021	2022	2023	2024
Cattle	7 850.0	8 192.4	6 536.3	6 616.8	7 976.7
Pigs	816.7	776.1	509.8	483.3	479.7
Sheep and goats	20 057.6	20 876.8	18 843.0	18 667.04	20 224.4
Horses	3 139.8	3 489.8	3 790.2	3 851.2	4 353.0
Camels	227.7	243.4	253.7	264.9	280.5
Poultry	43 335.0	47 884.7	45 653.1	44 174.2	45 650.9

### 3.17 Production of main livestock products

	2020	2021	2022	2023	2024
Meat (slaughter weight), million tons	1.2	1.2	1.2	1.1	1.2
Milk, million tons	6.1	6.2	6.4	3.5	3.6
Eggs, billion pieces	5.1	4.8	5.0	4.4	4.5

### 3.18 Availability of vehicles\*

	The number of vehicles thousand units	Including			Provision of the population of cars in the personal property per 100 population
		trucks	buses	cars	
2020	4 433.5	479.6	83.6	3 870.3	19.5
2021	4 386.9	506.6	82.2	3 798.1	18.9
2022	4 449.3	446.5	93.2	3 909.6	18.8
2023	5 326.8	523.5	112.4	4 690.9	22.4
2024	5 744.1	568.7	115.3	5 060.1	23.9

\* Hereinafter, according to the Ministry of Internal Affairs of the Republic of Kazakhstan.

### 3.19 The availability of registered passenger vehicles by type of fuel used

on January 1, 2025, units

	total	Including					
		petrol	diesel fuel	gas balloon	mixed fuel	electric	not specified
<b>Republic of Kazakhstan</b>	5 060 083	4 437 616	91 117	10 073	400 138	12 624	108 514
Abay	62 335	59 391	607	61	2 248	27	1
Akmola	208 889	189 021	2 690	371	12 534	68	4 205
Aktobe	194 151	147 477	1 304	279	23 704	98	1 289
Almaty	549 123	508 604	14 584	1 154	22 344	622	1 815
Atyrau	135 087	116 249	3 506	210	14 163	131	828
Batys Kazakhstan	156 016	133 753	3 133	85	18 088	142	815
Zhambyl	267 353	246 015	4 785	441	13 431	159	2 522
Zhetisu	67 255	62 303	1 793	266	2 822	63	8
Karagandy	323 985	297 392	6 705	462	14 632	210	4 584
Kostanay	211 390	192 339	4 927	69	12 801	122	1 132
Kyzylorda	152 660	128 733	1 260	222	22 038	167	240
Mangystau	167 936	77 032	2 088	242	86 737	157	1 680
Pavlodar	127 081	118 373	1 009	131	4 469	1	3 098
Soltustik Kazakhstan	186 511	175 362	1 369	440	6 843	88	2 409
Turkistan	152 014	133 780	2 165	359	13 638	54	2 018
Ulytau	302 344	263 673	3 012	1 032	34 450	128	1 734
Shygys Kazakhstan	24 360	22 629	472	23	1 198	38	-
Astana city	297 167	286 098	3 698	131	5 378	128	1 734
Almaty city	389 469	363 903	3 788	917	19 177	1 492	192
Shymkent city	611 062	555 324	21 074	1 521	23 778	7 531	1 834
Diplomatic numbers	39 639	34 150	2 672	68	2 507	148	94
Not specified region	209 972	125 716	1 415	296	4 100	545	77 900

Note: "electric" - using an electric battery; "Mixed" - on gasoline and on electric fuel.

### 3.20 The availability of registered passenger vehicles by year of manufacture

on January 1, 2025, units

	Total	Including					
		no more than 3 years	more than 3 years, but not more than 7 years	more than 7 years, but not more than 10 years	more than 10 years, but not more than 20 years	more than 20 years	other
<b>Republic of Kazakhstan</b>	5 060 083	321 880	783 793	590 695	1 182 787	2 175 118	5 810
Abay	62 335	3 489	11 830	6 380	18 927	21 709	-
Akmola	208 889	10 657	21 215	21 907	45 150	109 586	374
Aktobe	194 151	13 942	22 853	33 054	65 873	58 320	109
Almaty	549 123	21 524	49 047	44 923	109 065	323 928	636
Atyrau	135 087	15 823	22 330	27 532	44 793	24 587	22
Batys Kazakhstan	156 016	14 400	24 546	23 778	43 691	49 417	184
Zhambyl	267 353	8 348	19 256	17 265	49 711	172 677	96
Zhetisu	67 255	2 483	7 723	3 945	13 221	39 883	-
Karagandy	323 985	18 597	41 241	34 468	66 987	162 329	363
Kostanay	211 390	14 848	33 823	25 058	47 243	90 080	338
Kyzylorda	152 660	7 147	15 581	14 643	44 036	71 170	83
Mangystau	167 936	12 380	20 009	29 838	59 706	45 946	57
Pavlodar	127 081	-	3 165	14 327	23 371	85 997	221
Soltustik Kazakhstan	186 511	10 494	25 285	20 289	39 019	91 261	163
Turkistan	152 014	7 162	13 803	14 309	34 001	122 914	-
Ulytau	302 344	14 322	42 133	34 584	88 391	122 914	-
Shygys Kazakhstan	24 360	1 266	5 397	1 773	6 306	9 618	-
Astana city	297 167	15 621	27 457	38 115	63 345	152 341	288
Almaty city	389 469	40 720	121 785	61 979	84 250	80 567	168
Shymkent city	611 062	51 336	143 014	75 934	151 127	189 452	199
Diplomatic numbers	224 284	17 472	52 748	29 280	57 564	67 219	1
Not specified region	39 639	5 738	11 086	5 849	8 949	8 012	5
Region not specified	209 972	14 111	48 466	11 465	18 061	115 597	2 272

\* Note: "other" - not determined year.

### 3.21 The average age of the road vehicle fleet

	2020	2021	2022	2023	2024
<b>Cars</b>					
Total amount per 1 000 units	3 870.3	3 798.1	3 909.6	4 690.9	5 060.1
<b>Including</b>					
<= 3 years, per 1 000 units	462.6	516.8	319.8	286.2	321.9
<= 3 years, in percent	12.0	13.6	8.2	6.1	6.4
3 <= 7 years, per 1 000 units	570.9	494.7	250.3	549.6	783.8
3 <= 7 years, in percent	14.7	13.1	6.4	11.7	15.5
7 <= 10 years, per 1 000 units	268.3	317.3	572.0	620.1	590.7
7 <= 10 years, in percent	6.9	8.4	14.6	13.2	11.7
> 10 years, per 1 000 units	2 495.4	2 407.0	2761.2	3229.0	3 357.9
> 10 years, in percent	64.5	63.3	70.6	68.8	66.4
Other, per 1 000 units	73.1	62.2	6.3	6.1	5.8
Other, in percent	1.9	1.6	0.2	0.1	0.1
<b>Buses</b>					
Total amount per 1 000 units	83.6	82.0	93.2	112.4	115.3
<b>Trolley buses</b>					
Total amount per 1 000 units	0.2	0.2	0.2	0.3	0.4
<b>Trucks</b>					
Total amount per 1 000 units	479.6	506.5	446.5	523.5	568.7

### 3.22 Passenger traffic of all types of transport

million pkm

	2020	2021	2022	2023	2024
Total	36 698.6	54 277.3	63 527.0	71 293.8	79 356.3
of them:					
railway	9 163.3	12 750.0	16 690.9	16 459.5	16 445.6
automotive and urban	19 009.3	26 675.6	26 794.6	28 934.8	34 605.1
inland water	0.5	1.4	2.0	2.2	4.4
air	8 525.2	14 849.8	20 038.8	25 897.1	28 300.7

Continuation

	2020	2021	2022	2023	2024
Population of the country, million people	18.8	19.0	19.6	19.9	20.4
Passenger turnover per capita, km	1 952.1	2 856.7	3 241.2	3 582.6	3 890.0

\* For 2010-2021 the data have been recalculated taking into account changes in the methodological approach to the formation of performance indicators of individual entrepreneurs engaged in commercial transportation of goods and passengers by road transport.

\* From 2022 and further, the data was generated taking into account changes in the methodological approach to the formation of performance indicators of individual entrepreneurs engaged in commercial transportation of goods and passengers by road transport.

Taking into account the transportation of passengers by subway.

### 3.23 The turnover of goods transported by individual modes of transport

billion tkm

	2020	2021	2022	2023	2024
total	443.6	483.5	479.7	503.5	520.9
of them:					
railway	299.2	297.4	307.6	328.7	332.1
automobile and urban electric	19.6	33.7	30.0	30.1	36.8
inland water transport	0.02	0.05	0.05	0.02	0.1
pipeline	124.2	151.7	141.3	143.7	150.1
marine	0.6	0.6	0.7	0.9	1.8
air	0.06	0.08	0.05	0.05	0.1
GDP by PPP in constant prices 2017, billion international dollars	475.2	494.6	512.0	...	...
Cargo turnover per unit of GDP, t-km / 1 000 international dollars	933.5	977.6	936.9	...	...
GDP at constant prices in 2021 (PPP), billion international dollars	623.7	650.5	671.3	705.5	739.4
Cargo turnover per unit of GDP, t-km / 1 000 international dollars	711.2	743.3	714.6	713.7	704.5

\* For 2020-2021, the data has been recalculated considering the change in the methodological approach to forming performance indicators for individual entrepreneurs engaged in commercial passenger transportation by road.

### 3.24 Composition of road motor vehicle fleet by fuel type

unit

	2020	2021	2022	2023	2024
<b>Passenger cars</b>					
Total	3 870 318	3 798 071	3 909 559	4 690 900	5 060 083
Gasoline	3 426 786	3 343 736	3 451 775	4 107 974	4 437 617
Diesel fuel	75 758	73 867	75 982	86 772	91 117
Gas cylinder	3 951	3 886	4 160	6 782	10 073
Mixed	292 437	297 120	322 350	385 847	400 138
Electric	550	491	812	7 997	12 624
Fuel type not specified	70 836	78 971	54 480	95 526	108 514

### 3.25 The volume of expenditures for research and development (R&D)

	2020	2021	2022	2023	2024
Total R&D expenditures	89 028.7	109 332.7	121 560.1	172 585.9	219 669.8
Total R&D expenditures in the business sector	36 832.9	38 215.7	31 921.4	35 509.7	60 857.5
R&D expenditures in the business sector in the total R&D expenditures	41.4	35.0	26.3	20.6	27.7

### 3.26 Internal R&D expenditures in the field of environmental protection and energy efficiency by region for 2024

thousand tenge

	total	Including by source of funding				
		own funds	republican budget	foreign budget	foreign funds	other funds
<b>Republic of Kazakhstan</b>	39 882 858.2	2 512 462.0	36 022 347.8	33 822.0	908 980	1 215 246.4
Abay	838 939.3	-	838 939.3	-	-	-
Akmola	469 715.5	-	469 715.5	-	-	-
Almaty	766 198.0	-	766 198.0	-	-	-
Batys Kazakhstan	24 654.0	8 654.0	16 000.0	-	-	-

Continuation

	total	Including by source of funding				
		own funds	republican budget	foreign budget	foreign funds	other funds
Zhambyl	5 047 209.6	-	4 818 501.0	4 143.0	-	224 565.6
Zhetisu	2 000.0	2 000.0	-	-	-	-
Karagandy	490 844.0	44 650.0	416 515.0	29 679.0	-	-
Kostanay	240 791.7	-	240 791.7	-	-	-
Mangystau	2 635 661.0	248 184.0	2 387 477.0	-	-	-
Pavlodar	173 158.4	-	173 158.4	-	-	-
Soltustik Kazakhstan	90 303.0	90 303.0	-	-	-	-
Turkistan	x	x	-	-	-	-
Ulytau	6 699.0	6 699.0	-	-	-	-
Shygys Kazakhstan	926 218.8	515 198.4	163 572.1	-	-	247 448.3
Astana city	12 277 611.6	97 890.6	11 567 689.5	-	-	612 031.5
Almaty city	14 511 700.3	626 167.0	13 659 942.3	-	908 980	126 611.0
Shymkent city	508 438.0	-	503 848.0	-	-	4 590.0

### 3.27 Internal R&D expenditures in the field of environmental protection and energy efficiency

thousand tenge

	2023			2024		
	total	Including by type of work		total	Including by type of work	
		scientific research	development projects		scientific research	development projects
<b>Republic of Kazakhstan</b>	32 341 566	30 662 212.4	1 679 353.6	39 882 858.2	38 462 716.5	1 420 141.8
Abay	752 336	752 336	-	838 939.3	838 939.3	-
Akmola	375 617	375 617	-	469 715.5	469 715.5	-
Aktobe				766 198	653 974	x
Almaty	466 419	466 419	-	24 654	21 274	3 380
Batys Kazakhstan	20 270	14 900	5 370	5 047 209.6	4 781 813.2	x
Zhambyl	4 434 742.2	3 849 644.4	585 097.8	2 000	-	2 000
Zhetisu	34 280	34 280	-	490 844	460 855	29 989
Karagandy	581 907.2	545 404.2	36 503	240 791.7	240 791.7	-
Kostanay	301 908	301 908	-	2 635 661	2 438 009	197 652
Kyzylorda				173 158.4	173 158.4	-
Mangystau	1 400 318.9	1 190 182	210 136.9	90 303.0	-	90 303
Pavlodar	393 727.4	101 200.4	292 527	x	x	-
Soltustik Kazakhstan	153 040	-	153 040	6 699	-	6 699
Turkistan				926 218.8	327 654.8	598 564
Ulytau				12 277 611.6	12 277 611.6	-
Shygys Kazakhstan	479 171	124 881.9	354 289.1	14 511 700.3	14 397 765.9	113 934.4
Astana city	2 732 934.7	2 730 752.9	2 181.8	508 438	508 438	-
Almaty city	32 341 566	30 662 212.4	1 679 353.6	39 882 858.2	38 462 716.5	1 420 141.8
Shymkent city	752 336	752 336	-	838 939.3	838 939.3	-

### 3.28 Internal R&D expenditures in the field of environmental protection and energy efficiency by type of environmental protection activities for 2024

thousand tenge

	total	Including by source of funding				
		own funds	republican budget	local budget	foreign funds	other funds
Domestic expenditure on R&D including: protection of atmospheric air and climate	39 882 858.2	2 512 462.0	36 022 347.8	33 822.0	x	1 215 246.4
protection of water bodies	1 267 429.4	x	1 083 119.4	-	-	7 450.0
waste management	1 388 974.4	150 002.0	1 139 992.4	-	x	-
protection of soil and groundwater	1 158 726.8	256 372.0	902 354.8	-	-	-
to combat noise and vibration	1 326 329.2	147 336.0	1 178 993.2	-	-	-
protection of biological species and habitats (habitats)	4 384 229.5	175 160.0	4 074 198.9	-	-	134 870.6

Continuation

	total	Including by source of funding				
		own funds	republican budget	local budget	foreign funds	other funds
on protection from radiation exposure	260 413.4	204 214.4	56 199.0	-	-	-
other research and development	30 096 755.5	1 402 517.6	27 587 490.1	33 822.0	-	1 072 925.8
of them						
in the field of renewable energy	2 066 919.3	411.0	2 066 508.3	-	-	-
in the field of energy-saving technologies and energy efficiency	2 578 964.0	383 528.0	1 971 746.0	-	-	223 690.0

### 3.29 Internal R&D expenditures in the field of environmental protection and energy efficiency

thousand tenge

	2023			2024		
	total	Including by type of work		total	Including by type of work	
		scientific research	development projects		scientific research	development projects
Domestic expenditure on R&D	32 341 566.0	30 662 212.4	1 679 353.6	39 882 858.2	38 462 716.5	1 420 141.8
including:						
protection of atmospheric air and climate	605 007.0	596 027.0	8 980.0	1 267 429.4	1 267 429.4	-
protection of water bodies	1 857 837.6	1 704 797.6	153 040.0	1 388 974.4	1 291 792.4	97 002
waste management	1 306 619.5	1 304 461.5	2 158.0	1 158 726.8	1 156 089.8	2 637
protection of soil and groundwater	611 513.8	607 543.8	3 970.0	1 326 329.3	1 324 829.2	1 500
to combat noise and vibration	56 972.2	56 972.2	-	-	-	-
protection of biological species and habitats (habitats)	4 598 547.9	4 574 288.9	24 259.0	4 384 229.5	4 384 229.5	-
on protection from radiation exposure	159 896.0	x	8.0	260 413.8	260 238.4	175
other research and development	23 145 172.0	21 658 233.4	1 486 938.6	30 096 755.5	28 777 927.7	1 318 827.8
of them						
in the field of renewable energy	480 378.3	480 378.3	-	2 066 919.3	2 066 508.3	411
in the field of energy-saving technologies and energy efficiency	2 859 904.6	2 363 751.7	496 152.9	2 578 964	1 888 081	690 883

## 4. Environmental factors

### 4.1 The total expenses on environment protection

	thousand tenge				
	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	384 015 734	416 955 575	444 514 269	610 285 222	456 106 008
Abay	2600586	3244786	5 804 267	6 962 550	7 189 122
Akmola	63 945 393	18 839 038	19 313 971	127 715 648	8 787 958
Aktobe	38 153 904	59 259 824	44 987 100	51 289 862	63 518 667
Almaty	1472042	1814394	2 096 057	2 876 627	2 440 135
Atyrau	43 869 542	76 753 130	100 859 822	89 151 170	66 300 767
Batys Kazakhstan	16 593 098	13 014 366	9 678 433	15 116 668	32 488 426
Zhambyl	12 148 355	58 751 671	26 993 650	50 254 606	12 753 735
Zhetisu	925141	936822	993 228	1 557 099	1 260 776
Karagandy	25663529	24173817	45 973 744	41 843 002	56 362 628
Kostanay	23 327 794	25 046 596	22 624 807	43 035 888	22 461 716
Kyzylorda	16 131 739	4 767 423	3 889 222	4 635 305	5 406 460
Mangystau	16 727 282	13 762 285	13 734 770	7 165 260	8 012 890
Pavlodar	40 474 833	38 155 928	37 326 905	59 495 022	74 237 212
Soltustik Kazakhstan	4 328 499	4 924 202	11 771 800	7 193 159	6 932 511
Turkistan	2 768 430	1 948 430	8 544 944	18 334 526	3 700 689
Ulytau	8133856	12646350	12 860 844	15 042 930	2 921 593
Shygys Kazakhstan	36915932	36863495	33 451 971	38 832 365	54 698 869
Astana city	17 222 878	8 219 235	16 852 108	7 321 551	2 770 510
Almaty city	5 060 060	8 893 841	7 519 421	12 505 140	11 259 381
Shymkent city	7 552 841	4 939 942	19 237 205	9 956 844	12 601 963

### 4.2 Total environmental protection expenses by type of environmental protection activity

	thousand tenge				
	2020	2021	2022	2023	2024
<b>Total</b>	384 015 734	416 955 575	444 514 269	610 285 222	456 106 008
including					
air and climate protection	88 476 190	82 513 454	127 995 826	122 068 658	153 604 916
on waste water treatment management	66 978 966	94 165 799	113 096 310	115 266 558	83 299 392
on waste management to protect and restore soil, groundwater and surface water sources	73 248 476	90 899 013	107 096 519	131 880 528	146 873 333
to combat noise and vibration (excluding measures of an in-house nature on labor protection in the workplace)	16 180 047	26 808 738	23 695 591	15 948 797	12 571 630
to protect landscape biodiversity on protection from radiation exposure (excluding issues of external state security-news)	38 788	94 492	163 944	174 250	77 303
for research and development in the field of environmental protection (R&D)	6 038 736	2 199 854	3 307 758	2 599 208	3 272 484
for other environmental protection activities	955 709	779 270	880 252	879 505	1 091 097
	4 502 777	4 921 332	3 479 430	5 063 347	6 480 244
	127 596 045	114 573 623	64 798 639	216 404 371	48 835 609

### 4.3 Current costs on environmental protection

	thousand tenge				
	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	210 397 122	245 790 216	284 853 377	343 024 440	347 853 239
Abay	2 600 586	3 244 786	4 569 245	6 590 398	6 514 411
Akmola	3 261 696	4 791 410	4 783 079	5 731 226	7 506 458
Aktobe	26 847 144	32 455 655	40 651 798	49 463 645	40 204 595
Almaty	860 967	1 367 871	1 965 645	2 136 758	2 420 261
Atyrau	39 940 657	52 132 403	56 508 271	54 505 203	58 112 772
Batys Kazakhstan	13 685 551	9 038 468	8 434 895	14 247 478	17 064 931
Zhambyl	4 951 362	5 765 390	7 328 188	8 008 858	10 496 219
Zhetisu	925 141	936 822	973 288	1 473 286	1 259 613

Continuation

	2020	2021	2022	2023	2024
Karagandy	20 369 294	24 124 305	32 904 100	37 822 671	39 430 327
Kostanay	10 423 346	13 722 916	18 068 017	23 335 280	22 461 716
Kyzylorda	2 863 434	3 300 927	3 827 088	4 489 312	5 129 781
Mangystau	9 632 475	7 823 690	7 783 851	7 165 260	7 633 053
Pavlodar	25 259 670	30 579 926	30 291 043	49 792 296	50 716 103
Soltustik Kazakhstan	3 102 405	4 919 885	4 419 072	4 407 484	5 827 451
Turkistan	1 294 883	1 472 529	1 649 601	1 999 229	3 344 787
Ulytau	8 133 856	12 646 350	12 860 844	15 041 253	2 919 916
Shygys Kazakhstan	23 034 866	25 567 469	29 156 691	33 827 877	46 306 215
Astana city	1 032 748	955 667	6 057 361	7 321 551	2 770 510
Almaty city	4 984 200	6 003 805	7 326 231	9 925 654	10 005 846
Shymkent city	7 552 841	4 939 942	5 295 069	5 739 721	7 728 274

#### 4.4 Current expenses on environmental protection by type of environmental protection activity

thousand tenge

	2020	2021	2022	2023	2024
Total	210 397 122	245 790 216	284 853 377	343 024 440	347 853 239
including					
air and climate protection	73 049 345	74 466 978	89 897 029	100 093 829	90 034 437
on waste water treatment management	55 203 897	63 149 240	69 640 426	86 306 812	76 171 058
on waste management	62 097 465	76 490 710	98 376 788	126 820 792	138 570 566
to protect and restore soil, groundwater and surface water sources	9 071 184	16 323 180	12 403 139	12 998 142	11 778 918
to combat noise and vibration (excluding measures of an in-house nature on labor protection in the workplace)	38 788	70 892	163944	148 407	75 844
to protect landscape biodiversity	801 745	1 443 986	1322879	2 599 208	3 249 796
on protection from radiation exposure (excluding issues of external state security-news)	921 317	630 128	619965	746 234	962 738
for research and development in the field of environmental protection (R&D)	4 027 575	4 593 547	3395026	5 008 168	6 237 245
for other environmental protection activities	5 185 806	8 621 555	9034181	8 302 848	20 772 637

## 4.5 Current expenses for environmental protection by types of environmental activities in 2024

	total	including										other areas of environmental activities
		air protection and climate change issues	cleaning of drains	waste management	protection and rehabilitation of soil, groundwater and surface water	noise and vibration reduction	biodiversity conservation and habitat	radiation safety	research and development	thousand tenge		
<b>Republic of Kazakhstan</b>	347 853 239	90 034 437	76 171 058	138 570 566	11 778 918	75 844	3 249 796	962 738	6 237 245	20 772 637		
Abay	6 514 411	896 012	2 029 166	2 406 957	215 576	9 126	22 631	18 801	666 870	249 272		
Akmola	7 506 458	741 412	1 031 188	1 813 787	427 405	1 375	225 413	8 985	79 935	3 176 958		
Aktobe	40 204 595	12 920 417	6 732 378	19 083 075	1 101 456	3 420	14 236	31 993	-	317 620		
Almaty	2 420 261	678 097	519 818	942 500	171 046	x	12 278	11 355	42 470	40 782		
Atyrau	58 112 772	20 310 698	10 552 073	16 418 181	5 366 984	213	1 938 597	213 614	865 516	2 446 896		
Batys Kazakhstan	17 064 931	346 642	655 133	13 541 899	317 358	11	19 557	2 036	648 271	1 534 024		
Zhambyl	10 496 219	2 379 845	4 017 103	3 637 769	159 301	8 924	-	102 007	-	191 270		
Zhetisu	1 259 613	135 118	926 533	138 428	16 928	6	x	501	15 095	26 974		
Karagandy	39 430 327	7 867 478	10 601 515	18 154 584	396 204	5 795	119 733	5 364	645 107	1 634 547		
Kostanay	22 461 716	3 367 973	12 838 422	4 879 908	654 029	8 506	10 386	45 727	131 593	525 172		
Kyzylorda	5 129 781	532 161	284 706	2 598 430	137 642	11 472	312 050	48 984	847 819	356 517		
Mangystau	7 633 053	1 060 951	1 489 259	4 270 046	286 681	5 290	69 005	44 030	260 832	146 959		
Pavlodar	50 716 103	9 193 218	8 074 037	25 693 113	279 481	184	351 471	18 257	128 462	6 977 880		
Southwest Kazakhstan	5 827 451	1 617 822	2 400 805	1 285 247	279 708	2 214	13 136	x	93 466	134 148		
Turkistan	3 344 787	194 395	720 491	708 036	198 674	8 315	32 728	355 752	448 604	677 792		
Ulytau	2 919 916	911 394	1 130 840	644 519	50 389	3 309	29 901	8 717	96 772	44 075		
Shygyr Kazakhstan	46 306 215	21 843 381	6 603 513	13 935 001	556 342	18	28 793	39 563	1 202 894	2 096 710		
Astana city	2 770 510	778 570	707 512	1 144 715	18 775	x	19 364	1 776	29 356	69 642		
Almaty city	10 005 846	2 000 221	175 852	6 619 087	1 137 552	4 750	-	3 292	8 472	56 620		
Shymkent city	7 728 274	2 258 632	4 680 714	655 284	7 387	201	30 487	1 079	25 711	68 779		

#### 4.6 Investing in environmental protection

thousand tenge

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	173 618 612	171 165 359	159 660 892	267 260 782	108 252 769
Abay	10 856 704	557 633	1 235 022	372 152	674 711
Akmola	60 683 697	14 047 628	14 530 892	121 984 422	1 281 500
Aktobe	11 306 760	26 804 169	4 335 302	1 826 217	23 314 072
Almaty	27 849	441 007	130 412	739 869	19 874
Atyrau	3 928 885	24 620 727	44 351 551	34 645 967	8 187 995
Batys Kazakhstan	2 907 547	3 975 898	1 243 538	869 190	15 423 495
Zhambyl	7 556 993	52 986 281	19 665 462	42 245 748	x
Zhetisu	583 226	5 516	19 940	83 813	x
Karagandy	5 294 235	48 951	13 069 644	4 020 331	16 932 301
Kostanay	12 904 448	11 323 680	4 556 790	19 700 608	-
Kyzylorda	13 268 305	1 466 496	62 134	145 993	276 679
Mangystau	7 094 807	5 938 595	5 950 919	-	379 837
Pavlodar	15 215 163	7 576 002	7 035 862	9 702 726	23 521 109
Soltustik Kazakhstan	1 226 094	4 317	7 352 728	2 785 675	1 105 060
Turkistan	1 473 547	475 901	6 895 343	16 335 297	355 902
Ulytau	-	561	-	1 677	1 677
Shygys Kazakhstan	3024362	10 738 393	4 295 280	5 004 488	8 392 654
Astana city	16 190 130	7 263 568	10 794 747	-	-
Almaty city	75 860	2 890 036	193 190	2 579 486	1 253 535
Shymkent city	-	-	13 942 136	4 217 123	4 873 689

#### 4.7 Investments aimed at protecting the environment by type of environmental activity

thousand tenge

	2020	2021	2022	2023	2024
Environmental investments	173 618 612	171 165 359	159 660 892	267 260 782	108 252 769
including:					
on air protection and climate change issues	15 426 845	8 046 476	38 098 797	21 974 829	63 570 479
for wastewater treatment	11 775 069	31 016 559	43 455 884	28 959 746	7 128 334
for waste management	11 151 011	14 408 303	8 719 731	5 059 736	8 302 767
for the protection and rehabilitation of soil, groundwater and surface water	7 108 863	10 485 558	11 292 452	2 950 655	792 712
to reduce noise and vibration	-	x	-	x	1 459
conservation of biodiversity and habitat	5 236 991	755 868	1 984 879	-	22 688
on radiation safety	34 392	149 142	260 287	x	128 359
for research work	475 202	327 785	84 404	55 179	242 999
to other areas of environmental detail related to the green economy	122 410 239	105 952 068	55 764 458	208 101 523	28 062 972
of them					
renewable energy investments	114 218 620	98 901 557	44 910 238	199 829 816	22 526 809
investments in energy-saving technologies and energy efficiency	5 959 183	4 833 394	6 843 924	186 024	1 537 471
investments aimed at reducing greenhouse gas emissions	65 385	31988	1 145 120	1 013 456	2 897 200

## 4.8 Investments to protect the environment by types of environmental activities in 2024

thousand tenge

	total	Including									
		air protection and climate change issues	cleaning of drains	waste management	protection and rehabilitation of soil, groundwater and surface water	noise and vibration reduction	biodiversity conservation and habitat	radiation safety	research and development	other areas of environmental activities	
<b>Republic of Kazakhstan</b>	108 252 769	63 570 479	7 128 334	8 302 767	792 712	1 459	22 688	128 359	242 999	28 062 972	
Abay	674 711	625 000	49 711	-	-	-	-	-	-	-	
Akmola	1 281 500	-	-	-	-	-	-	-	-	1 281 500	
Aktobe	23 314 072	3 367 125	-	1 000 022	11 693	-	-	-	-	18 935 232	
Almaty	19 874	x	x	389	7 733	-	x	-	x	-	
Atyrau	8 187 995	x	2 262 132	-	-	-	-	-	-	x	
Batys Kazakhstan	15 423 495	15 411 505	5 702	6 288	-	-	-	-	-	-	
Zhambyl	x	-	-	-	-	-	-	-	-	x	
Zhetisu	x	-	-	-	-	-	-	-	-	-	
Karagandy	16 932 301	16 313 396	53 639	225 253	-	-	-	-	340 013	1 312 002	
Kostanay	-	-	-	-	-	-	-	-	-	-	
Kyzylorda	276 679	-	x	152 068	14 581	1 459	-	x	-	82 145	
Mangystau	379 837	-	-	-	379 837	-	-	-	-	-	
Pavlodar	23 521 109	19 784 627	909 755	1 911 487	x	-	-	-	-	x	
Soltustik Kazakhstan	1 105 060	161 004	-	-	-	-	17 539	-	771	925 746	
Turkistan	355 902	-	x	-	-	-	-	x	-	-	
Ulytau	1 677	-	-	-	-	-	-	-	-	1 677	
Shygyz Kazakhstan	8 392 654	2 284 197	1 320 625	4 218 078	293 395	-	-	-	x	x	
Astana city	-	-	-	-	-	-	-	-	-	-	
Almaty city	1 253 535	726 072	-	411 751	78 580	-	2 366	-	-	x	
Shymkent city	4 873 689	2 168 509	x	377 431	x	-	-	-	4 942	x	

#### 4.9 Investments aimed at protecting the environment by type of economic activity of the investor

thousand tenge

	2020	2021	2022	2023	2024
Environmental investments	173 618 612	171 165 359	159 660 892	267 260 782	108 252 769
domestic investment	105 256 779	92 134 392	101010042	84 256 956	74 653 577
external investment	68 361 834	79 030 967	58650851	183 003 826	33 599 192
Including by type of economic activity:					
Agriculture, forestry and fisheries	2 136 487	255 309	9 552	308	-
Industry	151 867 132	146 193 242	140 081 084	264 828 086	108 169 341
including:					
Mining and quarrying	14 537 196	32 975 370	50 961 402	31 738 914	27 211 514
Manufacturing industry	21 063 395	3 287 298	36 727 267	23 196 417	64 128 030
Electricity, gas, steam and air conditioning	115 784 294	107 404 049	51 879 047	209 515 306	15 820 283
Water supply; sewage system, control over the collection and distribution of waste	482 247	2 526 525	513 368	377 449	1 009 514
Construction	5 795 366	5 468 649	9 896 944	-	200
Wholesale and retail trade; car and motorcycle repair	2 223	31 051	-	x	-
Transportation and warehousing	-	-	x	193 080	-
Accommodation and Food Services	-	-	-	-	-
Information and communication	x	-	-	-	-
Financial and insurance activities	-	-	-	-	-
Real estate transactions	-	-	x	-	35 315
Professional, scientific and technical activities	53 425	633 760	14 574	1 655	36 611
Administrative and support services	-	-	-	59	-
Public administration and defense; compulsory social security	13 760 979	17 038 832	8 119 164	2 234 596	5 600
Education	2 136 487	x	-	-	-
Health and social services	151 867 132	-	-	2 568	5 702
Arts, entertainment and recreation	-	20 616	-	-	-
Provision of other services	14 537 196	x	-	-	-

#### 4.10 Investments aimed at a «green economy» in 2024

thousand tenge

	total	Including		
		investment in renewable energy	investments in energy-saving technologies and energy efficiency	investments to reduce greenhouse gas emissions
<b>Republic of Kazakhstan</b>	26 961 480	22 526 809	1 537 471	2 897 200
Abay	625 000	-	-	625 000
Akmola	1 281 500	1 281 500	-	-
Aktobe	19 760 583	18 935 232	-	825 351
Almaty	-	-	-	-
Atyrau	-	-	-	-
Batys Kazakhstan	-	-	-	-
Zhambyl	2 257 516	2 257 516	-	-
Zhetisu	-	-	-	-
Karagandy	-	-	-	-
Kostanay	-	-	-	-
Kyzylorda	82 145	17 795	64 350	-
Mangystau	-	-	-	-
Pavlodar	985 165	-	547 375	437 790
Soltustik Kazakhstan	925 746	-	925 746	-
Turkistan	-	-	-	-
Ulytau	-	-	-	-
Shygys Kazakhstan	-	-	-	-
Astana city	-	-	-	-
Almaty city	752 431	34 766	-	717 665
Shymkent city	291 394	-	-	291 394

#### 4.11 The amount of funds allocated to finance scientific and technical projects on the «green economy» in the framework of grant and program-targeted funding\*

	2020	2021	2022	2023	2024
Number of scientific and technical projects on the "green economy", unit	7	3	8	11	13
Expenditures on scientific and technical projects related to the "green economy", thousand tenge	163 99.4	175 215.8	221 931.8	1 566 782.9	1 768 727.5

\* According to the National center for state scientific and technical expertise of the Ministry of Science and Higher Education of the Republic of Kazakhstan (the amount of funding for scientific and technical projects approved by National scientific councils).

#### 4.12 The volume of work performed on the «green» construction

	2020	2021	2022	2023	2024
The volume of construction work (services), million tenge	4 934 069.2	5 530 680.7	6 304 274.1	7 612 810.3	9 062 096.5
The volume of work performed on the "green" construction, million tenge	13 884	58 329	165 447.4	38 930.5	1 930.8
The proportion of work performed on the "green" construction, in percent	0.3	1.1	2.6	0.5	0.02

#### 4.13 Production of environmentally friendly products

	2020	2021	2022	2023	2024
Production in value terms, million tenge	27 028 506	37 606 243	48 777 089	46 991 787	51 469 084
of them environmentally friendly products, million tenge	57 987	58 329	162 219	163 324	170 616
share of environmentally friendly products in total production, in percent	0.2	0.2	0.3	0.3	0.3

#### 4.14 Gross organic crop production in 2024

centner as of November 1, 2024

	Cereals (including rice) and legumes	of which			The culture of olives
		wheat	spring barley	leguminous vegetables	
<b>Republic of Kazakhstan</b>	38 246.8	20 279.7	2 742.1	407.0	14 818.0
Kostanay	38 246.8	20 279.7	2 742.1	407.0	14 818.0
Share of organic crop production, in percent	0.015	0.000	0.007	0.006	0.044
Gross harvest of crop production	252 048 188.1	185 766 941.5	38 313 932.6	6 387 159.0	33 375 528.1

\* Other grain crops (buckwheat, triticale, a mixture of cereals).

#### 4.15 Number of licenses issued for the performance of work and the provision of services in the field of environmental protection\*

	2020	2021	2022	2023	2024
Number of issued certificates, licenses, patents in the field of environmental protection	109	154	297	223	145

\* Hereinafter, according to the Ministry of ecology and natural resources of the Republic of Kazakhstan.

#### 4.16 Number of approved projects impact assessment on the environment

units

	2020	2021	2022	2023	2024
Number of approved projects impact assessment on the environment	800	107	559	666	854

#### 4.17 Number of publications in the field of the environment

units

	2020	2021*	2022*	2023*	2024
Number of publications in the field of the environment	13 829	13 192	6 155	6500	1416

\* The table reflects the number of publications posted on the official website of the Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan and its social media pages on Instagram, Telegram, and Facebook.

#### 4.18 Number of patents issued in the field of the environment\*

units

	2020	2021	2022	2023	2024
Total number of issued patents	1 816	1 773	1 449	1 475	1 772
From them					
Number of patents issued in the field of environmental protection and energy efficiency	110	142	166	101	146
Including:					
on energy technologies	58	65	63	44	67
Including those, related to RES	13	19	28	25	32
on environmental technologies	52	77	103	57	61

\* According to RSE national institute of intellectual property of the Ministry of Justice of the Republic of Kazakhstan

#### 4.19 Number of enterprises with environmental innovations

units

	2020	2021	2022	2023	2024
Number of enterprises with environmental innovations, units	65	88	97	98	104
Level of activity in the field of environmental innovation, percent	0.2	0.3	0.3	0.3	0.34
Share of environmental innovation in total innovation, percent	2.0	3.0	3.0	2.7	2.84

#### 4.20 Number of environmental innovations by type of innovation

units

	2020	2021	2022	2023	2024
Product innovations	23	29	49	43	38
Process innovations	47	58	61	67	79
Marketing innovation	3	5	...	...	...
Organizational innovations	11	20	...	...	...

\* Since 2022 marketing and organizational innovations have been included in Business process innovation.

## 4.21 The number of enterprises with environmental innovations and costs by type of activity in 2024

	Number of enterprises with environmental innovations, units	The level of activity in the field of environmental innovation, in percent	The share of environmental innovations in the total number of innovations, in percent	Number of innovations by type of innovation, units	Including by type		Environmental innovation costs, million tenge
					Product innovations	Business-process innovations	
Total	104	0.34	2.84	104	38	79	20 146.3
Agriculture, forestry and fisheries	3	0.16	1.49	3	1	2	8.0
Mining and quarrying	19	2.15	14.50	19	3	19	1 574.7
Manufacturing industry	26	0.57	4.98	26	10	19	15 617.4
Supply of electricity, gas, steam, hot water and air-conditioned	9	2.02	20.00	9	2	7	1 524.6
Collection, treatment and dissemination of water	1	0.44	6.67	1	-	1	2.8
Collection, treatment and disposal of waste; disposal (recovery) of materials	1	0.42	11.11	1	1	1	-
Construction	1	0.02	0.56	1	1	-	-
Wholesale and retail trade; repair of cars and motorcycles	3	0.03	0.18	3	-	3	-
Warehousing and transportation	2	0.09	1.98	2	-	2	x
Information and communication	8	0.51	3.96	8	5	3	-
Activities in the field of architecture, engineering surveys, technical tests and analysis	5	0.45	7.81	5	-	5	-
Research and development	5	2.44	9.09	5	4	2	701.4
Higher education	14	11.97	20.90	14	8	10	646.0
Activities in the field of healthcare	5	0.19	1.22	5	3	3	3.5
Other professional, scientific and technical activities	2	0.65	12.50	2	-	2	1.0

#### 4.22 The number of natural hazards\*

	units				
	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	123	142	159	276	244
Abay	-	-	5	15	14
Akmola	4	11	10	24	18
Aktobe	3	2	8	15	30
Almaty	9	15	6	12	16
Atyrau	-	22	7	2	8
Batys Kazakhstan	6	10	13	15	12
Zhambyl	4	8	7	17	8
Zhetisu	-	-	4	3	6
Karagandy	6	12	17	21	13
Kostanay	15	9	8	43	16
Kyzylorda	3	4	8	21	1
Mangystau	1	2	11	13	3
Pavlodar	3	4	4	6	7
Soltustik Kazakhstan	13	7	4	10	14
Turkistan	21	15	12	17	5
Ulytau	-	-	3	7	7
Shygys Kazakhstan	22	18	20	15	27
Astana city	1	-	1	2	1
Almaty city	8	-	7	11	34
Shymkent city	4	3	4	7	4

\* Hereinafter, according to the Ministry for Emergency Situation of the Republic of Kazakhstan.

