



БЮРО НАЦИОНАЛЬНОЙ СТАТИСТИКИ
АГЕНТСТВА ПО СТРАТЕГИЧЕСКОМУ
ПЛАНИРОВАНИЮ И РЕФОРМАМ РЕСПУБЛИКИ
КАЗАХСТАН

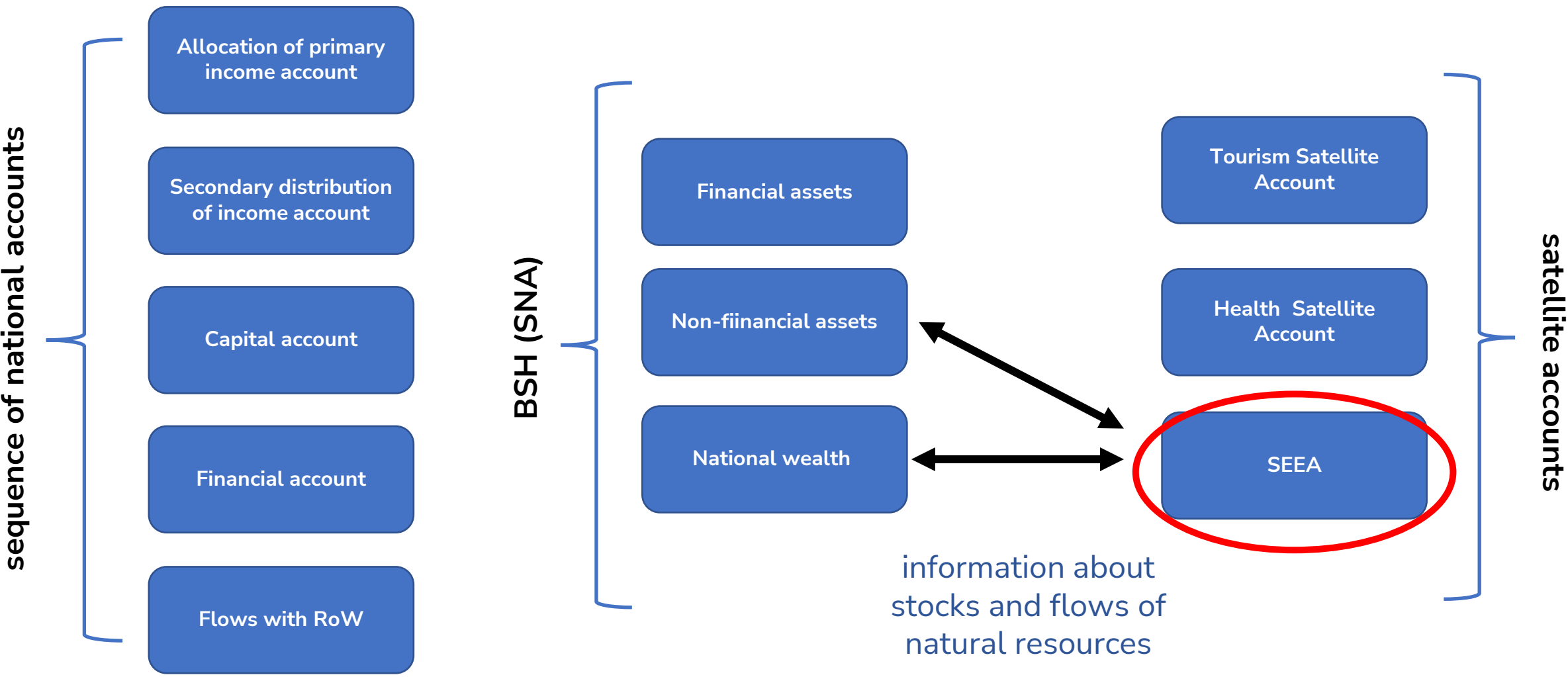
Compilation of SEEA accounts in Kazakhstan

Togzhan Bekturova
National Accounts Department
Bureau of National Statistics
Agency for Strategic Planning and Reforms
of the Republic of Kazakhstan

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National Accounts Department

Accumulation Accounts and Satellite Accounts Division



Milestones of implementation of SEEA in Kazakhstan

- December 2018 – have started to implement SEEA 2012 (in cooperation with OECD)
- 2019 – first publication of 3 accounts (pilot version):
 - Air emissions account;
 - Environmental protection expenditure account;
 - Environmental taxes account;
- 2023 – publication according to the Statistical work plan (official statistical information)
- 2024 – have released 3 new accounts:
 - Material flow account;
 - Asset account for mineral and energy resources;
 - The forest resources account;
- 2025 – compilation of PEFA and further development of AEA.

