Integrating climate aspects into strategic planning documents

Progress in SEEA:
Water and Air emissions Accounts

Naira Mandalyan
Statistical Committee of Armenia

Regional Workshop on an
Accounting Approach to Climate Change and Biodiversity
for Central Asia and the Caucasus

Bishkek, Kyrgyzstan, 09-12 September, 2024

Concerning…

- Government Decision on Establishing Procedure for GHG Inventory Preparation indicates official statistical publications as a primary source for activity data leading to the introduction of specific amendments in the Household Questionnaire (HH) and Energy statistics regarding the share of renewable energy production and consumption.

- The forthcoming Decree of the Minister of Environment on the approval of the “Minimum list of climate change indicators and the procedure for their collection, based on Global Set of Climate Change Statistics and Indicators" is expected to pl ay a key role. This decree will establish a standardized framework for monitoring key climate indicators.

- Water Accounts: pilot quarter accounts covering river basin.

- Air Emission Accounts: pilot for 2017

METHODOLOGY FOR CLIMATE MAINSTREAMING IN STRATEGIC PLANNING DOCUMENTS

Climate mainstreaming refers to the systematic integration of climate mitigation and adaptation considerations into decisions, actions and processes in strategic management processes and alignment with the objectives of the document. The aim is to ensure that the financial, legislative and procedural frameworks are organized in such a way that they do not undermine national targets for combating climate change and adapting to its impacts.

Analysis of the strategic planning document's a ssessment of compliance with national climate change goals should take into account the follo wing principles:

- Climate change is an intersecting, multi-sect or issue.
- Interventions should not inadvertently cause harm to people and the environment;
- GHG emissions should not increase, and the capacity of carbon absorbers should not be r educed;
- Resilience to the effects of climate change s hould increase and vulnerability should decr ease.
- It is necessary to ensure consideration of co sts and benefits in the context of long-term d evelopments (to avoid illiquid assets);
- It is necessary to ensure vertical and horizon tal coordination with strong leadership on the principle of "whole-of-government" and "whol e-of-society".
- There is a need to implement a low-carbon p olicy in all sectors of the economy.

METHODOLOGY FOR CLIMATE MAINSTREAMING IN STRATEGIC PLANNING DOCUMENTS

The climate mainstreaming methodology in strategic planning documents is consistent with the EU Strategic Environmental Assessment Directive (SEA-D, 2001/42/EC) as well as the Do Not Significant Harm (DNHS) principle presented in the EU Taxonomy Regulation (EU 2019 /2088).

The climate mainstreaming methodology is implemented in 4 stages:

1. Preliminary study:
2. Substantive evaluation, incl uding alternatives:
3. Documentation:
4. Performance monitoring.

Institutional Framework

Inter-agency Coordinating Council on Climate Change
(11 deputy ministries and 2 state agencies and 2 independent bodies)
Chaired by Deputy Primer Minister

Coordination, quality assurance, verification

Ministry of Environment
Coordination, Implementation

Climate Policy Department of MOE
Secretariat to the Council

Working Groups of Inter-agency Coordinating Council
3 permanent WGs
Ad-hoc WGs

GHG expert team
Sectoral experts
Scientific and NGO community

Reporting areas under transparency framework

- National communications
- BTRs
- Adaptation Reporting
- NDC review and Other related issues

7

1 member of ARMSTAT Council

2 representatives from Industry and Environment Statistics Divisions

In 2020 the Department of Climate Policy was established with the aim of emphasizing the role of climate policy in the country. The Prime Minister established Inter-agency Coordinating Council for the Implementation of the Requirements and Provisions of the UNFCCC and the Paris Agreement.