## 4.23 The number of hazardous phenomena of natural and man-made

	2020		2021		2022		2023		2024		units
	natural	man-made									
<b>Republic of Kazakhstan</b>	1438	13258	1476	11562	1518	11837	1610	11294	946	11570	
Abay	-	-	-	-	302	786	243	850	148	823	
Akmola	67	929	180	888	95	905	159	884	33	919	
Aktobe	56	770	67	623	46	601	46	572	48	565	
Almaty	120	1141	133	1056	66	847	68	893	53	927	
Atyrau	28	264	64	339	45	320	26	268	29	289	
Batys Kazakhstan	123	535	88	527	59	549	49	568	45	731	
Zhambyl	132	718	21	666	27	760	62	804	50	753	
Zhetisu	-	-	-	-	24	508	14	424	17	421	
Karagandy	53	1410	122	1020	150	766	108	665	40	590	
Kostanay	98	1088	152	903	100	786	153	721	96	740	
Kyzylorda	101	562	51	457	55	470	75	444	33	437	
Mangystau	4	269	14	268	23	264	33	270	22	290	
Pavlodar	155	940	152	583	168	357	229	291	66	313	
Soltustik Kazakhstan	54	704	80	719	53	662	47	584	19	471	
Turkistan	111	590	56	512	145	514	139	537	117	505	
Ulytau	-	-	-	-	14	197	24	195	18	189	
Shygyz Kazakhstan	290	1823	269	1287	110	757	98	731	52	768	
Astana city	5	627	10	721	12	834	12	649	7	756	
Almaty city	11	671	5	765	7	725	12	677	38	686	
Shymkent city	30	217	12	228	17	229	13	267	15	397	

#### 4.24 Number of victims from emergency situations

people

	Man-made emergencies					Natural emergencies				
	2020	2021	2022	2023	2024	2020	2021*	2022	2023	2024
<b>Republic of Kazakhstan</b>	875	1 052	939	1110	1170	142 981	783	1019	832	616
Abay	-	-	72	46	88	-	-	25	46	27
Akmola	49	69	60	50	86	7 252	40	12	38	13
Aktobe	33	49	32	51	38	3 699	29	26	12	13
Almaty	86	81	46	80	60	7 154	77	33	87	41
Atyrau	13	22	17	19	37	13 497	52	85	16	25
Batys Kazakhstan	32	20	22	29	39	9 222	41	146	29	17
Zhambyl	25	152	25	59	35	5 094	22	17	75	11
Zhetisu	-	-	20	26	28	-	-	5	-	6
Karagandy	92	112	74	160	85	12 074	48	47	47	19
Kostanay	59	62	80	69	54	7 590	28	44	75	53
Kyzylorda	21	39	24	19	32	3 422	41	35	60	29
Mangystau	14	27	23	36	87	1 699	11	11	32	135
Pavlodar	62	48	55	47	44	4 030	31	80	7	27
Soltustik Kazakhstan	67	96	70	64	93	8 632	42	8	6	9
Turkistan	40	35	42	61	42	3 691	66	206	224	136
Ulytau	-	-	25	13	19	-	-	1	-	4
Shygys Kazakhstan	123	104	86	80	114	12 806	197	17	6	10
Astana city	82	36	53	61	77	18 535	10	207	50	23
Almaty city	57	71	72	97	63	19 030	5	5	1	11
Shymkent city	20	29	41	43	49	5 554	43	9	21	7

\*The number of injured includes the number of injured and dead.

#### 4.25 Number of deaths from ES

people

	Man-made emergencies					Natural emergencies				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	414	460	396	486	452	2 379	436	267	258	216
Abay	-	-	24	14	24	-	-	21	7	17
Akmola	30	36	35	37	39	100	38	11	1	12
Aktobe	7	19	14	29	16	42	26	20	19	13
Almaty	43	38	24	31	26	83	63	25	15	18
Atyrau	6	10	6	16	12	101	28	21	11	11
Batys Kazakhstan	12	8	12	5	12	169	33	19	11	15
Zhambyl	13	39	9	40	15	62	9	7	6	6
Zhetisu	-	-	14	23	11	-	-	5	11	6
Karagandy	41	54	37	17	37	292	25	18	17	13
Kostanay	38	47	55	87	33	49	24	28	18	16
Kyzylorda	8	15	9	10	8	15	23	18	18	11
Mangystau	4	12	11	41	43	76	11	11	26	14
Pavlodar	32	22	16	13	25	51	29	11	15	10
Soltustik Kazakhstan	47	53	39	23	35	41	22	6	7	7
Turkistan	15	18	10	35	11	47	39	20	5	21
Ulytau	-	-	6	11	12	-	-	1	23	4
Shygys Kazakhstan	63	48	31	22	41	415	48	12	0	10
Astana city	22	11	22	15	28	365	10	6	35	4
Almaty city	26	22	11	8	11	389	5	2	8	5
Shymkent city	7	8	11	9	13	82	3	5	5	3

#### 4.26 Emergency reserve of the Government of the Republic of Kazakhstan for the elimination of natural and man-made emergencies on the territory of the Republic of Kazakhstan and other states\*

million tenge

	2020	2021	2022	2023	2024
Total funds allocated	19 087.4	3 450.8	65 532.4	13 597.0	44 494.9

\*According to the Ministry of Finance of the Republic of Kazakhstan.

#### 4.27 Expenditures aimed at eliminating emergencies and their consequences (at the expense of the local budget)\*

thousand tenge

	2020	2021	2022	2023	2024
<b>Natural emergencies</b>					
<b>Republic of Kazakhstan</b>	6 886 312.2	6 735 976.2	15 656 025.0	19 949 972.1	140 947 183.6
Abay	-	-	101 420.0	119 111.2	11 537.6
Akmola	477 505.0	56 747.4	60 534.3	192 490.1	561 500.0
Aktobe	-	-	1 020 331.5	6 708 704.8	29 182 406.8
Almaty	1 006 824.0	595 676.9	266 769.0	699 186.0	579 782.0
Atyrau	1 080.0	2 800.0	334 914.0	114 756.6	56 671 294.8
Batys Kazakhstan	19 241.8	313 357.6	1 054 607.4	2 417 745.2	23 015 198.8
Zhambyl	-	300 460.9	141 218.0	903 983.3	925 816.4
Zhetisu	-	-	244 716.7	526 088.4	67 959.0
Karagandy	50 781.5	457 892.1	156 206.6	1 151 618.2	859 211.3
Kostanay	508 056.5	51 812.7	631 204.5	403 317.0	474 752.5
Kyzylorda	-	244 769.9	30 698.4	223 357.6	7 989.00
Mangystau	-	-	3 894.0	-	-
Pavlodar	-	-	491 405.4	1 074 471.9	1 898 932.5
Soltustik Kazakhstan	43 753.8	-	-	66 556.1	16 746 902.1
Turkistan	348 687.0	270 802.0	1 860 077.3	174 171.0	-
Ulytau	-	-	6 377.0	46 676.5	250 207.1
Shygys Kazakhstan	486 711.6	134 418.0	109 849.2	134 986.6	261 693.5
Astana city	2 256 052.9	-	-	-	-
Almaty city	1 687 618.1	4 307 238.7	9 141 801.7	5 107 508.2	9 432 000.2
Shymkent city	-	-	-	-	-
<b>Man-made emergencies</b>					
<b>Republic of Kazakhstan</b>	2 770 183.9	2 107 174.0	2 297 183.5	6 873 804.7	5 785 934.6
Abay	-	-	-	40 000.0	-
Akmola	126 111.8	9 228.2	-	8 328.6	-
Aktobe	-	-	-	-	-
Almaty	88 336.0	-	333 447.0	243 131.0	527 840.0
Atyrau	899 667.8	-	-	86 203.7	-
Batys Kazakhstan	-	26 706.5	43 610.8	-	-
Zhambyl	260 369.6	41 969.6	491 873.3	92 248.5	-
Zhetisu	-	-	249 342.4	-	-
Karagandy	-	26 035.0	81 985.9	225 604.2	277 732.7
Kostanay	-	-	-	-	-
Kyzylorda	-	-	332 261.0	-	-
Mangystau	259 258.7	-	-	-	-
Pavlodar	-	1 458.0	321 796.1	179 065.7	374 241.1
Soltustik Kazakhstan	-	20 110.4	-	652 096.5	1 431 617.6
Turkistan	108 282.0	55 300.0	-	-	-
Ulytau	-	-	8 694.0	89 719.0	53 968.0
Shygys Kazakhstan	32 120.4	29 142.0	269 319.2	1 274 149.8	2 028 192.4
Astana city	-	-	-	-	-
Almaty city	270 493.7	1 897 224.3	164 853.8	3 983 257.7	1 092 342.8
Shymkent city	725 543.90	-	-	-	-

\* According to local executive bodies, the data has been updated.

#### 4.28 Commissioning of capacities for the protection of natural resources\*

	2020	2021	2022	2023	2024
Wastewater treatment facilities, thousand cubic meters, m per day	275.7	89.9	71.1	490.7	24.9
Circulating water supply systems, thousand cubic meters, m per day	2.0	7.2	0.1	188.8	-
Facilities, installations and equipment for the capture and neutralization of harmful substances polluting the atmospheric air, thousand cubic meters per day	1 080.0	28.8	-	-	-

\*Taking into account the reconstruction, expansion and technical reequipping of capacities

#### 4.29 Commissioning of facilities for the protection of water resources from pollution (wastewater treatment facilities)

thousand cubic meters per day

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	275.7	89.9	71.2	490.7	24.9
Abay	-	0.7	0.4	-	-
Akmola	210	-	-	-	1.6
Almaty	-	-	-	-	-
Atyrau	-	-	-	490.7	12.0
Zhambyl	-	87.5	1.9	-	-
Mangystau	0.1	0.1	-	-	-
Pavlodar	0.3	-	26.4	-	7.7
Turkistan	-	0.9	-	-	3.6
Ulytau	-	-	0.1	-	-
Shygyz Kazakhstan	-	0.7	-	-	-
Astana city	65.3	-	42.3	-	-

#### 4.30 Commissioning of facilities for the protection of atmospheric air from pollution (installations for the capture and disposal of harmful substances from exhaust gases)

thousand cubic meters per day

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	1 080.0	28.8	-	-	-
Pavlodar	-	28.8	-	-	-
Shygyz Kazakhstan	1 080.0	-	-	-	-
Astana city	-	-	-	-	-

#### 4.31 Environmental taxation

thousand tenge

Type of environmental tax	Unit of measurement	2020	2021	2022	2023	2024
Energy taxes		881 692 071.7	1 592 128 228.9	2 742 055 473.5	2 537 067 615.9	2 521 650 309.9
Transport taxes		63 439 188.1	77 638 335.1	87 760 624.3	103 295 791.7	131 807 823.2
Pollution taxes		85 593 121.1	110 934 387.7	98 604 623.9	97 944 008.0	115 672 060.7
Resource Use taxes		359 187 841.9	487 890 932.3	586 621 414.1	766 574 994.5	975 168 720.9
Total environmental taxes		1 389 912 222.8	2 268 591 884.0	3 515 042 135.8	3 504 882 410.1	3 744 298 914.7
<b>Share of environmental taxes in GDP</b>						
Energy taxes	In percent	1.2	1.9	2.6	2.1	1.8
Transport taxes		0.1	0.1	0.1	0.1	0.1
Pollution taxes		0.1	0.1	0.1	0.1	0.1
Resource Use taxes		0.5	0.6	0.6	0.6	0.7
Total environmental taxes		2.0	2.7	3.4	2.9	2.7
<b>Structure of environmental taxes</b>						
Energy taxes	As a percentage of the total	63.4	70.2	78.0	72.4	67.3
Transport taxes		4.6	3.4	2.5	2.9	3.5
Pollution taxes		6.2	4.9	2.8	2.8	3.1
Resource Use taxes		25.8	21.5	16.7	21.9	26.0
Total environmental taxes		100.0	100.0	100.0	100.0	100.0

\* The data are compiled based on the recommendations of OECD international experts using the data of the Ministry of Finance of the Republic of Kazakhstan.

## 4.32 Payments for the use of natural resources in 2024 (including the amount of income to the National Fund)

thousand tenge

	Payment for the use of water resources of surface sources	Payment for forest use	Payment for the use of the animal world	Payment for the use of specially protected natural territories of national significance	Payment for the use of land plots	Funds received from nature users on claims for compensation for damage	Payment for emissions to the environment
<b>Republic of Kazakhstan</b>	2 395 677	2 534 399	2 363 641	1 017 577	24 304 828	1 220 614	115 672 062
Abay	124 886	193 468	36 831	22 937	775 157	5 774	8 007 901
Akmola	37 648	227 610	118 758	304 933	1 423 215	13 389	4 950 954
Aktobe	8 880	720	67 921	22	1 223 662	99 460	10 811 265
Almaty	195 749	39 384	211 203	223 723	205 183	15 795	1 582 823
Atyrau	53 344	1 857	255 007	709	566 059	593 315	10 003 491
Batys Kazakhstan	7 902	23 103	54 656	3	362 246	85 773	1 965 713
Zhambyl	69 981	112 696	66 959	0	450 622	49 110	3 135 787
Zhetisu	53 691	32 545	142 848	13 916	189 084	32 009	714 056
Karagandy	374 152	7 616	65 553	70 719	3 042 169	9 132	20 837 774
Kostanay	18 520	1 043 202	138 084	338	3 221 850	23 678	10 414 575
Kyzylorda	23 315	23 944	194 163	962	192 878	31 206	1 663 515
Mangystau	137 214	722	17 547	673	1 039 724	49 536	2 307 009
Pavlodar	698 499	47 110	179 461	53 480	2 837 763	43 068	15 818 075
Soltustik Kazakhstan	60 858	433 582	77 557	11 703	1 577 008	28 450	2 187 969
Turkistan	94 030	75 115	93 003	26 188	439 907	33 239	1 089 321
Ulytau	53 924	427	5 105	0	2 353 382	16 434	6 416 926
Shygyz Kazakhstan	354 762	270 590	264 429	4 331	808 573	26 526	6 350 930
Astana city	9 834	4	374 503	18	1 436 545	183	3 556 952
Almaty city	17 041	487	53	282 604	1 797 082	63 173	2 282 232
Shymkent city	1 447	217	0	318	362 719	1 364	1 574 794

#### 4.33 The number of employees in «green jobs» in 2024\*

	list number of employees, people	the number of employees in "green jobs", people	the share of the number of employees in in "green jobs", in percent
<b>Republic of Kazakhstan</b>	5 697 940	54 187	1.0
Abay	154 940	1 691	1.1
Akmola	216 152	2 417	1.1
Aktobe	257 174	3 610	1.4
Almaty	251 234	1 454	0.6
Atyrau	262 653	2 500	1.0
Batys Kazakhstan	192 597	2 537	1.3
Zhambyl	218 751	1 416	0.6
Zhetisu	132 995	1 665	1.3
Karagandy	371 435	5 346	1.4
Kostanay	229 011	2 475	1.1
Kyzylorda	186 784	3 186	1.7
Mangystau	218 441	2 214	1.0
Pavlodar	251 039	3 627	1.4
Soltustik Kazakhstan	158 374	2 195	1.4
Turkistan	305 923	2 292	0.7
Ulytau	73170	583	0.8
Shygys Kazakhstan	228 428	2 749	1.2
Astana city	626 621	4 833	0.8
Almaty city	1 099178	5 603	0.5
Shymkent city	263 040	1 794	0.7
<b>By the main branches of the economy*</b>			
Agriculture, forestry and fisheries	138 479	547	5.2
Industry	891 448	46 689	71.8
of these			
Water supply; sewer system. control over the collection and distribution of waste	60 985	43 789	0.4
Other activities	4 668 013	6 951	0.1

\*Taking into account small businesses engaged in entrepreneurial activities.

#### 4.34 The number of employees in green jobs

	2023			2024		
	list number of employees, people	the number of employees in "green workplaces", people	the share of the number of employees in "green jobs", in percent	list number of employees, people	the number of employees in "green workplaces", people	the share of the number of employees in "green jobs", in percent
<b>Republic of Kazakhstan</b>	5 683 302	57 135	1.0	5 697 940	54 187	1.0
Abay	152 606	1 777	1.2	154 940	1 691	1.1
Akmola	214 023	2 217	1.0	216 152	2 417	1.1
Aktobe	259 318	4 050	1.6	257 174	3 610	1.4
Almaty	234 662	2 003	0.9	251 234	1 454	0.6
Atyrau	271 460	2 485	0.9	262 653	2 500	1.0
Batys Kazakhstan	185 361	2 578	1.4	192 597	2 537	1.3
Zhambyl	217 969	1 313	0.6	218 751	1 416	0.6
Zhetisu	127 819	1 660	1.3	132 995	1 665	1.3
Karagandy	381 657	5 699	1.5	371 435	5 346	1.4
Kostanay	236 222	2 476	1.0	229 011	2 475	1.1
Kyzylorda	183 667	3 124	1.7	186 784	3 186	1.7
Mangystau	214 394	2 349	1.1	218 441	2 214	1.0
Pavlodar	246 180	3 741	1.5	251 039	3 627	1.4
Soltustik Kazakhstan	157 631	2 489	1.6	158 374	2 195	1.4
Turkistan	294 348	2 705	0.9	305 923	2 292	0.7
Ulytau	74 309	627	0.8	73170	583	0.8
Shygys Kazakhstan	237 217	3 082	1.3	228 428	2 749	1.2
Astana city	629 222	5 263	0.8	626 621	4 833	0.8
Almaty city	1 095 707	5 739	0.5	1 099178	5 603	0.5
Shymkent city	269 530	1 758	0.7	263 040	1 794	0.7

Continuation

	2023			2024		
	list number of employees, people	the number of employees in "green workplaces", people	the share of the number of employees in "green jobs", in percent	list number of employees, people	the number of employees in "green workplaces", people	the share of the number of employees in "green jobs", in percent
<b>By the main branches of the economy</b>						
Agriculture, forestry and fisheries	142 029	551	5.6	138 479	547	5.2
Industry	882 910	49 776	77.4	891 448	46 689	71.8
of these						
Water supply; sewer system. control over the collection and distribution of waste	60 820	47 088	0.4	60 985	43 789	0.4
Other activities	4 658 363	6 808	0.1	4 668 013	6 951	0.1

\*Taking into account small businesses engaged in entrepreneurial activities.

#### 4.35 Key performance indicators of RES, including the number of people employed at renewable energy facilities\*

as of July 1 of the reporting year

	Number of objects	Installed capacity, MW	Production, mln.kWh	Number of people employed at renewable energy facilities, pers.	including	
					women	men
<b>on January 1, 2022</b>						
Wind farm	40	683.95	1 776.4	425	77	348
Hydroelectric	40	280.98	799.74	696	108	588
Solar power plant	49	1 037.61	1 641.09	354	50	304
Biogas power plants	5	7.82	3.04	23	-	23
Total for all RES facilities	134	2 010.32	4 220.29	1 498	235	1 263
<b>on January 1, 2023</b>						
Wind farm	46	958	2 411	512	84	428
Hydroelectric	37	280	934	696	108	588
Solar power plant	44	1 148	1 763	429	66	363
Biogas power plants	3	1.77	1.98	23	0	23
Total for all RES facilities	130	2 388	5 110	1 660	258	1 402
<b>on January 1, 2024</b>						
Wind farm	57	1 394.6	3 824.99	607	133	474
Hydroelectric	39	269.605	993.87	713	111	602
Solar power plant	45	1 202.61	1 853.95	451	71	380
Biogas power plants	3	1.77	2.71	23	0	23
Total for all RES facilities	144	2 868.6	6 675	1 794	315	1 479
<b>on January 1, 2025</b>						
Wind farm	63	1570.05	4513.02	746	125	621
Hydroelectric	42	287.685	1177.13	640	78	562
Solar power plant	48	1262.61	1889.59	674	88	586
Biogas power plants	3	1.77	1.58	23	0	23
Total for all RES facilities	156	3122.12	7581.33	2084	291	1793

\*According to the Ministry of energy of the Republic of Kazakhstan. according to the power capacity of up to 35 kWh (excluding large hydropower), accounting employed in the renewable energy facilities is since 2019.

## 5. Land resources

### 5.1 Distribution of land fund by accounting categories\*

on November 1; thousand hectares

Land categories	2020	2021	2022	2023	2024
Total land in use of the Republic of Kazakhstan	262 918.4	262 930.8	262 930.8	262 930.8	262 930.8
including:					
agricultural land	108 562.7	113 961.4	115 966.2	116 447.8	117 124.1
specific weight, in percent	41.3	43.3	44.1	44.3	44.5
lands of settlements	24 192.2	24 288.7	24 592.8	25 037.4	25 325.6
specific weight, in percent	9.2	9.2	9.4	9.5	9.6
lands of industry, transport, communications, defense and other non-agricultural purposes	2 209.0	2 239.1	2 273.0	2 436.3	2 480.9
specific weight, in percent	0.8	0.9	0.9	0.9	0.9
lands of specially protected natural territories	7 705.7	7 810.7	7 811.3	8 154.3	8 151.4
specific weight, in percent	2.9	3.0	2.9	3.1	3.1
forest land	22 398.3	22 435.3	22 963.5	22 965.0	23 025.2
specific weight, in percent	8.5	8.5	8.7	8.7	8.8
water fund lands	4 208.4	4 206.5	4 209.4	3 907.8	3 908.8
specific weight, in percent	1.6	1.6	1.6	1.5	1.5
reserve lands	93 642.1	87 989.1	85 114.6	83 982.2	82 914.8
specific weight, in percent	35.6	33.5	32.4	31.9	31.5

\* Hereinafter, according to the Land Management Committee of the Ministry of Agriculture of the Republic of Kazakhstan..

### 5.2 Agricultural land

thousand hectares

	2020	2021	2022	2023	2024
Agricultural land	108 562.7	113 961.4	115 966.2	116 447.8	117 124.1
including					
lands of citizens for gardening and country building	36.4	33.5	33.5	33.0	23.1
land of citizens for farming	66 207.3	70 184.9	72 792.1	73 796.4	74 896.2
lands of non-state agricultural legal entities	40 282.4	41 605.6	40 945.1	40 665.5	40 210.8
lands of state agricultural legal entities	845.3	882.6	870.1	548.0	563.2

### 5.3 Lands of settlements (cities, villages and rural settlements)

thousand hectares

	2020	2021	2022	2023	2024
Lands of settlements (cities, towns, and rural settlements)	23 777.95	24 288.7	24 592.8	25 037.4	25 206
including:					
cities and villages	3 655.45	4 190.9	4 106.2	4 112.4	3 483.6
rural settlements	20 122.5	20 097.8	20 486.6	20 925.0	21 842

### 5.4 Lands of industry, transport, communications, defense and other non-agricultural purposes

thousand hectares

	2020	2021	2022	2023	2024
Lands of industry, transport, communications, defense and other non-agricultural purposes	2 209.0	2 239.1	2 273.0	2 436.3	2 480.9
including:					
Industry	1 403.4	1 294.3	1 302.0	1 451.0	1 499.7
Road transport	304.5	310.9	311.1	300.4	299.8
Railway transport	190.8	187.3	191.4	195.3	195.0
Connections	16.9	19.4	18.5	18.8	20
Other non-agricultural enterprises	293.4	427.2	450.0	470.8	466.4

## 5.5 The distribution of the land fund of the composition of land

on November 1, thousand hectares

	Total area	Including								
		arable land	perennial plantations	deposits	hayfields	pastures	forest area	swamps	under water	other
2020	272 490.2	26 324.5	147.7	3 848.0	5 117.4	184 318.2	15 340.8	1 137.0	7 654.7	28 601.9
2021	272 491.0	26 660.5	148.0	3 681.7	5 104.6	183 994.2	15 714.6	1 165.4	7 609.4	28 412.6
2022	272 491.0	26 985.9	146.9	3 457.2	5 104.3	183 405.5	16 273.5	1 163.8	7 611.0	28 342.9
2023	272 491.0	27 089.2	148.0	3 492.6	5 105.9	183 209.0	16 311.4	1 163.1	7 610.2	28 361.6
2024	272 491.0	26 907.1	148.1	3 784.5	5 104.9	183 092.6	16 364.4	1 162.6	7 609.9	28 316.9

## 5.6 Land uptake

1000 km<sup>2</sup>

	2020	2021	2022	2023	2024
Total area of land withdrawn from productive use	264.1	265.3	268.6	274.8	278.1
Land uptake for mining and quarrying areas	12.0	14.0	13.0	13.0	14.5
Land uptake for productive turnover allocated for technical infrastructure (communications land)	0.2	0.2	0.2	0.2	0.2
Land uptake for productive turnover for transport	5.1	5.1	5.0	5.0	5.1
Land uptake for commercial, financial and public services	5.9	2.9	4.2	4.5	4.6
Land uptake for productive turnover for residential territories, land of localities	240.8	241.9	242.9	245.9	250.4
<b>Land uptake by country area</b>					
Country area	2 724.9	2 724.9	2 724.49	2 724.9	2 724.9
Share of land uptake in the country area, in percent	9.7	9.7	9.8	10.1	10.2

## 5.7 The distribution of land fund by land composition in terms of land categories

on November 1, 2024, thousand hectares

	Total area	Including								
		arable land	perennial plantations	deposits	hayfields	pastures	forest area	swamps	under water	other
Total irrigated area	262 930.8	26 907.2	148	3 784.4	4 885.3	177 915	16 364.2	1 162.6	7 610	24 154.1
including:										
agricultural land	117 124.1	26 322.4	61.5	2 095.2	2 383.8	83 497	1.1	120.2	185.3	2 457.6
land of settlements (cities and towns and rural settlements)	25 325.6	404.2	68.4	215.8	225.7	21 779.5	46.9	62.5	269.8	2 252.8
lands of industry, transport and communication, defense and other non-agricultural purposes	2 480.9	8.4	0.2	14.0	2	905	3.7	4.1	70.3	1 473.2
lands of specially protected natural areas	8 151.4	2	0.7	1.4	126.3	3 655.1	2 181.6	226.5	423	1 534.8
lands of the forest fund	23 025.2	95.3	0.5	9.8	229.8	6 529.5	14 045.4	29.9	50.1	2 034.9
lands of the water fund	3 908.8	-	0.2	0.1	30.6	115.4	0.1	38.4	3 581.9	142.1
reserve lands	82 914.8	74.9	16.5	1 448.1	1 887.1	61 433.5	85.34	681.0	3 029.6	14 258.8

\* On the line "Territory of lands", without lands used by other states.

### 5.8 The distribution of agricultural land on the composition of land

on November 1, 2024, thousand hectares

	Total area of agricultural land	Including										
		arable land	perennial plantations	deposits	hayfields	pastures	forest area	swamps	under water	other		
<b>Republic of Kazakhstan</b>	117124.1	26322.4	61.5	2095.2	2383.8	83497.0	1.1	120.2	185.3	2764.2		
Abay	9241.4	806.7	0.3	112.0	247.3	7935.6	0.1	0.5	4.3	139.5		
Akmola	10784.9	6104.4	1.0	257.8	160.3	4235.9	-	2.1	6.5	25.5		
Aktobe	13341.1	703.4	18.7	249.6	126.9	12098.4	-	6.6	16.8	162.8		
Almaty	4522.1	438.2	0.2	50.4	61.6	3898.5	-	0.3	2.0	54.7		
Atyrau	3043.5	6.3	3.3	7.6	47.3	2923.6	-	18.5	7.5	58.5		
Batys Kazakhstan	4718.2	533.4	1.9	52.3	126.4	3934.1	0.1	0.2	2.9	56.7		
Zhambyl	7913.9	606.7	3.7	548.1	499.9	6200.6	0.1	2.7	7.2	133.5		
Zhetisu	4624.8	785.1	0.3	312.2	186.3	3575.9	-	2.2	2.0	68.7		
Karagandy	11932.4	1201.2	1.0	41.8	145.6	9865.0	-	6.3	19.1	367.4		
Kostanay	11164.1	6370.1	0.8	51.5	32.7	4454.0	-	30.0	21.1	151.6		
Kyzylorda	2898.2	174.9	0.1	0.1	-	2113.5	-	1.9	3.5	524.8		
Mangystau	3007.5	0.6	0.9	207.9	199.2	2636.9	-	-	-	369.9		
Pavlodar	7682.1	4982.2	0.8	8.5	17.5	5141.6	-	5.2	13.1	95.5		
Soltustik Kazakhstan	7163.1	882.1	27.8	97.6	66.4	1926.7	0.2	42.0	61.7	227.4		
Turkistan	4547.3	6987.4	0.6	56.4	61.1	3356.4	0.2	0.1	7.6	117.0		
Ulytau	3551.3	642.3	0.2	41.4	278.7	6734.1	-	1.3	6.9	88.2		
Shygyz Kazakhstan	0.8	0.2	-	-	-	2465.8	0.4	0.3	3.1	122.5		
Astana city	-	-	-	-	-	0.4	-	-	-	-		
Almaty city	-	-	-	-	-	-	-	-	-	-		
Shymkent city	-	-	-	-	-	-	-	-	-	-		

### 5.9 Characteristics of agricultural land on the grounds that affect their fertility

on November 1, 2024, thousand hectares

	Total area of agricultural land	Of them										
		uncomplicated with negative symptoms		crushed	saline	salty	eroded	deflated	exposed jointly to water and wind erosion	waterlogged	marshy	other
		total	of which is certainly suitable									
<b>Republic of Kazakhstan</b>	213 639.9	41 462.1	19 366.9	42 148.3	38 251.7	54 757.5	5 119.6	24 556.3	249.8	2 847.6	1 083.4	3 163.6
Abay	16 332.8	1 947.3	1 017.7	8 408.4	1 221.5	3 501.9	193.7	647.8	246.6	78.7	86.9	
Akmola	13 084.2	4 986.8	4 986.8	2 384.3	1 596.3	3 169.5	567.6	9.6	164.5	111.6	94.0	
Aktobe	26 545.6	7 872.9	1 447.0	2 137.3	1 390.1	11 453.6	479.5	2145.8	269	25.9	720.6	
Almaty	6 242.7	1 117.7	286.8	240.9	1 634.7	302.8	612.7	2050.5	133.4	149.4	0.6	
Atyrau	9 659.5	538.2	0.4	136.6	2 282.6	3 396.0	274.9	3133.9	45.7	3.1	123.4	
Batys Kazakhstan	12 753.7	1 528.3	1 073.2	295.2	1 337.4	7 109.5	202.9	1409.5	326.4	72.5	202.7	
Zhambyl	8 096.2	669.6	333.8	2 800.1	757.0	406.3	202.9	3034.9	124	87.0	14.4	
Zhetisu	9 018.8	1 803.0	494.3	2 336.7	1 829.8	271	222.8	2414.1	66.3	38.2	36.9	

Continuation

	Total area of agricultural land	Of them										
		uncomplicated with negative symptoms		crushed	saline	salty	eroded	deflated	exposed jointly to water and wind erosion	waterlogged	marshy	other
		total	of which is certainly suitable									
Karagandy	19 856.1	1 893.3	1 019.0	8 771.3	1 690.7	6 250.2	216.8	128.7	430.6	48.3	426.2	
Kostanay	18 012.1	5 896.7	5 403.4	590.7	9 803.5	641.6	160.4	622	94.5	79.1	123.5	
Kyzylorda	11 789.0	1 127.2	4.3	263.8	3 133.1	3 439.1	5.9	3044.7	294.5	183.6	297.1	
Mangystau	12 634.3	1 600.9	0.2	925.5	6 870.0	1 635.4	800	656.3	-	-	146.2	
Pavlodar	11 157.2	1 605.7	1 596.5	2 917.5	775.5	3 943.8	0.9	1296.4	57.9	34.8	524.7	
Soltustik Kazakhstan	8 395.6	4 176.5	-	410.2	573	2 790.4	56.2	-	144.5	115.6	129.2	
Turkistan	10 041.5	1 584.1	1 093.5	1 059.2	2 096.4	1 007.5	1052.9	3112.9	-	112.3	7.7	
Ulytau	13 567.0	1 760.1	155.2	4 742.5	895.3	5 193.5	2.2	631	144	13.5	184.9	
Shygyys Kazakhstan	6 331.8	1 282.8	406.9	3 721.9	350.2	242.4	246.9	-	191.1	33.0	43.8	
Astana city	14	2.7	2.7	0.3	4.6	3	-	-	2	1.4	-	
Almaty city	27	23.7	0.6	2.9	-	-	0.1	-	0.3	-	-	
Shymkent city	80.8	44.6	44.6	3	10	-	23.2	-	-	-	-	

\* On the line "Republic of Kazakhstan", without land used by other states.

## 5.10 Area of eroded land as a percent of agricultural land to the total land area

1000 ha

	2021		2022		2023		2024	
	area	as a percent to the total land area	area	as a percent to the total land area	area	as a percent to the total land area	area	as a percent to the total land area
<b>Areas affected by water erosion</b>								
Total agricultural area	214191.9		213702.6		213647.5		213639.9	
	of which							
Low affect	2848.1	1.33	2848.1	1.33	2848.1	1.33	2848.1	1.33
Average affect	1893.0	0.88	1893.0	0.88	1893.0	0.88	1893.0	0.88
Strong affect	209.2	0.1	209.2	0.1	209.2	0.1	209.2	0.1
Total affect	4950.3	2.31	4950.3	2.3	4950.3	2.3	5119.6	2.4
<b>Areas affected by wind erosion</b>								
Total agricultural area	214191.9		213702.6		213647.5		213639.9	
	of which							
Low affect	2168.1	1.01	2200	1.03	2200	1.03	2200	1.03
Average affect	4900	2.29	4900	2.3	4900	2.3	4900	2.3
Strong affect	17100	7.98	17100	8	17100	8.00	17100	8
Total affect	24168.1	11.28	24168.1	11.3	24168.1	11.3	24556.3	11.5
<b>Areas subject to joint water and wind erosion</b>								
Total agricultural area	214191.9		213702.6		213647.5		213639.9	
	of which							
Jointly water and wind erosion	201.7	0.1	201.7	0.1	201.7	0.1	201.7	0.1

\* According to the Committee on Land Management of the Ministry of Agriculture of the Republic of Kazakhstan. the survey is conducted once every 5 years.

## 5.11 Disturbed, processed and reclaimed lands

ha

	2020	2021	2022	2023	2024
Disturbed lands (at the beginning the year)	243381.8	245259.2	245758.0	245667.1	250739.3
Worked out of disturbed lands (at the beginning the year)	55831.3	55753.9	55754.0	53889.7	53849.2
Recultivated	5826.9	61.1	61.0	-	17.8
of them under:					
arable land	-	-	-	-	-
other farmland	5826.9	19.0	19.0	-	13
forest shrubs	-	-	-	-	-
ponds and other purposes	-	37.0	37.0	-	4.8

## 5.12 Disturbed and processed lands

ha

	At the beginning of 2020		At the beginning of 2021	
	disturbed lands	processed disturbed lands	disturbed lands	processed disturbed lands
<b>Republic of Kazakhstan</b>	248060	50151.8	233257.8	52130.3
Abay	-	-	-	-
Akmola	19720	7288	20374.0	7288.0
Aktobe	13475.8	660.7	13475.8	660.7
Almaty	7373	971	7436.0	971.0
Atyrau	2242	59	2242.0	59.0
Batys Kazakhstan	4424	392	4424.0	392.0
Zhambyl	6605	1983	6205.0	1983.0
Zhetisu	-	-	-	-
Karagandy	45242	10679	45355.0	10679.0
Kostanay	38298.6	13848.5	38298.6	13848.5
Kyzylorda	2700	711	2.7	711.0
Mangystau	76300	3592	70477.0	9415.0
Pavlodar	3933	3701	3933	3701
Soltustik Kazakhstan	12146	1232	12146.0	1232.0
Turkistan	2378	-	2378.0	-
Ulytau	-	-	-	-
Shygys Kazakhstan	12719.1	4869.4	12821.7	4891.1
Astana city	335	-	168.5	-
Almaty city	-	-	-	-
Shymkent city	168.5	147.4	357.0	-

Continuation

	At the beginning of 2022		At the beginning of 2023		At the beginning of 2024	
	disturbed lands	processed disturbed lands	disturbed lands	processed disturbed lands	disturbed lands	processed disturbed lands
<b>Republic of Kazakhstan</b>	241 334.3	55 316.9	245 667.1	53 889.7	250 739.3	53 849.2
Abay	-	-	7 173.0	-	7 179.7	-
Akmola	20 927.0	7 288.0	20 927.0	7 288.0	21 191	7 288
Aktobe	13 475.8	660.7	13 475.8	1 574.6	13 475.8	1 574.6
Almaty	4 141.0	881.0	4 141.0	881.0	4 141	881
Atyrau	2 238.0	63.0	2 238.0	63.0	2 238	63
Batys Kazakhstan	6 205.0	1 938.0	4 424.0	392.0	4 424	392
Zhambyl	2 739.0	90	6 205.0	1 983.0	6 205	-
Zhetisu	-	-	2 739.0	90.0	2 742	1 983
Karagandy	45 862.0	10 679.0	33 138.9	8 530.6	33 361.4	8 572.6
Kostanay	40 435.6	13 749.5	40 435.6	13 749.5	41 888.4	13 749.5
Kyzylorda	3 019.0	711.0	3 019.0	711.0	5 967	711
Mangystau	70 477.0	9 415.0	70 477.0	9 415.0	70 477	9 415
Pavlodar	3 933	3 701	12 146.0	1 232.0	12 146	1 232
Soltustik Kazakhstan	12 146.0	1 232.0	3 933.0	3 701.0	3 933	3 701
Turkistan	2 378.0	-	2 359.0	-	2 359	-
Ulytau	-	-	13 251.0	2 156.0	13 251	2 156
Shygys Kazakhstan	12 832.4	4 908.7	5 584.8	2 123.0	5 591.5	2 130.5
Astana city	168.5	-	-	-	168.5	-
Almaty city	-	-	-	-	-	-
Shymkent city	357	-	-	-	-	-

### 5.13 Availability of irrigated land by categories

on November 1, in thousand hectares

	2020	2021	2022	2023	2024
Total irrigated area	2 251.1	2 271.9	2 302.7	2 333.8	2 369.4
including:					
agricultural land	1 809.9	1 826.0	1 890.4	1 920.8	1 928.3
land of settlements (cities and towns and rural settlements)	200.7	205.1	205.1	206.3	225
lands of industry, transport and communication, defense and other non-agricultural purposes	2.5	2.6	2.6	2.5	2.5
lands of specially protected natural areas	0.6	0.6	0.6	0.8	0.6
lands of the forest fund	7.7	7.7	15.5	16.3	16.1
lands of the water fund	0.5	0.6	0.7	0.3	0.2
reserve lands	229.2	229.3	187.8	186.8	196.7

### 5.14 Availability of irrigated land

thousand ha

	2020		2021	
	total area	of them arable land	total area	total area
<b>Republic of Kazakhstan</b>	2 251.1	1 714.9	2 271.8	1 736.2
Abay	-	-	-	-
Akmola	31.6	17	31.9	17.2
Aktobe	30.3	12.3	30.3	12.3
Almaty	584.3	476.5	584.6	478
Atyrau	21.8	9.2	21.8	9.1
Batys Kazakhstan	55.8	16	57.2	17.8
Zhambyl	230.9	205	230.9	205
Zhetisu	-	-	-	-
Karagandy	93.1	57.6	96.5	63.6
Kostanay	32.3	6.3	32.3	6.3
Kyzylorda	252	188	254.1	192.2
Mangystau	2.3	1	2.3	0.8
Pavlodar	126.8	102.6	137.1	111.4
Soltustik Kazakhstan	17	11.4	17.2	11.7
Turkistan	548.5	456.9	550.5	456.9
Ulytau	-	-	-	-
Shygys Kazakhstan	195.9	133.1	196.7	132.6
Astana city	0.3	0.1	0.3	0.1
Almaty city	2.9	2.3	2.9	1.6
Shymkent city	25.3	19.6	25.3	19.6

Continuation

	2022		2023		2024	
	total area	of them arable land	total area	of them arable land	total area	total area
<b>Republic of Kazakhstan</b>	2 302.7	1 778.9	2 333.8	1 815.7	2369.4	1803.8
Abay	112.3	75.5	113.2	74.7	113.4	75.0
Akmola	31.9	17.2	32.6	18.0	32.9	17.9
Aktobe	30.3	12.3	30.6	12.9	33.3	12.3
Almaty	327.2	263.8	328.6	270.5	328.9	261.2
Atyrau	21.8	9.1	23.2	9.4	23.2	9.4
Batys Kazakhstan	58.6	27.4	59.6	28.4	60.8	27.1
Zhambyl	232.2	206.3	232.4	207.1	235.9	210.6
Zhetisu	258.4	215.2	260.6	215.7	262.2	212.2
Karagandy	89.7	66.3	91.9	68.8	97.9	65.7
Kostanay	29.6	9.1	29.8	9.6	29.8	11.2
Kyzylorda	265.3	187.0	268.0	191.2	268.7	190.1
Mangystau	2.3	0.8	1.9	0.8	1.9	0.8
Pavlodar	150.2	130.0	166.9	146.1	179.6	155.1
Soltustik Kazakhstan	19.1	13.6	23.0	17.5	25.6	20.1
Turkistan	551.1	458.8	552.3	459.8	553.6	462.1
Ulytau	9.7	1.3	9.5	1.2	9.5	1.2
Shygys Kazakhstan	84.6	64.1	81.8	62.8	84.6	50.8
Astana city	0.3	0.1	0.3	0.1	0.3	0.1
Almaty city	2.9	1.6	2.3	1.6	2.2	1.5
Shymkent city	25.2	19.4	25.3	19.5	25.1	19.4

### 5.15 About irrigated lands and irrigation methods

1000 ha

	2020	2021	2022	2023	2024
Availability of irrigated land regular irrigation	2 234.2	2 243.4	2 302.7	2 333.8	2369.4
Irrigated area	1 451.4	1 557.6	1 612.8	1 472.5	1 484
including irrigation methods :					
furrow irrigation	1 229.9	1 298.8	1 333.2	1 160.2	10.3
drip irrigation	60.4	73.0	79.5	84.9	128.3
sprinkling	161.1	185.8	200.1	227.4	285.1
Laser-based	-	-	-	-	57.6
Land area of estuary irrigation	864.2	864.2	864.5	858.9	858.6

\* Note: According to the Land Management Committee of the Ministry of Agriculture of the Republic of Kazakhstan. By irrigation methods – data of regional akimats.