Air emissions account for 2023 year

Type of substance	Supply table for air emissions						Use table for air emissions	
	generation of emissions					total supply of emissions	flows to the environment	total use of emissions
	industries*						emissions released to the environment	
	agriculture, forestry and fishing	mining and quarrying	manufacturing	transportation and storage	other			
Solids	13 785,208	79 271,236	130 869,493	6 738,695	205 656,695	436 321,327	436 321,327	436 321,327
including:								
diameter 10 microns	329,133	1 185,465	390,467	109,006	767,348	2 781,419	2 781,419	2 781,419
diameter 2,5 microns	54,348	25,877	80,973	1,894	145,253	308,345	308,345	308,345
Gaseous and liquid substances:	15 230,326	262 179,864	593 577,028	103 323,953	846 820,686	1 821 131,857	1 821 131,857	1 821 131,857
sulfurous anhydride (SO2)	2 074,609	90 237,523	238 438,757	1 397,033	466 331,585	798 479,507	798 479,507	798 479,507
hydrogen sulfide (H2S)	517,478	457,203	563,837	32,873	142,283	1 713,674	1 713,674	1 713,674
carbon monoxide (CO)	7 798,584	74 917,855	249 029,922	13 157,351	91 804,697	436 708,409	436 708,409	436 708,409
nitrogen oxides (in terms of NO2)	1 136,096	38 022,304	67 899,518	9 764,903	186 915,220	303 738,041	303 738,041	303 738,041
ammonia	983,250	81,130	1 287,411	1,415	421,858	2 775,064	2 775,064	2 775,064
Hydrocarbons (without volatile compound forms)	2 226,873	6 901,689	4 640,937	58 465,721	79 464,587	151 699,807	151 699,807	151 699,807
Volatile compound forms (VCF)	552,554	50 842,341	32 674,461	20 499,199	22 005,205	126 573,760	126 573,760	126 573,760
Total	29 015,534	341 451,100	724 446,521	110 062,648	1 052 477,381	2 257 453,184	2 257 453,184	2 257 453,184

* By the NACE Rev.2

Environmental protection expenditure account for 2023

th. tenge

Economy activities ²⁾	Environmental protection activities ¹⁾									
	Total	atmospheric air protection and climate change problems	sewage treatment	waste management	protection and rehabilitation of soil, groundwater and surface water	reduction of noise and vibration impact	conservation of biodiversity and landscapes	radiation safety	scientific research and developments in the field of environmental protection	other areas of environmental protection activities
Agriculture, forestry and fisheries	983 375	94 328	169 042	438 020	161 414	1 911	3 590	-	10 612	104 458
Industry	593 225 327	120 326 727	112 660 089	124 585 681	13 089 777	169 537	1 908 336	805 814	4 013 902	215 665 464
Mining and quarrying	168 650 026	28 983 374	49 549 757	71 863 479	10 171 250	32 964	1 571 102	500 730	3 052 198	2 925 172
Manufacturing industry	167 052 720	76 464 644	42 441 032	33 875 596	1 443 062	128 277	249 170	295 799	863 526	11 291 614
Supply of electricity, gas, steam, hot water and air conditioning	228 840 631	14 609 788	4 774 165	7 171 811	784 473	1 923	71 131	7 566	74 940	201 344 834
Water supply; collection, treatment and disposal of waste, activities for the elimination of pollution	28 681 950	268 921	15 895 135	11 674 795	690 992	6 373	16 933	1 719	23 238	103 844
Construction	3 733 967	341 729	585 518	2 616 465	12 213	210	1 020	3 244	44 204	129 364
Wholesale and retail trade; car and motorcycle repair	917 160	110 224	177 167	469 596	14 085	-	810	979	4 825	139 474
Transport and warehousing	3 647 320	421 482	725 311	1 544 546	242 148	2 551	394 536	56 242	62 603	197 901
Provision of accommodation and food services	338 737	7 724	103 906	226 019	-	-	-	-	403	685
Information and communication	132 994	3 548	8 816	120 630	-	-	-	-	-	-
Financial and insurance activities	35 572	3 671	5 415	26 486	-	-	-	-	-	-
Operations with real estate	387 951	6 106	13 000	341 453	411	-	24 037	-	x	244
Professional, scientific and technical activities	1 410 987	618 510	109 499	307 145	167 686	40	4 120	11 165	131 506	61 316
Administrative and support services activities	215 143	25 242	36 083	121 332	25 095	-	-	264	1 206	5 921
Public administration and defense; compulsory social security	2 543 122	32 920	105 256	128 584	2 234 604	1	36 234	-	x	5 454
Education	1 356 238	32 636	270 168	177 858	668	-	-	-	791 137	83 771
Healthcare and social services for the population	1 095 257	41 154	293 017	751 705	x	-	198	1 797	167	6 893
Arts, entertainment and recreation	258 900	2 271	4 089	22 404	370	-	226 327	-	13	3 426
Provision of other types of services	3 172	386	182	2 604	-	-	-	-	-	-
Total	610 285 222	122 068 658	115 266 558	131 880 528	15 948 797	174 250	2 599 208	879 505	5 063 347	216 404 371

¹⁾ By the Classification of Environmental Protection Activities and Expenditure (CEPA 2000)