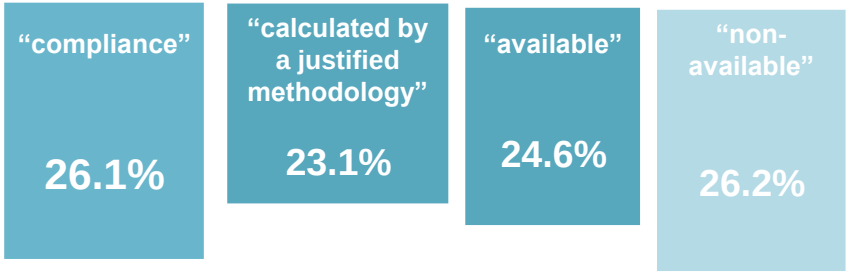
In 2021 National Action Program of Adaptation to Climate Change and the List of Measures for 2021-2025 approved by the Government guides efforts towards facilitating the integration of climate change adaptation into sectorial and provincial development plans.

In 2023, the Government approved “Long-term (until 2050) low greenhouse gas emissions devel opment strategy of the Republic of Armenia” to achieve ecosystem climate neutrality by 2050. In 2024 the Government approved "The order of inventory of greenhouse gas emissions" by N54-N decree.

Strengthening the “indicator-policy” link in climate change

Armstat, together with international and local experts, were actively discussing the list of CC statistics and indicators based on the country’s CC peculiarities, CC policy priorities, institutional and resource capacities, as well as on national CC reporting requirements.

Expanded list of CC statistics and indicators implemented by the UNSD (158 indicators)