### 5.16 About irrigated areas where water-saving technologies are used

1000 ha

	2020		2021		2022		2023		2024		
	sprink-ling	drip irrigation	Laser-based								
<b>Republic of Kazakhstan</b>	161.1	60.4	185.8	73.0	200.1	79.5	227.4	84.9	285.1	128.3	57.6
Abay	-	-	-	-	8.5	1.3	9.1	2.7	10.5	3.3	-
Akmola	23.9	0.2	29.4	0.1	21.8	0.1	23.1	0.1	25.4	0.1	-
Aktobe	5.9	0.6	20.9	0.6	20.5	0.6	20.5	0.6	26.8	0.7	-
Almaty	6.4	10.8	10.1	10.6	10.1	7.6	10.9	9.6	19.8	16.2	-
Atyrau	0.7	3.0	0.9	3.2	1.3	3.2	2.0	3.8	2.5	4.1	-
Batys Kazakhstan	2.6	0.9	4.3	0.9	5.3	0.7	6.8	1.1	8.3	1.3	-
Zhambyl	7.4	22.3	12.3	28.3	16.1	34.8	18.1	39.1	20.6	50	1.8
Zhetisu	-	-	-	-	5.9	2.0	6.7	2.5	17.8	8.5	-
Karagandy	21.9	0	22.9	0.0	26.3	0.08	28.7	0.6	33.5	0.7	-
Kostanay	3.9	0.3	5.8	0.3	6.2	0.3	6.5	0.2	8.2	0.2	-
Kyzylorda	0	0.6	0.1	0.2	0.5	0.3	1.8	0.3	3	3.5	55
Mangystau	0	0.7	0.1	0.9	0.06	0.9	0.1	0.9	0.1	0.9	-
Pavlodar	76.3	0.6	63.4	0.7	65.5	1.0	72.8	0.5	77.7	0.4	-
Soltustik Kazakhstan	2.0	0.2	1.6	0.3	2.4	0.2	4.2	0.5	7.8	0.5	-
Turkistan	0.9	19.3	4.2	26.1	4.1	26.1	10.4	21.9	16.5	37	0.8
Ulytau	-	-	-	-	-	-	0	0	0.6	0	-
Shygys Kazakhstan	9.2	0.8	9.9	0.9	5.4	0.02	5.5	0.3	6	0.9	-
Astana city	-	-	-	-	-	-	-	-	-	-	-
Almaty city	-	-	-	-	-	-	-	-	-	-	-
Shymkent city	-	-	-	-	-	-	-	-	-	-	-

### 5.17 Application of organic fertilizers by all categories of farms

thousand tons

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	1 214.1	995.2	515.5	260.0	191.7
Abay	-	-	2.1	1.6	1.6
Akmola	69.3	83.4	13.5	0.7	2.7
Aktobe	54.9	12.3	14.0	14.4	15.3
Almaty	24.7	32.2	9.0	2.9	3.4
Atyrau	67.0	-	-	-	-
Batys Kazakhstan	0.4	0.4	0.4	1.0	0.0
Zhambyl	621.4	511.3	170.1	41.2	4.0
Zhetisu	-	-	28.7	4.9	9.6
Karagandy	85.3	29.6	55.7	66.9	25.3
Kostanay	58.4	67.2	65.1	13.6	66.6
Kyzylorda	0.5	-	0.1	-	0.0
Mangystau	2.2	1.7	0.0	0.0	0.0
Pavlodar	51.6	11.9	10.0	2.8	3.6
Soltustik Kazakhstan	66.3	41.1	35.4	63.8	33.3
Turkistan	3.3	41.6	5.2	4.3	3.5
Ulytau	-	-	6.9	-	-
Shygys Kazakhstan	108.7	162.5	99.0	41.8	22.8
Astana city	-	-	-	-	-
Almaty city	0.0	0.0	0.0	0.0	-
Shymkent city	0.1	0.0	0.0	0.0	0.1

### 5.18 Application of mineral fertilizers by all categories of farms

in terms of 100% nutrients, thousand tons

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	165.5	133.2	115.8	116.3	109.4
Abay	-	-	0.4	0.4	0.8
Akmola	71.8	24.8	16.7	20.3	15.2
Aktobe	0.3	0.7	0.6	0.7	1.0
Almaty	1.6	1.8	1.4	1.2	1.1
Atyrau	0.1	0.0	0.0	0.0	0.0
Batys Kazakhstan	0.2	0.2	0.3	1.2	1.4
Zhambyl	3.8	3.7	4.0	1.2	1.1
Zhetisu	-	-	0.5	0.7	0.7
Karagandy	3.4	5.3	5.6	4.9	4.0
Kostanay	11.3	13.1	9.8	10.1	14.2
Kyzylorda	15.0	14.5	8.5	11.0	10.5
Mangystau	0.0	0.0	0.0	0.0	0.0
Pavlodar	1.7	2.5	3.8	3.3	2.4
Soltustik Kazakhstan	39.5	41.8	37.7	35.8	28.6
Turkistan	10.2	17.9	20.7	17.6	21.9
Ulytau	-	-	-	-	-
Shygys Kazakhstan	6.5	6.9	5.5	7.9	6.4
Astana city	0.0	0.0	-	-	-
Almaty city	-	-	-	-	-
Shymkent city	0.1	0.1	0.1	0.0	0.0

### 5.19 The number of mineral and organic fertilizers applied per unit area fertilized with fertilizers

kg/ha

	2020	2021	2022	2023	2024
	<b>Mineral</b>				
<b>Republic of Kazakhstan</b>	54.1	35.0	34.8	32.6	34.7
Abay	-	-	19.9	21.4	54.0
Akmola	139.4	25.6	22.9	29.0	25.9
Aktobe	12.1	10.8	21.1	25.0	24.9
Almaty	52.4	51.8	71.7	77.5	73.8
Atyrau	189.2	58.3	61.7	37.1	1.9
Batys Kazakhstan	98.0	87.0	23.7	40.9	32.0
Zhambyl	129.6	284.5	271.0	72.5	47.6
Zhetisu	-	-	33.6	19.1	19.8
Karagandy	41.5	44.3	39.9	34.0	34.0

Continuation

	2020	2021	2022	2023	2024
Kostanay	16.7	18.4	17.7	14.2	21.1
Kyzylorda	181.1	173.3	146.6	154.1	153.6
Mangystau	12.4	13.1	16.7	28.5	13.3
Pavlodar	34.8	63.1	89.6	112.9	83.1
Soltustik Kazakhstan	33.7	30.2	32.1	28.1	28.2
Turkistan	41.9	75.9	59.6	54.4	69.3
Ulytau	-	-	-	-	-
Shygys Kazakhstan	43.7	43.5	33.2	47.4	37.1
Astana city	18.5	3.9	-	-	-
Almaty city	-	-	-	-	-
Shymkent city	41.8	57.5	-	104.8	69.0
		<b>Organic</b>			
<b>Republic of Kazakhstan</b>	14 579.1	8 878.2	5 946.9	2 720.3	2708.5
Abay	-	-	2 977.7	1 498.9	546.2
Akmola	2 131.0	2 982.9	1 110.5	37.0	279.8
Aktobe	9 711.3	1 569.5	2 179.1	1 681.3	2 246.4
Almaty	16 247.4	10 703.4	4 068.4	2 816.9	2 387.5
Atyrau	-	-	-	-	-
Batys Kazakhstan	896.4	869.2	920.3	195.8	2.6
Zhambyl	277 374.5	277 256.7	126 560.8	25 881.3	8 216.8
Zhetisu	-	-	52 010.9	2 309.5	3 966.5
Karagandy	24 894.1	12 559.0	21 720.7	8 889.7	4 915.1
Kostanay	11 637.9	21 667.5	56 955.0	1 258.7	4 390.2
Kyzylorda	1 004.2	-	10 000.0	-	400.0
Mangystau	5715.5	5 007.6	48.9	34.4	116.4
Pavlodar	66 116.5	35 162.1	2039.1	2 862.0	3 318.6
Soltustik Kazakhstan	2 916.4	795.3	849.7	2 138.3	1 639.3
Turkistan	1 204.2	6 493.9	12 14.3	977.7	1367.2
Ulytau	-	-	15 676.2	-	-
Shygys Kazakhstan	20 295.1	24 150.1	14 470.4	11 918.3	8 884.5
Astana city	-	-	-	-	-
Almaty city	-	-	9 800.0	-	-
Shymkent city	-	-	-	36 000.0	40 000.0

### 5.20 Application of pesticides\*

	2020	2021	2022	2023	2024
Agricultural area, thousand ha	22 656.24	22 925.72	21 658.3	22 854.2	22 239.4
Application of insecticides, tons	601.3	1 117.3	738.6	2 939.2	2 098.3
Application of insecticides per unit of agricultural area, kg/ha	0.03	0.05	0.15	0.12	0.13
Application of herbicides and desiccants, tons	12 866.01	15 779.4	7 093.5	11 108.2	12 431.7
Application herbicides and desiccants per unit of agricultural area, kg/ha	0.57	0.69	2.66	0.48	0.96
Application of Fungicides and bactericides, tons	1 021.6	1 325.2	868.5	985.1	1 495.7
Application of Fungicides and bactericides per unit of agricultural area, kg/ha	0.045	0.058	0.055	0.04	0.57
Application of Plant regulators, tons	3.13	101.7	109.8	4.5	23.8
Application of Plant regulators per unit of agricultural area, kg/ha	0.00014	0.004	0.44	0.0	0.36
Application of Rodenticides, tons	-	-	0.2	-	-
Application of Rodenticides per unit of agricultural area, kg/ha	-	-	2.0	-	-
Application of other pesticides (e.g. mineral oils), tons	-	-	-	2.5	-
Application of other pesticides (e.g. mineral oils) per unit of agricultural area, kg/ha	-	-	-	-	-
Total Application of pesticides, tons	14 492.04	18 323.6	8 810.6	15 039.5	16 049.5
Application of pesticides per unit of agricultural area, kg/ha	0.64	0.8	0.4	0.7	0.5

\* According to the Committee of State inspection in the agro-industrial complex of the Ministry of agriculture of the Republic of Kazakhstan.

### 5.21 Gross output of agricultural products (services) per 100 hectares of agricultural land

thousand tenge

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	6 048.7	6 772.4	8 383.2	6 667.7	7 267.4
Abay	-	-	5 487.9	4 753.4	5 089.0
Akmola	6 233.0	6 802.2	10 039.0	6 465.2	9 034.0
Aktobe	2 885.5	3 025.0	3 520.2	2 766.5	2 793.2
Almaty	11 756.2	12 790.5	18 113.0	15 665.9	15 108.4
Atyrau	3 168.3	3 856.4	4 354.3	3 724.7	4 098.9
Batys Kazakhstan	2 739.9	3 143.0	3 830.0	3 698.4	3 737.3
Zhambyl	8 560.7	10 490.2	12 751.9	11 517.5	10 538.7
Zhetisu	-	-	11 018.0	10 218.8	9 384.4
Karagandy	2 396.0	2 805.9	4 143.8	3 723.0	4 124.1
Kostanay	5 743.0	5 656.1	9 393.6	5 854.8	6 829.4
Kyzylorda	6 357.0	7 211.2	7 965.4	9 049.7	9 436.2
Mangystau	692.8	744.7	1 071.4	1 246.5	1 348.6
Pavlodar	5 172.6	6 088.5	7 087.9	5 182.0	6 229.9
Soltustik Kazakhstan	10 987.7	12 762.3	16 681.2	10 820.7	13 541.0
Turkistan	17 977.2	21 361.1	23 894.0	22 140.4	22 896.8
Ulytau	-	-	1 571.1	1 027.8	986.4
Shygys Kazakhstan	5 966.2	7 300.1	16 790.3	13 704.1	13 490.5

## 6. Water resources

### 6.1 The main characteristics of large rivers<sup>2)</sup>

Name of the largest rivers	Length, km		The total area of the basin (catchment, thousand square meters km)	Volume of annual flow, cub. km	
	total length	on the territory of Republic of Kazakhstan		2024	Medium-perennial
Irtys	4 248	1 700	210 (16430)	34.3 (Semiya	28.0
Ishim	2 450	1 400	113 (155)	10.7 (Petro	2.09
Tobol	1 591	800	130 (395)	1.7 (Kostan	0.26
Nura	978	978	55.1	2.5 (village	0.94
Ural	2 428	1 082	72.5 (231)	16.4 (Kushu	9.81
Syr Darya				10.2 (nearby	
	2 212	1 400	219 (462)	reservoir)	14.4
Chu	1 186	800	62.5 (148)	1.6 (Kainar)	1.72
Talas <sup>1)</sup>				- (total)	
Ili	661	227	52.7		
	1 001	815	68.4 (131)	11.7 (164 km)	14.1

<sup>1)</sup> Data for 2023 after primary processing, the hydrological post of the Talas river - Zhasorken village in 2021 was transferred from the balance sheet of the RSE to the municipal property of the Zhambyl region, observations were not carried out.

<sup>2)</sup> Source: reference book "Hydrological study" 1970.

<sup>3)</sup> Information has been updated.

### 6.2 Main characteristics of the largest lakes\*

Name of the lakes	Water surface area (mirror), sq. km	Water volume, million cubic meters	Depth, m	
			average	deepest
Balkhash	18 200	106.0	5.8	26.5
Alakol	2 650	58.6	22.0	54.0
Markakol	449	6.3	14.0	25.0

\* Source – reference book «Hydrological knowledge» 1970.

### 6.3 The volume of water in the largest reservoirs\*

Name of reservoirs	The area of the mirror with NPU, square km	Volume of water, billion cubic meters	
		total	useful
Bukhtarma reservoir	5 500	49.0	30.2
Sergeev reservoir	117	0.70	0.6
Vyacheslav reservoir	61	0.41	0.4
Kapshagai reservoir	1 847	18.5	10.3
Shardara reservoir	400	5.20	4.2

\* Source – reference book «Hydrological knowledge» 1970.

## 6.4 The qualitative state of the waters of the main water bodies

	Comprehensive Water Pollution Index		Comprehensive Water Pollution Index		Comprehensive Water Pollution Index	
	2021		2022		2023	
	Water quality grade		Water quality grade		Water quality grade	
Irtys (EKR)	1 grade	1 grade	1 grade	2 grade	2 grade	2 grade
Irtys (Pavlodar)	1 grade	1 grade	1 grade	1 grade	1 grade	1 grade
Ural (Atyrau)	4 grade	3 grade	3 grade	4 grade	4 grade	4 grade
Ural (WKR)	Not rated (>3 grade)	3 grade	3 grade	2 grade	5 grade	5 grade
Syr Darya (SKR)	Not rated (>5 grade)	4 grade	4 grade	4 grade	4 grade	4 grade
Syr Darya (Kyzylorda)	4 grade	4 grade	4 grade	4 grade	3 grade	3 grade
Nura (Akmola)	Not rated (>5 grade)	Not rated (>5 grade)	Not rated (>5 grade)	Not rated (>5 grade)	Not rated (>5 grade)	Not rated (>5 grade)
Nura (Karagand)	4 grade	Not rated (>5 grade)	Not rated (>5 grade)	Not rated (>5 grade)	Not rated (>5 grade)	Not rated (>5 grade)
Ili	3 grade	3 grade	3 grade	3 grade	3 grade	3 grade
Ishim (NKR)	4 grade	4 grade	4 grade	Not rated (>3 grade)	4 grade	4 grade
Ishim (Akmola)	Not rated (>4 grade)	4 grade	4 grade	4 grade	4 grade	4 grade
Chu	Not rated (>3 grade)	3 grade	3 grade	3 grade	3 grade	3 grade
Talas	Not rated (>5 grade)	Not rated (>5 grade)	Not rated (>5 grade)	Not rated (>5 grade)	3 grade	3 grade
Tobol	Not rated (>5 grade)	Not rated (>5 grade)	Not rated (>5 grade)	Not rated (>5 grade)	Not rated (>5 grade)	Not rated (>5 grade)
Balkhash (Karagand)	*	*	*	*	*	*
Balkhash (Almaty)	*	*	*	*	*	*

\* Note: Since 2019, RSE «Kazhydromet» in its work to assess the water quality of water bodies of the Republic of Kazakhstan applies the normative document «unified classification of water quality of water bodies», approved by the order of the Committee on Water Resources No. 151 of 9.11.2016

## 6.5 The state of the quality of surface waters of Kazakhstan by hydrochemical indicators in 2024

Name of the water body	Water quality grade	Name of the physical and chemical substance	Units	Physical and chemical substance content
Bukhtarma (Shygys Kazakhstan)	2 grade	manganese	mg/dm <sup>3</sup>	0.013
Breksa (Shygys Kazakhstan)	2 grade	nitrates	mg/dm <sup>3</sup>	0.16
		manganese	mg/dm <sup>3</sup>	0.024
Tikhaya (Shygys Kazakhstan)	3 grade	ammonium ions	mg/dm <sup>3</sup>	0.63
		cadmium	mg/dm <sup>3</sup>	0.0017
Ulba (Shygys Kazakhstan)	3 grade	cadmium	mg/dm <sup>3</sup>	0.0012
Glubochanka (Shygys Kazakhstan)	3 grade	magnesium	mg/dm <sup>3</sup>	25.3
		cadmium	mg/dm <sup>3</sup>	0.0012
Krasnoyarka (Shygys Kazakhstan)	3 grade	magnesium	mg/dm <sup>3</sup>	22.5
Oba (Shygys Kazakhstan)	2 grade	manganese	mg/dm <sup>3</sup>	0.020
Emil (Shygys Kazakhstan)	4 grade	magnesium	mg/dm <sup>3</sup>	36.7
Ayakož (Shygys Kazakhstan)	5 grade	suspended solids	mg/dm <sup>3</sup>	14.3
Zhayyq (Atyrau)	4 grade	magnesium	mg/dm <sup>3</sup>	34.3
Sharonova (Atyrau)	4 grade	magnesium	mg/dm <sup>3</sup>	34.1
Kigash (Atyrau)	Not rated (>5 grade)	suspended solids	mg/dm <sup>3</sup>	155.3
Embi (Atyrau)	4 grade	magnesium	mg/dm <sup>3</sup>	34.5
Zhayyq (Batys Kazakhstan)	2 grade	suspended solids	mg/dm <sup>3</sup>	21.0
pr. Pheretaska (Atyrau)	4 grade	magnesium	mg/dm <sup>3</sup>	37.0
Yaik (Atyrau)	4 grade	magnesium	mg/dm <sup>3</sup>	37.7
Chagan (Batys Kazakhstan)	1 grade	-	mg/dm <sup>3</sup>	-
Derkol (Batys Kazakhstan)	1 grade	-	mg/dm <sup>3</sup>	-
		suspended solids	mg/dm <sup>3</sup>	22.8
Karaozen (Batys Kazakhstan)	3 grade	magnesium	mg/dm <sup>3</sup>	22.5
Saryozen (Batys Kazakhstan)	4 grade	suspended solids	mg/dm <sup>3</sup>	22.9
Kushum channel (Batys Kazakhstan)	4 grade	suspended solids	mg/dm <sup>3</sup>	21.3
Ilek (Batys Kazakhstan)	2 grade	chlorides	mg/dm <sup>3</sup>	306.5
Shyngyrlau (Batys Kazakhstan)	Not rated (>5 grade)	chlorides	mg/dm <sup>3</sup>	409.44
		ammonium ions	mg/dm <sup>3</sup>	1.108
Ilek (Aktobe)	4 grade	chromium (6+)	mg/dm <sup>3</sup>	0.059
		phenols	mg/dm <sup>3</sup>	0.0016
Or (Aktobe)	4 grade	ammonium ions	mg/dm <sup>3</sup>	1.169
		phenols	mg/dm <sup>3</sup>	0.0018
Yrgyz (Aktobe)	4 grade	ammonium ions	mg/dm <sup>3</sup>	1.23
		phenols	mg/dm <sup>3</sup>	0.0014
Emba (Aktobe)	4 grade	ammonium ions	mg/dm <sup>3</sup>	1.251
		phenols	mg/dm <sup>3</sup>	0.0017
Kargaly (Aktobe)	4 grade	ammonium ions	mg/dm <sup>3</sup>	1.139
		phenols	mg/dm <sup>3</sup>	0.0015
		ammonium ions	mg/dm <sup>3</sup>	1.257
Koksestek (Aktobe)	4 grade	phenols	mg/dm <sup>3</sup>	0.0016
		magnesium	mg/dm <sup>3</sup>	30.33
		ammonium ions	mg/dm <sup>3</sup>	1.337
Aktasty (Aktobe)	4 grade	phenols	mg/dm <sup>3</sup>	0.0018
Oiyl (Aktobe)	4 grade	ammonium ions	mg/dm <sup>3</sup>	1.188
		phenols	mg/dm <sup>3</sup>	0.0019
		ammonium ions	mg/dm <sup>3</sup>	1.346
Ulken Kobda (Aktobe)	4 grade	phenols	mg/dm <sup>3</sup>	0.0017
		magnesium	mg/dm <sup>3</sup>	30.4
		ammonium ions	mg/dm <sup>3</sup>	1.384
Kara Kobda (Aktobe)	4 grade	phenols	mg/dm <sup>3</sup>	0.0016
		magnesium	mg/dm <sup>3</sup>	30.4
		ammonium ions	mg/dm <sup>3</sup>	1.175
Temir (Aktobe)	4 grade	phenols	mg/dm <sup>3</sup>	0.0017
		chlorides	mg/dm <sup>3</sup>	742
		magnesium	mg/dm <sup>3</sup>	122.283
Tobol (Kostanay)	Not rated (>5 grade)	mineralisation	mg/dm <sup>3</sup>	2 408.947
		suspended solids	mg/dm <sup>3</sup>	36.185
Ayet (Kostanay)	4 grade	suspended solids	mg/dm <sup>3</sup>	25.783
		magnesium	mg/dm <sup>3</sup>	52.5
Togyzak (Kostanay)	4 grade	suspended solids	mg/dm <sup>3</sup>	31.079
		magnesium	mg/dm <sup>3</sup>	63.308

Continuation

Name of the water body	Water quality grade	Name of the physical and chemical substance	Units	Physical and chemical substance content
Ubagan (Kostanay)	Not rated (>5 grade)	chlorides	mg/dm <sup>3</sup>	1 559.442
		magnesium	mg/dm <sup>3</sup>	244.225
		mineralisation	mg/dm <sup>3</sup>	5 425.567
		calcium	mg/dm <sup>3</sup>	195.3
		suspended solids	mg/dm <sup>3</sup>	56.033
Ui (Kostanay)	4 grade	sulfates	mg/dm <sup>3</sup>	1694.7
		magnesium	mg/dm <sup>3</sup>	48.817
Zhelkuar (Kostanay)	Not rated (>5 grade)	chlorides	mg/dm <sup>3</sup>	375.717
Amangeldi (Kostanay)	Not rated (>5 grade)	suspended solids	mg/dm <sup>3</sup>	44.133
Zhogargy Tobol (Kostanay)	Not rated (>5 grade)	suspended solids	mg/dm <sup>3</sup>	39.217
Torgai (Kostanay)	4 grade	magnesium	mg/dm <sup>3</sup>	42.055
Karatomar reservoir (Kostanay)	Not rated (>5 grade)	suspended solids	mg/dm <sup>3</sup>	51.617
Shortandy (Kostanay)	4 grade	magnesium	mg/dm <sup>3</sup>	32.133
Esil (Soltustik Kazakhstan)	Not rated (>3 grade)	phenols	mg/dm <sup>3</sup>	0.0017
Sergeev (Soltustik Kazakhstan)	Not rated (>3 grade)	phenols	mg/dm <sup>3</sup>	0.0011
Esil (Akmola)	4 grade	magnesium	mg/dm <sup>3</sup>	40.69
		phosphorus	mg/dm <sup>3</sup>	0.59
Akbulak (Astana city)	Not rated (>5 grade)	chlorides	mg/dm <sup>3</sup>	378.5
		COD	mg/dm <sup>3</sup>	37.3
Sarybulak (Astana city)	Not rated (>5 grade)	chlorides	mg/dm <sup>3</sup>	559.9
Zhabay (Akmola)	Not rated (>5 grade)	magnesium	mg/dm <sup>3</sup>	38.67
Water reserv.Vyacheslavskoe (Akmola)	3 grade	magnesium	mg/dm <sup>3</sup>	22.6
Nura-Yesil Channel (Akmola)	4 grade	magnesium	mg/dm <sup>3</sup>	49.3
Nura River (Akmola)	Not rated (>5 grade)	iron	mg/dm <sup>3</sup>	0.319
		manganese	mg/dm <sup>3</sup>	0.122
Nura (Karagandy)	Not rated (>5 grade)	manganese	mg/dm <sup>3</sup>	0.119
Slety (Akmola)	3 grade	BOD5	mg/dm <sup>3</sup>	3.07
Aksu (Akmola)	Not rated (>5 grade)	chlorides	mg/dm <sup>3</sup>	554
		COD	mg/dm <sup>3</sup>	36.1
Kylshyky (Akmola)	Not rated (>5 grade)	chlorides	mg/dm <sup>3</sup>	1027
		mineralisation	mg/dm <sup>3</sup>	3 304
Shagalaly (Akmola)	4 grade	magnesium	mg/dm <sup>3</sup>	40.4
		chlorides	mg/dm <sup>3</sup>	422
		magnesium	mg/dm <sup>3</sup>	114.9
		mineralisation	mg/dm <sup>3</sup>	2 135
Kara Kengir (Karagandy)	Not rated (>5 grade)	calcium	mg/dm <sup>3</sup>	201
		ammonium ions	mg/dm <sup>3</sup>	6.0
		manganese	mg/dm <sup>3</sup>	0.196
		ammonium ions	mg/dm <sup>3</sup>	3.96
		manganese	mg/dm <sup>3</sup>	0.163
Sherubainura (Karagandy)	Not rated (>5 grade)	manganese	mg/dm <sup>3</sup>	0.134
Kengirskoe (Karagandy)	Not rated (>5 grade)	manganese	mg/dm <sup>3</sup>	38.1
Samarkandskoe (Karagandy)	4 grade	magnesium	mg/dm <sup>3</sup>	33.1
K. Satpayev Canal (Karagandy)	4 grade	magnesium	mg/dm <sup>3</sup>	4.46
Sokyr (Karagandy)	Not rated (>5 grade)	ammonium ions	mg/dm <sup>3</sup>	0.159
		manganese	mg/dm <sup>3</sup>	23.856
Tekes (Almaty)	3 grade	magnesium	mg/dm <sup>3</sup>	20.675
Temirlik (Almaty)	3 grade	magnesium	mg/dm <sup>3</sup>	0.115
Turgenev (Almaty)	2 grade	phosphorus	mg/dm <sup>3</sup>	22.008
Sharyn (Almaty)	3 grade	magnesium	mg/dm <sup>3</sup>	0.128
Shilik District (Almaty)	2 grade	phosphorus	mg/dm <sup>3</sup>	0.164
Korgas (Almaty)	2 grade	phosphorus	mg/dm <sup>3</sup>	0.231
Bayancol river (Almaty)	3 grade	phosphorus	mg/dm <sup>3</sup>	22.692
River Karkara (Almaty)	3 grade	magnesium	mg/dm <sup>3</sup>	11.833
River Esik (Almaty)	4 grade	suspended solids	mg/dm <sup>3</sup>	0.2
Kaskelen River (Almaty)	2 grade	phosphorus	mg/dm <sup>3</sup>	24.208
		magnesium	mg/dm <sup>3</sup>	0.581
Kapshagay (Almaty)	3 grade	ammonium ions	mg/dm <sup>3</sup>	0.193
River Lepsi (Almaty)	2 grade	phosphorus	mg/dm <sup>3</sup>	0.133
River Aksu (Almaty)	2 grade	phosphorus	mg/dm <sup>3</sup>	0.169
River Karatal (Almaty)	2 grade	phosphorus	mg/dm <sup>3</sup>	0.171
		nitrites	mg/dm <sup>3</sup>	
River Urzhar (Shygys Kazakhstan)	1 grade		mg/dm <sup>3</sup>	
River Small Almatinka (Almaty)	3 grade	magnesium	mg/dm <sup>3</sup>	29.52
River Yessentai (Almaty)	2 grade	phosphorus	mg/dm <sup>3</sup>	0.114
River big Almatinka (Almaty)	2 grade	phosphorus	mg/dm <sup>3</sup>	0.134

Continuation

Name of the water body	Water quality grade	Name of the physical and chemical substance	Units	Physical and chemical substance content
River Talas (Zhambyl)	Not rated (>5 grade)	suspended solids	mg/dm <sup>3</sup>	54.8
River Shu district (Zhambyl)	3 grade	magnesium	mg/dm <sup>3</sup>	27.7
River Assa (Zhambyl)	3 grade	magnesium	mg/dm <sup>3</sup>	29.8
River Aksu (Zhambyl)	4 grade	magnesium sulfates	mg/dm <sup>3</sup>	52.7
River Karabalta (Zhambyl)	5 grade	sulfates	mg/dm <sup>3</sup>	370.5
River Toktash (Zhambyl)	Not rated (>5 grade)	suspended solids	mg/dm <sup>3</sup>	645.1
River Sarykau (Zhambyl)	5 grade	sulfates	mg/dm <sup>3</sup>	95.0
Water reserv. Tasotkel (Zhambyl)	Not rated (>5 grade)	suspended solids	mg/dm <sup>3</sup>	614.0
River Keles (Turkistan)	4 grade	sulfates	mg/dm <sup>3</sup>	63.5
River Badam (Turkistan)	3 grade	magnesium	mg/dm <sup>3</sup>	358.20
River Arys (Turkistan)	3 grade	magnesium	mg/dm <sup>3</sup>	22.55
River Katta-Bugun (Turkistan)	Not rated (>5 grade)	suspended solids	mg/dm <sup>3</sup>	20.6
Shardarinskoe (Turkistan)	Not rated (>5 grade)	suspended solids	mg/dm <sup>3</sup>	44.63
River Syrdarya (Turkistan)	4 grade	magnesium	mg/dm <sup>3</sup>	78.7
River Syrdarya (Kyzylorda)	4 grade	magnesium	mg/dm <sup>3</sup>	33.3
				36.6

<sup>1)</sup> 1 grade water «the best quality».

<sup>2)</sup> 5 grade water «the worst quality».

Substances for this grade are not standardized

### 6.6 Biochemical oxygen consumption (BOD) for 5 days and the concentration of ammonium salt in river water

Rivers	2020	2021	2022	2023	2024
<b>BPK5, mg O2/l</b>					
Irtysk					
1. sample point – Boran	1.78	1.73	1.65	1.64	1.53
2. sample point – Ust-Kamenogorsk	1.68	1.35	1.4	1.69	2.29
3. sample point – Village Prilrtyskoe	1.78	1.69	1.77	1.61	1.71
<b>Ammonium salt, mg/l</b>					
Irtysk					
1. sample point – Boran	0.06	0.04	0.012	0.19	0.45
2. sample point – Ust-Kamenogorsk	0.66	0.20	0.391	0.82	0.42
3. sample point – Village Prilrtyskoe	0.131	0.11	0.255	0.17	0.18

### 6.7 Nutrients in fresh water

	2020	2021	2022	2023	2024
<b>Phosphates, mg/l</b>					
Irtysk					
1. sample point – Boran	0.053	0.07	0.069	0.062	0.03
2. sample point – Ust-Kamenogorsk	0.987	0.0922	0.59	0.51	0.26
3. sample point – Village Prilrtyskoe	0.022	0.0137	0.023	0.025	0.03
<b>Total phosphorus content (P), mg/l</b>					
Balkhash Lake					
1. sample point – Balkhash city, 8 km A175 from the shore	0.0015	0.006	0.015	0.009	0.011
2. sample point – Balkhash city, 20 km A175 from the shore	0.0022	0.005	0.012	0.012	0.01
3. sample point – Balkhash city, 38,5 km A175 from the shore	0.0013	...	...	...	...
<b>Nitrate nitrogen, mg/l</b>					
Irtysk					
1. sample point – Boran	0.704	0.891	0.995	1.374	0.76
2. sample point – Ust-Kamenogorsk	2.298	1.121	1.175	2.16	0.91
3. sample point – Village Prilrtyskoe	0.24	0.279	0.089	0.55	0.16
Balkhash Lake					
1. sample point – Balkhash city, 8 km A175 from the shore	0.255	0.499	0.235	0.165	0.24
2. sample point – Balkhash city, 20 km A175 from the shore	0.425	0.63	0.207	0.272	0.39
3. sample point – Balkhash city, 38,5 km A175 from the shore	0.167	...	...	...	...

### 6.8 Nutrients in coastal waters

	2020	2021	2022	2023	2024
<b>The total phosphorus content (P) - summer mg / l</b>					
Caspian Sea					
Maritime shipping channel					
1 km below the beginning of the navigable canal, station 1	0.0143	0.0233	0.008	0.008	0.006
Caspian (Tengiz), 11th station	-	-	-	-	-
Seaside Ural River, station 4	0.015	0.08	0.007	0.008	0.004
Shalygi-Kulaly, station 1	0.016	0.07	0.005	0.007	0.005
<b>Total nitrogen content (N) - summer, mg / l</b>					
Caspian Sea					
Maritime shipping channel					
1 km below the beginning of the navigable canal, station 1	4.3	-	-	-	-
Caspian (Tengiz), 11th station	-	-	-	-	-
Seaside Ural River, station 4	4.42	-	-	-	-
Shalygi-Kulaly, station 1	4.47	-	-	-	-
<b>The total phosphorus content (P) - autumn, mg / l</b>					
Caspian Sea					
Maritime shipping channel					
1 km below the beginning of the navigable canal, station 1	0.06	0.013	0.006	0.006	0.006
Caspian (Tengiz), 11th station	-	-	-	-	-
Seaside Ural River, station 4	0.060	0.007	0.007	0.009	0.008
Shalygi-Kulaly, station 1	0.075	0.0055	0.005	0.007	0.006
<b>The total nitrogen content (N) - autumn, mg / l</b>					
Caspian Sea					
Maritime shipping channel					
1 km below the beginning of the navigable canal, station 1	4.36	-	0.001	-	-
Caspian (Tengiz), 11th station	-	-	-	-	-
Seaside Ural River, station 4	4.18	-	0.003	-	-
Caspian Sea	4.3	-	0.008	-	-
<b>The total phosphorus content (P) - spring mg / l</b>					
Caspian Sea					
Maritime shipping channel					
1 km below the beginning of the navigable canal, station 1	0.0023	0.009	-	0.003	0.005
Caspian (Tengiz), 11th station	-	-	-	-	-
Seaside Ural River, station 4	0.002	0.006	-	0.004	0.006
Caspian Sea	0.003	0.006	-	0.006	0.009
<b>Total nitrogen content (N) - spring mg / l</b>					
Caspian Sea					
Maritime shipping channel					
1 km below the beginning of the navigable canal, station 1	2.9	-	-	-	-
Caspian (Tengiz), 11th station	-	-	-	-	-
Seaside Ural River, station 4	3.1	-	-	-	-
Shalygi-Kulaly, station 1	3.93	-	-	-	-

### 6.9 Renewable Freshwater Resources (annual river flow resources)<sup>1)</sup>

	2020 <sup>2)</sup>	2021	2022	2023	2024
					cubic kilometers
Internal flow	48.8	43.0	43.8	65.2	97.5
Inflow of surface and groundwater	38.6	33.9	38.9	38.7	65.7
Renewable freshwater resources	87.3	76.8	82.7	103.9	163.2

<sup>1)</sup> According to The State water cadastre.

<sup>2)</sup> Calculation of 2023 based on operational data.

### 6.10 Reserves of underground water resources\*

	2020	2021	2022	2023	2024
					at the end of year million cubic meters
Reserves of underground water resources	43.1	43.1	43.06	42.99	43.36

\* According to the Committee of Geology of the Ministry of Ecology and Natural Resources of the Republic of Kazakhstan.