²⁾ By the NACE Rev.2

Environmental taxes account for 2023

th. tenge



Type of environmental taxes	Total taxes	Type of tax					
		taxes on products (D21)	other taxes on production (D29)	taxes on income (D51)	other current taxes (D59)	capital taxes (D91)	other tax revenues
Energy taxes	2 537 067 615,9	2 537 067 615,9	0,0	0,0	0,0	0,0	0,0
Transport taxes	103 295 791,7	13 181 890,1	90 113 901,6	0,0	0,0	0,0	0,0
Polution taxes	97 944 008,0	0,0	97 944 008,0	0,0	0,0	0,0	0,0
Resource taxes	766 574 994,5	2 128 021,4	0,0	0,0	0,0	0,0	764 446 973,1
Total environmental taxes	3 504 882 410,1	2 552 377 527,4	188 057 909,6	0,0	0,0	0,0	764 446 973,1
Taxes not related to environmental	25 399 355 931,6	6 628 367 841,0	1 627 772 415,1	8 667 294 783,0	95 023 233,0	0,0	8 380 897 659,5
Total taxes	28 904 238 341,7	9 180 745 368,4	1 815 830 324,7	8 667 294 783,0	95 023 233,0	0,0	9 145 344 632,6

Structure of environmental taxes

Type of environmental taxes									%
	2016	2017	2018	2019	2020	2021	2022	2023	
Energy taxes	73,9	74,2	77,0	74,8	63,4	70,2	78,0	72,4	
Transport taxes	4,4	3,9	3,4	3,4	4,6	3,4	2,5	2,9	
Polution taxes	5,8	4,4	4,1	4,4	6,2	4,9	2,8	2,8	
Resource taxes	15,9	17,4	15,6	17,3	25,8	21,5	16,7	21,9	
Total environmental taxes	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	

Environmental taxes by economy activities* for 2023

Economy activities	th. tenge				
	Energy taxes	Transport taxes	Polution taxes	Resource taxes	Total environmental taxes
Agriculture, forestry and fisheries	13 226,0	3 994 036,0	2 552 792,0	6 760 068,0	13 320 122,0
Mining and quarrying	2 011 770 312,0	1 468 322,0	40 535 334,0	529 083 130,0	2 582 857 098,0
Manufacturing industry	389 570 251,0	2 775 339,0	27 181 362,0	201 710 178,0	621 237 130,0
Supply of electricity, gas, steam, hot water and air conditioning	13 903,0	442 588,0	13 653 848,0	3 654 101,0	17 764 440,0
Water supply; collection, treatment and disposal of waste, activities for the elimination of pollution	208,0	294 935,0	1 875 203,0	2 767 541,0	4 937 887,0
Construction	7 014,0	3 340 272,0	1 983 476,0	2 142 327,0	7 473 089,0
Wholesale and retail trade; car and motorcycle repair	31 297 182,0	10 343 965,0	788 207,0	2 869 058,0	45 298 412,0
Transport and warehousing	3 361 456,0	10 708 817,0	4 863 210,0	1 760 050,0	20 693 533,0
Provision of accommodation and food services	1 172,0	1 063 282,0	65 415,0	137 050,0	1 266 919,0
Information and communication	0,0	442 567,0	54 636,0	124 164,0	621 367,0
Financial and insurance activities	58,0	344 213,0	50 953,0	392 653,0	787 877,0
Operations with real estate	25 256,0	3 167 863,0	276 207,0	1 191 683,0	4 661 009,0
Professional, scientific and technical activities	100 988 226,0	1 434 636,0	423 608,0	6 122 891,0	108 969 361,0
Administrative and support services activities	1 093,0	3 798 124,0	282 641,0	3 620 744,0	7 702 602,0
Public administration and defense; compulsory social security	0,0	123 601,0	1 320 134,0	2 246 781,0	3 690 516,0
Education	0,0	396 895,0	1 230 537,0	245 573,0	1 873 005,0
Healthcare and social services for the population	125,0	320 540,0	434 697,0	84 887,0	840 249,0
Arts, entertainment and recreation	0,0	337 153,0	130 274,0	517 613,0	985 040,0
Provision of other types of services	17 885,0	4 169 026,0	227 852,0	577 011,0	4 991 774,0
Other taxpayers (households and unallocated by economy activities)	248,9	54 329 617,7	13 622,0	567 491,5	54 910 980,1
Total	2 537 067 615,9	103 295 791,7	97 944 008,0	766 574 994,5	3 504 882 410,1

New release,
published since
December 2024

Data sources:

- Ministry of Finance of the Republic of Kazakhstan

* By the NACE Rev.2

Material flow account for 2021

Main indicators

tonnes	
Description	2021
Domestic extraction (DE)	744 076 961
Imports of materials	7 677 497
Exports of materials	127 989 414
Domestic material input (DMI)	751 754 458
Domestic material consumption (DMC)	623 765 043
Physical trade balance (PTB)	-120 311 917
Domestic processed output (DPO)	346 877 410
Net additions to stock (NAS)	177 667 758