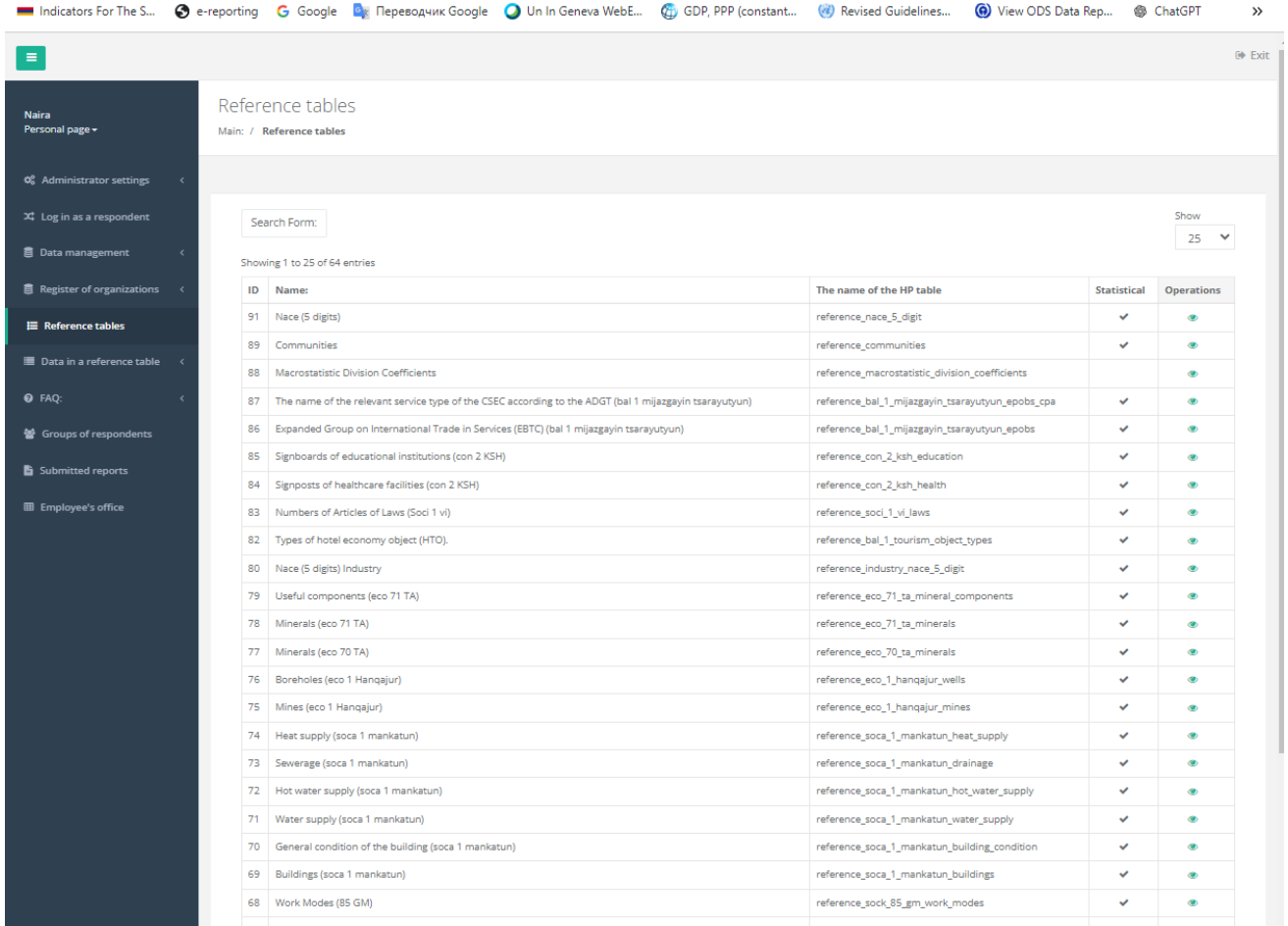


Decree of the Minister of the Environment on approval of:

UNDER DEVELOPMENT

- The list of newly elaborated 34 climate change indicators and the procedure for their collection have been developed in accordance with the Global Set of Climate Change Statistics and Indicators under the UNFCCC and the Paris Agreement.
- The list of the members of permanent interagency working group on country reporting issues.