## 6.11 Underground water resources reserves\*

1000 cubic meters

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	43 076.865	43 120.557	43 062.467	42 990.964	43 364.373
Abay	-	-	-	3 280.788	3 243.718
Akmola	497.806	511.644	517.318	517.318	543.572
Aktobe	1 915.057	1 927.815	1 931.423	1 931.423	1 942.896
Almaty	16 732.886	16 736.504	16 743.563	16 743.563	16 799.252
Atyrau	266.286	266.287	266.287	266.287	276.525
Batys Kazakhstan	335.912	336.404	336.838	336.838	372.085
Zhambyl	4 729.650	4 707.593	4 707.593	4 707.593	4 713.995
Zhetisu	-	-	-	-	-
Karagandy	2 971.389	2 982.876	2 887.534	2 325.921	2 424.364
Kostanay	1 065.624	1 478.059	1 065.960	1 058.044	1 057.268
Kyzylorda	1 477.193	1 068.142	1 478.833	1 478.833	1 487.022
Mangystau	398.598	395.038	401.069	401.089	401.033
Pavlodar	3 901.907	3 901.907	3 904.091	3 841.051	3 916.928
Soltustik Kazakhstan	209.257	209.727	209.727	209.727	211.411
Turkistan	2 091.910	2 112.917	2 122.973	2 122.973	2 143.930
Ulytau	-	-	-	561.614	590.907
Shygys Kazakhstan	6 483.390	6 485.644	6 489.259	3 207.923	3 239.055

\* According to the Committee of Geology of the Ministry of Ecology and Natural Resources of the Republic of Kazakhstan

## 6.12 Level of pressure on water resources

	2020 <sup>2)</sup>	2021	2022	2023	2024
Renewable freshwater resources <sup>1)</sup> (river flow resources) m <sup>3</sup>	87 300	79 800	82 700	103 900	163 200
Freshwater abstraction*, million m <sup>3</sup>	24 585	24 518	24 966.7	24 366	25 557.9
Level of pressure on water resources, in percent	28.2	34.9	30.2	23.5	15.7
Freshwater abstraction per capita, m <sup>3</sup>	1 307.8	1 290.4	1 271.5	1 224.4	1 240.6

<sup>1)</sup> Data of the Ministry of Water Resources and Irrigation of the Republic of Kazakhstan.

<sup>2)</sup> Calculation of 2020 based on operational data

## 6.13 Withdrawal of fresh water

million cubic meters per/year

	2020 <sup>2)</sup>	2021	2022	2023	2024
<b>Withdrawal of surface and groundwater</b>					
Withdrawal of surface and groundwater	23586	23 453	23 915	23 336.2	24 427.8
Withdrawal of fresh groundwater	999	1 064	1050.9	1 029.8	1 130.1
<b>Withdrawal of fresh water</b>					
Withdrawal of fresh water (=1+2)	24 585	24 517	24 967	24 366	25 557.9
from which the withdrawal was made.					
water supply enterprises (ISIC 36)	2 412	2 474	2 391	2 675.6	2 626.6
households	388.1	432.7	644	390.5	437.8
Agriculture, forestry, and fishing (ISIC 01-03)	15 421	14 706.3	14 238	14 031.4	14 724
manufacturing (ISIC 10-33)	341.4	318.2	283	287	249.9
Electricity, gas, steam, and air conditioning supply (ISIC 35)	4 200.5	4 923.8	4 748.8	4 830	3 196.9
other economic activities	1 822	1 663	2661.1	2151.3	4 322.7

## 6.14 The main indicators characterizing the protection and use of water resources\*

million cubic meters per/year

	2020	2021	2022	2023	2024
Water intake from natural water sources – total	24 585	24 517	24 966.7	24 365.8	25 557.9
including :					
from underground horizons	999	1 064	1 050.9	1 029.8	1 130.1
Water loss during transportation	3 769	3 670	3 409.1	3 398.9	3 756.4
Water consumption (water use) - total	20 307	19 999	20 443	20 480	21 440.3
from him :					
for production needs	5 685	5 752	5 806.3	5 908.4	5 573.9

Continuation

	2020	2021	2022	2023	2024
The volume of the explosive and consistent use of water	9 789	9 891	9 348.4	9 460.7	10 157.4
The share of recycled and about Borum waste water in the total volume of water used. as a percent	48	40.3	37.4	38.8	40.1
Volume of discharge of treated water	316	333	327.5	344.5	347.9
The volume of discharge of polluted wastewater (without treatment and insufficiently treated)	0	0.02	0.04	2.3	0.650
including: without cleaning	0	0.02	0.04	2.3	0.650

\* Hereinafter, according to the Ministry of Water Resources and Irrigation of the Republic of Kazakhstan.

### 6.15 Abstraction of water from surface and groundwater sources

million cubic meters per/year

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	24 585	24 517	24 967	24 366	25 557
Abay	-	-	155	226	193
Akmola	52	65	55	67	65.7
Aktobe	181	194	369	540	1 115.6
Almaty	3 387	3 460	1 862	1 865	1 795
Atyrau	288	276	299	265	240.1
Batys Kazakhstan	436	450	637	916	1 159.5
Zhambyl	1 644	1 504	1 559	1 527	1 727.5
Zhetisu	-	-	1 694	1 479	1 391
Karagandy	1 605	1 616	1 547	1 499	1 344
Kostanay	123	128	132	101	95.8
Kyzylorda	5 331	4 840	4 701	5 095	4 967.6
Mangystau	1 476	1 472	1 414	1 439	1 450
Pavlodar	3 199	3 395	3 164	2 887	3 084
Soltustik Kazakhstan	260	246	227	274	274
Turkistan	5 373	5 699	5 710	4 925	5 396
Ulytau	-	-	227	232	230
Shygys Kazakhstan	538	536	371	323	309
Astana city	122	116	108	127	127
Almaty city	263	272	273	285	278.2
Shymkent city	306	249	463	295	314

### 6.16 Withdrawal of water from natural sources per capita

thousand cubic meters per capita

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	1.4	1.3	1.3	1.3	1.3
Abay	-	-	0.3	0.3	0.3
Akmola	0.1	0.1	0.1	0.1	0.1
Aktobe	0.3	0.2	0.2	0.4	1.2
Almaty	1.6	1.6	1.7	1.2	1.2
Atyrau	0.5	0.4	0.4	0.4	0.3
Batys Kazakhstan	0.4	0.7	0.7	0.9	1.7
Zhambyl	1.4	1.4	1.3	1.3	1.4
Zhetisu	-	-	-	2.4	2.0
Karagandy	1.2	1.2	1.2	1.4	1.2
Kostanay	0.1	0.1	0.1	0.2	0.1
Kyzylorda	6.6	6.6	5.9	5.7	5.9
Mangystau	2.1	2.1	2.0	1.9	1.8
Pavlodar	4.0	4.3	4.5	4.2	4.1
Soltustik Kazakhstan	0.5	0.5	0.1	0.4	0.5
Turkistan	3.1	2.6	2.9	2.7	2.5
Ulytau	-	-	-	1.0	1.0
Shygys Kazakhstan	0.4	0.4	0.5	0.5	0.4
Astana city	0.1	0.1	0.1	0.1	0.1
Almaty city	0.1	0.2	0.1	0.1	0.1
Shymkent city	0.2	0.2	0.2	0.3	0.3

## 6.17 Withdrawal of water by water management basins

million cubic meters per/year

	2021	2022	2023	2024
Aral-Syrdarya	10 192	10 431	9 941	10 325
Balkhash-Alakol	3 965	4 184	3 897	3 668
Irtys	3 884	3 662	3 391	3 541
Ishim	424	382	461	462
Ural-Caspian	2 390	2 735	3 151	3 964
Nura-Sarysu	1 415	1 616	1 665	1 413
Tobol-Torgay	128	132	148	134
Shu-Talas	2 098	1 823	1 739	2 050

## 6.18 Household water use per capita

million cubic meters/year

	2020	2021	2022	2023	2024
<b>Communal water supply</b>					
Municipal water consumption in the country	573.7	609.1	635.6	671.9	663.9
Population connected to public water supply	17.8	18.6	18.8	19.1	19.7
Per capita water consumption per year	32.2	30.6	33.8	35.2	33.7
<b>Self sufficiency</b>					
Population not connected to municipal water supply (self-sustainment)	1.0	0.4	0.8	0.8	0.5
Estimated water consumption per capita	30.5	32	32.4	33.8	32.9
Water consumption in the communal sector in the country – self-sufficiency	30.5	12.8	25.9	27.0	16.5
<b>Total water consumption (public water supply and self-sufficiency)</b>					
Total water consumption	604.2	621.9	661.5	698.9	680.4
Total population	18.8	19.0	19.6	19.9	20.2
Per capita water consumption per year	32.1	32.7	33.8	35.1	33.7

## 6.19 Water use

million cubic meters per/year

	2020	2021	2022	2023	2024
<b>Available volume of fresh water</b>					
Withdrawal of fresh water	24 585	24 517	24 966.7	24 365.8	25 557.9
Desalinated water	182	61.2	60.3	59	58.4
Reused water	842	507.9	1 082.9	783.1	587.6
<b>Use of fresh water</b>					
Total volume of fresh water used	20 307	19 999	20 443	20 480	21 440.3
<i>of which was used by</i>					
By households and by agriculture, forestry and fishing (ISIC 01–03)	800.4	867	1 125.6	908.4	959.5
Water supply enterprises (ISIC 36)	12 361	11 743	11 546.3	11 646.7	12 469.1
Households, agriculture, forestry, and fishing (ISIC 01-03)	429.6	426.9	358	424.7	329.1
Manufacturing (ISIC 10-33)	5 049.8	5 068.7	4 680	4 741	4 558.3
Electricity enterprises (ISIC 351)	1 666.2	1 893.4	2 733.1	2 759.2	3 124.3
Other economic activities	800.4	867	1 125.6	908.4	959.5

## 6.20 The loss of water

million cubic meters/year

	2020	2021	2022	2023	2024
<b>Communal water supply</b>					
Collected water	24 585	24 517	24 966.7	24 365.8	25 557.9
Water delivered to end users	20 307	19 999	20 443	20 480	21 440
Water loss	3 769	3 670	3 409.1	3 398.9	3 756
<b>Loss of water during transport Percent</b>					
Water loss	15.3	14.9	13.7	14.0	14.7

### 6.21 The loss of water during transportation by region

million cubic meters per/year

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	3 769	3 670	3 409	3 399	3 756
Abay	-	-	76	18	17
Akmola	6	6	69	6	6
Aktobe	19	7	52	7	7
Almaty	601	618	423	345	318
Atyrau	63	57	111	48	40
Batys Kazakhstan	73	76	129	149	184
Zhambyl	565	560	635	549	646
Zhetisu	-	-	313	253	238
Karagandy	21	21	76	18	16
Kostanay	8	7	67	7	6
Kyzylorda	931	841	883	952	929
Mangystau	1	1	1	0	-
Pavlodar	25	24	9	19	15
Soltustik Kazakhstan	3	3	2	1	1
Turkistan	1 332	1 323	286	939	1 271
Ulytau	-	-	47	6	5
Shygys Kazakhstan	56	52	50	26	20
Astana city	17	19	45	22	22
Almaty city	12	13	38	11	-
Shymkent city	38	43	97	25	15

\* Hereinafter, according to the Ministry of Water Resources and Irrigation of the Republic of Kazakhstan.

### 6.22 The use of water

million cubic meters per/year

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	20 307	19 999	20 443	20 480	21 440
Abay	-	-	146	211	194
Akmola	49	59	56	61	60
Aktobe	159	183	363	534	1 103
Almaty	2 945	2 843	1 630	1 521	1 497
Atyrau	205	219	226	199	183
Batys Kazakhstan	363	374	532	766	975
Zhambyl	1 078	942	991	978	1 082
Zhetisu	-	-	1 440	1 226	1 153
Karagandy	1 662	1 573	1 552	1 590	1 312
Kostanay	87	88	92	95	89
Kyzylorda	4 400	3 999	3 886	4 021	4 038
Mangystau	1 512	1 471	1 450	1 444	1 466
Pavlodar	3 099	3 225	3 004	2 669	3 018
Soltustik Kazakhstan	251	243	217	273	272
Turkistan	3 495	3 803	3 798	3 701	3 820
Ulytau	-	-	218	224	294
Shygys Kazakhstan	455	457	320	295	243
Astana city	105	97	91	105	86
Almaty city	251	259	259	273	205
Shymkent city	189	164	171	295	350

### 6.23 Withdrawal of water by water management basins

million cubic meters per/year

	2021	2022	2023	2024
Aral-Syrdarya	7 487	7 641	7 873	7 994
Balkhash-Alakol	3 327	3 550	3 281	3 108
Irtys	3 640	3 445	3 104	3 415
Ishim	397	362	433	434
Ural-Caspian	2 246	2 570	2 942	3 727
Nura-Sarysu	1 371	1 577	1 629	1 377
Tobol-Torgay	88	92	95	90
Shu-Talas	1 419	1 204	1 119	1 295

## 6.24 Volume of water recirculated

million cubic meters per/year

	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	9 891	9 348.4	9 460.7	9 569.3
Abay	-	13.7	...	14.6
Akmola	145.4	113.2	122.8	31.9
Aktobe	152.7	115.3	165.7	142
Almaty	146.5	140.3	178.1	109.9
Atyrau	291.9	298	190.7	323.7
Batys Kazakhstan	-	-	...	-
Zhambyl	254.4	260.6	359.2	339.6
Zhetisu	-	0.5	...	62.5
Karagandy	2 267.8	1 927.1	2 334.1	2 027.8
Kostanay	547.7	390	417.5	427.2
Kyzylorda	0.11	0.1	0.1	39.6
Mangystau	1.1	-	...	-
Pavlodar	4 370.8	4 360.5	4 268.5	4 417
Soltustik Kazakhstan	204.4	22.6	...	221
Turkistan	249.4	2.6	250.1	3.2
Ulytau	-	243.6	...	164.5
Shygys Kazakhstan	497	426.2	418.5	429.7
Astana city	467.6	484.2	478.7	421.5
Almaty city	293.7	275.4	276.6	267
Shymkent city	*	274.8	...	126.6

## 6.25 Volume of reused water

million cubic meters per/year

	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	507.9	1 082.9	783.1	587.6
Abay	-	0.7	0.7	0.7
Akmola	3	2	2.4	-
Aktobe	4	0.1	1	1.9
Almaty	1.1	1.1	1	1
Atyrau	4.5	4.7	1.9	4.9
Batys Kazakhstan	-	-	-	-
Zhambyl	1.4	1.2	1.1	1.2
Zhetisu	0.1	2.5	2.5	2.7
Karagandy	253.8	505.7	497.2	523
Kostanay	-	-	-	-
Kyzylorda	-	-	-	-
Mangystau	1.1	1.1	-	1.1
Pavlodar	24.5	361.9	27.3	27.4
Soltustik Kazakhstan	199.8	175.7	220.3	-
Turkistan	0	0	0.5	0.1
Ulytau	*	9.5	6.1	5.6
Batys Kazakhstan	7.3	10.5	9.8	10.8
Astana city	4.8	5	6.7	1.7
Almaty city	1.5	0.1	3.4	4.2
Shymkent city	1	1.1	1.2	1.3

## 6.26 Use of water for industrial needs

million cubic meters per/year

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	5685	5 752.6	5 806.3	5 908.4	5 573.9
Abay	-	-	16.3	49.3	18.9
Akmola	24	29.4	17.6	24.6	26.8
Aktobe	18	17.0	17.6	15.7	149
Almaty	62	54.5	20.7	12.6	16
Atyrau	86	89.0	89.6	79.7	81.6
Batys Kazakhstan	9	12.5	11.9	10.2	4.3
Zhambyl	29	32.1	29.2	36.5	39.7
Zhetisu	-	-	33.8	33.3	34.7
Karagandy	1411	1 310.4	1 320.8	1 366.5	1 137.9
Kostanay	38	32.3	34.8	34.8	36.9
Kyzylorda	12	12.7	12.5	11.4	7.6
Mangystau	1445	1 398.0	1 376.9	1378	1 361.8

Continuation

	2020	2021	2022	2023	2024
Pavlodar	2020	2 205.7	2 135.1	2 097.2	2 067.7
Soltustik Kazakhstan	229	216.9	191.3	245.4	245.4
Turkistan	6	14.7	5.0	0.9	3.2
Ulytau	-	-	191	200	197
Shygys Kazakhstan	201	208.9	179.9	168.5	163.9
Astana city	12	22.8	19.4	25.7	18
Almaty city	76	75.0	74.3	81.3	72.3
Shymkent city	9	20	28.3	37.8	25.3

### 6.27 Use of water for domestic and drinking needs

million cubic meters per/year

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	800	868	1 125.6	908.3	959.4
Abay	-	-	16.1	20.3	32.7
Akmola	15	17	33.1	21.9	19.9
Aktobe	39	36	38	40.7	41.1
Almaty	42	57	45.8	40.8	55.7
Atyrau	25	28	27	28.9	29.9
Batys Kazakhstan	23	23	22.4	23.5	23.8
Zhambyl	31	32	37.6	34.4	33.9
Zhetisu	-	-	220.5	23.8	16.3
Karagandy	90	142	87.8	58.4	51.5
Kostanay	34	37	36.4	37.1	36.3
Kyzylorda	22	23	26.7	24.6	29.4
Mangystau	37	35	36.3	35	70.4
Pavlodar	44	43	55.1	46.5	49.2
Soltustik Kazakhstan	18	21	20.4	22.3	24.9
Turkistan	11	47	44.1	23.8	20.9
Ulytau	-	-	24.3	20.1	19.6
Shygys Kazakhstan	60	64	60.2	62.6	61.3
Astana city	88	69	70.7	78.3	86.2
Almaty city	175	175	176.6	191.1	205.4
Shymkent city	49	19	46.4	74.2	51

### 6.28 Use of water for domestic and drinking needs per capita

thousand cubic meters per capita

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	0.04	0.05	0.06	0.05	0.05
Abay	-	-	0.03	0.03	0.05
Akmola	0.02	0.02	0.04	0.03	0.03
Aktobe	0.04	0.04	0.04	0.04	0.04
Almaty	0.02	0.03	0.03	0.03	0.04
Atyrau	0.04	0.04	0.04	0.04	0.04
Batys Kazakhstan	0.03	0.03	0.03	0.03	0.03
Zhambyl	0.03	0.03	0.03	0.03	0.03
Zhetisu	-	-	0.32	0.03	0.02
Karagandy	0.07	0.10	0.08	0.05	0.05
Kostanay	0.04	0.04	0.04	0.04	0.04
Kyzylorda	0.03	0.03	0.03	0.03	0.03
Mangystau	0.05	0.05	0.05	0.05	0.09
Pavlodar	0.06	0.06	0.07	0.06	0.07
Soltustik Kazakhstan	0.03	0.04	0.04	0.04	0.05
Turkistan	0.01	0.02	0.02	0.01	0.01
Ulytau	-	-	0.11	0.09	0.09
Shygys Kazakhstan	0.04	0.05	0.08	0.09	0.08
Astana city	0.08	0.06	0.05	0.06	0.06
Almaty city	0.09	0.09	0.08	0.09	0.09
Shymkent city	0.05	0.02	0.04	0.06	0.04

### 6.29 Used water for liman irrigation

million cubic meters per/year

	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	263	280.4	196.1	226
Abay	-	12.3	14.5	13.9
Akmola	-	-	-	-
Aktobe	-	6.8	8.6	-
Almaty	-	-	-	-
Atyrau	31.3	41.8	24.9	22.5
Batys Kazakhstan	9.9	14.4	11.4	10.8
Zhambyl	-	-	-	-
Zhetisu	-	-	-	-
Karagandy	-	-	-	-
Kostanay	-	-	-	-
Kyzylorda	-	-	-	-
Mangystau	210.6	205.1	136.7	178.8
Pavlodar	-	-	-	-
Soltustik Kazakhstan	-	-	-	-
Turkistan	-	-	-	-
Ulytau	11.2	-	-	-
Shygys Kazakhstan	-	-	-	-
Astana city	-	-	-	-
Almaty city	-	-	-	-

### 6.30 Used water for regular irrigation

million cubic meters per/year

	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	8 848.7	9 032.8	9 266.9	8 883.7
Abay	29.9	73.8	90.8	70.6
Akmola	6.3	2.4	13	10.8
Aktobe	18.4	19.9	16.3	16.7
Almaty	1 302.9	1 290.4	1 209.5	1 152.8
Atyrau	18.9	14.5	16	7.6
Batys Kazakhstan	10.8	12.8	15.9	14.4
Zhambyl	582.6	627.7	611	551
Zhetisu	1 401.8	1 446.5	1 419.7	1 337
Karagandy	37.9	69.7	81.4	59.3
Kostanay	17.3	20.4	21.5	14.8
Kyzylorda	2 955.7	2 840.6	3 003.1	3 003.9
Pavlodar	59.2	68.8	74.6	70.8
Soltustik Kazakhstan	2.2	1.4	1.6	0.5
Turkistan	2 311.2	2 488.7	2 634.7	2 541.8
Ulytau	-	1.9	3.2	2.4
Shygys Kazakhstan	87	51.7	52.7	28.7
Astana city	5.4	1	1.3	0.5
Almaty city	1.2	0.6	0.6	0.1
Shymkent city	-	-	-	-

### 6.31 The use of water for irrigation. land reclamation and agricultural water supply

million cubic meters per/year

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	12 361	11 742	11 546.3	11 329.5	11 585
Abay	-	-	113.5	141.1	12.6
Akmola	10	12	5.1	14	12.6
Aktobe	17	18	26.7	24.8	16.7
Almaty	2 824	2 706	1 551	1461	1 387.3
Atyrau	54	64	71.5	56.3	43.6
Batys Kazakhstan	22	21	28.4	29.2	26.7
Zhambyl	1 018	878	923.9	907	1 008.6
Zhetisu	-	-	1 185.6	1 168.4	1 102.5
Karagandy	70	40	71.4	83.2	63.3
Kostanay	15	17	20.9	21.9	15.5
Kyzylorda	4 358	3 958	3 841.5	3 979.3	3 993.2

	2020	2021	2022	2023	2024
Mangystau	0.1	0.1	0.1	0.1	0.2
Pavlodar	1019	941	814.1	489.8	891.7
Soltustik Kazakhstan	5	5	5.4	5.2	2.3
Turkistan	2676	2 824	2 770.1	2 815.1	2 712.1
Ulytau	-	-	2.6	3.8	0.4
Shygys Kazakhstan	194	183	79.3	60.8	34.1
Astana city	6	5	1	1.3	0.5
Almaty city	0	1	0.6	0.7	0.1
Shymkent city	72	66	33.3	66.5	150

### 6.32 Used water on irrigation of pastures

million cubic meters per/year

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	102	97	103.7	102.3	99.5
Abay	-	-	7.9	7.2	7.9
Akmola	0.5	0.4	0.6	0.4	0.5
Aktobe	-	-	-	-	-
Almaty	-	-	-	0.08	-
Atyrau	15	14	15.0	14.9	12.8
Batys Kazakhstan	2	0.2	1.1	1.7	1.6
Zhambyl	-	-	-	-	-
Zhetisu	-	-	-	-	-
Karagandy	-	-	-	-	-
Kostanay	-	-	-	-	-
Kyzylorda	7	7	6.8	6.8	6.7
Mangystau	-	-	-	-	-
Pavlodar	15	13	13.6	14.7	12.9
Soltustik Kazakhstan	-	-	-	-	-
Turkistan	56	56	56.3	56.3	56.9
Ulytau	-	-	-	-	-
Shygys Kazakhstan	7	7	2.4	0.2	0.2
Astana city	-	-	-	-	-
Almaty city	-	-	-	-	-
Shymkent city	-	-	-	-	-

### 6.33 Water use prices

at the end of the period

	2020	2021	2022	2023	2024
<b>Average prices and tariffs for paid services for the population, tenge / cubic meter</b>					
Hot water	234	263	260.04	377.31	468.64
Cold water	69	71	70.64	74.21	105.45
Sewerage	47	50	50.22	68.19	88.85
<b>Acquisition prices for certain types of products for industrial purposes by industrial enterprises</b>					
Steam and hot water (thermal energy), tenge / Gcal	5 924	6 128	6 636	7 977	10 018

### 6.34 Profitability (loss-making) of production of enterprises that collect, process and distribute water, as well as water disposal

in percent

	2020	2021	2022	2023	2024
Collection, treatment and distribution of water	-7.4	-11.9	-27.3	-9.3	-76.4
Wastewater collection and treatment	-0.7	-6.0	7.3	11.5	-7.4

### 6.35 Polluted wastewater

	2020	2021	2022	2023	2024
Total volume of wastewater, million	5 426	5 483.0	5 862.8	5 412.0	5 194.8
total amount of wastewater discharged into water bodies that has not been treated, million,	-	-	0.0	2.3	0.6
proportion of untreated wastewater discharged into water bodies in the total volume of wastewater, in percent	0	0	0.0	0.04	0.01

### 6.36 The proportion of normally treated wastewater in the total volume of wastewater (SDG 6.3.1)

	million cubic meters per/year				
	2020	2021	2022	2023	2024
Water use – total	20 307	19 999	20 443	20 480	21 440
Volume of recycled and reused water – total, ischarge of wastewater into surface water bodies – total,	843	10 398.9	10 431.3	10 243.8	10 157.4
including polluted, of which without treatment	5 426	5 483.0	5 862.8	5 412.0	5 194.8
including polluted, of which without treatment	-	-	-	2.3	0.6
				2.3	0.6

### 6.37 Use of water and wastewater discharge by types of economic activity

	million cubic meters per/year				
	2020	2021	2022	2023	2024
Water use	20 307	19 999	20 443	20 480	21 440
including:					
agriculture, hunting, and forestry	12 361	11 838.1	11 727.5	11 649.3	12 469.1
mining industry	206	230.5	227.8	251.2	209.2
manufacturing industry	429.6	372.7	426	422	425
production and distribution of electricity, Gas, and water	5 050	4 596.7	4 680.9	4 741.3	4 558.3
construction	12	12	12	15	17
wholesale and retail trade, repair of motor vehicles, household goods, and personal items	33	33	28	32	30
Transport, storage, and communication	6	6	204.7	7.8	5
other types of economic activity	2 209.4	2 910	3 136.1	3 361.4	3 726.4
Wastewater Discharge into Surface Water Bodies	5 426	5 483	5 862.8	5 412	5 194.8
including:					
agriculture, hunting, and forestry	493	354.8	452.2	315	516.8
mining industry	131.4	129.4	100.7	116.5	120.7
manufacturing industry	231.5	372.7	228.1	237.6	204.1
production and distribution of electricity, gas, and water	3 926	4 596.7	4 417	4 462.5	4 256.3
construction	644.1	29.4	664.8	280.4	96.9
wholesale and retail trade, repair of	-	-	-	-	-

### 6.38 Share of normatively treated wastewater in the total volume of wastewater

	in percent				
	2020	2021	2022	2023	2024
Share of normatively treated wastewater (with additional treatment) in the total volume of wastewater nationwide	65.8	65.2	50.7	61.1	60.4
of which in urban areas	67.2	66.4	51.5	62.3	61.3

### 6.39 Share of basin councils with rules and procedures for citizen participation in water resource management

	in percent				
	2020	2021	2022	2023	2024
Share of basin councils with rules and procedures for citizen participation in water resource management	-	-	-	-	100

## 6.40 Water use in large reservoirs for the year 2024

Reservoir Name	Region	River or Area of Reservoir Formation	Design Volume of Reservoir	Volume at the Beginning of the Previous Year	Inflow Since the Beginning of the Year	Expenditure, km <sup>3</sup>				Filling (+), Drawdown (-)	Volume at the Beginning of the Current Year
						Total	Water Intake from Reservoir	Releases Downstream	Losses Due to Filtration and Evaporation		
Kapshagai	Almaty Region	Ile River	18.45	16.47	14.595	16.099	-	14.53	1.569	+0.32	16.79
Kurti	Almaty Region	Kurti River	0.12	0.03444	0.19534	0.17538	-	0.16584	0.00954	+0.01996	0.0544
Bartogai	Almaty Region	Shelek River	0.32	0.184	1.44282	1.44052	-	1.39544	0.04508	+0.0023	0.1863
Bestobe	Almaty Region	Kegen River	0.238	0.07736	1.03099	0.985159	-	0.950678	0.034481	+0.04584	0.1232
Astana	city of Astana	Yesil River	0.410	0.285	0.304	0.565	0.109	0.409	0.046		0.339
Sergeevka	North Kazakhstan Region	Yesil River	0.693	0.609	0.701	9.29	0.010	9.26	0.020	+0.088	0.697
Petropavl	North Kazakhstan Region	Yesil River	0.0245	0.0217	0.023	9.46	0.027	9.42	0.010	+0.010	0.0243
Sileti	Akmola Region	Sileti River	0.230	0.166	0.160	0.470	0.0207	0.417	0.0324	-0.004	0.162
Shagalaly	city of Kokshetau	Shagalaly River	0.028	0.023	0.0158	0.0148	0.009	0.135	0.0036	-0.003	0.020
Aktobe	Aktobe Region	Elek River	0.245	0.143	0.524	0.634	0	0.634	0	+0.102	0.245
Kargaly	Aktobe Region	Kargaly River	0.280	0.150	0.317	0.382	0	0.382	0	+0.130	0.280
Bukhtarma	East Kazakhstan Region	Irtys River	49.62	30.4	33.136	24.445	0.002	20.248	4.195	+8.691	39.112
Shulbi	Abai District	Irtys River	2.780	2.241	32.870	32.799	0.003	32.571	0.225	0.071	2.312
Oskemen	East Kazakhstan Region	Irtys River	0.655	0.634	20.028	20.029	0.0001	20.066	-0.037	-0.002	0.632
Uydene	East Kazakhstan Region	Irtys River	0.076	0.011	0.164	0.164	0.014	0.145	0.004	0.0002	0.011
Kandysu	East Kazakhstan Region	East Kazak	0.044	0.002	0.155	0.155	0.000	0.155	0.000	0.000	0.002
Shar	East Kazakhstan Region	Char Riverp	0.080	0.026	0.393	0.418	0.007	0.407	0.004	-0.025	0.001
Eginsu	Abai District	Eginsu River	-	-	-	-	-	-	-	-	-
Tasoikel	Zhambyl Region	Shu River	0.62	0.3008	1.909	1.908	0.274	1.61	0.024	0.024	300.8
Yntaly	Zhambyl Region	Shabakty River	0.03	0.0037	0.026	0.026	0.016	0.010	0	+0.000132	0.0038
Kakpatas	Zhambyl Region	Kakpatas River	0.0105	0.00082	0.019	0.0188	0.0109	0.0079	0	+0.000451	0.001
Karakonyz	Жамбылская область	Река Какпатак	0.0105	0.00082	0.019	0.0188	0.0109	0.0079	0	+0.000451	0.001
Teris-Ashchybulak	Zhambyl Region	Karakonyz River	0.0085	0.0042	0.067	0.068	0.0126	0.055	0	-0.0000896	0.003
Samarkand	Zhambyl Region	Teris River	0.158	0.037	0.262	0.251	0.248	0.003	0.0027	+0.014	0.048
Sherubai-Nura	Karaganda Region	Nura River	0.2537	0.206	0.93084	0.91091	0.03532	0.84523	0.03036	0.01993	0.213
Ashchysu	Karaganda Region	Sherubai-Nura River	0.274	0.2017	0.63848	0.58069	0.00157	0.550	0.02912	0.05778	0.242
Dartas	Karaganda region	Ashchysu River	0.02	0.0108	0.2333	0.22915	0	0.22615	0.003	0.00416	0.00915
Untumak	Karaganda region	Sherubainura River	0.01051	0.001951	0.622279	0.621887	0.025262	0.592135	0.00449	0.000392	0.00893
Zizdi	Karaganda region	Nura River	0.190	0.076	1.57657	1.57203	0	1.56295	0.00907	0.00454	0.06946
Aktast	Ulytau district	Zhezdy River	0.076	0.030	0.16761	0.14721	0	0.13053	0.01668	0.0204	0.065
Gogari-Tobol	Ulytau district	Aktasty River	0.077	0.015730	0.024236	0.010156	0	0.009215	0.00941	0.014	0.0226
	Kostanay region	Tobol River	0.8166	0.532	1.124	1.071	0.004	1.010	0.057	+0.053	0.585

Reservoir Name	Region	River or Area of Reservoir Formation	Design Volume of Reservoir	Volume at the Beginning of the Previous Year	Inflow Since the Beginning of the Year	Expenditure, km <sup>3</sup>				Filling (+), Drawdown (-)	Volume at the Beginning of the Current Year
						Total	Water Intake from Reservoir	Releases Downstream	Losses Due to Filtration and Evaporation		
Karatomar	Kostanay region	Tobol River	0.586	0.315	1.933	1.953	0.019	1.899	0.035	- 0.02	0.295
Zhelkuar	Kostanay region	Zhelkuar River	0.0288	0.024	0.710	0.713	0.002	0.702	0.009	- 0.003	0.021
Akzhar	Kostanay region	Akzhar River	0.0164	0.0115	0.049	0.049	-	0.046	0.003	0	0.0115
Kirow	Западно- West Kazakhstan region	Kushum River	0.0629	0.040	0.737	0.754	0.0788	0.621	0.0547	-0.0017	0.0225
Bitik	West Kazakhstan region	Kushum River	0.1067	0.0235	0.6212	0.609	0.0	0.592	0.017	0.0117	0.0353
Dongilik	West Kazakhstan region	Kushum River	0.0574	0.026	0.592	0.588	0.0934	0.479	0.0159	0.003	0.0291
Petimarskoi	West Kazakhstan region	Kushum River	0.0333	0.025	0.479	0.479	0.0472	0.424	0.0075	0.0	0.0259
Shardara	Turkistan region	Syrdarya River	5.2	2.3	14.9	12.8	1.8	10.3	0.7	2.1	4.4
Badam	Shymkent city	Badam River	0.0615	0.0259	0.0488	0.0547	0.0117	0.0400	0.003	-0.0059	0.020
Bogen	Turkistan region	Bogen/Arys Rivers	0.37	0.193	0.898	0.908	0.468	0.328	0.112	-0.01	0.183
Kapshagay	Karachik River	Shayan River	0.0345	0.0052	0.0815	0.0821	0.0299	0.0505	0.0017	0.0004	0.0046
Kohkorgan	Turkistan region	Karachik River	0.0373	0.001	0.0927	0.0927	0.04363	0.0457	0.00337	0	0.001
Bessaryk	Kyzylorda region	Bessaryk River	0.015	0.0009	0.02574	0.02445	0.00425	0.014	0.0062	+0.0013	0.00138

### 6.41 Changes in Water Reserves and Levels in the Reservoirs of the Republic of Kazakhstan for 2024

Name	Long-term average		Water Reserve, km <sup>3</sup>			Water Level, m		
	Volume, km <sup>3</sup>	Level, m	on January 1 of the Previous Year	on January 1 of the Current Year	Annual Change	on January 1 of the Previous Year	on January 1 of the Current Year	Annual Change
Kapshagay Reservoir	16 470	477.48	15.9	16.5	+5.7	477.02	477.48	+0.46
Bukhtarma Reservoir	37.33	392.37	26.363	30.421	+4.058	389.92	390.90	+0.98
Shardara Reservoir	2.96	248.66	2.3	4.4	+2.1	247.37	250.9	+3.53

### 6.42 The number and area of the open part of the glaciers of Kazakhstan

Basin	1955		2018		2024	
	Number	Area.km <sup>2</sup>	Number	Area.km <sup>2</sup>	Number	Area.km <sup>2</sup>
Balkhash-Alakol	2117	1583	2055	897	-	-
Irtys	341	86	149	50	-	-
Aral-Syrdarrya	243	85	212	54	-	-
Shy-Talas	49	14	64	13	-	-
Total	2750	1768	2480	1014	2400	930

\*According to the data of the Central Asian Regional Glaciological Center of category 2 under the auspices of UNESCO, according to the basins of the glaciers of the USSR

### 6.43 Reduction of surface water bodies

	km <sup>3</sup> /year				
	2020	2021	2022	2023	2024
Aral sea	21.6	20.1	18.9	20.49	26.02
Caspian Sea	-	10.9	12.8	13.1	18.3

### 6.44 Adaptation in coastal zones or river basins

	units	
	2023	2024
Hydraulic structures	1 502	1 395
Satisfactory	998	835
Unsatisfactory	480	540
Emergency	24	20

## 7. Atmospheric air

### 7.1 Air quality in urban areas\*

	Atmospheric pollution index (API5)				
	2020	2021	2022	2023	2024
Aktau	4.0	6.0	9.0	5.0	4.0
Aktobe	7.0	7.0	2.0	2.3	2.0
Almaty	7.0	7.0	5.0	5.9	5.8
Astana city	7.0	7.0	9.0	7.0	11
Atyrau	7.0	7.0	1.0	3.5	2.1
Balkhash	7.0	7.0	2.0	2.0	1.7
Glubokoe village	5.0	4.0	3.0	2.6	2.7
Zhezkazgan	7.0	6.0	5.0	5.9	6.2
Karagandy	7.0	11.0	13.0	16	13
Kostanay	3.0	4.0	8.0	4.6	4.8
Kyzylorda	2.0	3.0	5.0	5.2	3.1
Pavlodar	3.0	3.0	3.0	4.0	3.0
Petropavlovsk	4.0	3.0	4.0	3.7	3.4
Rydder	5.0	3.0	2.0	2.0	2.2
Semei	5.0	2.0	5.0	-	3.4
Taraz	4.0	5.0	3.0	4.2	4.1
Temirtau	8.0	8.0	8.0	9.1	9.3
Ust-Kamenogorsk	7.0	7.0	7.0	4.8	7.3
Shymkent	7.0	7.0	5.0	4.0	7.0
Ekibastuz	2.0	1.0	2.0	1.0	1.0

\*Hereinafter, according to RGP "Kazhydromet" of the Ministry of Ecology and Natural Resources of the Republic of Kazakhstan.