SDG 8.4.2

$$DMC = DE + Im - Ex$$

Material flow account for 2021

Domestic extraction

Material category	Description	tonnes
		2021
1	BIOMASS	83 609 608
1.1	Crops	31 336 559
1.2	Crop residues (used), fodder crops, grazed biomass	51 967 765
1.3	Wood	256 046
1.4	Wild harvest n.e.c.	49 238
2	METAL ORES	261 397 192
2.1	Iron ores	64 089 700
2.2	Aluminium ores	
2.3	Other metal ores	197 307 492
3	NON-METALLIC MINERALS	153 628 780
3.1	Ornamental or building stone	20 190 573
3.2	Carbonate minerals important in cement	17 629 100
3.4	Chemical and fertilizer minerals	6 474 700
3.5	Salt	1 231 996
3.6	Gypsum	1 464 100
3.7	Clays	6 612 700
3.8	Sand and gravel	100 020 111
3.9	Other non-metallic minerals n.e.c.	5 500
4	FOSSIL FUELS	245 441 380
4.1	Coal and peat	116 218 700
4.2	Crude oil, natural gas and natural gas liquids	129 222 680
4.3	Oil shale and tar sands	
	TOTAL DOMESTIC EXTRACTION	744 076 961

Material flow account for 2021

Imports and exports

Material category	Description	tonnes	
		2021	
		Import	Export
1	BIOMASS	3 446 859	8 152 443
1.1	Crops, raw and processed	2 907 143	8 027 626
1.2	Crop residues (used) and fodder crops	359	0
1.3	Wood and wood products	414 360	107 205
1.4	Wild fish, aquatic animals and plants	4 272	402
1.5	Live animals and products (excluding wild fish, aquatic animals and plants)	19 664	13 166
1.compound	Mixed / compounded products mainly from biomass	101 061	4 044
2	METAL ORES	1 614 096	16 205 057
2.Fe	Iron ores and concentrates, iron and steel, products dominated by iron content	1 826	14 135 881
2.Al	Aluminium ores and concentrates, aluminium metal, products dominated by aluminium content	194	-
2.x	X ores and concentrates, X metal, products dominated by X (where X is a specific metallic element other than iron or aluminium)	773 669	1 947 825
2.compound	Mixed / compounded products mainly from metal	838 408	121 350
3	NON-METALLIC MINERALS	888 446	5 885 681
3.1	Ornamental or building stone	63 474	47 135
3.2	Carbonate minerals important in cement	24 513	902 858
3.4	Chemical and fertilizer minerals		
3.5	Salt	15 477	428 735
3.6	Gypsum and its products		
3.7	Clays	52 887	132 914
3.8	Sand and gravel	531 697	639 493
3.9	Other non-metallic minerals n.e.c.	200 398	3 734 546
3.compound	Mixed / compounded products mainly from non-metallic mineral
4	FOSSIL FUELS/ Ископаемое, твердое топливо	1 713 512	97 659 954
4.1	Coal and peat	1 684 305	31 952 036
4.2	Conventional petroleum and gas	12 051	65 707 717
4.3	Oil shale and tar sands	83	0
4.compound	Mixed / compounded products mainly from fossil fuels	17 072	201
5	MIXED / COMPLEX PRODUCTS n.e.c.	10 664	1 280
6	WASTE FOR FINAL TREATMENT AND DISPOSAL	3 920	85 000
	TOTAL IMPORTS OF MATERIALS	7 677 497	127 989 414

Material flow account for 2021

Outflows



		tonnes
Material category	Description	2021
1	EMISSIONS TO AIR	343 119 226
2	WASTE LANDFILLED (UNCONTROLLED)	-
3	EMISSIONS TO WATER	-
4	DISSIPATIVE USE OF PRODUCTS	3 758 184
4.1	Organic fertilizer (manure)	995 163
4.2	Mineral fertilizer	133 053
4.3	Sewage sludge	
4.4	Compost	
4.5	Pesticides	18 323,6
4.6	Seeds	2 496 608
4.7	Salt and other thawing materials spread on roads	
4.8	Solvents, laughing gas and other	133 360
5	DISSIPATIVE LOSSES (e.g. abrasion from tires, friction products, buildings and infrastructure)	
	DOMESTIC PROCESSED OUTPUT	346 877 410

Asset account for mineral and energy resources in physical terms for 2023

	Main types of mineral or energy resource																		
	Coal (million tons)	Oil (million tons)	Gas (billion m³)	Condensate (million tons)	Gold (tons)	Copper (million tons)	Lead (million tons)	Zinc (million tons)	Nickel (million tons)	Bauxite (million tons)	Chrome ores (million tons)	Iron ores (million tons)	Manganese ores (million tons)	Uranium (thousand tons)	Phosphorites - R ₂ O ₅ (million tons)	Silver (thousand tons)	Cobalt (thousand tons)	Molybdenum (thousand tons)	Tin (thousand tons)
2023																			
Reserves of mineral and energy resources at the beginning of the period	28 908,9	2 942,6	1 354,5	312,6	1 416,3	27,7	10,7	21,0	1,4	207,4	221,1	12 520,0	402,5	490,9	819,9	29,1	129,1	954,0	182,0
Adding to inventory	1,4	26,2	14,7	1,7	26,1	0,9	0,0	-0,1	0,7	0,1	2,2	0,6	2,8	80,6	46,1	2,0	17,0	-17,6	
Discovery of new reserves	0,5	8,5	1,1	1,2	26,3	0,9	0,0	0,1	0,0		0,2	0,0	0,8	1,9	46,1	0,0	0,0	-1,9	
Revaluation upward	0,9	17,7	13,6	0,5	-0,2	0,0	0,0	-0,2	0,7	0,1	2,0	0,6	2,0	78,7	0,0	2,0	17,0	-15,7	
Change category																			
Disposal from inventories	112,1	81,5	36,2	7,6	71,5	-0,6	0,0	0,4	0,7	4,3	5,6	27,6	0,8	18,5	0,6	0,7	0,0	9,0	0,0
Production	94,9	81,1	36,1	7,6	45,7	-0,1	0,0	0,4		4,1	4,8	26,3	0,8	16,0	0,6	0,7		9,0	
Extraordinary losses	3,3			0,0	1,6	-0,5	0,0	0,0	0,7	0,1	0,8	1,3	0,0	2,5	0,0	0,0		0,0	
Downward revaluation	13,9	0,4	0,1	0,0	24,2					0,1	0,0	0,0	0,0	0,0				0,0	
Change category								0,0											
Reserves of mineral and energy resources at the end of the period	28 798,2	2 887,3	1 333,0	306,7	1 370,9	29,2	10,7	20,5	1,4	203,2	217,7	12 493,0	404,5	553,0	865,4	30,4	146,1	927,4	182,0

The account is based on data from the Committee of Geology of the Ministry of Industry and Construction of the Republic of Kazakhstan.

The Forest Resources Account for 2023



	Types of forests and other wooded land								Total	
	Virgin forests		Other naturally renewed forests		Forest plantations		Other wooded land			
	Hectares	mln.tenge	Hectares	mln.tenge	Hectares	mln.tenge	Hectares	mln.tenge	Hectares	mln.tenge
2023										
Forest resources at the beginning of the period	1 613 719,0	3 208 814,1	11 247 651,0	138 436 259,6	812 159,0	13 708 452,8	0,0	0,0	13 673 529,0	155 353 526,5
Additions to stocks	0,0	0,0	5 052,0	8 398 769,8	18 574,0	1 324 024,8	0,0	0,0	23 626,0	9 722 794,6
Afforestation										
Natural expansion of the area			5 052,0	8 398 769,8	18 574,0	1 324 024,8	0,0	0,0	23 626,0	9 722 794,6
Disposals from stocks	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Deforestation			0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
A significant reduction in the area										
Cost revaluation		220 110,0								220 110,0
Forest resources at the end of the period	1 613 719,0	3 428 924,1	11 252 703,0	146 835 029,4	830 733,0	15 032 477,6	0,0	0,0	13 697 155,0	165 296 431,1

The account is based on data from the Forestry and Wildlife Committee Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan.

Compilation of PEFA:

- based on the new Energy Balance in IEA format;
- according 2 digits of ISIC (NACE);
- resident adjustment (fuel sold to non-residents on the territory and fuel purchased by residents abroad).

Development of AEA;

- broken down by GHG and HH;
- using PEFA to split data by economic activities.

Residence-based principle*

	Residents	Non-residents	
National territory	Sold on territory to resident units	Sold on territory to non-residents (foreign tourists, transport companies, embassies)	Energy statistics and balances
Rest of the world	Sold to residents operating abroad (tourists, transport companies, etc.)		
	SEEA-Energy		

* from international workshops

Priorities in the implementation of accounts



NACE	2024 year (mln.tenge)	Share of economic activities in GDP (%)
Agriculture, forestry and fishing	5 306 833,1	3,9
Industry	35 717 802,5	26,1
Mining and quarrying	16 430 049,2	12,0
Manufacturing	16 941 133,3	12,4
Electricity, gas, steam and air conditioning supply	2 016 982,3	1,5
Water supply; sewerage, waste management and remediation activities	329 637,7	0,2
Construction	8 178 260,1	6,0
Wholesale and retail trade; repair of motor vehicles and motorcycles	26 007 101,5	19,0
Transportation and storage	7 752 756,9	5,7
Accommodation and food service activities	1 580 662,4	1,2
Information and communication	3 013 049,3	2,2
Financial and insurance activities	4 649 709,1	3,4
Real estate activities	11 576 195,0	8,5
Professional, scientific and technical activities	4 252 469,0	3,1
Administrative and support service activities	3 210 188,6	2,3
Public administration and defence; compulsory social security	2 630 560,3	1,9
Education	5 729 285,5	4,2
Human health and social work activities	4 075 853,2	3,0
Arts, entertainment and recreation	1 257 750,9	0,9
Other service activities	3 175 149,4	2,3
Activities of households as employers; undifferentiated goods and services-producing activities of households for own use	293 201,3	0,2
Net taxes on products and imports	8 286 490,2	6,1
Gross domestic product	136 693 318,3	100,0

Why PEFA and AEA are important for us?

Share of crude petroleum and crude petroleum products obtained from bituminous minerals in exports of goods is **59,5%**.

Crude petroleum is **42,9%**.

Communication with users

Press releases can be an important tool of communication to get information out to journalists and the general public.*

News/Press releases are usually one or two-page documents. They are typically read by journalists but can be made available to general audiences too.

Organizations of all sizes use press releases.