### 7.2 Air quality in urban areas

	mg/m <sup>3</sup>				
	2020	2021	2022	2023	2024
<b>Karagandy city</b>					
Dust - Average Daily MPC	0.15	0.058	0.13	0.13	0.21
Dust - the average annual value of the MPC, the MPC multiplicity	0.33	0.386	0.85	0.89	1.42
Dust - Annual Average Concentration	0.05	1.0	2.00	2.4	4.5
Dust - Maximum Daily Average Concentration	0.7	2.0	4.0	4.8	9
Dust - the number of cases exceeding more than 1 MPC	27	21	106	138	1416
<b>SO<sub>2</sub> - sulfur dioxide</b>					
Average daily MPC	0.05	0.024	0.02	0.02	0.02
Average annual value of the MPC, the rate of excess MPC	0.47	0.488	0.46	0.40	0.37
Annual concentration	0.02	0.42	1.25	2.68	0.1
Maximum daily average concentration	0.26	0.84	2.5	5.35	0.21
<b>NO<sub>2</sub> - nitrogen dioxide</b>					
Average daily MPC	0.04	0.036	0.05	0.04	0.03
Average annual value of the MPC, the rate of excess MPC	0.8	0.898	1.3	1.0	0.79
Annual concentration	0.03	0.375	1.51	2.22	0.27
Maximum daily average concentration	0.19	1.873	7.5	11.1	1.35
The number of cases with excess of more than 1 MPC	-	13	4012	1614	2
<b>NO<sub>x</sub> - nitrogen oxides</b>					
Average daily MPC	0.06	0.009	0.03	0.02	0.02
Average annual value of the MPC, the rate of excess MPC	0.08	0.149	0.42	0.30	0.39
Annual concentration	0.01	0.430	2.22	2.22	2.18
Maximum daily average concentration	0.67	1.075	5.6	5.6	5.46
<b>CO - carbon monoxide</b>					
Average daily MPC	3.0	0.978	1.01	1.17	1.19
Average annual value of the MPC, the rate of excess MPC	0.4	0.326	0.34	0.39	0.4
Annual concentration	1.27	16.6	16.90	20.8	20.7
Maximum daily average concentration	45.19	2.72	3.4	4.2	4.1
The number of cases with excess of more than 1 MPC	837	477	767	669	698

## 7.3 The concentration of ground-level ozone in cities

	2020	2021	2022	2023	2024
					mg/m <sup>3</sup>
Astana city	-	0.053	0.09	0.06	0.10
Almaty	-	0.024	0.01	0.04	0.04
Shymkent	0.014	0.017	0.007	0.009	-
Kokshetau	-	-	-	-	-
Aktobe	0.0450	-	-	-	-
Taldykorgan	-	-	-	-	-
Atyrau	0.043	0.0273	0.0202	0.03	0.0332
Oral	0.03	0.017	0.021	0.01	0.01
Taraz	0.02	0.04	0.001	-	-
Karagandy	0.03	0.03	0.04	0.02	0.03
Balkhash	0.06	-	-	-	-
Zheskazgan	0.01	-	-	-	0.01
Temertau	-	-	-	-	-
Kostanay	-	-	0.0292	0.0523	0.0037
Arkalyk	-	0.0214	0.0048	0.0031	0.0830
Rudnyi	-	-	-	-	-
Kyzylorda	-	0.0325	0.0537	0.04	0.01
Aktau	0.030	0.07	0.09	0.01	0.01
Pavlodar	0.0277	0.02	0.02	0.01	0.0217
Aksu	-	-	-	-	-
Ekibastuz	-	-	-	-	-
Petropavl	0.037	0.032	0.045	0.0343	-
Ust-Kamenogorsk	0.0411	0.06	0.07	0.038	0.053
Rydder	0.0398	-	-	-	-
Semey	0.0346	-	-	-	0.0305
Glubokoe village	0.0524	-	-	-	-

## 7.4 The concentration of suspended particles (PM-10) in cities (average concentration)

	2020	2021	2022	2023	2024
					mg/m <sup>3</sup>
Astana city	0.0599	0.047	0.06	0.04	0.08
Almaty	0.042	0.047	0.04	0.02	0.03
Shymkent	0.076	0.036	0.007	0.0053	-
Kokshetau	0.003	0.047	0.03	0.03	0.022
Aktobe	0.0208	0.098	0.0006	0.0005	0.0015
Taldykorgan	0.057	0.041	0.08	0.01	0.009
Atyrau	0.056	0.0083	0.005	0.02	0.0092
Uralsk	0.02	0.010	-	-	-
Taraz	0.022	0.035	0.005	-	-
Karagandy	0.04	0.16	0.18	0.27	0.19
Balkhash	0.03	0.16	0.00	-	-
Zhezkazgan	-	0.09	0.008	0.01	0.007
Temirtau	0.02	0.063	0.04	0.05	0.07
Kostanay	0.03	0.05	0.0682	0.0046	0.0488
Arkalyk	-	0.0146	0.0108	-	-
Rudny	0.00	0.0	0.00	0.00	-
Kyzylorda	0.001	0.0142	0.0696	0.05	0.01
Aktau	0.105	0.10	0.11	0.20	0.20
Pavlodar	0.0171	0.04	0.04	0.11	-
Aksu	-	0.02	0.00	0.00	-
Ekibastuz	0.00	0.02	0.03	0.01	-
Petropavlovsk	0.007	0.006	0.003	0.002	-
Ust-Kamenogorsk	0.0476	0.028	0.038	0.002	0.0014
Ridder	0.0498	0.019	0.008	0.002	0.0
Semey	0.0214	0.016	0.04	-	-
Glubokoe kenti	0.0183	0.028	0.03	-	-

## 7.5 The concentration of suspended particles (PM-2.5) in cities (average concentration)

	2020	2021	2022	2023	2024
					mg/m <sup>3</sup>
Astana city	0.05	0.036	0.05	0.03	0.06
Almaty	0.034	0.036	0.03	0.02	0.02
Shymkent	0.048	0.023	0.004	0.0090	-
Kokshetau	0.003	0.038	0.02	0.02	0.017

Continuation

	2020	2021	2022	2023	2024
Aktobe	0.0136	0.1257	0.0016	0.0015	0.0014
Taldykorgan	-	0.06	0.10	0.02	0.001
Atyrau	0.035	0.088	0.0051	0.02	0.0099
Uralsk	0.003	0.004	-	-	-
Taraz	-	0.030	0.002	-	-
Karagandy	0.04	0.152	0.18	0.27	0.18
Balkhash	0.03	0.06	0.00	-	-
Zhezkazgan	-	-	0.003	-	0.003
Temirtau	0.02	0.036	0.04	0.05	0.07
Kostanay	0.00	0.1	0.0682	0.0105	0.0488
Arkalyk	-	0.0105	0.0057	-	-
Rudny	-	-	-	-	-
Kyzylorda	0.001	0.0013	0.0084	0.01	0.00
Aktau	0.013	0.01	0.006	0.004	0.001
Pavlodar	0.0072	0.01	0.01	0.01	-
Aksu	-	-	-	-	-
Ekibastuz	-	-	-	-	-
Petropavlovsk	0.004	0.002	0.002	0.002	-
Ust-Kamenogorsk	-	0.025	0.029	0.002	0.0012
Ridder	-	-	-	-	-
Semey	0.0169	-	-	-	-
Glubokoe kenti	0.0149	0.019	0.018	-	-

### 7.6 The quality of atmospheric air of cities depending on the influence of industries

air pollution index (API)

City/ Industries that have an impact on air pollution	2020	2021	2022	2023	2024
<b>Aktau</b>					
chemical	4.0	6	9	5	4
<b>Aktobe</b>					
ferrous metallurgy, chemical	7.0	7	2	2.3	2
<b>Almaty</b>					
energy, automotive industry	7.0	7	5	5.9	5.8
<b>Astana</b>					
energy, automotive industry	7.0	7	9	7	11
<b>Atyrau</b>					
oil refining	7.0	7	1	3.5	3.1
<b>Balkhash</b>					
non-ferrous metallurgy, energy	7.0	7	2	2	1.71
<b>Zhezkazgan</b>					
non-ferrous metallurgy, energy	7.0	6	5	5.9	6.2
<b>Karagandy</b>					
energy, coal mining, automotive industry	7.0	11	13	16	13
<b>Kostanay</b>					
energy	3.0	4	8	4.6	4.8
<b>Ridder</b>					
non-ferrous metallurgy, energy	5.0	3	2	2	2.2
<b>Pavlodar</b>					
oil refining, energy	3.0	3	3	4	3
<b>Petropavl</b>					
energy, instrumentation	4.0	3	3	3.7	3.4
<b>Semey</b>					
energy, construction materials	5.0	2	5	-	5.4
<b>Taraz</b>					
chemical	4.0	5	3	4.2	4.2
<b>Temirtau</b>					
ferrous metallurgy, chemical	8.0	8	8	9.1	9.3
<b>Uralsk</b>					
energy	2.0	2	2	1.5	2
<b>Ust-Kamenogorsk</b>					
non-ferrous metallurgy, energy	7.0	7	7	4.8	7.3
<b>Shymkent</b>					
non-ferrous metallurgy, chemical, oil refining	7.0	7	5	4	7
<b>Ekibastuz</b>					
energy, coal mining	2.0	1	2	1	1

## 7.7 Pollution of the air basin of cities of Kazakhstan in 2024

	Atmospheric pollution index (API5)	Name of impurities exceeding MPC	Average concentration		Maximum concentration	
			mg/m3	frequency ratio exceeding the maximum permissible concentration	mg/m3	frequency ratio exceeding the maximum permissible concentration
Aktau	4 Low	Suspended solids(dust)	0.03	0.22	0.30	0.60
		Suspended solids PM-2.5	0.001	0.04	0.020	0.12
		Suspended solids PM-10	0.20	3.35	0.21	0.71
		Sulfur dioxide	0.01	0.21	0.05	0.11
		Carbon monoxide	0.53	0.18	6.45	1.29
		Nitrogen dioxide	0.02	0.52	0.07	0.35
		Nitric oxide	0.01	0.20	0.09	0.23
		Hydrogen sulfide	0.01	0.19	0.08	0.52
		Ozone	0.003		0.05	5.7
		Sulfuric acid	0.04	0.40	0.09	0.30
Aktobe	2 Low	Suspended solids(dust)	0.0135	0.0899	0.1000	0.2000
		Suspended solids PM-2.5	0.0014	0.0392	0.0015	0.0094
		Suspended solids PM-10	0.0015	0.0253	0.0017	0.0057
		Sulfur dioxide	0.0025	0.0498	0.0500	0.1000
		Carbon monoxide	0.5406	0.1802	46.0004	9.2001
		Nitrogen dioxide	0.0386	0.9652	0.6396	3.1980
		Nitric oxide	0.0314	0.5229	0.3855	0.9638
		Hydrogen sulfide	0.0021		0.1705	21.3125
		Formaldehyde	0.0030	0.2971	0.0060	0.1200
		Chromium	0.0003	0.2175	0.0030	
		Suspended solids(dust)	0.15	1.0	0.66	1.3
		Suspended solids PM-2.5	0.02	0.64	0.92	5.7
		Suspended solids PM-10	0.03	0.46	0.93	3.1
		Sulfur dioxide	0.03	0.65	1.37	2.7
		Carbon monoxide	0.86	0.29	28.68	5.7
		Nitrogen dioxide	0.06	1.6	1.02	5.1
		Nitric oxide	0.05	0.78	1.00	2.5
		Ozone	0.04	1.3	1.26	7.9
		Hydrogen sulfide	0.001	0.34	0.008	0.80
		Almaty	5.8 Increased	Fenol	0.01	0.76
Formaldehyde	0.007			0.07	0.02	0.07
Benzol	0.005				0.01	0.10
ChlorideBenzol	0.005				0.01	0.50
Ethylbenzene	0.0006			0.56	0.001	
Benzopyrene	0.01				0.02	0.10
Paraxylene	0.00				0.02	0.10
Metaxylene	0.00				0.02	0.10
Orthoxylene	0.01				0.02	1.43
Cemene	0.001			0.00		
Cadmium	0.015			0.05		
Lead	0.001			0.00		
Arsenic	0.005			0.00		
Chromium	0.012			0.01		
Copper	0.001			0.00		
Nickel	0.033			0.00		
Zinc	0.033			0.00		

	Atmospheric pollution index (API5)	Name of impurities exceeding MPC	Average concentration		Maximum concentration	
			mg/m3	frequency ratio exceeding the maximum permissible concentration	mg/m3	frequency ratio exceeding the maximum permissible concentration
Astana	11 High	Suspended solids(dust)	0.20	1.3	2.09	4.2
		Suspended solids PM-2.5	0.06	1.8	1.08	6.7
		Suspended solids PM-10	0.08	1.3	1.30	4.3
		Sulfur dioxide	0.05	1.0	2.00	4.0
		Carbon monoxide	0.36	0.1	15.87	3.2
		Nitrogen dioxide	0.04	1.0	0.99	4.9
		Nitric oxide	0.02	0.3	1.00	2.5
		Hydrogen sulfide	0.01		0.09	11.3
		Ozone	0.10	3.2	1.12	7.0
		Hydrogen fluoride	0.0003	0.05	0.007	0.4
		Benzopyrene	0.00008	0.08	0.0003	
		Benzol	0.00	0.0	0.00	0.0
		Ethylbenzene	0.00		0.00	0.0
		ChlorideBenzol	0.00		0.00	0.0
		Paraxylene	0.00		0.00	0.0
		Metaxylene	0.00		0.00	0.0
		Cemene	0.00		0.00	0.0
		Orthoxylene	0.00		0.00	0.0
		Cadmium	0.0001	0.5		
		Copper	0.001	0.5		
		Lead	0.0002	0.5		
		Zinc	0.004	0.1		
		Chromium	0.0006	0.4		
Arsenic	0.00	0.0				
Atyrau	3.1 Low	Suspended solids(dust)	0.02	0.14	0.7	1.4
		Suspended solids PM-2.5	0.0099	0.28	0.1834	1.1
		Suspended solids PM-10	0.0092	0.15	0.1946	0.6
		Sulfur dioxide	0.007	0.13	0.1300	0.3
		Carbon monoxide	0.18	0.06	8.00	1.6
		Nitrogen dioxide	0.02	0.46	0.68	3.4
		Nitric oxide	0.0159	0.26	0.35	0.9
		Ozone	0.0266	0.89	0.4225	2.6
		Hydrogen sulfide	0.0012		0.0210	2.6
		Fenol	0.002	0.71	0.005	0.5
		Ammonium	0.002	0.06	0.1340	0.7
		Formaldehyde	0.002	0.20	0.010	0.2
		Benzol	0.000	0.00	0.000	0.0
		Толуол	0.000		0.001	0.0
		Ethylbenzene	0.000	0.00	0.000	0.0
		Orthoxylene	0.000		0.000	0.0
		Suspended solids(dust)	0.07	0.46	0.40	0.80
		Sulfur dioxide	0.05	0.97	1.22	2.45
		Carbon monoxide	0.44	0.15	5.64	1.13
		Nitrogen dioxide	0.006	0.15	0.04	0.20
		Nitric oxide	0.001	0.02	0.02	0.05
		Hydrogen sulfide	0.001		0.06	7.49
		Balkhash	1.71 Low	Ammonium	0.0000012	0.04
Cadmium	0.00023			0.758		
Lead	0.0000016			0.005		
Arsenic	0.000007			0.0005		
Chromium	0.0000061			0.003		
Copper	0.0000199			0.01		
Suspended solids(dust)	0.0487			0.32		
Village Glubokoe	2.7 Low	Sulfur dioxide	0.0614	1.23	0.09	0.18
		Carbon monoxide	0.3432	0.11	6.4763	1.30
		Nitrogen dioxide	0.0275	0.69	0.090	0.45
		Nitric oxide	0.0050	0.08	0.009	0.02
		Fenol	0.0013	0.44	0.009	0.90

Continuation

	Atmospheric pollution index (API5)	Name of impurities exceeding MPC	Average concentration		Maximum concentration		
			mg/m3	frequency ratio exceeding the maximum permissible concentration	mg/m3	frequency ratio exceeding the maximum permissible concentration	
Zhezkazgan	6.2 Increased	Suspended solids(dust)	0.28	1.9	0.60	1.2	
		Suspended solids PM-2.5	0.003	0.1	0.07	0.4	
		Suspended solids PM-10	0.007	0.1	0.21	0.7	
		Sulfur dioxide	0.02	0.3	0.47	0.9	
		Carbon monoxide	0.29	0.1	5.00	1.0	
		Nitrogen dioxide	0.04	1.0	0.08	0.4	
		Nitric oxide	0.01	0.2	0.02	0.1	
		Ozone	0.009	0.3	0.12	0.8	
		Fenol	0.007	2.2	0.02	2.0	
		Hydrogen sulfide	0.002		0.024	3.1	
		Cadmion	0.0000257	0.09			
		Lead	0.000242	0.81			
		Chromium	0.00000001	0.0008			
		Arsenic	0.0000002	0.01			
		Copper	0.000114	0.057			
Karagandy	13 high	Suspended solids(dust)	0.21	1.42	4.50	9.00	
		Suspended solids PM-2.5	0.18	5.2	4.25	26.6	
		Suspended solids PM-10	0.19	3.2	4.26	14.2	
		Sulfur dioxide	0.02	0.37	0.10	0.21	
		Carbon monoxide	1.19	0.40	20.70	4.1	
		Nitrogen dioxide	0.03	0.79	0.27	1.35	
		Nitric oxide	0.02	0.39	2.18	5.46	
		Ozone	0.03	1.11	0.28	1.73	
		Hydrogen sulfide	0.004		0.08	9.4	
		Ammonium	0.0077	0.19	0.382	1.91	
		Fenol	0.004	1.5	0.02	2.20	
		Formaldehyde	0.01	1.13	0.05	1.08	
		Gamma-ray background	0.11		0.25		
		Arsenic	0	0			
		Kostanay	4.81 Low	Suspended solids(dust)	0.0000	0.00	0.0000
Suspended solids PM-2.5	0.0488			1.39	0.3190	1.99	
Suspended solids PM-10	0.0488			0.81	0.3282	1.09	
Sulfur dioxide	0.0710			1.42	4.8633	9.73	
Carbon monoxide	0.3687			0.12	46.9152	9.38	
Nitrogen dioxide	0.0580			1.45	0.8005	4.00	
Ozone	0.0037			0.12	0.0053	0.03	
Hydrogen sulfide	0.0008				0.0075	0.94	
Nitric oxide	0.0202			0.34	0.4915	1.23	
Suspended solids(dust)	0.03			0.20	0.11	0.22	
Suspended solids PM-2.5	0.00			0.02	0.09	0.55	
Suspended solids PM-10	0.01			0.13	0.30	0.99	
Sulfur dioxide	0.05			1.01	0.21	0.42	
Carbon monoxide	0.51			0.17	4.94	0.99	
Nitrogen dioxide	0.04			0.99	0.20	1.0	
Nitric oxide	0.01	0.15	0.39	0.97			
Ozone	0.04	1.23	0.16	1.0			
Kyzylorda	3.2 Low	Suspended solids(dust)	0.11	0.72	0.90	1.80	
		Ammonie	0.005	0.12	0.16	0.79	
		Nitrogen dioxide	0.01	0.32	0.57	2.84	
		Sulfur dioxide	0.01	0.16	0.52	1.04	
		Nitric oxide	0.01	0.15	1.83	4.59	
		Carbon monoxide	0.40	0.13	46.74	9.35	
		Hydrogen sulfide	0.001		0.02	2.98	
		Ozone (ground-level)	0.0217	0.72	0.66	4.12	
		Phenol	0.001	0.34	0.02	1.60	
		Chlorine	0.00	0.10	0.07	0.70	
		Hydrogen chloride	0.05	0.54	0.48	2.40	
		Pavlodar	3 Low				

	Atmospheric pollution index (API5)	Name of impurities exceeding MPC	Average concentration		Maximum concentration	
			mg/m3	frequency ratio exceeding the maximum permissible concentration	mg/m3	frequency ratio exceeding the maximum permissible concentration
Petropavlovsk	3.41 Low	Suspended solids(dust)	0.00	0.01	0.22	0.43
		Sulfur dioxide	0.00	0.08	0.46	0.93
		Carbon monoxide	0.54	0.18	17.87	3.6
		Nitrogen dioxide	0.03	0.72	0.48	2.4
		Nitric oxide	0.01	0.23	0.93	2.33
		Nitric oxide	0.01		0.93	2.33
		Hydrogen sulfide	0.002		0.08	9.8
		Ozone (ground-level)	0.0380	1.27	0.183	1.14
		Phenol	0.002	0.73	0.008	0.80
		Formaldehyde	0.01	0.53	0.03	0.6
		Suspended particles (dust)	0.0781	0.52	0.200	0.40
		Phenol	0.0011	0.36	0.004	0.40
		Formaldehyde	0.0016	0.16	0.006	0.12
		Suspended particles PM-10	0.0	0.0	0.0	0.0
		Ridder	2.2 Low	Nitrogen dioxide	0.0314	0.79
Sulfur dioxide	0.0265			0.53	1.7596	3.52
Carbon monoxide	0.4127			0.14	32.6481	6.53
Hydrogen sulfide	0.0024				0.0352	4.40
Nitric oxide	0.0036			0.06	0.314	0.79
Ammonia	0.0104			0.26	0.1906	0.95
Lead	0.000148			0.5		
Cadmium	0.000026			0.1		
Zinc	0.000318			0.01		
Copper	0.000023			0.01		
Beryllium	0.00000067			0.01		
Sulfur dioxide	0.0177			0.35	2.2493	4.50
Carbon monoxide	0.5862			0.20	13.5065	2.70
Nitrogen dioxide	0.0705			1.76	0.347	1.74
Nitric oxide	0.0191			0.32	1.2789	3.20
Semey	3.4 Low	Hydrogen sulfide	0.0016		0.038	4.75
		Ozone	0.0305	0.51	0.065	0.22
		Suspended particles (dust)	0.13	0.84	0.9	1.80
		Sulfur dioxide	0.012	0.25	0.441	0.88
		Carbon monoxide	1.03	0.34	13.1	2.62
		Nitrogen dioxide	0.06	1.54	0.18	0.90
		Nitric oxide	0.04	0.61	0.12	0.30
		Hydrogen fluoride	0.002	0.48	0.030	1.50
		Formaldehyde	0.006	0.62	0.041	0.82
		Hydrogen sulfide	0.001		0.031	3.85
		Benzopyrene	0.000025	0.25	0.0007	
		Lead	0.000022	0.075	0.000091	
		Manganese	0.000064	0.064	0.000286	
		Cadmium	0	0	0	
		Cobalt	0	0	0	
Taraz	4.15 Low	Suspended solids(dust)	0.24	1.6	0.60	1.2
		Suspended solids PM-2.5	0.07	2.1	0.25	1.6
		Suspended solids PM-10	0.07	1.2	0.25	0.8
		Sulfur dioxide	0.02	0.3	0.10	0.2
		Carbon monoxide	0.31	0.1	12.9	2.6
		Nitrogen dioxide	0.04	0.9	0.46	2.3
		Nitric oxide	0.02	0.4	0.63	1.6
		Hydrogen sulfide	0.001		0.04	5.4
		Fenol	0.008	2.5	0.035	3.5
		Ammonium	0.04	1.0	0.11	0.6
		Mercury	0.00	0.0	0.00	
		Cadmium	0.0000129	0.04		
		Lead	0.0000035	0.01		
		Arsenic	0	0		
		Temirtau	9.1 High	Chromium	0.0000021	0.014
Copper	0.000003			0.02		

Continuation

	Atmospheric pollution index (API5)	Name of impurities exceeding MPC	Average concentration		Maximum concentration	
			mg/m3	frequency ratio exceeding the maximum permissible concentration	mg/m3	frequency ratio exceeding the maximum permissible concentration
Ust-Kamenogorsk	7.3 High	Suspended solids PM-2.5	0.0012	0.03	0.24	1.50
		Suspended solids PM-10	0.0014	0.02	0.345	1.15
		Sulfur dioxide	0.0438	0.88	3.3046	6.61
		Carbon monoxide	0.4760	0.16	12.3462	2.47
		Nitrogen dioxide	0.0537	1.34	0.585	2.93
		Nitric oxide	0.0877	1.46	0.7704	1.93
		Ozone	0.0530	1.77	0.1599	1.00
		Hydrogen sulfide	0.0019		0.0435	5.44
		Fenol	0.0027	0.92	0.021	2.10
		Formaldehyde	0.0005	0.05	0.013	0.26
		Sulfuric acid	0.0209	0.21	0.64	2.13
		Hydrogen fluoride	0.0055	1.11	0.04	2.00
		Chloride	0.0161	0.54	0.6	6.00
		Hydrogen chloride	0.0733	0.73	0.53	2.65
		Benzopyrene	0.0006	0.60		
		Lead	0.000197	0.7		
		Cadmium	0.000030	0.1		
		Zinc	0.000466	0.01		
		Copper	0.000026	0.01		
		Beryllium	0.00000088	0.01		
Beryllium		0.01	...	...		
Suspended solids(dust)		0.0015	0.01			
Suspended solids		0.2076	1.38	0.4000	0.80	
Sulfur dioxide		0.0110	0.22	3.8840	7.77	
Carbon monoxide		1.8218	0.61	10.0000	2.00	
Nitrogen dioxide		0.0547	1.37	0.6200	3.10	
Nitric oxide		0.0203	0.34	0.0937	0.23	
Hydrogen sulfide		0.0128		1.4866	185.8	
Ammonia		0.0214	0.53	0.0775	0.39	
Formaldehyde		0.0187	1.87	0.0300	0.60	
Benz(a)pyrene		0.0001	0.1			
Cadmium		0.000013	0.043	0.000020		
Copper		0.000013	0.006	0.000022		
Lead		0.000021	0.069	0.000029		
Chromium		0.000001	0.001	0.000002		
Suspended particles (dust)		0.10	0.64	0.30	0.60	
Nitrogen dioxide		0.02	0.61	0.75	3.74	
Sulfur dioxide		0.00	0.06	0.14	0.28	
Nitric oxide		0.01	0.12	0.56	1.39	
Carbon monoxide		0.139	0.05	6.00	1.20	

### 7.8 Atmospheric precipitation

	mm				
	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>					
Average long - term annual precipitation for the period 1961-1990 .			317.7		
Annual precipitation	270.7	271.5	311.2	359.4	391.8
Deviation of the annual amount of precipitation from the long-term average value for the period 1961 - 1990, as a percent	-14.8	-14.5	-2.0	13.1	23.3
Largest monthly amount of precipitation	34.2	44.3	51.2	46.1	53.8
Smallest monthly amount of precipitation	10.2	12.9	10.2	18.3	14.1
<b>Astana</b>					
Average long - term annual precipitation for the period 1961-1990.			318.7		
Annual precipitation	460.6	332.3	268.5	370.8	528.8
Deviation of the annual amount of precipitation from the long-term average value for the period 1961 - 1990, as a percent	44.5	4.3	-15.8	16.3	65.9
Largest monthly amount of precipitation	96.3	52.6	47.0	63.8	114.3
Smallest monthly amount of precipitation	7.3	4.3	7.1	0.6	21

Continuation

	2020	2021	2022	2023	2024
<b>Almaty</b>					
Average long - term annual precipitation for the period 1961-1990 .			661.6		
Annual precipitation	510.0	488.0	640.3	575.4	780.3
Deviation of the annual amount of precipitation from the long-term average value for the period 1961 - 1990, as a percent	-22.9	-26.2	-3.2	-13.0	17.9
Largest monthly amount of precipitation	138.8	111.6	165.7	67.8	128.2
Smallest monthly amount of precipitation	8.7	1.6	2.8	2.8	18.6
<b>Terrain (region) with the largest long-term average amount of precipitation for the period 1961 - 1990: Southern region, Almaty region, Mynzhilki station (3 017 m above sea level)</b>					
Average long - term annual precipitation for the period 1961-1990 .			874.4		
Annual precipitation	671.7	722.0	853.5	963.3	998.5
Deviation of the annual amount of precipitation from the long-term average value for the period 1961 - 1990, as a percent	-23.2	-17.4	-2.4	10.2	14.2
Largest monthly amount of precipitation	134.2	125.5	163.9	151.4	161.9
Smallest monthly amount of precipitation	1.8	6.5	8.2	14.2	16.3
<b>Terrain (region) with the Lowest long-term average amount of precipitation for the period 1961 - 1990: Southern region, Kyzylorda region, Ciric-Rabat station (88 m above sea level)</b>					
Average long - term annual precipitation for the period 1961-1990 .			118.6		
Annual precipitation	66.4	59.4	72.2	62.4	63.7
Deviation of the annual amount of precipitation from the long-term average value for the period 1961 - 1990, as a percent	-44.0	-49.9	-39.1	-47.4	-46.3
Largest monthly amount of precipitation	20.0	22.3	15.0	11.4	17.7
Smallest monthly amount of precipitation	0	0	0	0	0.0

### 7.9 Annual precipitation in percent of the norm for the period 1961-1990 by region

in percent

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	85.2	85.5	98.0	113.1	123.3
Abay	-	-	83.6	118.9	130.2
Akmola	103.5	88.0	106.0	125.3	154.5
Aktobe	81.0	86.1	111.2	128.5	123.6
Almaty	72.3	80.0	102.8	97.7	118.0
Atyrau	64.0	71.1	114.9	150.1	123.8
Batys Kazakhstan	73.3	101.2	122.3	130.7	99.9
Zhambyl	66.4	80.0	111.4	85.2	106.5
Zhetisu	-	-	103.1	103.8	114.5
Karagandy	91.8	84.6	78.0	119.6	130.1
Kostanay	107.1	70.6	87.3	126.2	108.3
Kyzylorda	86.3	64.1	77.7	87.3	125.0
Mangystau	64.5	29.9	108.3	115.8	115.6
Pavlodar	104.2	105.2	78.7	109.9	153.3
Soltustik Kazakhstan	93.2	84.5	87.3	116.9	143.2
Turkistan	84.0	77.4	111.6	98	117.6
Ulytau	-	-	86.5	106.5	113.7
Shygys Kazakhstan	90.4	92.0	80.6	121.75	123.9
Astana city	144.5	104.3	84.2	116.3	165.9
Almaty city	77.1	73.8	96.8	87.0	117.9
Shymkent city	93.1	83.8	129.5	106.8	132.4

### 7.10 Monthly precipitation in 2024

mm

	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Aktau	14.6	11.0	34.8	1.0	51.4	1.6	6.4	0.7	1.4	26.2	26.7	27.2
Aktobe	54.8	42.0	20.8	31.2	15.9	46.5	42.0	104.1	0.4	19.1	33.2	18.5
Almaty	40.0	40.9	128.2	107.8	117.7	18.6	81.6	22.9	37.7	69.3	57.9	57.7
Atyrau	15.3	39.0	27.2	10.0	32.8	20.7	7.8	3.7	2.2	16.2	32.3	14.2
Astana	43.9	30.2	21.0	21.6	77.7	46.7	28.9	114.3	35.6	40.5	38.0	30.4

Continuation

	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Zhezkazgan	22.3	18.2	20.8	0.9	17.7	1.7	17.3	7.2	1.6	35.0	26.3	11.5
Taraz	38.1	43.8	34.0	68.3	22.6	2.6	21.6	0.3	13.0	48.1	57.6	15.2
Karagandy	29.3	27.4	25.2	25.8	80.9	48.2	124.1	30.1	13.6	46.2	36.5	27.7
Kokshetau	31.4	9.9	11.4	21.8	51.9	61.9	51.8	49.0	15.0	15.6	23.7	16.4
Kostanay	45.0	13.3	14.1	31.4	30.2	51.8	56.0	71.3	10.5	8.9	37.0	6.5
Kyzylorda	17.9	4.4	54.1	3.0	42.9	2.4	5.7	3.2	0.7	13.2	17.0	13.0
Konaev	24.8	20.3	25.4	15.5	35.5	6.4	26.8	15.2	5.2	24.3	33.4	14.4
Semey	19.3	36.5	9.7	18.9	53.0	51.8	86.1	20.4	16.4	15.8	38.5	11.4
Uralsk	51.1	20	31.4	14.2	10.6	46.3	41.1	29	0	31.1	32.8	22.2
Ust-												
Kamenogorsk	34.8	53.5	16.7	36.5	64.4	55.1	120.6	50.6	28.6	24.1	50.7	48.3
Pavlodar	24	38.4	25.1	26.9	97.3	18.9	95.2	45	53	25.5	25.7	14.7
Petropavl	38.4	14.9	15.7	18.4	41.8	47.3	148	73.3	16.3	9.7	36.8	23.7
Taldykorgan	44.7	38.1	47.1	21.6	89.9	20.5	31.8	30.5	4.9	53	61.8	43.7
Shymkent	93.8	104.0	127.8	67.8	77.2	8.5	35.2	0.4	2.9	84.3	72	79.8

## 7.11 Annual precipitation per year by region

	mm				
	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	271	272	311	359	392
Abay	-	-	240	342	374
Akmola	337	286	345	407	502
Aktobe	214	227	293	339	326
Almaty	348	385	494	470	568
Atyrau	96	107	173	225	186
Batys Kazakhstan	206	285	344	368	281
Zhambyl	202	244	339	260	325
Zhetisu	-	-	396	398	439
Karagandy	234	215	199	304	331
Kostanay	310	205	253	366	314
Kyzylorda	122	91	110	123	177
Mangystau	92	43	155	165	165
Pavlodar	305	308	230	322	449
Soltustik Kazakhstan	328	298	308	412	505
Turkistan	366	338	487	427	513
Ulytau	-	-	187	230	245
Shygys Kazakhstan	356	363	318	480	488
Astana city	461	332	269	371	529
Almaty city	510	488	640	575	780
Shymkent city	530	477	737	608	754

## 7.12 Snow cover height by region

	cm				
	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	24	30	23	32	28
Abay	-	-	23	41	33
Akmola	55	52	53	47	55
Aktobe	24	32	32	31	26
Almaty	24	38	26	41	23
Atyrau	4	11	7	19	4
Batys Kazakhstan	17	31	27	24	21
Zhambyl	12	24	8	22	12
Zhetisu	-	-	19	34	27
Karagandy	34	33	23	42	33
Kostanay	38	38	38	40	38
Kyzylorda	7	10	6	6	7
Mangystau	1	2	2	5	2
Pavlodar	28	36	26	28	26
Soltustik Kazakhstan	29	48	36	45	41
Turkistan	15	22	14	30	13
Ulytau	-	-	15	22	21
Shygys Kazakhstan	43	42	43	60	48
Astana city	33	46	44	39	36
Almaty city	21	21	14	29	20
Shymkent city	13	22	12	35	21

### 7.13 Air temperature

°C

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>					
Average long-term annual temperature for the period 1961-1990			5.4		
Average annual temperature	7.4	7.0	7.2	8.0	7.2
Deviation of the average annual temperature from the average multi-year values for the period 1961-1990	1.9	1.6	1.8	2.6	1.7
Highest average monthly temperature	23.8	24.2	23.4	25.1	23.1
Lowest monthly average temperature	-12.7	-12.9	-11.9	-11.9	-10.5
<b>Astana</b>					
Average long-term annual temperature for the period 1961-1990			2.7		
Average annual temperature	5.6	4.3	5.0	6.2	4.9
Deviation of the average annual temperature from the average multi-year values for the period 1961-1990	2.9	1.6	2.3	3.5	2.2
Highest average monthly temperature	22.1	21.7	21.9	24.9	21.8
Lowest monthly average temperature	-15.7	-16.0	-15.3	-14.0	-13.5
<b>Almaty</b>					
Average long-term annual temperature for the period 1961-1990			9.1		
Average annual temperature	10.7	11.5	12.0	12.0	11.4
Deviation of the average annual temperature from the average multi-year values for the period 1961-1990	1.6	2.4	2.9	2.9	2.3
Highest average monthly temperature	24.3	27.2	26.4	27.2	25.6
Lowest monthly average temperature	-6.3	-5.7	-4.5	-6.6	-3.9
<b>Terrain (region) with the highest long-term average temperature of 1961 - 1990: Southern region, South Kazakhstan region, Shardara station (271m above sea level)</b>					
Average long-term annual temperature for the period 1961-1990			13.6		
Average annual temperature	14.5	15.5	15.2	16.0	15.3
Deviation of the average annual temperature from the average multi-year values for the period 1961-1990	0.9	1.9	1.6	2.4	1.7
Highest average monthly temperature	29.4	30.8	30.4	31.4	30.2
Lowest monthly average temperature	-2.3	-0.4	-8.0	-6.3	-0.3
<b>Terrain (region) with the lowest long-term average temperature of 1961 - 1990: Southern region, Almaty region, Mynzhilki station (3017m above sea level)</b>					
Average long-term annual temperature for the period 1961-1990			-1.8		
Average annual temperature	-1.0	-0.5	-0.3	0.0	0.0
Deviation of the average annual temperature from the average multi-year values for the period 1961-1990	0.8	1.3	1.5	1.8	1.8
Highest average monthly temperature	8.1	10.3	9.6	10.5	10.5
Lowest monthly average temperature	-11.1	-9.5	-10.9	-12.0	-12.0

### 7.14 Average annual air temperature (average by region)

°C

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	7.3	7.0	7.2	8.0	0.0
Abay	-	-	5.4	6.0	5.6
Akmola	4.7	3.1	3.3	4.7	3.3
Aktobe	7.5	7.4	6.9	8.2	7.0
Almaty	7.9	8.3	8.8	8.9	8.5
Atyrau	11.4	11.7	11.4	12.1	11.5
Batys Kazakhstan	8.9	8.9	8.5	9.3	8.5
Zhambyl	10.6	11.2	12.0	11.9	11.3
Zhetisu			8.5	8.7	8.3
Karagandy	4.8	4.7	5.0	6.1	5.0
Kostanay	5.5	4.6	4.2	5.6	4.4
Kyzylorda	11.0	11.6	11.7	12.7	11.6
Mangystau	13.6	13.8	14.0	14.3	14.1

Continuation

	2020	2021	2022	2023	2024
Pavlodar	5.4	3.3	3.6	5.0	4.0
Soltustik Kazakhstan	5.0	2.8	3.2	4.4	3.1
Turkistan	12.4	13.6	13.7	14.0	13.2
Ulytau			6.5	7.5	6.3
Shygys Kazakhstan	4.9	3.9	4.5	5.2	4.8
Astana city	5.6	4.3	5.0	6.2	4.9
Almaty city	10.7	11.5	12.0	12.0	11.4
Shymkent city	13.1	14.6	14.5	14.9	13.9

### 7.15 Deviation of the average annual air temperature from the average long-term value for the period 1961 - 1990, (on average by regions)

°C

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	1.9	1.6	1.8	2.6	1.7
Abay			1.8	2.4	2.0
Akmola	2.6	1.0	1.3	2.7	1.2
Aktobe	2.2	2.1	1.6	2.9	1.7
Almaty	1.1	1.6	2.0	2.1	1.7
Atyrau	2.3	2.6	2.3	3.0	2.4
Batys Kazakhstan	2.5	2.5	2.1	2.9	2.1
Zhambyl	1.0	1.6	2.3	2.3	1.6
Zhetisu			1.9	2.1	1.7
Karagandy	1.3	1.1	1.5	2.5	1.4
Kostanay	2.5	1.6	1.3	2.6	1.4
Kyzylorda	1.8	2.3	2.4	3.5	2.3
Mangystau	1.8	2.0	2.2	2.5	2.3
Pavlodar	3.0	0.9	1.2	2.6	1.6
Soltustik Kazakhstan	3.2	1.0	1.3	2.6	1.3
Turkistan	0.8	1.9	2.0	2.4	1.5
Ulytau			2.1	3.1	1.9
Shygys Kazakhstan	2.2	1.2	1.8	2.5	2.1
Astana city	2.9	1.6	2.3	3.5	2.2
Almaty city	1.6	2.4	2.9	2.9	2.3
Shymkent city	0.6	2.1	2.0	2.4	1.4

### 7.16 Average monthly air temperature by city in 2024

°C

	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Aktau	0.6	2.0	5.9	16.1	17.4	25.2	26.7	26.4	22.2	13.4	8.0	2.2
Aktobe	-11.2	-11.6	-4.8	13.5	13.1	22.9	22.9	20.2	14.1	6.7	-1.5	-6.4
Almaty	-1.2	-3.9	5.7	12.8	17.6	24.5	25.1	25.6	15.9	11.8	5.0	-1.9
Atyrau	-5.7	-2.9	2.5	17.8	17.3	27.4	28.3	25.8	19.9	10.6	3.1	-2.6
Astana	-11.9	-13.5	-4.4	9.1	12.3	21.8	21.8	18.5	11.3	5.5	-3.5	-8.7
Zhezkazgan	-11.0	-12.7	-2.4	12.9	16.1	24.9	23.9	22.4	14.5	8.0	-1.0	-8.7
Taraz	0.0	-2.2	5.5	12.8	17.4	25.3	25.8	25.3	16.2	11.4	5.5	-2.4
Karagandy	-10.9	-13.5	-3.7	8.6	12.6	20.6	20.6	18.6	10.5	5.9	-2.7	-9.4
Kokshetau	-12.6	-13.6	-4.8	8.0	10.7	21.0	20.3	17.3	11.3	3.8	-4.3	-7.6
Kostanay	-14.3	-13.7	-6.1	10.0	11.1	22.1	20.9	17.6	11.9	4.1	-3.6	-6.7
Kyzylorda	-4.1	-2.8	5.4	17.6	20.6	29.3	28.0	26.7	18.4	11.5	3.5	-4.0
Konaev	-2.7	-6.6	4.5	12.6	19.0	25.4	26.4	25.9	16.6	11.7	4.0	-4.0
Semey	-9.9	-13.9	-1.9	8.9	15.1	22.0	22.9	21.2	10.6	5.9	-2.27	-9.6
Uralsk	-12.0	-10.8	-4.6	14.9	13.3	23.8	24.1	21.1	15.2	8.3	0.4	-5.5
Ust-Kamenogorsk	-9.2	-14.3	-1.0	9.3	15.6	20.9	22.5	21.4	10.7	7.2	-1.2	-8.3
Pavlodar	-13.9	-14.1	-3.7	8.1	12.0	21.8	22.4	19.2	10.7	4.6	-4.4	-11.3
Petropavl	-15.6	-15.8	-6.1	7.1	10.6	20.5	19.9	17.0	11.3	3.3	-5.2	-7.9
Taldykorgan	-4.8	-8.1	3.8	11.4	17.6	22.9	24.3	23.9	13.6	9.0	2.1	-8.1
Shymkent	3.4	2.1	7.5	15.1	19.0	26.6	27.0	26.7	19.8	13.1	7.9	-1.2