Some common objectives include:

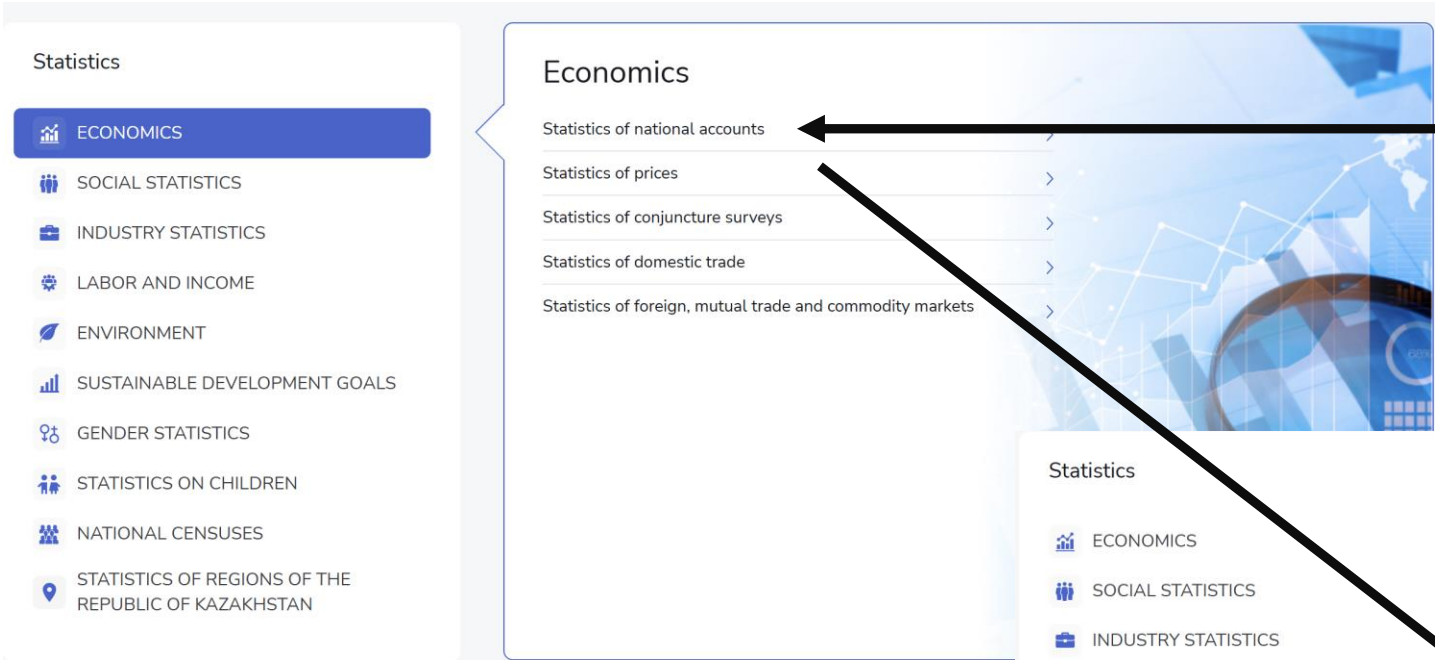
- To get media coverage - Highlighting links to policy is the most direct route to getting publicity for the SEEA from media outlets.
- To build reputation - The SEEA would benefit from wider public recognition.
- To market an organization - A well-written press release can help garner public attention and news coverage.*

*** From presentation of Sokol Vako “Good practices in dissemination” in Bishkek, 2024**



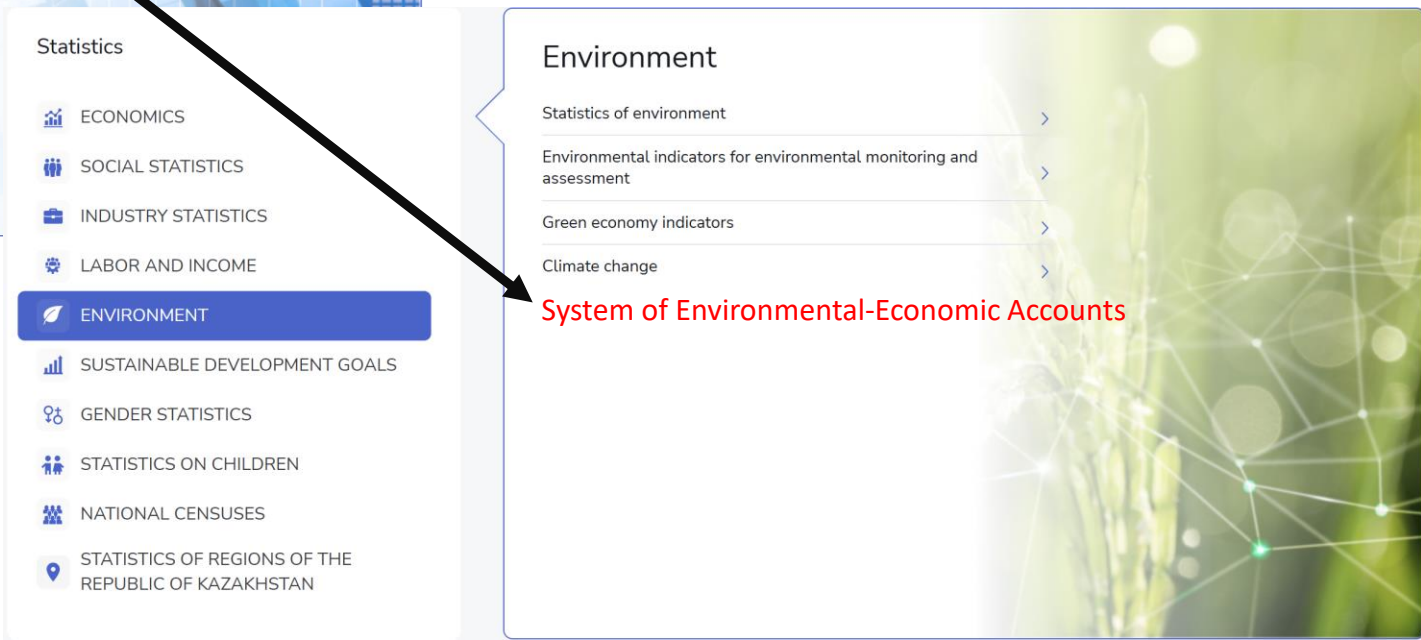
The screenshot shows the QAZSTAT website header with the logo and navigation links. The main headline reads: "The Bureau of National Statistics launches the publication of new accounts of system environmental-economic accounting". Below the headline, the date "20.09.2024" is displayed. The article text states: "The Bureau of National Statistics is launching three new accounts within the system environmental-economic accounting, which will allow for a more in-depth analysis of data on the use of natural resources and their impact on the environment." It further explains that these accounts are a multi-purpose conceptual framework for understanding the interactions between the environment and the economy. The article also mentions that data on the three new accounts can be found in the "National accounts statistics" section on the stat.gov.kz website. The article concludes by stating that the data are compiled taking into accounting the recommendations of OECD and UNEP experts in accordance with international guidelines for the system of environmental-economic accounting. The accounts will be published on an annual basis.

Current practice



SEEA is here

Further practice

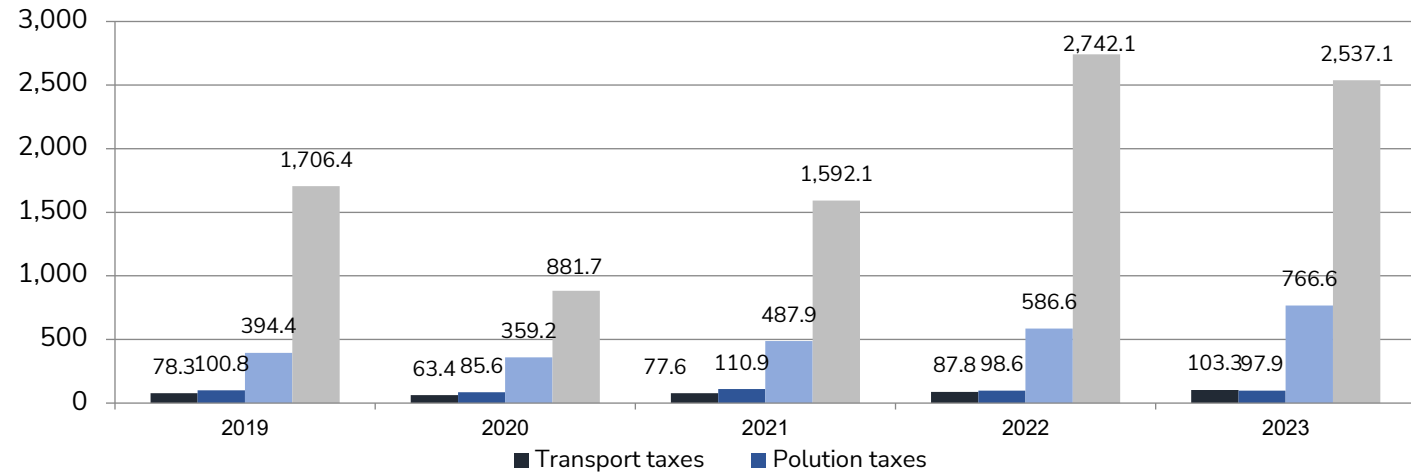
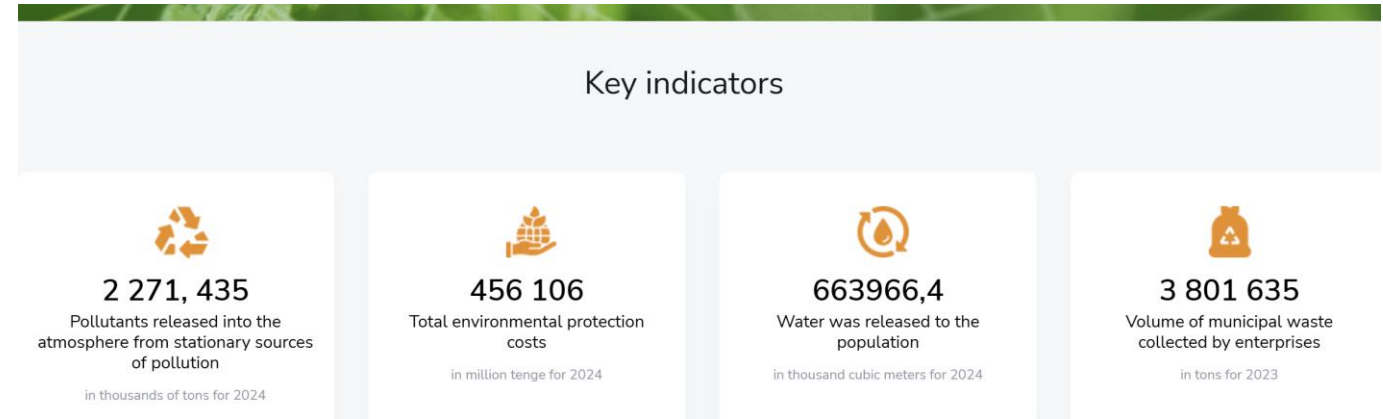