### 7.17 Average annual wind speed (average by region)

m/s

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	3.2	3.1	2.7	2.9	2.8
Abay	-	-	2.2	2.6	2.6
Akmola	3.8	3.5	3.8	3.5	3.2
Aktobe	3.3	3.4	3.2	3.4	3.2
Almaty	1.7	1.7	1.9	2.0	1.8
Atyrau	3.9	4.2	3.9	4.3	4.1
Batys Kazakhstan	3.2	3.2	3.1	3.3	3.1
Zhambyl	2.2	2.2	2.0	2.4	2.2
Zhetisu	-	-	1.9	1.6	1.6
Karagandy	2.9	3.1	3.1	2.9	2.8
Kostanay	3.7	3.7	3.7	3.5	3.4
Kyzylorda	3.5	2.7	3.1	3.5	3.3
Mangystau	4.6	4.8	4.3	4.4	4.4
Pavlodar	3.3	3.3	3.2	3.6	3.5
Soltustik Kazakhstan	3.9	3.7	3.9	3.7	3.5
Turkistan	2	2.1	2.1	2.0	1.9
Ulytau	-	-	3.4	3.9	3.8
Shygys Kazakhstan	2.5	2.6	2.3	2.7	2.5
Astana city	1.9	1.8	1.6	1.7	1.5
Almaty city	0.4	0.6	0.6	0.6	0.6
Shymkent city	1.5	1.8	1.6	1.8	1.7

### 7.18 Average annual air humidity (average by region)

in percent

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	61	60	62	62	66
Abay	-	-	62	64	66
Akmola	68	66	66	67	74
Aktobe	61	59	64	62	66
Almaty	60	57	61	59	63
Atyrau	59	62	62	62	63
Batys Kazakhstan	61	62	67	64	65
Zhambyl	54	54	59	57	60
Zhetisu	-	-	59	60	63
Karagandy	63	61	61	61	66
Kostanay	67	63	65	67	69
Kyzylorda	52	50	53	52	56
Mangystau	58	62	60	64	61
Pavlodar	66	66	65	65	73
Soltustik Kazakhstan	71	68	68	67	74
Turkistan	55	52	57	52	56
Ulytau	-	-	60	62	64
Shygys Kazakhstan	64	63	62	65	68
Astana city	64	63	64	65	74
Almaty city	58	55	59	60	68
Shymkent city	56	51	57	53	58

### 7.19 Average annual atmospheric pressure (average by region)

gPa

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	983	982	972	969	969
Abay	-	-	966	964	964
Akmola	981	979	977	980	979
Aktobe	995	993	993	992	992
Almaty	911	911	882	895	891
Atyrau	1 022	1 020	1 018	1 019	1 021
Batys Kazakhstan	1 015	1 014	1 013	1 013	1 014
Zhambyl	948	947	951	946	946
Zhetisu	-	-	939	933	933
Karagandy	954	954	952	946	946
Kostanay	996	997	994	996	996
Kyzylorda	1 007	1 006	1 006	1 005	1 006
Mangystau	1 021	1 020	1 013	1 019	1 021

Continuation

	2020	2021	2022	2023	2024
Pavlodar	997	997	1001	996	996
Soltustik Kazakhstan	997	998	998	997	996
Turkistan	951	951	963	951	951
Ulytau	-	-	968	972	971
Shygys Kazakhstan	962	962	958	958	957
Astana city	978	978	977	977	976
Almaty city	921	921	920	920	920
Shymkent city	947	946	946	946	946

### 7.20 Average annual total solar radiation (average by region)

kcal/cm<sup>2</sup>

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	211.68	271.208	269.749	517.485	210.134
Abay	-	-	-	-	176.005
Akmola	117.483	178.102	279.344	708.205	238.893
Aktobe	156.382	149.980	109.546	341.499	112.381
Almaty	141.033	278.486	218.502	593.619	203.711
Atyrau	-	-	-	-	-
Batys Kazakhstan	12.981	131.284	209.504	558.252	207.724
Zhambyl	119.468	113.780	98.435	330.155	118.606
Zhetisu	-	-	161.805	701.021	236.266
Karagandy	171.133	249.375	225.879	703.273	185.368
Kostanay	-	171.843	97.030	24.386	92.911
Kyzylorda	236.259	208.863	185.847	769.491	247.420
Mangystau	164.870	163.986	236.631	731.119	223.344
Pavlodar	147.465	139.699	92.404	569.931	182.024
Soltustik Kazakhstan	77.940	121.359	97.979	346.073	108.388
Turkistan	-	147.824	113.819	728.345	115.290
Ulytau	-	-	-	-	-
Shygys Kazakhstan	225.787	229.837	300.987	717.962	281.895
Astana city	125.421	125.067	81.833	319.396	116.155
Almaty city	227.269	175.870	80.505	291.411	106.508
Shymkent city	126.043	126.741	102.699	363.112	129.530

### 7.21 Greenhouse gas emissions\*

	2019	2020	2021	2022	2023
Carbon monoxide, million tons/year	314.931	297.522	247.128	273.913	274.460
Nitrous oxide (N2O), MMT/year	15.961	17.551	17.221	15.227	14.869
Methane (CH4), mln.t / year	57.985	57.853	57.720	56.732	57.150
HFC, 1000t / year	2040	2307	2498	2721	2722
PFC, 1000t / year	11.4	9.67	8.67	7.39	8.33
Sulfur hexafluoride (SF6), 1 000 tons / year	2.37	2.37	2.47	2.54	2.63
Cumulative emissions (in CO2 equivalent),mln,t / year	390.931	375.245	324.579	348.603	349.213
GHG absorption trends in land use,land use change and forestry (LULUCF)	19.243	16.105	4.688	4.129	3.331
Sum of cumulative GHG emissions minus LULUCF (in CO2 equivalent), mln,t / year	371.688	359.140	319.891	344.474	345.882
Energy (total), million tons / year	304.635	287.953	247.685	277.638	278.537
of them:					
combustion in stationary sources	238.396	232.367	185.877	212.452	213.089
combustion in mobile sources	26.765	18.846	25.709	27.408	27.479
non-combustion emissions	39.474	36.740	36.099	37.778	37.969
Industrial processes and use of products, mln.t / year	25.705	26.999	26.554	26.723	26.773
Agriculture, mln.t / year	35.288	37.475	38.608	32.998	33.427
Land use and forestry, mln.t / year	19.243	16.105	4.688	4.129	3.331
Waste, mln.t / year	6.060	6.713	7.043	7.115	7.144
The population of the country, mln man	18.5	18.8	19.0	19.6	19.9
Total greenhouse gas emissions per capita, t CO2 - eq / per capita	21.3	20.1	17.1	17.8	17.6
Area of the country, 1 000 km <sup>2</sup>	2 725	2 725	2 725	2 725	2 725
Cumulative greenhouse gas emissions per country area, 1000 tons of CO2 - eq / km <sup>2</sup>	0.14	0.14	0.12	0.13	0.13

Continuation

	2019	2020	2021	2022	2023
GDP in constant 2017 prices (PPP), billion international dollars	487.9	475.6	496.1	-	-
GDP in constant prices in 2021 (PPP), billion international dollars	639.6	623.7	650.5	671.3	705.5
Total greenhouse gas emissions per unit of GDP, tons of CO <sub>2</sub> – eq/thousand dollars	0.61	0.60	0.50	0.52	0.49

\* According to Zhasyl Damu JSC under the Ministry of Ecology and Natural Resources of the Republic of Kazakhstan.

## 7.22 Greenhouse gas emissions from all types of transport<sup>1)</sup>

million tons of CO<sub>2</sub> per year equivalent

	2019	2020	2021	2022	2023 <sup>2)</sup>
From road transport	20.991	16.383	21.857	22.564	23.104
From off-road transport	1.187	9.474	5.535	4.237	3.347
From railway transport	1.586	1.105	1.180	2.631	2.169
From water transport	0.007	0.003	0.005	0.004	0.003
From pipeline transport	1.246	1.228	1.752	1.134	1.046
From air transport	1.192	0.112	0.900	1.060	1.135

<sup>1)</sup> According to the data of Zhasyl Damu JSC under the Ministry of Ecology and Natural Resources of the Republic of Kazakhstan.

<sup>2)</sup> Data for 2022 will be generated at the end of 2024.

## 7.23 Trading of quotas for greenhouse gas emissions in the Republic of Kazakhstan\*

National plan for allocation of quotas for greenhouse gas emissions	2021	2022	2023	2024
The bidding period, year	2021	2022	2023	2024
Number of transactions, units	25	46	56	43
Volume of transactions, tons of CO <sub>2</sub>	2 374 727	2 500 185	4 483 309	3 032 522
Volume of transactions, tenge	1 190 032 801	1 347 865 161	2 924 624 006	1 284 130 287
Average price per 1 ton of CO <sub>2</sub> , tenge	501	539	652	474

\* Data of Zhasyl Damu JSC" under the Ministry of ecology and natural resources of the Republic of Kazakhstan. There was no trading in the 2013 pilot year.

## 7.24 Consumption of ozone-depleting substances\*

tonn ODP

Substances	2020		2021		2022		2023		2024	
	production volume	import of ODS								
CFC	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
Halons	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
Other fully halogenated CFCs	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
Carbon tetrachloride	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
Methyl chloroform	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
HCFCs	-	6.2	-	4.0	-	4.5	-	4.5	-	4.5
HBFCs	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
Bromochloromethane	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
Methyl bromide	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
Total	-	0.67	-	0.023	-	4.5	-	4.5	-	4.5

\*According to the Ministry of Ecology and natural resources of the Republic of Kazakhstan.

## 7.25 Emissions and capture of air polluting substances from stationary sources

	Amount of pollutants from all stationary sources of pollution, thousand tons	Pollutants released to the atmosphere during the reporting period, thousand tons	Contaminated and neutralized pollutants	
			thousand tons	as a percent of total waste pollutants from stationary sources
2020	35 445.9	2 441.0	33 004.8	93.1
2021	34 293.5	2 407.5	31 886.0	93.0
2022	33 440.6	2 314.8	31 244.2	93.4
2023	32 385.7	2 257.5	30 256.4	93.4
2024	32 396.2	2 271.4	30 251.2	93.4

### 7.26 Emissions of air pollutants from stationary sources

thousand tons

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	2 441.0	2 407.5	2 314.8	2 257.5	2 271.4
Abay	40.7	40.9	39.0	38.5	36.8
Akmola	77.2	77.3	69.5	69.8	68.4
Aktobe	135.1	137.4	136.5	112.1	126.0
Almaty	26.3	30.3	28.8	28.4	29.6
Atyrau	153.9	160.3	132.1	140.1	152.8
Batys Kazakhstan	30.7	26.0	25.8	34.4	31.2
Zhambyl	55.0	55.8	52.9	51.2	50.9
Zhetisu	20.0	17.7	13.1	14.8	15.4
Karagandy	519.0	488.0	469.0	455.0	445.3
Kostanay	123.4	137.9	121.4	118.3	111.6
Kyzylorda	28.3	29.2	23.4	25.3	24.9
Mangystau	72.4	75.2	78.7	86.2	105.5
Pavlodar	723.0	736.2	724.2	694.2	687.8
Soltustik Kazakhstan	76.0	61.2	52.6	58.9	59.5
Turkistan	28.2	29.0	25.2	26.7	26.3
Ulytau	108.7	81.7	105.1	103.1	97.7
Shygys Kazakhstan	86.5	87.2	83.3	80.9	80.9
Astana city	62.4	62.2	57.7	46.4	49.1
Almaty city	44.5	40.8	41.4	44.0	43.3
Shymkent city	29.5	33.2	35.0	29.3	28.3

### 7.27 Atmospheric pollutants emissions from stationary sources, per capita

kg

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	130	127	118	113	112.7
Abay	-	-	64	63	60.8
Akmola	105	105	88	89	86.9
Aktobe	152	153	148	120	133.4
Almaty	22	22	19	19	19.2
Atyrau	236	242	192	201	216.0
Batys Kazakhstan	47	39	38	50	44.9
Zhambyl	48	49	44	42	41.7
Zhetisu	-	-	19	21	22.1
Karagandy	456	415	413	401	392.4
Kostanay	142	160	146	142	134.8
Kyzylorda	35	35	28	30	29.5
Mangystau	102	103	104	111	132.6
Pavlodar	962	983	958	920	914
Soltustik Kazakhstan	139	113	98	111	113.1
Turkistan	14	14	12	13	12.2
Ulytau	-	-	475	466	441.3
Shygys Kazakhstan	93	94	114	111	111.5
Astana city	54	51	44	33	33.2
Almaty city	23	20	19	20	19.1
Shymkent city	28	30	30	24	22.9

### 7.28 Emissions of air pollutants emitted from stationary sources of individual cities

thousand tons

	2020	2021	2022	2023	2024
Kokshetau	8.5	7.9	11.5	11.3	11.1
Aktobe	31.3	31.5	30.7	30.1	26.6
Taldykorgan	7.1	6.7	4.2	4.6	4.2
Atyrau	56.8	30.5	26.1	26.0	30.2
Uralsk	7.6	7.8	8.4	9.5	9
Taraz	30.4	29.2	28.5	24.8	29.5
Karagandy	57.2	49.8	46.0	41.6	43.8
Balkhash	91.5	75.4	76.3	74.1	72
Zhezkazgan	83.7	58.2	79.1	80.4	81.6
Temirtau	232.8	227.7	221.1	218.1	207.4
Kostanay	15.2	15.9	15.3	16.0	13.7
Arkalyk	1.9	1.1	1.7	1.9	2

Continuation

	2020	2021	2022	2023	2024
Rudnyi	54.4	67.9	67.0	63.1	64.5
Kyzylorda	5.1	7.8	5.5	5.9	6.5
Aktau	2.5	2.6	3.0	3.9	4
Pavlodar	197.7	188.1	189.4	176.3	174.3
Aksu	201.4	194.5	188.4	179.4	181.5
Ekibastuz	237.9	256.8	259.5	251.7	245.4
Petropavlovsk	44.7	30.3	23.0	30.0	30.6
Turkistan	1.7	1.6	1.3	1.1	0.5
Kentau	0.1	0.1	0.1	0.1	0.1
Ust-Kamenogorsk	53.9	53.1	50.3	48.8	48.9
Ridder	6.9	6.1	6.8	6.3	7.4
Semey	21.9	22.1	22.0	20.6	19.8
Glubokoe village	0.7	0.7	0.2	0.7	0.6

### 7.29 Emissions of the most common air pollutants from stationary sources

thousand tons

	2020	2021	2022	2023	2024
Total, thousand tons	2 441.0	2 407.5	2 314.8	2 257.5	2 271.4
including:					
solids	500.3	491.7	446.3	436.3	445.3
gaseous and liquid substances	1 940.7	1 915.8	1 868.5	1 821.1	1 826.1
of them:					
sulfurous anhydride	868.1	835.4	821.6	798.5	785.4
carbon monoxide	486.5	473.2	447.9	436.7	432.4
nitrogen oxides	311.4	322.0	311.6	303.7	307.5
Hydrocarbons (without volatile compound forms)	123.7	133.2	134.0	151.7	165.8
	146.2	146.5	156.8	126.6	133

### 7.30 Emissions of main pollutants per capita

kg/per

	2020	2021	2022	2023	2024
Population, million people	18.8	19.0	19.6	19.9	20.1
Sulfur dioxide	46.3	43.9	41.8	40.1	39
Nitrogen oxides	16.6	16.9	15.9	15.3	15.2
NMVOc	7.8	7.7	8.0	6.4	6.6
Ammonia	0.1	0.1	0.1	0.1	0.1
Carbon monoxide	25.9	24.9	22.8	21.9	21.4
Hydrocarbons	6.6	7.0	6.8	7.6	8.2

### 7.31 Air pollutant emissions per capita by region 2024

kg/per

	Sulfur dioxide	Nitrogen oxides	NMVOc	Carbon monoxide	Hydrocarbons
<b>Republic of Kazakhstan</b>	39	15	7	21	8
Abay	9	7	1	21	1
Akmola	24	6	1	22	3
Aktobe	27	18	14	38	15
Almaty	4	3	2	4	4
Atyrau	48	25	36	62	41
Batys Kazakhstan	4	6	7	9	16
Zhambyl	2	6	2	4	17
Zhetisu	3	4	1	7	0
Karagandy	144	37	3	116	8
Kostanay	42	7	2	14	25
Kyzylorda	2	10	2	11	4
Mangystau	3	19	53	15	40
Pavlodar	420	163	23	106	2
Soltustik Kazakhstan	37	11	2	18	6
Turkistan	1	1	1	4	3
Ulytau	315	14	19	15	3
Shygys Kazakhstan	47	17	3	21	5
Astana city	15	7	1	2	1
Almaty city	9	4	0	2	0
Shymkent city	2	5	4	9	1

## 7.32 Emissions of main pollutants per unit area of the country

	t/km <sup>2</sup>				
	2020	2021	2022	2023	2024
The area of the country. 1000 km <sup>2</sup>	2 724.9	2 724.9	2 724.9	2 724.9	2 724.9
Sulfur dioxide	0.3	0.3	0.3	0.3	0.3
Nitrogen oxides	0.1	0.1	0.1	0.1	0.1
NMVOC	0.05	0.05	0.06	0.05	0.06
Ammonia	0.001	0.001	0.001	0.001	0.11
Carbon monoxide	0.2	0.2	0.2	0.2	0.2
Hydrocarbons	0.045	0.045	0.058	0.056	0.05

## 7.33 Emissions of main pollutants per unit of GDP

	kg/1 000 dollars USA				
	2020	2021	2022	2023	2024
GDP at constant prices in 2021 (PPP), billion, intern, dollars	623.7	650.5	671.3	705.5	739.4
Sulfur dioxide	1.39	1.28	1.22	1.13	1.06
Nitrogen oxides	0.50	0.50	0.46	0.43	0.41
Ammonia	0.004	0.004	0.004	0.004	0.003
Carbon monoxide	0.78	0.73	0.67	0.62	0.58
Hydrocarbons	0.20	0.20	0.20	0.22	0.22

## 7.34 Emissions of pollutants and established standards for pollutant emissions in 2024

	tons	
	Specific pollutants released into the atmosphere in the reporting year	Established maximum permissible emission (MPV) of pollutants for the reporting year. tons / year
Total	2 271 435.360	5 342 275.122
Sulfur dioxide (SO <sub>2</sub> )	785 450.803	1 133 938.374
Hydrogen sulfide (H <sub>2</sub> S)	1 822.823	3 921.922
Carbon monoxide (CO)	432 386.348	678 237.706
Nitrogen dioxide (NO <sub>2</sub> )	256 488.988	1 216 243.784
Ammonia (NH <sub>3</sub> )	2 843.231	4 657.830
Barium carbonate (in terms of barium)	1.767	1.769
Beryllium and its compounds (in terms of beryllium)	0.002	0.029
DiVanadium pentoxide (dust) (Vanadium pentoxide)	2.561	5.835
Cadmium and its compounds (in terms of cadmium)	0.925	1.738
Magnesium oxide	7.598	40.959
Manganese and its compounds (in terms of manganese dioxide)	86.002	205.316
Copper oxide (in terms of copper)	110.009	131.204
Sodium chloride	49.769	70.169
Nickel metal	0.459	2.709
Mercury and its compounds (in terms of mercury)	0.725	0.798
Lead and its inorganic compounds (in terms of lead)	221.416	280.169
Chromium hexavalent (in terms of chromium trioxide)	7.593	16.092
Zinc diacetate (in terms of zinc) (Zinc acetate)	0.234	4.206
Barium and its salts (acetate, nitrate, nitrite, chloride) in terms of barium	92.539	303.262
Nitric acid	36.923	37.060
Ammonium nitrate	179.524	227.903
Arsine (Arsenic hydrogen)	98.026	141.569
Hydrochloride (Hydrochloric acid, Hydrogen chloride)	400.019	625.727
Hydrocyanide (Prussic acid, Formic acid nitrile, Hydrogen cyanide)	52.379	64.013
Sulfuric acid (per H <sub>2</sub> SO <sub>4</sub> molecule)	7.773	8.380
Arsenic, inorganic compounds (in terms of arsenic)	4 658.757	11 019.019
Ozone	1.161	4.581
Carbon (Soot, carbon black)	214.001	299.096
Selenium dioxide (in terms of selenium) (Selenium (IV) oxide)	251.914	466.325
Carbon disulfide	191.180	258.554
Fluoride gaseous compounds (in terms of fluorine)	41.956	45.399

	Specific pollutants released into the atmosphere in the reporting year	Established maximum permissible emission (MPV) of pollutants for the reporting year. tons / year
Inorganic fluorides, poorly soluble (aluminum fluoride, calcium fluoride, sodium hexafluoroaluminate)	1 793.314	2 879.606
Chlorine (Cl)	17.799	35.418
Butane (C4H10)	36.923	37.060
Polyethene(polyethylene)	179.524	227.903
Cyclohexane (C6H12)	0.611	0.612
Benzene (C6H6)	936.447	1 415.897
Xylene (mixture of o-, m-, p- isomers) (Dimethylbenzene (mixture of o-, m-p-isomers))	2 375.893	4 619.086
Vinylbenzene (Styrene, Ethynylbenzene)	17.964	24.559
Toluene (C7H8)	2 106.047	4 148.108
1,2,4-Trimethylbenzene (pseudocumene)	4.961	5.330
Ethylbenzene (C8H10)	117.711	167.294
Benz/a/pyrene (3,4-Benzopyrene)	7.550	84.539
Naphthalene (Platidiam, Cisplatin)	45.082	45.131
1,2-Dichloroethane (Dichloroethane)	0.017	0.017
1,2-Dichloropropane	9.094	9.147
Trichlorethylene (C2HCl3)	3.469	3.515
Carbon tetrachloride (Carbon tetrachloride, Carbon tetrachloride)	126.687	452.265
Propan-2-ol (Isopropyl alcohol)	492.267	556.210
Methanol (Methyl alcohol) (CH4O)	10.785	10.819
Hydroxymethylbenzene (mixture of o-, m-, p- isomers) (Tricresol)	46.320	87.067
Phenol	332.948	768.313
Butyl acetate (Acetic acid butyl ester)	x	x
Propyl acetate (Acetic acid propyl ester)	2.943	7.119
Cyan-(3-phenoxyphenyl) methyl-4-chloro-a-(1-methylethyl) phenylacetate (Sumicidin, Fenvalerate, 1-Isopropyl-4-chlorophenyl acetic acid 3-phenoxy-1-cyanobenzyl ester)	x	x
Ethyl acetate (C4H8O2)	117.356	191.018
Ethylprop-2-enoate (Acrylic acid ethyl ester, Ethyl acrylate)	0.715	0.806
Ethyl pentanoate (Ethyl valerate, Pentanoic acid ethyl ester)	0.044	0.044
Prop-2-en-1-al (Acrolein, Acrylaldehyde)	48.767	169.652
Benzaldehyde (Benzoic aldehyde)	0.341	0.594
Formaldehyde (Methanal)	242.885	783.257
Propan-2-one (Acetone)	715.402	1 122.135
1-Phenylethanol	3.256	3.264
Pentan-3-one (Diethylketone)	2.400	2.400
4-Methylpentan-2-one (Methyl isobutyl ketone) (C6H12O)	8.357	8.389
Cyclohexanone	20.475	24.337
1,3-Isobenzofurandione (Phthalic anhydride)	0.217	1.013
e-Caprolactam (Hexahydro-2H-azepin-2-one)	0.140	0.200
1,4-Benzenedicarboxylic acid (terephthalic acid)	0.150	0.714
Acetic acid (Ethanoic acid)	304.141	543.372
Methanethiol (methyl mercaptan)	10.140	13.226
Ethanethiol	1.222	20.939
Ammophos (a mixture of mono- and diammonium phosphate with an admixture of ammonium sulfate)	307.523	690.365
Gasoline (petroleum, low sulfur) in terms of carbon	537.059	864.375
Gasoline fraction of light tar from high-speed pyrolysis of brown coals (in terms of carbon)	9.834	10.119
Epoxy powder paint	0.135	0.136
Mineral petroleum oil (spindle, machine, etc.)	341.144	525.929
Phenolic fraction of light tar from high-speed pyrolysis of brown coal	0.263	0.263
Suspended solids	9 087.545	14 953.568
Fuel oil ash (in terms of vanadium)	148.997	339.881
Inorganic dust containing silicon dioxide in % > 70	9 871.840	19 464.850
Inorganic dust containing silicon dioxide in%: 70-20 (fireclay, cement, dust, cement production - clay, shale, blast furnace slag, sand, clinker, silica ash, coal ash from Kazakhstan deposits)	301 495.369	481 983.533

Continuation

	Specific pollutants released into the atmosphere in the reporting year	Established maximum permissible emission (MPV) of pollutants for the reporting year. tons / year
Dry carbamide glue dust	0.094	0.402
Feed dust (in terms of protein)	311.525	419.066
Dust (inorganic) of gypsum binder from phosphogypsum with cement	642.045	1 591.590
Fiberglass dust	7.277	10.318
Cotton dust (Linseed dust)	109.458	336.849
Cement production dust (calcium oxide content 60%)	35.953	44.702
Coal ash from thermal power plants (with a calcium oxide content of 35-40%, dispersion up to 3 microns and below at least 97%)	9 668.300	22 654.969
Aluminosilicates (zeolites, zeolite tuffs)	56.796	77.859
Wood dust	1 327.576	2 460.556
Calcium oxide (quicklime)	2 497.774	2 982.169
Cobalt (Cobalt metal)	0.000	0.000
Zinc manganese ferrite (in terms of manganese)	0.008	0.066
Zinc carbonate (in terms of zinc)	8.560	11.512
But-1-ene (Butylene)	9.653	9.656
Benzoyl chloride (benzoyl chloride)	x	x
Propan-1-ol (Propyl alcohol)	43.023	81.699
Wood alcohol solvent grade A (acetone ether) / for acetone /	0.189	0.189
Acrylic (propenoic) acid	1.042	5.391
Dimethylamine	8.922	12.375
Prop-2-enenitrile	6.693	8.650
Formamide (Formic acid amide)	0.058	0.076
0,0-Dimethyl-0-(3-methyl-4-nitrophenyl)phosphate (Methylnitrophos)	3.154	3.265
Pyridine	0.473	0.725
Furan-2-aldehyde(Furfural,2-Furaldehyde,Furfural,2-Furfuraldehyde)	0.605	1.203
2-(2-1 Hydroxy-5-methylphenyl)-benzotriazole (Hydroxymethylbenzene (mixture of o-, m-, p-) Tricresol isomers)	0.010	0.018
Butylformant solvent (according to the total acetates) (BEF)	11.118	14.071
Turpentine (in terms of carbon)	0.000	0.003
Activated rosin flux (rosin control) (FKT, Activated rosin flux)		
Meliorant (mixture: calcium carbonate, chloride, sulfate - 79%, silicon dioxide - 10-13%, magnesium oxide - 3.5%, iron oxide - 1.6%, etc.)	38.223	57.297
Bone meal dust (calculated as protein)	18.544	25.804
Fiberglass dust	2.296	6.293
Grain dust/for mushroom storage/	6 048.053	10 438.709
Hexane	494.952	566.205
Inorganic dust containing silicon dioxide in%: less than 20 (dolomite, cement production dust - limestone, chalk, cinders, raw material mixture, rotary kiln dust, bauxite)	90 164.657	150 867.369
Abrasive dust	318.667	529.046
Alkanes C12-19/in terms of C/ (Saturated hydrocarbons C12-C19 (in terms of C); Solvent RPK-265P)	33 474.769	57 605.670
Iron (II, III) oxides (in terms of iron) (dilon trioxide, Iron oxide)	2 906.400	4 061.340
Propanal (propionaldehyde, Propionic aldehyde, methylacetic aldehyde) (C3H6O)	19.583	36.432
Nitric oxide (NO)	47 171.362	795 267.615
Mixture of saturated hydrocarbons C1H4-C5H12	64 186.100	105 074.831
Mixture of saturated hydrocarbons C6H14-C10H22	17 964.829	28 058.818
Pentane	69.835	98.291
Pentylenes (amylenes - a mixture of isomers)	1 124.434	1 332.644
1,3-butadiene (divinyl)	36.568	57.920
Heptene	0.106	0.106
2-Methylbuta-1,3-diene	1.984	6.082
Propylene	21.450	26.859
Ethylene_	13.210	30.500
Ethine (Acetylene)	8.795	9.903
Divinylbenzene technical (a mixture of divinylbenzene with ethylstyrene) (for ethylstyrene)	0.031	0.222
Isopropylbenzene (cumene)	2.412	2.765

	Specific pollutants released into the atmosphere in the reporting year	Established maximum permissible emission (MPV) of pollutants for the reporting year. tons / year
2-Methylpropylbenzene (Isobutylbenzene)	9.241	14.435
Furniture solvent (AMP-3) (toluene control)	0.307	0.307
alpha methylstyrene	1.502	6.452
1,2,4,5-Tetramethylbenzene	2.978	3.994
1,3,5 – Trimethylbenzene (mesitylene) 2,6 – Dimethylphenol (2,6 - xylenol)		
Methane	0.301	0.426
Chloromethylbenzene (Benzyl chloride)	164 898.272	545 816.101
Benzenesulfonyl chloride	0.003	0.003
1-Bromobutane (butyl bromide)	0.273	0.273
Butyl chloride	x	x
Hexafluorobenzene	1.732	1.732
Dibromobenzene	0.584	1.587
Dichlorodifluoromethane (Freon 12)	0.104	0.107
Dichlorofluoromethane (Freon 21)	4.881	5.632
Difluorochloromethane (Freon 22)	0.023	0.023
Methylene iodide (methylene iodide)	1.769	3.106
Methylene chloride	12.973	14.621
Tetrachlorethylene (perchloroethylene)_	0.010	0.014
Tetrafluoroethylene	0.038	0.066
Trichloromethane (chloroform)	0.453	0.700
Trichlorofluoromethane (Freon 11)	0.065	0.065
Chlorobenzene	0.018	0.071
Chloroprene	0.287	1.776
Epichlorohydrin	0.208	0.236
Chloroethane (ethyl chloride, ethyl chloride)	0.013	0.013
2,6 – Dimethylphenol (2,6 xylenol)	0.004	0.004
Flour dust	639.938	1 103.472
Amyl alcohol	20.001	20.511
Benzylcarbinol (benzyl alcohol)	0.003	0.003
Butyl alcohol	207.258	455.705
Isobutyl alcohol	3.445	9.668
Isooctyl alcohol	0.046	0.112
Ethanol	588.89	1098.666
Dioxolane -1,3 (formalglycol)	x	x
Cyclohexanol	0.294	0.63
2-Chloroethanol	0.047	0.047
2,2-Oxybis (propane), diisopropyl ether	1.599	2.838
Diethyl ether	1.611	1.795
Ethylene glycol monoisobutyl ether (butylcellosol)	0.068	0.069
Ethylene glycol monoisopropyl ether (propyl cellosolves)	121.262	378.700
2-Ethoxyethanol (ethylene glycol ether, ethyl cellosolve)	3.182	8.004
Vinyl acetate (Ethenylacetate)	1.025	1.690
Dibutyl phthalate (phthalic acid dibutyl ether)	0.024	0.024
Methyl acrylate	0.022	0.113
Methyl methacrylate	0.022	0.113
2-Ethoxyethyl acetate (acetic acid 2-ethoxyethyl ester, cellosol vacetate)	2.616	3.397
Acetaldehyde_	8.458	11.411
Methyl ethyl ketone	0.272	0.406
Maleic anhydride (vapor, aerosol)	0.014	0.284
Acetic anhydride	0.146	0.496
Valeric acid	1.587	2.768
Dimethylformamide	1.759	1.784
Nylon acid	13.916	17.198
Formic acid_	2.272	2.461
Propionic acid	0.054	0.054
4-Methylpentanoic acid (isocaproic acid)	0.000	0.001
L-2-Hydroxypropanoic acid (lactic acid)	1.046	2.436
Isopropylbenzene hydroperoxide (cumene hydroperoxide)	x	x
4,4-Dimethyldioxane –1,3-dioxane	0.000	0.007
Propylene oxide	2.706	4.047
Ethylene oxide	2.282	3.44
Mixture of natural mercaptans (in terms of ethyl mercaptan)	0.022	0.113
Aliphatic amines C15-C20	18.516	1 577.180

Continuation

	Specific pollutants released into the atmosphere in the reporting year	Established maximum permissible emission (MPV) of pollutants for the reporting year. tons / year
2-Amino-1,3,5-trimethylbenzene (mesidine)	0.068	0.073
Dimethylaniline	0.005	0.005
Cyclohexylamine	0.389	0.410
Diethylamine	0.034	0.034
beta-diethylaminoethyl mercaptan	0.065	0.151
Monomethylaniline	5.754	5.762
Monomethylamine	5.691	7.571
Monoethylamine	x	x
Triethylamine	0.138	2.507
Di(2-hydroxyethyl)amine (diethanolamine)	27.327	33.707
Diphenylmethanedine isodionate	0.000	0.000
Nitriles of carboxylic acids C17-C20	0.068	0.068
Toluene diisocyanate	0.002	0.003
Tetrahydrofuran_	0.001	0.008
Thiophene (thiofuran)	x	x
Shale gasoline (in terms of carbon)	0.1	0.37
Solvent_	184.486	311.760
White Spirit_	932.571	2 335.446
Other substances	7 387.442	15 251.163

### 7.35 Emissions of the most common air pollutants from stationary sources in 2024

thousand tons

	Total	Including						
		solids	gaseous and liquid - total	of them				
				sulfurous anhydride	carbon monoxide	nitrogen oxides	hydrocarbons (excluding VOC)	sulfurous anhydride
<b>Republic of Kazakhstan</b>	2 271.4	445.3	24.3	785.4	432.4	307.5	165.8	133
Abay	36.8	12.5	44.4	5.4	12.8	4.4	0.7	0.9
Akmola	68.4	24.1	107.2	18.7	17.3	4.5	2.2	1.0
Aktobe	126.0	18.8	26.0	25.7	35.8	17.4	14.2	12.8
Almaty	29.6	3.3	150.3	5.8	6.2	4.4	5.5	2.4
Atyrau	152.8	2.5	28.7	34	43.8	17.4	28.9	25.2
Batys Kazakhstan	31.2	2.5	38.5	2.4	6.5	4.4	10.7	4.5
Zhambyl	50.9	12.5	10.6	2.7	4.5	7.3	21.3	2.0
Zhetisu	15.4	4.8	348.9	2.3	4.6	3	0.02	0.6
Karagandy	445.3	96.4	74.8	163.4	131.8	42.2	8.7	3.2
Kostanay	111.6	36.8	23.1	34.5	11.6	5.4	20.8	1.7
Kyzylorda	24.9	1.7	103.3	1.6	9.1	8.3	3.3	1.9
Mangystau	105.5	2.2	-	2.3	12	15	31.5	42.4
Pavlodar	687.8	152.7	535.1	316	80	122.8	1.5	17.4
Soltustik Kazakhstan	59.5	20.7	39.1	19.3	9.4	5.7	3.3	1.0
Turkistan	26.3	6.3	20.0	2.0	7.7	3.2	5.4	1.6
Ulytau	97.7	17	80.7	70	3.3	2.9	0.6	4.1
Shygys Kazakhstan	80.9	13	68.0	34.4	15.5	12.3	3.5	2.0
Astana city	49.1	8.7	40.4	22.8	3.5	10.7	1.4	1.8
Almaty city	43.3	6.8	36.4	20	5.4	8.8	0.04	1.0
Shymkent city	28.3	2.0	26.3	2.4	11	6.6	1.5	4.9

### 7.36 Capturing and recycling of air pollutants emitted from stationary sources in 2024

	Contaminated and neutralized pollutants		Recycled Pollutants	
	actually, thousand tons	as a percent of total waste pollutants from stationary sources	actually, thousand tons	as a percent of the total captured and neutralized pollutants
<b>Republic of Kazakhstan</b>	30 251.2	93.4	7 156.6	22.1
Abay	149.5	83.4	22.3	12.4
Akmola	476.9	91.1	3.8	0.7
Aktobe	221.3	64.7	219.2	64.1
Almaty	321.5	92.6	18.3	5.3
Atyrau	0.1	-	-	-
Batys Kazakhstan	28.1	48.5	0.5	2.0

Continuation

	Contaminated and neutralized pollutants		Recycled Pollutants	
	Actually, thousand tons	as a percent of total waste pollutants from stationary sources	Actually, thousand tons	as a percent of the total captured and neutralized pollutants
Zhambyl	142.7	74.5	18.2	9.5
Zhetisu	182.7	92.7	156.9	79.5
Karagandy	5 917.2	93.2	1 237.1	19.4
Kostanay	139.3	57.4	6.1	2.5
Kyzylorda	0.0	0.0	-	-
Mangystau	221.6	68.1	210.9	64.8
Pavlodar	17 256.3	96.3	4 280.6	23.9
Soltustik Kazakhstan	871.7	96.2	10.5	1.1
Turkistan	19.0	42.8	16.0	36
Ulytau	762.9	88.7	118.0	13.7
Shygys Kazakhstan	1 049.7	93.2	716.0	63.6
Astana city	1 457.1	97	-	-
Almaty city	898.0	95.5	4.2	0.4
Shymkent city	135.6	83.3	117.8	72.4

### 7.37 Capturing and recycling of air pollutants emitted from stationary sources in the individual cities in 2024

	Contaminated and neutralized pollutants		Recycled Pollutants	
	Actually, thousand tons	as a percent of total waste pollutants from stationary sources	Actually, thousand tons	as a percent of the total captured and neutralized pollutants
Kokshetau	123.8	92.3	-	-
Aktobe	209.4	89.6	208.9	89.4
Taldykorgan	1.9	33.4	1.9	33.2
Atyrau	X	-	-	-
Uralsk	5.4	39.1	X	-
Taraz	139.2	82.9	15.1	9.01
Karagandy	1 489.4	97.5	7.2	0.5
Balkhash	1 256.6	94.5	804.4	60.5
Zhezkazgan	761.9	90.4	117.2	13.9
Temirtau	1 687.2	89.0	412.7	21.8
Kostanay	0.9	42.8	0.08	0.4
Arkalyk	1.2	32.8	-	-
Rudnyi	119.5	65.1	0.7	0.4
Kyzylorda	0.00	-	-	-
Aktau	0.0	-	-	-
Pavlodar	6 366.1	97.3	3 860.1	59.04
Aksu	4 129.7	95.8	402.7	9.3
Ekibastuz	5236.2	95.5	-	-
Petropavl	861.9	96.7	2.3	0.3
Turkistan	-	-	-	-
Kentau	0.00	6.3	0.00	6.3
Ust-Kamenogorsk	763.4	94.2	465.4	57.4
Ridder	25.2	77.2	12.5	38.4
Semey	117.3	86.7	0.02	0.1
Glubokoe village	0.9	61.7	-	-

### 7.38 Capturing and recycling of air pollutants emitted from stationary sources, by type of activity in 2024

	Contaminated and neutralized pollutants		Recycled Pollutants	
	Actually, thousand tons	as a percent of total waste pollutants from stationary sources	Actually, thousand tons	as a percent of total waste pollutants from stationary sources
Agriculture and Fisheries	6.3	27.4	2.3	36.2
Industry	30 140.4	93.9	7 149.4	23.7
Mining and quarrying	151.1	29.9	60.4	40
Manufacturing industry	10 438.7	93.8	7 050.2	67.5
Electricity, gas, steam and air conditioning	19 545.0	95.8	34.8	0.17
Water supply; sewage system, control over the collection and distribution of waste	5.6	9.3	3.9	70

Continuation

	Contaminated and neutralized pollutants		Recycled Pollutants	
	Actually, thousand tons	as a percent of total waste pollutants from stationary sources	Actually, thousand tons	as a percent of total waste pollutants from stationary sources
Building	40.6	80.1	1.5	3.7
Wholesale and retail trade; car and motorcycle repair	1.3	26.2	0.03	24.4
Transportation and warehousing	10.4	8.1	1.6	15.4
Accommodation and Food Services	-	-	-	-
Information and communication	X	92.5	-	-
Financial and insurance activities	-	-	-	-
Real estate transaction	10.0	74.9	1.0	10.5
Professional, scientific and technical activities	0.03	13.4	0.00	1.02
Administrative and support services	0.01	7.8	0.01	99.9
Public administration and Boromona; compulsory social security	0.05	4.5	0.02	35.9
Education	0.0	1.3	-	-
Health and social services	0.07	17.6	0.0	1.34
Arts, entertainment and recreation	x	0.0	X	X
Provision of other services	0.0	1.9	-	-

### 7.39 Number of permits for emissions into the environment\*

units

	2020	2021	2022	2023	2024
Number of permits for emissions into the environment	1289	577	556	557	877

## 8. Wastes

### 8.1 Industrial waste generation and level of processing

thousand tons

	2020	2021	2022	2023	2024
Industrial waste generation	759 905	871 147	888 131	917 993	652 176
Processing and recycling of industrial waste	273 718	333 080	360 720	278 518	174 183
Share recycling of industrial waste, in percent	36.02	38.23	40.03	30.38	26.7
Industrial waste per GDP unit, kg/international dollars at comparable prices in 2021 year	1.2	1.3	1.3	1.3	0.9
Industrial waste generation per capita, ton	40.5	45.8	45.3	45.8	32.14

\* Data from the Ministry of ecology and natural resources of the Republic of Kazakhstan.

### 8.2 Solid waste generation and recycling rate

thousand tons

	2020	2021	2022	2023	2024
Generation of solid waste	4 551.7	4 214.1	4 340.6	4 352.1	4 849.2
Processing and recycling of solid waste	868.9	985.3	1 103.1	1 029.6	1 254.6
Share recycling of solid waste, in percent	18.6	21.1	25.4	24.0	25.87
Solid waste generation per capita, kg/ per capita	242.7	221.8	222.1	221.8	239

\* Data from the Ministry of ecology and natural resources of the Republic of Kazakhstan based on information provided by local Executive bodies.

### 8.3 Formation of MSW and the level of their processing

thousand tons

	2021		2022		2023		2024	
	MSW formation	recycling, secondary use of solid waste	MSW formation	recycling, secondary use of solid waste	MSW formation	recycling, secondary use of solid waste	MSW formation	recycling, secondary use of solid waste
<b>Republic of Kazakhstan</b>	4 214.1	985.247	4 340.6	1 103.1	4 352.2	1 029.6	4 849.2	1 254.6
Abay	-	-	89.2	1.4	51.6	9.2	77.1	15.8
Akmola	124.0	10.800	155.5	12.3	183.4	18.6	249	47.8
Aktobe	299.764	32.117	300.9	45.2	303.7	56.8	303.9	66.8
Almaty	694.8	122.300	429.2	73.5	439.0	92.6	519.4	122
Atyrau	190.74	40.190	232.6	63.8	179.7	50.7	254.6	76.8
Batys Kazakhstan	80.4	9.341	114.2	17.3	124.6	23.2	127	28.1
Zhambyl	65.323	8.325	47.2	7.6	56.5	10.7	58.7	11.7
Zhetisu	-	-	220.0	39.1	225.8	44.5	220	39.1
Karagandy	465.3	134.910	328.2	179.2	343.5	192.4	370.6	209.5
Kostanay	190.682	33.828	210.8	38.4	274.2	57.0	272	57.4
Kyzylorda	116.0	22.800	164.0	40.2	166.0	45.7	303	91.2
Mangystau	102.102	28.938	207.8	66.7	199.7	63.0	210.1	70.5
Pavlodar	648.0	154.224	292.8	79.9	296.1	91.2	229.1	77.9
Soltustik Kazakhstan	76.4	11.480	82.8	15.2	87.1	17.4	88.9	18.1
Turkistan	110.031	17.600	92.7	17.6	103.2	23.7	94.2	24.5
Ulytau	-	-	268.4	0.2	143.4	0.002	124.9	0
Shygys Kazakhstan	180.628	20.407	110.8	17.7	146.5	32.3	121.7	29.3
Astana city	335.0	47.000	316.8	238.2	304.8	53.0	432	73.4
Almaty city	304.389	228.292	451.8	81.3	482.8	65.7	538.2	106.5
Shymkent city	230.497	62.695	225.0	68.1	240.7	81.9	254.1	87.7

### 8.4 Municipal waste generation

thousand tons

	2020	2021	2022	2023	2024
Total amount of municipal waste	2 812.2	3 188.9	3 071.9	3 298.4	3 801.6
of which household waste	2 009.3	2 091.7	2 035.9	2 062.7	1 985.6
Volume of buried waste	2 523.2	2 586.5	2 597.5	2 899.9	3 185.1

### 8.5 Collected municipal waste by regions

thousand tons

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	2 812.2	3 188.9	3 071.9	3 298.4	3 801.6
Abay	64.2	65.4	59.5	54.2	57.9
Akmola	96.6	118.7	134.9	140.5	97.0
Aktobe	163.0	165.4	154.2	127.1	242.8
Almaty	114.0	126.7	123.8	186.6	175.0
Atyrau	62.5	61.0	79.7	113.1	155.6
Batys Kazakhstan	107.5	118.9	127.4	111.9	87.1
Zhambyl	62.0	62.1	65.3	66.2	76.5
Zhetisu	43.9	30.1	25.5	29.4	86.5
Karagandy	307.6	330.5	336.8	321.1	313.8
Kostanay	153.6	144.2	171.2	196.2	182.2
Kyzylorda	58.8	66.0	87.3	105.8	128.7
Mangystau	135.8	143.0	176.1	120.2	132.2
Pavlodar	164.2	380.8	217.7	222.5	224.1
Soltustik Kazakhstan	75.7	78.2	69.3	74.1	80.5
Turkistan	157.5	161.2	156.8	172.0	153.9
Ulytau	56.5	53.3	82.7	64.4	87.9
Shygys Kazakhstan	104.1	107.2	107.6	148.2	129.8
Astana city	298.8	296.5	210.4	230.1	308.1
Almaty city	414.4	480.4	480.2	568.2	829.6
Shymkent city	171.5	199.3	205.4	246.6	252.6

### 8.6 Generation of hazardous wastes and their level of processing\*

thousand tons

	2020	2021	2022	2023	2024
Hazardous waste generation, thousand tons	137 828.0	42 090.0	46 487.8	43 867.9	45 136.8
Processing, recycling of hazardous waste (including incineration), thousand tons	30 711.8	4 924.0	3 388.7	2 796.7	5 043.1
The share of processing, recycling of hazardous waste, percent	22.3	11.7	7.3	6.3	11.17
Hazardous waste generation per unit of GDP, kg / thousand international dollars in 2021 prices	221.0	64.7	69.3	62.2	63.9
Hazardous waste generation (all hazard levels) per capita (SDG 12.4.2), kg / per capita of us.	7 349	2 215.3	2 367.6	2 193.4	2 225

\* Hereinafter, according to the Ministry of Ecology and Natural Resources of the Republic of Kazakhstan

### 8.7 Formation of hazardous waste and the level of its processing

thousand tons

	2020		2021		2022		2023		2024	
	MSW formation	Recycling, secondary use of solid waste	MSW formation	Recycling, secondary use of solid waste*	MSW formation	Recycling, secondary use of solid waste	MSW formation	Recycling, secondary use of solid waste	MSW formation	Recycling, secondary use of solid waste*
<b>Republic of Kazakhstan</b>	137 828.0	30 269.0	42 090.2	4 411.6	46 487.8	2 735.2	43 867.9	2 796.7	45 136.8	5 043.1
Abay	-	-	-	-	3727.8	104.8	...	...	...	...
Akmola	9 595.3	1 369.4	5 192.1	121.7	15 261.2	52.9	15 372.3	10.80	...	...
Aktobe	1 434.6	1 217.4	5 423.4	391.1	5 262.2	325.1	5 426.4	254.7	...	...
Almaty	657.2	43.2	37.3	33.6	9.1	0.06	2.105	0.04	...	...
Atyrau	296.3	157.4	274.5	65.1	212.8	18.6	218.9	64.9	...	...
Batys Kazakhstan	129.2	2 187.3	94.6	18.2	73.8	22.8	53.3	29.3	...	...
Zhambyl	325.6	235.1	143.3	132.0	155.8	144.6	121.2	113.8	...	...
Zhetisu	-	-	-	-	0.9	0.02	...	...	...	...
Karagandy	11 836.5	3 963.5	11 498.5	639.4	1 133.3	15.8	1 814.9	249.8	...	...
Kostanay	76 415.0	13 250.6	4 043.0	288.2	8 722.6	292.0	8 488.9	294.22	...	...
Kyzylorda	161.4	18.4	54.4	19.0	40.9	8.3	56.9	27.1	...	...
Mangystau	405.8	627.7	217.9	88.0	331.1	125.2	501.5	172.9	...	...
Pavlodar	29 102.8	4 661.3	4 122.2	1 879.2	209.7	79.8	197.5	61.0	...	...
Soltustik Kazakhstan	2 108.4	513.7	949.4	1.1	9.9	3.7	331.6	1.3	...	...
Turkistan	127.4	36.8	10.1	0.004	8.8	30.6	7.5	0.06	...	...
Ulytau	-	-	-	-	0.7	0.03	...	...	...	...
Shygyz Kazakhstan	2 399.0	622.4	7 738.4	365.9	11 167.8	1 500.6	5 143.8	1 438.1	...	...
Astana city	1 698.5	826.8	1 818.8	0.3	15.7	0.3	18.6	1.4	...	...
Almaty city	1 095.6	290.0	453.9	331.6	123.4	0.1	2 749	0.1	...	...
Shymkent city	39.4	248.2	18.4	37.2	20.3	10.7	37.7	0.05	...	...

\* Without incineration

<sup>1)</sup>The information is presented at the national level

**8.8 Generation, the use and disposal of hazardous waste products\***

thousand tons / year

	Generation of hazardous waste	Use of hazardous waste in enterprises	Hazardous waste disposal
2020	137 828.0	30 711.8	299.0
2021	42 090.0	4 924.0	393.0
2022	46 487.8	3 388.7	212.3
2023	43 867.9	2 796.7	491.7
2024	45 136.8	5 043.1	374.3

**8.9 Presence of hazardous waste products in enterprises**

at the end of the year, thousand tons

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	2 757 951.9	480 234.6	840 851.2	889 530.5	669 148.9
Abay	-	-	10 940.0	-	-
Akmola	33 867.1	26 054.7	131 974.2	226 172.5	-
Aktobe	6 212.9	59 930.7	65 803.2	67 232.1	-
Almaty	6 001.2	38.6	2.3	2.6	-
Atyrau	826.8	22.5	16.2	17.4	-
Batys Kazakhstan	408.9	87.1	78.6	54.9	-
Zhambyl	12 773.5	5 224.5	4 677.4	365.8	-
Zhetisu	-	-	8.7	-	-
Karagandy	745 730.3	54 894.2	23 649.4	819.7	-
Kostanay	1 219 162.0	191 106.5	257 345.4	254 875.7	-
Kyzylorda	107.6	3.5	11.2	9.7	-
Mangystau	228.2	23.4	260.5	62.4	-
Pavlodar	632 762.8	75 450.2	2 828.3	2 893.9	-
Soltustik Kazakhstan	39 586.0	2 188.1	5.7	536.5	-
Turkistan	1 340.6	644.1	648.4	649.7	-
Ulytau	-	-	0.1	-	-
Shygys Kazakhstan	19 535.2	32 155.3	342 585.6	335 819.9	-
Astana city	30 719.9	32 363.1	1.2	2.7	-
Almaty city	8 057.5	25.0	4.1	0.06	-
Shymkent city	631.4	23.1	10.7	15.0	-

**8.10 Volume of hazardous waste**

thousand tons

	2020	2021	2022	2023	2024
Generated hazardous waste during the year	137 828.0	42 090.2	46 487.8	43 867.9	45 136.8
Incoming hazardous waste of these: imported hazardous waste	16 063.9	1 006.3	1 568.9	1 163.9	778.9
Used (disposed) waste	0	0	0.3	1.15	35.4
Neutralized waste	30 711.8	512.4	3 388.7	2 796.7	5043.1
Transferred to the industrial recycling	299.0	393.0	212.3	491.7	374.3
Including: exported hazardous waste	15 143.1	2 051.2	2 221.9	2 377.5	1 961.7
directed: to places organized warehousing and burials	1.7	0	1.0	2.0	24.8
on authorized landfills and landfills solid household waste	115 443.6	35 185.9	6 028.8	4 871.2	19 859.2
Volume of hazardous waste at the end of the year	834.2	-	-	-	-
	2 757 951.9	480 234.6	840 851.2	908 869.2	669 148.9

### 8.11 Generation of hazardous waste by type of economic activity

thousand tons/year

	2020	2021	2022	2023	2024
Hazardous waste including:	137 828.0	42 090.2	46 487.8	46 868.0	45 136.8
Agriculture, forestry and fishing	2 144.4	1 052.7	766.8	1 143.3	-
Mining industry and quarry development	91 189.6	25 501.2	31 820.1	28 077.9	-
Manufacturing industry	20 979.1	6 121.0	8 396.6	8 644.0	-
Supply of electricity, gas, steam	19 784.5	4 606.1	554.3	147.3	-
Construction	220.6	30.7	152.3	4.1	-
Other types of economic activities	3 509.8	4 778.5	4 797.7	8 851.4	-

### 8.12 E-waste generation in 2024

tons

	2024
<b>Electrical and electronic equipment parts, of which:</b>	115.98
Transformers and capacitors containing polychlorinated onphenyls	55.557
Decommissioned equipment containing or contaminated with polychlorinated biphenyls, except as mentioned	-
Decommissioned equipment containing hazardous components of components 2, with the exception of those mentioned	19.184
Decommissioned equipment, except as mentioned	0.631
Hazardous components recovered from decommissioned equipment	3.111
Components extracted from decommissioned equipment except as mentioned	37.498

### 8.13 Production and consumption waste generation\*

thousand tons/year

	2020	2021	2022	2023	2024
Total waste generated	457 931.1	777 764.9	1 052 134.9	1 033 856.6	-
Including:					
Agriculture, forestry and fishing	2 168.7	3 132.9	3 039.6	3 302.6	-
Mining industry and quarrying	392 534.4	495 400.1	744 017.6	717 736.6	-
Manufacturing industry	33 262.5	129 091.7	180 735.3	163 112.3	-
Electricity, gas, steam	19 806.8	21 143.6	17 881.7	19 612.8	-
Construction	358.8	498.4	634.6	180.6	-
Other types of economic activities	9 799.9	128 498.2	105 826.1	129 911.7	-

\* According to the RSE "Information and analytical center for environmental protection" of the Ministry of ecology and natural resources of the Republic of Kazakhstan based on the State cadastre of production and consumption waste. The data are given without taking into account technogenic mineral formations and surface effusive and intrusive sedimentary rocks of different ages (overburden rocks).

### 8.14 Final waste disposal: non-hazardous industrial waste management

thousand tons

	2020	2021	2022	2023	2024
Total amount of waste managed	320 103.1	735 674.6	1 005 647.1	986 988.6	1 094 197.1
Recycled, reused, incinerated during the reporting year	94 027.4	108 679.8	149 420.1	104 476.5	248 040.4
Neutralized during the accounting year	0.3	-	-	-	-
Placed on its own waste disposal facilities	175 477.0	439 185.1	827 298.7	330 009.0	376 822.7
Transferred to third-party organizations and businesses	3 191.5	5 452.2	6 293.8	8 359.3	7 204.7

### 8.15 Medical waste

ton

	2020	2021	2022	2023	2024
Formed by medical organizations from them:					
Waste of class "A" m3	21 827 557.0	344 957 067.0	159 290 910.8	19 397 051.21	15 006 783.36
Waste of class "B"	39 820 555	15 995 684.7	58 991 247.06	88 323 825.6	95 932 402.84
Waste of class "B"	13 363 611.2	1 575 257 521.4	4 988 414.71	2 440 724.68	963 442.36

	2020	2021	2022	2023	2024
Formed by medical organizations					
Waste of class "G"					
Pcs	70 933	101 789	39 267.8	31 117.19	113 654.63
Kg	349 834.6	11 685.5	715 178.97	750 173.8	887 458.23
l	2 899.5	296.5	1 583.61	6 532.75	3 365.93
Waste of class "D"	3 229.6	1 628.4	223.04	416.96	6 414.83
Neutralized (taking into account the neutralized ones themselves)	-	-	-	-	-
Waste of class "A"	-	-	-	-	-
Waste of class "B"	23 573				
	287.98	312 631.3	569 132.85	2 135 752.2	7 562 399.5
Waste of class "B"	6 524 847.3	83 970.6	22 710.3	11 445.3	156 908.3
Waste of class "G", liter	206.16	1 989.6	4 039.85	133.12	26.36
Waste of class "D"	-	-	-	-	-
Buried					
Waste of class "A"	-	-	-	-	-
Waste of class "B"	389.05	88.7	803.5	487.0	2 874.5
Waste of class "B"	42.52	4.0	251.5	0.000	4.8
Waste of class "G"	-	-	-	-	-
Waste of class "D"	0.000	0.000	0.000	0.000	0.000

## 9. Forest resources

### 9.1 Main indicators of the forest fund\*

at the end of the year

	2020	2021	2022	2023	2024
Forest area (including forests transferred for temporary use), million hectares	30.0	30.6	30.9	30.9	31.4
Forest land, million hectares	13.3	13.6	13.7	13.7	13.9
Total stock of standing timber, million cubic meters	446.3	455.1	453.9	440.7	457.2
Forest cover of the territory, as a percent of the total area of the country	4.9	5.0	5.0	5.0	5.1

\* Hereinafter, according to the Forestry and wildlife Committee of the Ministry of ecology and natural resources of the Republic of Kazakhstan.

### 9.2 Forest Fund

on January 1, of the reporting year

	Total forest area, thousand hectares	Forest land, thousand hectares	Total standing timber, million cubic meters	Percent of forest land
<b>Republic of Kazakhstan</b>	31375.5	13898.7	457.2	5.1
Abay	853.6	437.5	47.5	2.4
Akmola	1059.5	445.9	51.4	3.0
Aktobe	1406.7	60.2	1.4	0.2
Almaty	3239.3	1582.0	40.4	15.1
Atyrau	169.2	18.4	0.5	0.2
Batys Kazakhstan	570.8	90.2	8.8	0.6
Zhambyl	4441.1	2315.1	4.8	16.0
Zhetisu	2197.4	445.9	16.3	3.7
Karagandy	536.1	137.5	5.6	0.6
Kostanay	1150.4	237.7	17.5	1.2
Kyzylorda	7541.8	3882.6	11.2	17.2
Mangystau	477.5	138.1	0.1	0.8
Pavlodar	478.7	309.4	31.2	2.5
Soltustik Kazakhstan	688.1	518.8	49.4	5.3
Turkistan	3474.2	1595.7	3.6	13.6
Ulytau	82.3	14.2	0.4	0.1
Shygys Kazakhstan	3008.7	1669.8	167.3	17.1

### 9.3 Forests and other wooded land

1000 ha

	2020	2021	2022	2023	2024
Country area	272 490.2	272 490.2	272 490.2	272 490.2	272 490.2
Total forest area	30 047.7	30 552.5	30 941.7	30 970.5	31 375.5
Share of forests in country area, in percent	11.0	11.2	11.4	11.4	11.5
Total area of other wooded land	13 316.9	13 635.3	13 673.5	13 697.2	13 898.7
Share of other wooded land in country area, in percent	4.9	5.0	5.0	5.0	5.1
<b>Primary and planted forest</b>					
Total forest area	30 047.7	30 552.5	30 941.7	30 970.5	31 375.5
Primary forests,	1 613.7	1 613.7	1 613.7	1 613.7	1 613.7
Primary forests, in percent	5.4	5.3	5.2	5.2	5.1
Other naturally regenerated forest	27 670.0	28 179.5	30 140.2	28 526.1	28 931.1
Other naturally regenerated forest, in percent	92.1	92.2	97.4	92.1	92.3
Planted forest	764.0	759.3	812.2	830.7	830.7
Planted forest, in percent	2.5	2.5	2.6	2.7	2.6
<b>Forest area designated for production</b>					
Total forest area	30 047.7	30 552.5	30 941.7	30 970.5	31 375.5
of which					
Production forest	446.3	455.1	453.9	440.7	457.2
Production forest, in percent	1.5	1.5	1.5	1.4	1.5
<b>Forest area designated for protection of protected areas and places for biodiversity conservation</b>					
Total forest area	30 047.7	30 552.5	30 941.7	30 970.5	31 375.5
of which					
Forest area within protected areas (SPNT)	10 891.8	10 950.7	11 294.7	11 294.7	11 295.7

Continuation

	2020	2021	2022	2023	2024
Forest area within protected areas, in percent	36.2	35.8	36	36	36
Forest reserves and composition:					
coniferous, thousand cubic meters	281 591.4	285 537.7	286 819.6	276 131.4	281 050.1
deciduous, thousand cubic meters	146 962.8	145 191.8	140 998	142 492.7	137 101.0
standing forest stocks of 10 most common species:	441 460.1	450 035.5	453 927	440 738.4	457 300.0
pine, thousand cubic meters	118 140.9	119 967.3	119 437.4	113 548.5	127 375.0
the fir, thousand cubic m	47 072.7	47 973.5	48 832.4	49 142.0	49 771.2
fir, thousand cubic meters	66 805.9	67 639.0	68 211.5	63 075.2	63 781.8
larch, thousand cubic meters	36 045.8	36 345.2	36 631.4	36 628.3	36 243.4
cedar, thousand cubic meters	13 233.5	13 326.0	13 417.5	13 445.4	13 584.0
birch, thousand cubic meters	91 102.2	92 519.9	89 300.1	89 143.7	88 190.3
aspen, thousand cubic meters	35 951.4	36 818.4	35 424.4	31 720.0	32 926.2
poplar, thousand cubic meters	10 926.6	11 142.7	11 442.6	11 269.7	11 595.8
willow, thousand cubic meters	4 360.6	4 442.3	4 557.7	4 504.1	4 155.2
saxaul, thousand cubic meters	17 790.5	19 861.2	20 952.2	22 114.3	23 390.1
other, thousand cubic meters	4 884.6	5 045.9	5 719.8	6 147.2	6 236.8
Reforestation area, thousand hectares	74.8	50.2	66.9	53.3	1 014.2
Forest plantations, thousand hectares	1.9	1.8	1.9	1.8	1.0

\*Committee of forestry and wildlife of the Ministry of ecology and natural resources of the Republic of Kazakhstan (MENR).

#### 9.4 Distribution of areas of the main forest-forming species of the state forest fund in 2025

thousand hectares

	Area	Of these, the main prevailing breeds			
		coniferous	hardwood	softwood	saxaul
<b>Republic of Kazakhstan</b>	10 766.1	1 841.8	153.2	1 587.3	7 183.8
Abay	371.7	320.2	7.1	44.4	0
Akmola	420.1	201.3	42.0	176.8	0
Aktobe	36.4	1.4	23.2	5.2	6.6
Almaty	1 268.6	151.9	4.1	11.3	1 101.3
Atyrau	5.1	0	0.4	4.5	0.2
Batys Kazakhstan	74.5	0.7	21.5	52.3	0
Zhambyl	1 211	3.6	7.4	0.5	1 199.5
Zhetisu	259	65.7	3.1	33.6	156.6
Karagandy	59.6	30.6	6	22.9	0.1
Kostanay	188.8	54.8	5.2	128.8	0
Kyzylorda	3 516.9	0	0	0.1	3 516.8
Mangystau	31.3	0	0	0	31.3
Pavlodar	294.6	191.5	16.1	87	0
Soltustik Kazakhstan	501.2	38.6	5.1	457.5	0
Turkistan	1 190.2	11.3	6.2	1.3	1 171.4
Ulytau	6.6	0.2	1.7	4.7	0
Shygys Kazakhstan	1 330.5	770	4.1	556.4	0

#### 9.5 Reforestation

thousand hectares

	Reforestation		Share of sowing and planting forests in the total area on which reforestation was carried out, in percent
	total	including planting and planting forests	
2020	51.29	45.75	89.2
2021	53.8	45.5	84.6
2022	135.8	135.8	100
2023	218.9	218.9	100
2024	91.1	91.1	100

## 9.6 Reforestation in state forests

thousand hectares

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	51.3	53.8	138.5	218.9	91.1
Abay	-	-	4.1	2.5	5.1
Akmola	3.6	5.1	5.9	6.0	4.3
Aktobe	1.0	1.0	3.2	4.7	1.2
Almaty	0.7	0.6	1.3	3.8	0.2
Atyrau	0.3	0.3	0.5	0.5	0.3
Batys Kazakhstan	0.8	0.8	1.2	2.0	0.7
Zhambyl	5.2	5.6	9.2	13.9	4.7
Zhetisu	-	-	0.3	2.4	0.2
Karagandy	0.5	0.6	0.4	0.4	0.2
Kostanay	1.2	0.8	2.5	2.1	2.3
Kyzylorda	13.4	12.9	84.6	156.6	64.9
Mangystau	0.3	0.3	0.3	0.9	0
Pavlodar	3.3	3.1	3.1	2.0	1.6
Soltustik Kazakhstan	1.2	1.9	1.2	2.4	1.5
Turkistan	14.6	15.5	20	17.4	2.0
Ulytau	-	-	-	0.1	0.3
Shygys Kazakhstan	5.0	5.1	0.7	1.2	1.5

## 9.7 Forest fires

	Number of forest fires, cases	Forest area covered by fires, hectares	Damage caused by fires, at current prices, million tenge	Average area of one fire, hectares
2020	701	41 866	2 115.5	59.7
2021	751	14 794	6 278.4	19.7
2022	801	56 251	20 593.7	70.2
2023	810	77 760	163.2	2.0
2024	294	18 181	101.6	61.8

## 9.8 Creating plantings on ravines, beams, sand and other uncomfortable lands

thousand hectares

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	1.0	-	-	-	-
Akmola	-	-	-	-	-
Atyrau	0.2	-	-	-	-
Batys Kazakhstan	0.8	-	-	-	-
Kyzylorda	-	-	-	-	-

## 9.9 Entering young plantations in the category of valuable (highly productive) forest plantations

thousand hectares

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	62.2	50.2	66.9	53.3	42.0
Abay	-	-	2.7	2.8	1.6
Akmola	1.8	1.7	1.8	0.9	0.8
Aktobe	0.8	0.7	0.6	0.8	0.7
Almaty	1.3	0.5	10.1	8.1	7.3
Atyrau	-	-	-	-	-
Batys Kazakhstan	0.2	0.3	0.2	0.2	0.2
Zhambyl	2.8	18.8	13.3	5.6	5.2
Zhetisu	-	-	0.1	0.3	0.2
Karagandy	0.3	0.2	0.1	0.2	0.3
Kostanay	2.9	1.2	1.9	1.4	1.5
Kyzylorda	16.3	3.1	9.4	10.9	10.2
Mangystau	0.1	0.1	0.1	0.2	0.1
Pavlodar	3.4	2.4	1.8	1.6	-
Soltustik Kazakhstan	6.8	7.2	5.2	4.6	4.4
Turkistan	17.6	6.6	18.1	12.6	8.6
Ulytau	-	-	0.2	-	-
Shygys Kazakhstan	7.8	7.5	1.2	3.1	0.9

### 9.10 Thinning and selective-sanitary felling

	The area of felling, total, hectares	Felled timber, th. solid cubic meters		
		total	of them liquid	of them industrial
2020	18 018.24	401.2	392.4	3.85
2021	47 892.1	203.1	196.7	36.6
2022	14 293.04	325.5	319.2	36.5
2023	5 628.9	61 377.0	56 973.1	6 997.0
2024	18 070.4	74.123	68.807	10.415

### 9.11 Thinning and selective-sanitary felling in 2024

	The area of felling, total, hectares	Felled timber, th. solid cubic meters		
		total	of them liquid	of them industrial
<b>Republic of Kazakhstan</b>	18 070.37	74.123	68.807	10.415
Abay	308.5	3.813	3.395	0.059
Akmola	553.2	9.6	8.5	2.1
Aktobe	46.1	1.02	1.02	-
Almaty	34.51	1.04	0.83	0.7
Atyrau	55	0.6	0.6	-
Batys Kazakhstan	299	5.9	5.1	0.5
Zhambyl	-	-	-	-
Zhetisu	11.0	0.4	0.184	0.166
Karagandy	132.4	1.34	1.128	0.07
Kostanay	470.6	8.4	8.4	0.9
Kyzylorda	-	-	-	-
Mangystau	-	-	-	-
Pavlodar	10 421.16	22.8	20.8	1.4
Soltustik Kazakhstan	640.6	11.3	11.0	3.3
Turkistan	4555.2	1.9	1.9	0
Ulytau	22.3	0.31	0.28	-
East Kazakhstan	520.8	5.7	5.67	1.22

## 10. Specially protected natural areas

### 10.1 Protected areas \*

thousand hectares

	2020	2021	2022	2023	2024
Country area, thousand ha	272 490	272 490	272 490	272 490	272 490
Total areas under protection	26 949.0	26 951.3	29 353.2	29 484.9	30 957.2
state nature reserve	1 611.4	1 613.7	1 613.7	1 613.7	1 613.7
state national natural parks	2 668.9	2 668.9	2 727.8	2 727.8	2 727.8
state nature reserve	3 122.1	3 122.1	3 465.1	3 465.1	3 573.7
state natural monuments of national significance	0.272	0.272	0.272	0.272	0.272
state natural monuments of local significance	0.176	0.176	0.176	0.176	0.176
state nature reserves of republican significance	6 537.1	6 537.1	8 537.1	8 537.1	8 537.1
state nature reserves of local importance	1 505.6	1 505.6	1 505.6	1 637.3	2 999.4
state protected areas	11 311.9	11 311.9	11 311.9	11 311.9	11 311.9
state botanical gardens of republican significance	0.47	0.47	0.47	0.47	0.47
state arboretum of republican significance	0.4	0.4	0.4	0.4	0.4
state arboretum of local importance	0.117	0.117	0.117	0.117	0.117
state (regional) natural parks	189.1	189.1	189.1	189.1	189.1
state Zoological parks of local significance	0.001	0.001	0.001	0.001	0.001
Share of total protected areas in the country area, in percent	9.88	9.89	10.77	10.82	11.37

\* Date of the Forestry and Wildlife Committee of the Ministry of Ecology and Natural Resources of the Republic of Kazakhstan.

## 11. Protection of animal world

### 11.1 Aquaculture stocks\*

tons

	2020	2021	2022	2023	2024
Aquaculture stocks (by species):					
in natural expression	9 020.5	14 993.9	19 243.0	21 899.1	24 373.4
carp	3 354.8	6 447.6	6 703.0	12 309.1	13 234.62
whitefish	507.4	589.2	1 236.8	1 767.4	2 035.78
salmon	1 513.5	1 434.6	3 259.4	6 082.0	7 003.26
sturgeon	278.1	324.0	395.6	463.3	328.24
catfish	3 234.5	5 050.0	4 816.5	902.0	711
other types	132.2	1 148.5	2 831.7	375.3	1 060.5

### 11.2 Reserves of fish resources in individual water bodies\*

thousand tons

Name of reservoirs	2020	2021	2022	2023	2024
Caspian Sea	49.730	49.730	92.73	100.300	87.901
Kigach River	16.396	14.110	17.747	17.475	17.505
The Zhayyk River in the previous. Atyrau region	20.342	17.684	16.665	10.668	10.909
The Zhayyk River in the previous. WKO	0.140	0.126	0.098	0.058	0.118
Buktyrma Reservoir	13.466	13.053	14.235	13.573	14.760
Jaisan Lake	42.653	39.953	26.943	31.767	39.842
Shulba reservoir	3.678	2.542	3.519	3.373	2.562
Yertis River	0.153	0.188	0.127	0.410	0.381
Ust-Kamenogorsk water	0.270	0.214	0.126	0.142	0.168
Channel them. K. Satpayev	0.801	0.793	1.680	1.527	1.527
Lake Balkash	24.995	31.475	29.701	33.195	37.233
Alakol Lake	1.867	0.993	4.368	4.173	4.562
Sasykkol Lake	2.218	1.795	3.755	3.427	3.670
Lake Koshkarkol	0.335	0.243	0.584	0.635	0.607
Kapshagai water	4.333	4.379	5.116	5.369	5.493
Ile River	0.120	0.090	0.145	0.137	0.140
Ile River Delta	0.459	0.413	0.513	0.501	0.550
Aral Sea	24.256	25.734	26.272	25.820	23.244
Syr Darya River in the past. Kyzylorda region	0.313	0.345	0.464	0.488	0.406
Syr Darya River in the past. SKO	0.700	0.752	0.744	0.758	0.728
Shardara water	7.902	8.711	7.922	8.360	8.133
Tobyl River	0.089	0.029	0.051	0.075	0.059
Yesil River	0.149	0.100	0.085	0.083	0.072
Nura River	0.294	0.221	0.162	0.145	0.153

\* Data of the Fisheries Committee of the Ministry of Agriculture of the Republic of Kazakhstan.

### 11.3 The number of endangered and protected species

units

	2020	2021	2022	2023	2024
<b>Mammals</b>					
Total number of species, number of	178	178	178	178	178
Of which endangered species, the number of species, including	31	31	31	31	31
critically endangered species, number of species	5	5	5	5	5
endangered species (threatened with extinction), number of species	22	22	22	22	22
vulnerable species, number of species	4	4	4	4	4
Of which the protected species, the number of species	40	40	40	40	40
<b>Birds</b>					
Total number of species, number of	489	489	489	489	489
Of which endangered species, the number of species, including	49	49	49	49	49
critically endangered species, number of species	16	16	16	16	16
endangered species (threatened with extinction), number of species	18	18	18	18	18

	2019	2020	2021	2022	2023
vulnerable species, number of species	15	15	15	15	15
Of which the protected species, the number of species	57	57	57	57	57
<b>Vascular plants</b>					
Total number of species, number of	6 000	6 000	6 000	6 000	6 000
Of which endangered species, the number of species, including	370	370	370	370	370
critically endangered species, number of species	327	327	327	327	327
endangered species (threatened with extinction), number of species	41	41	41	41	41
vulnerable species, number of species	2	2	2	2	2
Of which the protected species, the number of species	370	370	370	370	370
<b>Mosses</b>					
Total number of species, number of	500	500	500	500	500
Of which endangered species, the number of species, including	3	3	3	3	3
critically endangered species, number of species	3	3	3	3	3
Of which the protected species, the number of species	3	3	3	3	3
<b>Lichens</b>					
Total number of species, number of	500	500	500	500	500
Of which endangered species, the number of species, including	1	1	1	1	1
critically endangered species, number of species	1	1	1	1	1
Of which the protected species, the number of species	1	1	1	1	1
<b>Mushrooms</b>					
Total number of species, number of	5 000	5 000	5 000	5 000	5 000
Of which endangered species, the number of species, including	5	5	5	5	5
critically endangered species, number of species	1	1	1	1	1
endangered species (threatened with extinction), number of species	2	2	2	2	2
vulnerable species, number of species	2	2	2	2	2
Of which the protected species, the number of species	10	10	10	10	10

#### 11.4 Types of endangered and protected species\*

heads

	2020	2021	2022	2023	2024
<b>Class mammals</b>					
Little shrew baby	...	...	...	...	...
Muskrat	...	...	...	...	...
Asian wide	...	...	...	...	...
Kozhanok Bobrinsky	...	...	...	...	...
Tien Shan Brown Bear	3 007	599	489	...	...
Stone marten	...	...	910	503	...
Pine marten	...	...	...	923	...
European mink	9 134	...	...	...	...
Porbeagle	...	77	32	...	...
Central Asian River Otter	351	355	...	43	...
Dune cat	...	...	...	358	...
Manul	...	...	30	...	...
Caracal	...	...	...	35	...
Central Asian or Turkistan region lynx	...	177	359	...	...
Snow Leopard	150	170	180	362	189
Turkmen Kulan	4 255	4 337	4 413	183	4 614
Tugai Deer	914	976	1 052	4 493	1 210
Jeyran	14 656	14 894	15 089	1 147	15 585
Ustyurk mountain sheep	2 374	2 412	3 301	15 411	3 829
Kazakhstan mountain sheep	12 818	13 083	13 259	3 605	14 072

Continuation

	2020	2021	2022	2023	2024
Tien Shan mountain sheep	2 611	2 657	2 705	13 543	2 414
Karatau mountain sheep:	657	711	747	2 405	867
The Menzbier Marmot	...	14 703	12 268	763	...
Indian Porcupine	...	113	247	13 114	...
Lick	...	...	...	263	...
Five-toed dwarf jerboa	...	...	...	...	...
Pale dwarf jerboa	...	...	...	...	...
Fatty dwarf jerboa	...	...	...	...	...
Giant mole rat	...	975	975	963	...
		<b>Bird class</b>			
Pink Pelican	...	4 353	4 380	...	...
Curly pelican	...	3 042	3 079	4 401	...
Little Egret	...	123	130	3 095	...
Spoonbill	...	240	246	133	...
Loaf	...	570	275	264	...
Turkistan White Stork	...	...	...	321	...
Black stork	...	269	273	...	...
Flamingo	...	4 965	4 984	288	...
Goose squirrel	...	...	...	5 011	...
Red-breasted Goose	...	...	...	...	...
Whooper swan	...	3 274	3 281	...	...
Marbled Teal	...	90	92	3 413	...
White-eyed blacken	...	780	784	94	...
Savka	...	8 532	8 541	787	...
Osprey	...	52	56	8 552	...
Snake eater	...	71	72	58	...
Eagle dwarf	...	51	56	75	...
Steppe eagle	...	148	151	57	...
Burial ground	...	260	270	143	...
Golden eagle	...	383	387	267	...
Long-tailed eagle	...	38	41	390	...
White-tailed eagle	...	131	138	43	...
Borumodach	...	78	82	141	...
Vulture	...	88	92	83	...
Kumai	...	111	113	97	...
Krechet	...	...	...	114	...
Saker	...	150	160	...	...
Shahin	...	...	...	163	...
Sapsan	...	...	...	...	...
Altai Ular	9 458	9 458	9 462	...	...
Sterh	...	...	...	9 469	...
Gray Crane	...	907	910	...	...
Crane belle	...	6 412	6 418	917	...
Sultanka	...	...	...	6 432	...
Bustard	...	430	445	...	...
Strepeta	...	1 050	1 090	453	...
Jack	...	2 030	2 044	1 096	...
Krechatka	...	506	508	2 123	...
Serpoklyuv	...	16	19	515	...
Curlew-baby	...	...	...	21	...
Curly Curlew	...	...	...	...	...
Asian Snipe Spin	...	...	...	...	...
Black-headed Laugh	...	15 100	15 123	...	...
Relic gull	...	...	...	15 132	...
Black-bellied speck	...	2 021	2 032	...	...
White-tailed Grouse	...	360	365	2 042	...
Saja	...	491	497	369	...
Brown dove	...	803	815	442	...
Owl	...	389	394	811	...
Ili saxaul jay	...	...	...	392	...
Blue bird	...	169	175	168	...
Big lentils	...	...	...	...	...

\* Hereinafter, according to the Committee for Forestry and Fauna under Ministry of Ecology and Natural Resources of the Republic of Kazakhstan.

No data for 2023.

### 11.5 The trend of changes in the number and distribution of certain species of animals

heads

	2020	2021	2022	2023	2024
Saiga tatarika	-	842 000	1 318 000	1 915 000	2 833 600
Ovis ammon	18 465	18 863	19 730	20 316	21 182
Species of International Importance: Cervus elaphus bactrianus, Bustard-beauty	914	976	1 052	1 147	1 210
Most important species: Endemic species: Gazella subgutturosa	11 767	12 030	14 405	15 337	15 764
Other species: Kulan/Equus hemionus	14 656	14 894	15 089	15 411	15 585
	4 255	4 337	4 413	4 493	4 614

### 11.6 Main indicators for hunting

thousand ha

	2020	2021	2022	2023	2024
Total area of hunting grounds	273 365,9	273 365,9	273 365,9	273 365,9	273 365,9
Area of the fixed hunting lands for hunting	187 264	187 264,9	187 264,9	108 532,6	10 637,1
Area of fixed hunting grounds covered by on-farm hunting	970 017	970 017	970 017	-	-
Area of hunting grounds, where the number of wild animals is recorded	117 658	117 658	117 658	117 658	108 418
Ungulates, fur-bearing animals and feathered game, heads were extracted*	738 150	725 603	749 646	744 957	751 540
Ungulata	7 125	7 812	7 715	7 324	7 493
Fur animal	132 665	142 413	143 561	141 352	142 682
Feathered game	598 360	602 378	598 370	596 281	601 365

\* Data has been provided by the Forestry and wildlife Committee under the Ministry of Ecology and Natural Resources of the Republic of Kazakhstan.