System of Environmental-Economic Accounts

Communication with users

Some good practices:

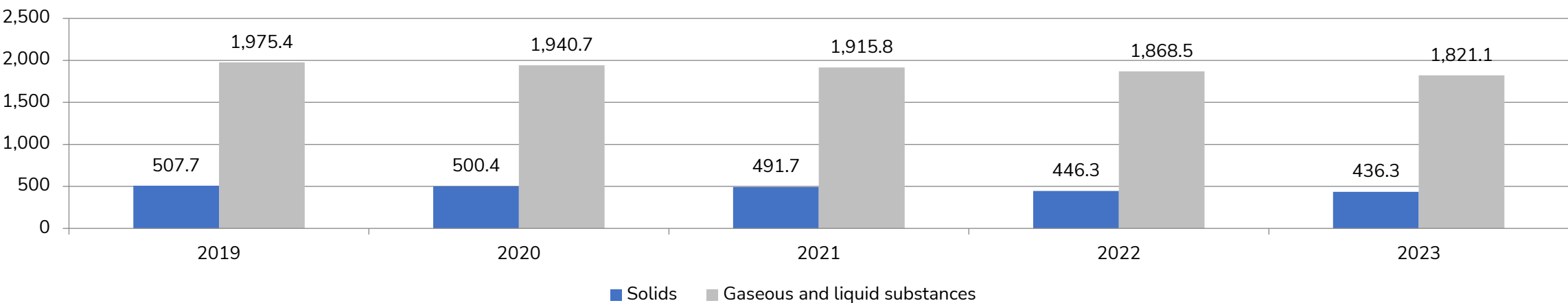
- use appropriate language;
- combine with narrative storytelling;
- contextualize through visual imagery and data visualization.*



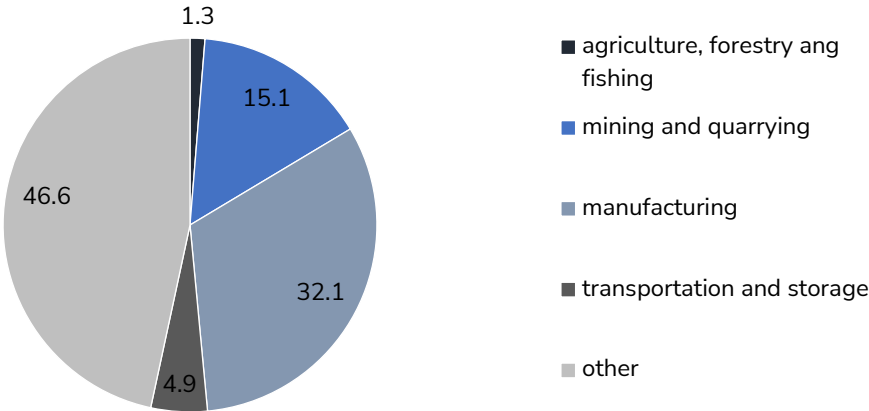
* From presentation of Sokol Vako "Good practices in dissemination" in Bishkek, 2024

+ storytelling

Air emissions by types of substance, thousand tons



Share of industries in air emissions for 2023



- Manufacturing industry has main share of air emissions (32,1% in 2023). Agriculture, forestry and fisheries has the smallest share (1,3%).
- Other industries accounted for 46,6% of total air emissions.

Main stakeholders



- Bureau of National Statistics ASPR RK;
- Ministry of Ecology and Natural Resources of the RK:
 - Committee for Environmental Regulation and Control;
 - Committee on Forestry and Wildlife;
- Ministry of Agriculture of the RK:
 - Land Management Committee;
- Ministry of Industry and Construction of the RK:
 - Geology Committee;
- Ministry of Water Resources and Irrigation of the RK;
- Ministry of National Economy of the RK;
- Ministry of Finance of the RK;
- Ministry of Science and Higher Education of the RK;
- JSC "Zhasyl Damu";
- International Financial Center Astana;
- International Organizations, scientific community, students.

- PEFA and AEA;
- Land resources account;
- Water resources account;
- Ecosystem accounts???



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ПЛАНИРОВАНИЮ И РЕФОРМАМ РЕСПУБЛИКИ
КАЗАХСТАН

Thank you for your attention!