### 11.7 Results of hunting activities and payment to the budget for the use of wildlife

thousand tenge

	2020	2021	2022	2023	2024
Income from hunting activities – total, thousand tenge	1 890 081	1 205 112	343 729	385 191.7	381 504.3
of them:					
from a foreign hunter	699 983.7	699 932.7	63 698	95 020.8	84 240.6
from the sale of permits to citizens for hunting in fixed hunting grounds	981 981.3	1 102 734	967 767	290 170.9	-
from services rendered to citizens during the production of hunting payments to the budget for the use of wildlife were transferred	71 728.5	86 307	-	-	-
	699 932	711 527	343 729	385 191.7	-

## 12. Energy

### 12.1 Total primary energy supply

ktoe

	2020	2021	2022	2023	2024
Production of energy	159 030	157 399	160 265	162 923	162 533
Imports of energy	13 026	3 858	2 718	3 500	6 870
Exports of energy	-105 539	-94 241	-89 800	-89 849	-90 829
International marine and aviation bunkers	-328	-505	-465	-527	-466
Stock changes	-442	2 167	-1 349	-2 670	-3 803
Total primary energy supply	65 748	68 679	71 369	73 378	74 304
of which					
Coal	32 613	33 533	35 986	36 416	35 036
Crude oil	17 085	20 548	21 572	18 871	15 849
Oil products	-5 164	-3 434	-5 581	-2 972	-2 926
Natural gas	20 173	16 966	18 069	19 606	24 564
Hydropower	831	792	791	757	970
Geothermal and solar energy, etc.	217	290	363	487	546
Biofuels and waste	58	32	44	35	60
Electricity	-65	-49	125	178	205
Heat	...	...	...	...	...

### 12.2 Total primary fuel and energy consumption

million toe

	2020	2021	2022*	2023	2024
Total primary fuel and energy consumption	65.7	68.7	69.9	73.4	74.3

### 12.3 Final energy consumption

ktoe

	2020	2021	2022	2023	2024
Total final energy consumption	40 331.9	43 261.7	41 156.5	43 382.4	44 647.3
Industry	12 558.8	13 107.4	11 852.1	11 566.4	9 898.6
Transport	7 443.5	8 045.7	8 308.0	10 239.2	11 129.2
Households	13 490.2	14 713.3	13 686.8	14 701.6	16 305.4
Services sector	3 972.2	5 529.9	5 314.7	4 945.9	4 991.1
Agriculture, forestry and fishery	832.9	982.4	1 074.8	795.3	799.3
Other activity	1 671.9	73.7	86.4	...	...
Non-energy use of energy	362.4	809.3	833.6	1 134.0	1 523.6

\* Preliminary data. The final data will be generated at the end of 2025.

### 12.4 GDP energy intensity

mln. kW h

	2020	2021	2022	2023	2024
Energy intensity of GDP, tne/thousand us dollars in 2015 prices	0.321	0.320	0.317	0.318	0.304

\* Preliminary data. The final data will be generated at the end of 2025.

### 12.5 Production of electricity

mln. kW h

	2020	2021	2022	2023	2024
<b>Republic of Kazakhstan</b>	108 628.4	115 079.2	113 453.2	113 585.5	118 669.9
Abay	1 845.5	1 754.6	1 778.4	2 110.9	2 493.7
Akmola	1 312.1	1 529.9	1 308.0	1 869.6	1 878.7
Aktobe	4 102.9	4 042.7	3 925.8	4 344.0	4 374.4
Almaty	3 375.7	3 092.8	3 430.5	3 506.5	4 082.3
Atyrau	6 567.5	7 356.8	7 523.0	7 334.7	8 458.5
Batys Kazakhstan	2 162.0	2 411.8	2 317.9	2 252.4	2 338.2
Zhambyl	2 545.3	3 229.9	4 899.3	4 356.5	5 048.5
Zhetisu	467.6	492.5	576.6	840.3	1 042.8

Continuation

	2020	2021	2022	2023	2024
Karagandy	13 704.6	13 466.7	11 995.2	12 229.3	12 223.8
Kostanay	1 082.9	995.0	1 066.7	1 087.1	1 354.8
Kyzylorda	1 770.6	1 781.3	1 832.9	1 646.7	1 656.0
Mangystau	4 748.8	4 843.8	4 785.5	5 050.8	5 416.7
Pavlodar	44 340.2	49 916.9	49 090.6	48 324.7	48 348.5
Soltustik Kazakhstan	3 355.0	2 724.5	1 625.9	2 328.8	2 352.3
Turkistan	766.6	802.5	944.8	1 004.5	1 105.0
Ulytau	1 510.8	1 274.8	1 193.7	925.2	1 006.2
Shygys Kazakhstan	7 636.3	7 497.1	7 049.0	6 314.6	7 643.7
Astana city	3 321.8	3 901.4	4 070.2	3 990.7	3 893.0
Almaty city	3 230.5	3 085.4	3 144.1	3 172.1	3 040.2
Shymkent city	781.7	878.8	894.9	896.2	912.5

## 12.6 Electricity generation by renewable energy sources

1000 kWh

	2020	2021	2022	2023	2024
Electricity production, taking into account small hydroelectric power plants, total	110 890.3	115 079.2	113 552.1	113 585.5	118 716.7
<b>Of which, generated by renewable energy sources</b>					
produced by small hydroelectric power plants	558.1	602.2	817.9	993.9	980.3
produced by wind farms	1 028.7	1 747.5	2 318.7	3 825.0	4 454.5
produced by solar power plants	1 490.4	1 629.1	1 899.6	1 872.8	1 890.4
using biogas	6.5	2.6	2.9	5.1	1.8

## 12.7 The share of electricity generated from renewable energy sources (RES) in the total amount of electricity generated

in percent

	2020	2021	2022	2023	2024
The share of electricity generated from renewable energy sources in the total volume of electricity production, including large hydropower plants	10.99	10.94	11.82	12.74	14.85
The share of renewable energy sources in the total electricity production, excluding large hydropower plants	2.8	3.5	4.4	5.9	6.2
<b>Including by type of RES</b>					
hydroelectric power stations	8.7	8.0	8.1	7.8	9.5
wind farms	0.9	1.5	2.0	3.3	3.8
solar power plants	1.3	1.4	1.7	1.6	1.6
biogas use	0.0	0.0	0.0	0.0	0.0
<b>Of the total volume of electricity generated by RES</b>					
hydroelectric power stations	79.3	73.2	68.6	60.9	64.0
wind farms	8.4	13.9	17.3	26.2	25.3
solar power plants	12.2	12.9	14.2	12.9	10.7
biogas use	0.1	0.0	0.0	0.0	0.0

\* Preliminary data. The final data will be generated at the end of 2024.

## 12.8 Prices of enterprises producing industrial products for electricity and certain types of energy carriers

at the end of the period, in tenge per unit of measurement

	2020	2021	2022	2023	2024
Steam coal, tenge / ton	5 242	5 664	5 575	9 057	9 795
Crude oil (natural mixture of hydrocarbons), including oil derived from bituminous minerals, tenge / ton	41 907	81 909	95 025	107 076	98 903
Natural gas (natural) in a gaseous state, tenge / thousand cube m	16 614	14 031	18 878	24 145	36 537
Motor gasoline (distillation temperature - 30-220 degrees Celsius) for engines with spark ignition, with a lead content of not more than 0.013 g / l, without additives TEL or TML, tenge / ton	118 865	152 046	141 593	165 599	165 714
Gas oils (diesel fuel), tenge / ton	153 185	174 724	168 351	219 427	226 029
Fuel oil, tenge / ton	56 649	103 710	109 838	118 149	106 488
Electricity, taking into account the services for its distribution, tenge / 1 000 kWh	9 292	11 931	12 619	15 878	16 444

## 12.9 Average prices and tariffs for gas, electricity, and fuel and lubricants for the population

at the end of the period, in tenge per unit of measurement

	2020	2021	2022	2023	2024
Gas transported through distribution networks					
natural, cubic meter	18.67	26.36	26.76	30.16	33.50
liquefied gas, kg	153.68	162.16	166.82	176.31	192.83
Liquefied gas, 50-liter cylinder	2 853	4 487	3 524	3 866	4 363
Electricity depending on consumption volume, for households using electric stoves, 100 kWh					
Level 1	1 199	1 452	1 569	1 903	2 262
Level 2	1 575	1 885	2 059	2 503	2 959
Level 3	1 943	2 347	2 558	3 103	3 671
Electricity depending on consumption volume, for households not using electric stoves, 100 kWh					
Level 1	1 217	1 475	1 569	1 928	2 278
Level 2	1 577	1 902	2 052	2 519	2 967
Level 3	1 946	2 369	2 550	3 124	3 683
Gasoline AI-92, liter	151	180	179	203	203
Gasoline AI-95/96, liter	171	209	212	254	260
Gasoline AI-98, liter	190	231	233	284	298
Diesel fuel					
summer, liter	183	243	239	291	293
winter, liter	247	346	608	561	555

## 13. International comparisons

### 13.1 The main socio-economic indicators of the CIS countries in 2024

hereinafter, the source of information is the CIS Interstate Statistical Committee

	Kazakhstan	Azerbaijan	Armenia	Belarus
Population size at the beginning of 2025, million ppl	20.3	10.2	3.1	9.1
Percent of urban population	63.0	54.4	64.1	78.9
Percent of rural population	37.0	45.6	35.9	21.2
Life expectancy at birth, number of years	75.4	76.9	77.7 <sup>1)</sup>	74.5 <sup>2)</sup>
Infant mortality rate, per 1 000 live births	6.8	13.9	6.2	2.9
Unemployment rate, percent	4.7	5.3	13.9	3.0
Number of doctors per 10 000 population				
Crime rate per 100 000 population	41	35	...	54
State budget expenditures on education, as a percent of GDP	659	327	1326	802
State budget expenditures on health care, as a percent of GDP				
Index of physical volume of GDP, 2024 as a percent of 2006	203	202	...	...
Index of physical volume of GDP, 2024 as a percent of 1991	288	303	171	125

Continuation

	Kyrgyzstan	Moldova	Russia	Tajikistan	Turkmenistan	Uzbekistan
Population size at the beginning of 2025, million ppl	7.3	2.4	146.0	10.5	...	37.5
Percent of urban population	41.7	43.7	75.1	...	...	51.0
Percent of rural population	58.3	56.4	24.9	...	...	49.0
Life expectancy at birth, number of years	72.0 <sup>1)</sup>	72.0	73.4 <sup>1)</sup>	76.5 <sup>1)</sup>	...	74.7 <sup>1)</sup>
Infant mortality rate, per 1 000 live births	13.1	11.8	4.2 <sup>1)</sup>	...	...	9.0
Unemployment rate, percent	3.7	4.0	2.5	...	...	5.5
Number of doctors per 10 000 population		52				
Crime rate per 100 000 population	503	1024	1308	215	...	356
State budget expenditures on education, as a percent of GDP						
State budget expenditures on health care, as a percent of GDP						
Index of physical volume of GDP, 2024 as a percent of 2006	230	...	...	...	416	321
Index of physical volume of GDP, 2024 as a percent of 1991	206	118	124	167	...	442

*\*Note: Since December 2022, the CIS Statistics Committee does not have data for Ukraine; until December 2022, data is provided from the official website of the country's national statistical service; for Turkmenistan - from the websites of government organizations of the country.*

### 13.2 Number of births, deaths and natural population growth

thousand people

	Kazakhstan	Azerbaijan	Armenia	Belarus	Kyrgyzstan
Number of births					
2020	427	126	37	...	158
2021	446	112	37	...	150
2022	404	123	37	...	150
2023	388	113	36	...	146
2024	366	120	33	...	141
Number of deaths					
2020	161	76	36	...	40
2021	182	77	34	...	39
2022	134	61	27	...	31

	Kazakhstan	Azerbaijan	Armenia	Belarus	Kyrgyzstan
2023	131	60	24	...	30
2024	133	59	25	...	32
Natural increase, decrease (-)					
2020	265	51	0.1	...	118
2021	264	35	3	...	111
2022	270	62	10	...	119
2023	258	53	12	...	116
2024	233	43	8	...	109

Continuation

	Moldova	Russia	Tajikistan	Turkmenistan	Uzbekistan
Number of births					
2020	31	1436	...	...	853
2021	29	1398	...	...	905
2022	29	1304	...	...	932
2023	24	1 264	...	...	962
2024	24	...	...	...	926
Number of deaths					
2020	41	2124	...	...	176
2021	45	2442	...	...	174
2022	45	1899	...	...	172
2023	34	...	...	...	174
2024	...	...	...	...	...
Natural increase, decrease (-)					
2020	-11	-689	...	...	666
2021	-16	-1044	...	...	731
2022	-16	-595	...	...	760
2023	-10	-500	...	...	789
2024	-10	...	...	...	752

### 13.3 General birth, death and natural population rates

per 1000 population

	Kazakhstan	Azerbaijan	Armenia	Belarus	Kyrgyzstan
Number of births					
2020	22.8	12.7	12.3	...	23.5
2021	23.5	11.2	12.4	...	21.9
2022	20.6	11.2	12.3	...	21.5
2023	19.5	11.1	12.3	...	20.6
2024	18.15	10.0	11.1	6.5	19.4
Number of deaths					
2019	8.6	7.6	11.9	...	5.9
2020	9.5	7.7	11.6	...	5.7
2021	6.8	6.0	9.0	...	4.5
2022	6.6	5.9	8.2	...	4.3
2023	6.6	5.8	8.4	12.6	4.4
Natural increase, decrease (-)					
2020	14.2	5.1	0.4	...	17.6
2021	13.9	3.5	0.8	...	16.2
2022	13.8	6.2	3.3	...	17.0
2023	12.9	5.2	4.1	...	16.1
2024	11.56	4.2	2.7	6.1	15.0

Continuation

	Moldova	Russia	Tajikistan	Turkmenistan	Uzbekistan
Number of births					
2020	11.7	9.8	25.6	...	24.6
2021	11.3	9.5	22.1	...	25.9
2022	10.7	8.9	23.2	...	26.2
2023	9.8	8.6	24.6	...	26.4
2024	9.8	...	...	...	24.9
Number of deaths					
2020	15.5	14.5	4.5	...	5.1
2021	17.5	16.6	4.0	...	5.0
2022	14.3	12.9	3.1	...	4.8
2023	13.7	12.1	3.2	...	4.7
2024	13.9	...	...	...	...

	Moldova	Russia	Tajikistan	Turkmenistan	Uzbekistan
Natural increase, decrease (-)					
2020	-3.7	-4.8	21.1	...	19.5
2021	-6.2	-8.0	18.1	...	20.9
2022	-3.6	-5.0	...	...	21.3
2023	-3.9	-3.5	...	...	21.7
2024	...	...	...	...	...

### 13.4 Infant mortality

	number of deaths of children under 1 year per 1 000 live births				
	2020	2021	2022	2023	2024
Kazakhstan	7.7	8.3	7.7	7.7	6.8
Azerbaijan	9.8	7.5	7.8	18.1	13.9
Armenia	7.4	6.9	6.9	6.6	6.2
Belarus	...	...	...	...	2.9
Kyrgyzstan	14.4	15.2	14.3	14.0	13.1
Moldova	8.7	8.5	9.0	10.0	11.8
Russia	4.5	4.6	4.6	4.2	...
Tajikistan	...	...	...	...	...
Turkmenistan	...	...	...	...	...
Uzbekistan	9.3	9.2	8.6	8.5	9.0

### 13.5 Incidence of malignant neoplasms

	number of cases per 100 000 population				
	2020	2021	2022	2023	2024
Kazakhstan	170.6	236.8	299.6	204.9	204.8
Azerbaijan	116	136	138	135	-
Armenia	234	258	274	281	-
Belarus	463	502	575	633	-
Kyrgyzstan	82	86	89	86	-
Moldova	326	336	398	435	-
Russia	380	398	426	461	-
Tajikistan	32	33	41	45	-
Turkmenistan	...	...	...	...	-
Uzbekistan	76	249	228	75	-

### 13.6 Morbidity of active tuberculosis

	number of cases per 100 000 population				
	2020	2021	2022	2023	2024
Kazakhstan	35.7	35.9	36.5	31.2	33.4
Azerbaijan	26	25	29	28	-
Armenia	13	12	13	12	-
Belarus	13	13	15	14	-
Kyrgyzstan	54	58	58	54	-
Moldova	43	52	56	61	-
Russia	32	31	31	30	-
Tajikistan	40	40	39	40	-
Turkmenistan	...	...	...	...	-
Uzbekistan	32	35	35	34	-

### 13.7 Number of victims of work-related accidents

	per 10 000 employees				
	2020	2021	2022	2023	2024
Kazakhstan	3.9	4.1	4.4	4.7	3.7
Azerbaijan	1.5	1.9	2.0	2.6	...
Armenia	3.4	2.7	3.1	3.4	2.9
Belarus	5.3	5.4	5.3	5.4	...
Kyrgyzstan	3.3	4.2	5.5	2.1	...
Moldova	7.0	9.1	8.3	9.2	...
Russia	10.3	10.8	10.1	10.2	10.4
Tajikistan	0.7	0.7	0.1	0.1	...
Turkmenistan	...	...	...	...	...
Uzbekistan	2.9	3.3	3.4	0.9	...
Ukraine	9.0	...	...	...	...

### 13.8 Number of deaths from accidents involving work

	per 10 000 employees				
	2020	2021	2022	2023	2024
Kazakhstan	0.4	0.3	0.4	0.4	0.3
Azerbaijan	0.3	0.3	0.2	0.4	...
Armenia	0.4	0.6	0.6	0.7	0.5
Belarus	0.3	0.3	0.3	0.3	...
Kyrgyzstan	0.2	0.4	1.1	0.2	...
Moldova	0.5	0.5	0.5	0.4	...
Russia	0.5	0.6	0.5	0.5	0.1
Tajikistan	0.2	0.3	...	...	...
Turkmenistan	...	...	...	...	...
Uzbekistan	0.6	0.6	0.8	...	...
Ukraine	0.5	0.8	...	...	...

### 13.9 Average size of pensions in the CIS countries

	for December							
	2021		2022		2023		2024	
	in national currency	in US dollars						
Kazakhstan, tenge	67 432	158.3	73 902	160.49	81 277	178.4	131 556	280.2
Azerbaijan, manat	331.8	195.2	372.1	218.9	441.3	259.6	496.6	292.1
Armenia, drams	43 677	91.0	46 629	118.5	49605	122.5	46 567	125.0
Belarus, belarusian rubles	514.4	201.9	630.8	230.5	692.5	217.9	799.3	230.1
Kyrgyzstan, soms	1 0428	123.0	12 020	140.3	13895	156.0	17 906	205.8
Moldova, lei	2 578.5	145.3	3 156.4	164.8	3676.6	211.2	39 75.2	215.1
Russia, rubles	1 5842	213.2	18 552	263.8	19637	218.9	21 096	209.9
Tajikistan, somoni	321.4	28.4	337.3	33.1	370.6	33.8	...	...
Uzbekistan, soums	963.6 <sup>1)</sup>	88.9	1 080.8	96.3	...	...	...	...

### 13.10 Basic amount of old-age pensions in the CIS countries

	for December							
	2021		2022		2023		2024	
	in national currency	in US dollars						
Kazakhstan, tenge	43 272	101.57	48 032	104.31	53 076	116.5	57 853	123.2
Azerbaijan, manat	200	117.6	240	141.2	280	164.7	280	164.7
Armenia, drams	16 000	33.3	21 000	53.4	24000	59.3	24 000	60.5
Belarus, belarusian rubles	378	148.4	462	168.9	509	160.2	594	171.1
Kyrgyzstan, soms	1 780	21.0	3 170	37.0	3170	35.6	3 170	36.4
Moldova, lei	2 000	112.7	2 279	118.9	2621	150.6	2 778	150.3
Russia, rubles	6 044	81.4	7 221	102.7	7567	84.4	8 135	80.9
Tajikistan, somoni	207	18.3	207	20.3	250	22.8	325	29.7
Uzbekistan, soums	565	52.1	633	56.4	725	58.8	834	64.5

### 13.11 Minimum subsistence level in the CIS countries

	2021		2022		2023		2024	
	in national currency	in US dollars						
Kazakhstan, tenge	37 266	87	43 566	95	48 738	107	51058	109
Azerbaijan, manat	196	115	210	124	247	145	270	159
Armenia, drams	...	...	...	...	...	...	...	...
Belarus, belarusian rubles	282	111	...	...	...	...	...	...
Kyrgyzstan, soms	6 268	74	7 178	85	7 682	87	7 964	91
Moldova, lei	2 154	122	2 628	139	2 877	158	2 964	167
Russia, rubles	11 653	158	12 654	188	14 375	170	15 453	167
Tajikistan, somoni	...	...	...	...	...	...	...	...
Uzbekistan, soums	...	...	...	...	...	...	...	...
Ukraine, hryvnia	2 250	82	...	...	...	...	...	...

### 13.12 Area of arable land in 2024

	Area of arable land, hectares per 100 population, ha
Kazakhstan	23.2
Azerbaijan	20
Armenia	14
Belarus	61
Kyrgyzstan*	...
Moldova	78
Russia	...
Tajikistan	8
Turkmenistan	...
Uzbekistan	11

### 13.13 Structure of the acreage of the main types of grain and leguminous crops in 2024

as a percent of the total area of grain and leguminous crops

	Wheat	Rye	Corn	Barley	Oats	Rice	Other (legumes)
<b>Kazakhstan</b>	15.2	16.1	62.8	17.8	18.3	56.8	3.3
Azerbaijan	53.5	0.0	2.9	41.2	0.5	0.5	1.4
Armenia	48.5	0.1	1.3	36.1	8.8	-	1.5
Belarus	30.9	9.4	12.9	19.4	5.4	-	5.4
Kyrgyzstan	...	...	...	...	...	...	...
Moldova	39.0	0.6	48.9	6.8	0.2	-	4.1
Russia	61.9	1.4	5.9	15.1	3.7	0.5	8.4
Tajikistan	67.6	0.4	4.8	18.1	0.6	3.5	4.7
Turkmenistan	...	...	...	...	...	...	...
Uzbekistan	80.6	0.1	2.3	6.7	0.0	3.0	4.1

### 13.14 Gross collection of main crops in 2024

mln. tons

	Grain and leguminous crops	Potatoes	Vegetables and melons
<b>Kazakhstan</b>	25.2	2.6	10.2
Azerbaijan	3203.3	927.4	2329.5
Armenia	218.3	337.7	772.0
Belarus	8341.1	3110.9	2775.2
Kyrgyzstan	...	...	...
Moldova	2166.9	135.4	283.3
Russia	125856.0	17829.6	15559.1
Tajikistan	1810.1	1263.9	4443.5
Turkmenistan	...	...	...
Uzbekistan	8877.7	3716.9	14678.0

### 13.15 Productivity of grain and leguminous crops

centners per hectare of harvested area

	2020	2021	2022	2023	2024
<b>Kazakhstan</b>	12.8	10.7	13.8	11.1	16.2
Azerbaijan	30.9	31.9	30.4	32.2	30.2
Armenia	20.5	12.9	21.8	23.5	19.6
Belarus	35.0	29.8	34.5	33.2	33.8
Kyrgyzstan	31.1	22.5	30.9	...	...
Moldova	18.7	50.4	20.9	33.5	23.5
Russia	28.6	26.7	33.6	33.10	27.9
Tajikistan	30.8	30.7	33.1	...	33.1
Turkmenistan	...	...	...	...	...
Uzbekistan	41.8	40.9	43.4	47.9	48.5
Ukraine	42.5	53.9	...	...	...

## 13.16 Number of cattle

million heads on January 1

	2021	2022	2023	2024	2025
<b>Kazakhstan</b>	7.4	7.9	8.2	6.6	7.9
Azerbaijan	2.6	2.7	2.6	2.6	2.5
Armenia	0.6	0.6	0.6	0.5	0.5
Belarus	4.3	4.2	4.2	4.2	4.1
Kyrgyzstan	1.7	1.7	1.8	...	...
Moldova	0.1	0.1	0.1	...	0.1
Russia	18.0	17.6	17.5	17.1	16.2
Tajikistan	2.4	2.5	2.6	2.7	2.8
Turkmenistan	...	...	...	...	...
Uzbekistan	12.9	13.2	13.5	...	...
Ukraine	2.9	2.2	...	...	...

## 13.17 Production of main livestock products in 2024

	Meat (slaughter weight)		Milk		Eggs	
	thousand tons	per capita kg	thousand tons	per capita kg	million pieces	per capita pieces
<b>Kazakhstan</b>	1 995.3	99	3 572.0	177	4 461.1	221
Azerbaijan	386.3	38	2 298.5	225	2 300.8	226
Armenia	105.7	...	574.4	...	721.2	...
Belarus	1 345.2	...	8 751.1	...	3 713.2	...
Kyrgyzstan	...	...	...	...	...	...
Moldova	129.4	...	267.2	...	627.8	...
Russia	12 301.9	84	34 034.8	233	46 572.2	319
Tajikistan	248.0	...	1 177.4	...	1 265.6	...
Turkmenistan	...	...	...	...	...	...
Uzbekistan	...	...	...	...	...	...

## 13.18 Water intake, water use and discharge of polluted wastewater in 2024

	Water intake from natural sources, million cubic meters	Water use million cubic meters	Discharge of polluted sewage into surface water bodies, total million cubic meters	of them without cleaning
<b>Kazakhstan</b>	25 557.9	21 440.3	5 194.8	0.650
Azerbaijan	12806	9772	...	229
Armenia	2918	2262	216	154
Belarus	1460	1284	3	1
Kyrgyzstan	8873	6028	2	2
Moldova	158	119	5	2
Russia	58012	49668	10842	1386
Tajikistan	...	...	...	...
Turkmenistan	26929	17590	5874	...
Uzbekistan	...	...	...	...

## 13.19 Emissions of harmful substances into the atmosphere from stationary sources in 2024

thousand tons

	Emitted harmful substances	Including		From the total number of gaseous and liquid		
		solid	gaseous and liquid	sulfurous anhydride	carbon monoxide	nitrogen oxides
<b>Kazakhstan</b>	2 271.4	445.3	1 826.1	785.4	432.4	307.5
Azerbaijan	144	3.7	141	1	38	26
Armenia	117	6	111	1	4	2
Belarus	444	25	419	37	73	43
Kyrgyzstan	62	24	38	16	12	5
Moldova	17.5	2.2	15.3	1.0	5.1	1.6
Russia	16952	1705	15247	3266	5060	1937
Tajikistan	66	35	31	9	17	2
Turkmenistan	...	...	...	...	...	...
Uzbekistan	...	167	707	...	74	14

## Methodological notes

Environment - is a combination of natural and man-made objects, including atmospheric air, the ozone layer of the Earth, surface and underground waters, lands, subsoil, animal and plant world, as well as the climate in their interaction.

Environmental protection – system of the state and public measures aimed at the preservation and restoration of the environment, prevention of the negative impact of economic and other activity on the environment and the elimination of its consequences.

Current estimates of the population at the beginning of the year are calculated based on the results of the last census, to which the number of births and arrivals in a given territory is added each year and from which the number of deaths and departures from a given territory is subtracted. Current estimates of the population over the past years are updated on the basis of the results of the next census.

Natural population growth is equal to the difference in the number of births and deaths.

General birth and death rates - the ratio of the number of live-born and the number of deaths to the average annual population multiplied by 1000.

Life expectancy at birth is the number of years that, on average, one person from the generation of births would have to live, provided that throughout this generation the mortality rate at each age remains the same as in the years for which the indicator is calculated.

Unemployment rate - the share of the number of unemployed in the labor force, measured as a percent.

The mortality rate for the main classes of causes of death is calculated as the ratio of the number of deaths by the main classes of causes of death to the average annual population.

Maternal Mortality – number of deaths of women from complications of pregnancy, child birth and the postpartum period per 100.000 live-born children.

Infant mortality - number of deaths of children under 1 year per 1 000 live births.

The incidence rate is determined by the ratio of the number of patients with the first established diagnosis to the average annual population.

Improvement of the housing stock – equipping the housing of individual residential premises by certain types of accomplishment: plumbing, sewage, central heating, gas, hot water, bathrooms, etc.

Living space is considered to be equipped with: water pipes, if the pipes are laid inside the dwelling. Water supply can be provided either from the central network or from an individual installation; central heating, if the heating is carried out either by means of a central heating system or installation provided inside the building or dwelling and intended for heating purposes (regardless of the source of energy).

Gross domestic product at the production stage is determined by summing gross value added by industry. Gross domestic product is calculated at market prices. i.e.includes net taxes on products and imports. The term “net” means that taxes are shown net of related subsidies. This is one of the most important indicators of the system of national accounts, characterizing the final result of the economic activity of the country.

The production of an industrial enterprise in terms of value is the cost of products intended for the sale (marketing) of goods intended for further processing (semi-finished products of its own output and auxiliary and auxiliary production); works (services) of an industrial nature.

The volume of industrial production (goods and services) of the enterprise is determined by factory methods without the cost of intra-factory turnover. Works, services of an industrial nature are included in the volume of manufactured industrial products at their cost, including the cost of their own consumable materials.

The volume of products for industry as a whole and its types of activity is defined as the sum of data on the volume of products, goods and services of an industrial nature, produced by legal entities and their separate subdivisions regardless of the form of ownership. Data on the volume of production are given in actual prices (excluding VAT and excise taxes).

The aggregate data on the volume of industrial products in general includes the volumes of products (goods services) produced by large, medium, small and subsidiary enterprises (industrial divisions at non-industrial enterprises). The household sector, also carried out calculations of the volume of products for non-observed activities.

Total land area is the surface area of the land along with inland waters located within the state border.

Agricultural land - plots of land used to produce agricultural products. They include arable land, land under perennial crops, hayfields and pastures.

Arable land - systematically cultivated agricultural land used for sowing crops. including sowing of perennial grasses and pure couples.

Hayfields are agricultural land systematically used for haymaking.

Pastures are agricultural land systematically used for grazing animals (this is the main use), as well as land plots suitable for grazing livestock that are not used for haying and are not fallow.

Irrigated lands are lands that have a permanent irrigated network (canals, pipelines, trays) associated with irrigation sources whose water resources provide for irrigation of these lands.

Disturbed lands are lands that have lost their initial value due to economic activity and are a source of negative environmental impact.

Reclaimed lands - lands brought into a condition suitable for use on the farm (rural, forest, water, etc.) and transferred to land users by acts in accordance with the current procedure for transferring reclaimed land by enterprises, organizations and institutions developing mineral deposits and peat conducting exploration, survey, construction and other works related to the violation of the soil cover.

Sown area - arable land planted with crops. It consists of: winter crops of the past year minus the winter death; Spring, sown in the current year on an independent area, including the re-sowing of winter crops and perennial grasses of the current year (without cover); perennial grasses sowing past years in the area that will be harvested in the current year. i.e. cutting area, preserved by spring.

Gross harvest of crops - products produced (collected) from the entire area of crops of various crops, agricultural plantations or other agricultural land. Gross harvest of grain crops, sunflower, sugar beet (factory) is set in weight after processing (net, test weight), for the rest of the crops - in the original capitalized (bunker) weight.

Crop yields are an indicator characterizing the average harvest of agricultural products per unit area; calculated as the ratio of the gross collection to the harvested area, in centners per 1 hectare.

The number of livestock and poultry - the number of live livestock and poultry available in the farms at the end of the reporting period.

The average monthly air temperature is determined as follows: to ensure uniformity and reliability of the results of observations, all stations located on the territory of the Republic of Kazakhstan conduct observations in accordance with the requirements and provisions of the Guide to Meteorological Instruments and Methods of Observation. Only the devices recommended for The Kazhydromet network for the relevant type of measurement are used for measurements.

Meteorological observations at all observation stations are made in a single synchronous timeframe according to the Greenwich Mean Time (GMT), taken as the international (8 timelines every 3 hours): 18. 21. 0. 3. 6. 9. 12 and 15 hours SGW.

Meteorological measurements are carried out regularly during the year in each period, including air temperature and precipitation.

To eliminate uncertainty at meteorological stations, the temperature is measured at a height of 2 m from the underlying surface in a protective louver box, which serves to eliminate the influence of solar radiation and radiation from surrounding objects on instrument readings and to protect against precipitation and strong gusts of wind.

Monthly precipitation is determined as follows: precipitation is measured 2 times a day to get the quantity for the day and night half of the day at 3 and 15 h SGV and is measured continuously throughout the year.

The amount of precipitation is determined by the volume of liquid water, which is obtained by collecting the precipitation by a receiving vessel with a fixed receiving surface area.

Water pollution index - the value of the complex index of water pollution (WPI), which is calculated for 6 indicators using the formula

$$IZV6 = \sum(qsr.i / PDKi) / 6, \text{ where}$$

q cf.i - the average concentration of the i-th substance

PDKi - the average daily maximum allowable concentration of the i-th substance.

The maximum permissible concentration (MPC) of an impurity (substance) in water resources is the maximum concentration of an impurity in water sources that does not cause adverse effects for the population, flora and fauna with constant or periodic exposure.

Water abstraction - the volume of water withdrawals from surface (including the sea) water bodies and underground horizons for the purpose of further water consumption. The total volume of the fence includes used mine-mine water, obtained by mining. This indicator does not include the volume of water passing through waterworks for producing electricity, sluicing ships, passing fish, maintaining navigable depths, etc. Also, the volume of intake of transit water for supply to large canals is not taken into account.

Water loss during transportation - water loss from the place of intake to the place of consumption (use) for evaporation, filtration, leakage, etc. This does not include the amount of water transferred for use to a third-party consumer.

Water use - the use of water taken from various sources of water (including sea water) to meet

household needs. This does not include recycled water consumption, as well as the reuse of waste and collector-drainage water.

Discharge of wastewater - the volume of discharge of all types of wastewater directly into water bodies, underground horizons, drainage depressions, as well as the transfer of wastewater to other enterprises (organizations). Filtration fields are equated to drainless depressions, from which treated wastewater is not diverted to water sources. The volume of wastewater also includes industrial, municipal, mine, ore and other similar waters (for irrigation systems, drainage and other waste waters), as well as wastewater received from the outside.

Contaminated wastewater is water that does not represent any further immediate value for the purpose for which it was used, due to its quality, quantity or time of entry. However, the wastewater of one consumer can serve as a potential source of water for another consumer somewhere else.

Circulating water supply is a system for re-supplying treated water to industrial needs after cleaning, cooling and processing. Circulating water supply is used to save water in production.

Wastewater treatment - treatment of wastewater in order to extract, remove, neutralize the impurities contained in them to the established standards. Various methods are used for wastewater treatment: mechanical, physicochemical, biological.

Regulatory-treated wastewater - wastewater that has been cleaned at the relevant facilities. The discharge of which after treatment into water bodies does not lead to a violation of water quality standards at a controlled site or water use point, i.e. the content of pollutants in this wastewater must comply with the approved maximum permissible discharge (MPD).

The maximum permissible discharge (MPD) is the maximum amount of substances in wastewater allowed for discharge at a given point of a water body in units of time that does not violate the water quality standards at a given site (pond). In statistics, the ratio of actual discharge and MPD is the main indicator characterizing the degree (category) of wastewater contamination.

Atmospheric pollution index (API5) - the value of the complex index of atmospheric pollution, which is calculated for the five substances with the highest values.

$IZA5 = \sum (q_{cf.i} / MPC_i) C_i$ , where

$q_{cf.i}$  - the average concentration of the  $i$ -th substance

MAC - the average daily maximum allowable concentration of the  $i$ -th substance;

$C_i$  - coefficient depending on the hazard class of the  $i$ -th substance taken to be 1.7; 1.3; 0.1 and 0.9 respectively for hazard classes 1, 2, 3, and 4

The average concentration of the pollutant is calculated as the arithmetic average of the one-off concentrations measured during the year.

Maximum permissible concentration of impurities in the atmosphere (MPC) - the maximum concentration of impurities in the atmosphere, referred to a specific time of averaging, which, with periodic effects or throughout a person's life does not adversely affect them, including long-term effects, as well as on the environment as a whole.

Emissions of air pollutants - the release into the air of pollutants (having an adverse effect on the health or activity of the population, on the environment) of substances from stationary (non-mobile) emission sources. All pollutants entering the atmospheric air are taken into account both after passing the dust and gas treatment facilities (as a result of incomplete capture and purification) at organized sources of pollution, and without purification from organized and unorganized sources of pollution. Accounting for emissions of air polluting substances is carried out both by the state of aggregation (the amount of solid, gaseous and liquid), and by individual substances (ingredients).

A stationary source of air pollution is a non-mobile technological unit (installation, device, apparatus, etc.) that releases harmful substances during operation. This includes other objects (heaps, reservoirs, etc.).

Purification of gases that pollute the atmosphere (trapping) - removal of harmful substances from the gas-air mixture, exhaust from sources of air pollution, with the help of special devices, installations and equipment; it also includes neutralization, reduction of toxicity, neutralization, afterburning, etc. harmful substances in waste (generated) gases. Statistical observation in this case does not cover technological processes in which the formed and captured (recyclable) substances in accordance with the regulations were originally provided for the production of any types of raw materials, semi-finished products or finished products.

Maximum permissible emission (MPE) is a scientific and technical standard established from the condition that the content of pollutants in the surface layer of air from a source or their combination does not exceed the standards of air quality for the population, animal and plant world.

Availability, formation, use of toxic waste - accounting for the amount of formed, used, neutralized

production and consumption wastes that pose a threat to public health and biological resources. All types of industrial toxic wastes that include harmful substances are considered

Waste disposal - operations for the disposal and destruction of waste.

Waste storage - storage of waste in designated areas for the purpose of their safe disposal.

Waste removal - storage of waste in places specially designated for its safe storage for an unlimited period.

Waste recycling - the use of waste as secondary material or energy resources.

The forest fund is a part of the territory of a country (region) occupied by the forest, as well as unoccupied by it, but intended for the needs of forestry. The forest fund includes forest area, i.e. the territory covered with forest (actually occupied by tree species forming the stands) and uncovered by the forest, but intended for growing (burning, cutting, wasteland, clearing, openings, area of dead stands).

A forested area is the area actually occupied by tree species forming the plantations.

Reforestation - carrying out activities for the restoration of forests in cuttings, burns, wastelands, glades and other areas under the forest. Reforestation includes planting, sowing forests and promoting natural regeneration.

Thinning forest - periodic felling in plantations of the trees and shrubs, carried out since the formation of the desired composition, forms of plantings and increase growth.

The State Natural Conservancy area is a specially protected natural area, intended to preserve and study in its natural state and development of natural processes, typical and unique ecological systems, biological diversity and the genetic stock of the flora and fauna.

The State National Natural Park is a specially protected natural area intended for the preservation, restoration and multi-use of natural, historical and cultural complexes and objects of particular ecological, recreational and scientific value.

The State Natural Reserve is a specially protected natural area with different protection regimes, designed to preserve and restore landscape and biological diversity, ensure sustainable development and a balanced use of natural resources in a given territory.

Area of hunting grounds - lands occupied by forests, water and farmland, which serve as habitats for wild animals and birds and can be used for hunting.

Responsible for release:  
Agency for Strategic planning and reforms  
of the Republic of Kazakhstan  
Bureau of National statistics  
Department of production and environment statistics  
Tel. +7 7172 749311, 749307  
Director of the Department  
Issabekova A.Z.  
Tel. +7 7172 749056

Computer layout and design: IP «IT-СтройМебель»