Armstat online Platform

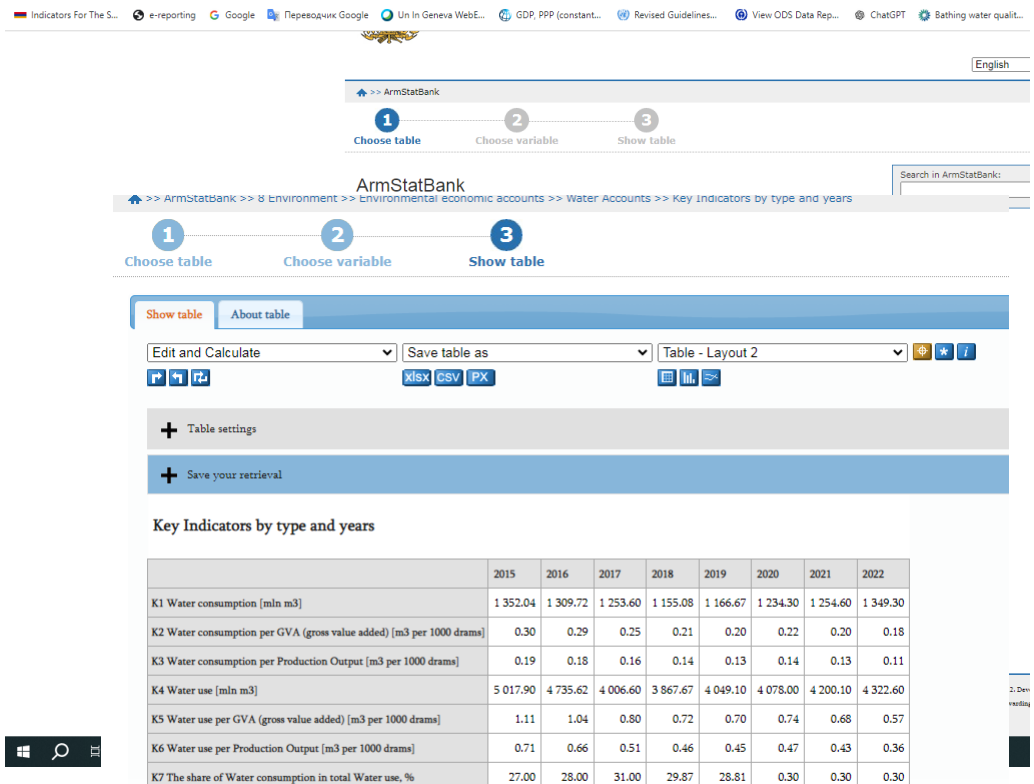


ID	Name:	The name of the HP table	Statistical	Operations
91	Nace (5 digits)	reference_nace_5_digit	✔	
89	Communities	reference_communities	✔	
88	Macrostatistic Division Coefficients	reference_macrostatistic_division_coefficients		
87	The name of the relevant service type of the CSEC according to the ADGT (bal 1 mijazgayin tsarayutyun)	reference_bal_1_mijazgayin_tsarayutyun_epobs_cpa	✔	
86	Expanded Group on International Trade in Services (EBTC) (bal 1 mijazgayin tsarayutyun)	reference_bal_1_mijazgayin_tsarayutyun_epobs	✔	
85	Signboards of educational institutions (con 2 KSH)	reference_con_2_ksh_education	✔	
84	Signposts of healthcare facilities (con 2 KSH)	reference_con_2_ksh_health	✔	
83	Numbers of Articles of Laws (Soci 1 vi)	reference_soci_1_vi_laws	✔	
82	Types of hotel economy object (HTO).	reference_bal_1_tourism_object_types	✔	
80	Nace (5 digits) Industry	reference_industry_nace_5_digit	✔	
79	Useful components (eco 71 TA)	reference_eco_71_ta_mineral_components	✔	
78	Minerals (eco 71 TA)	reference_eco_71_ta_minerals	✔	
77	Minerals (eco 70 TA)	reference_eco_70_ta_minerals	✔	
76	Boreholes (eco 1 Hanqajur)	reference_eco_1_hanqajur_wells	✔	
75	Mines (eco 1 Hanqajur)	reference_eco_1_hanqajur_mines	✔	
74	Heat supply (soca 1 mankatun)	reference_soca_1_mankatun_heat_supply	✔	
73	Sewerage (soca 1 mankatun)	reference_soca_1_mankatun_drainage	✔	
72	Hot water supply (soca 1 mankatun)	reference_soca_1_mankatun_hot_water_supply	✔	
71	Water supply (soca 1 mankatun)	reference_soca_1_mankatun_water_supply	✔	
70	General condition of the building (soca 1 mankatun)	reference_soca_1_mankatun_building_condition	✔	
69	Buildings (soca 1 mankatun)	reference_soca_1_mankatun_buildings	✔	
68	Work Modes (85 GM)	reference_sock_85_gm_work_modes	✔	

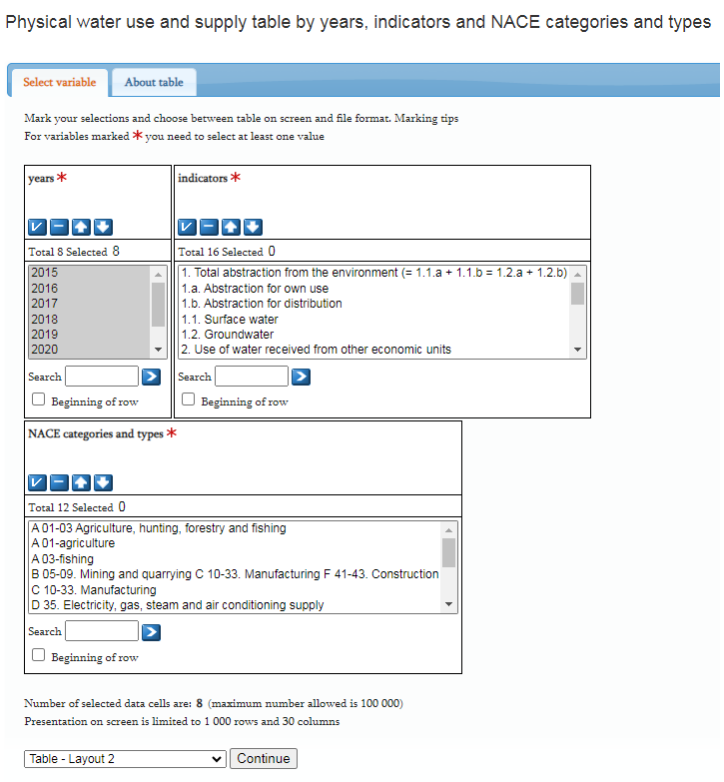
- 12.9% environment related

Water Accounts – physical water supply and use tables

www.armstatbank.am

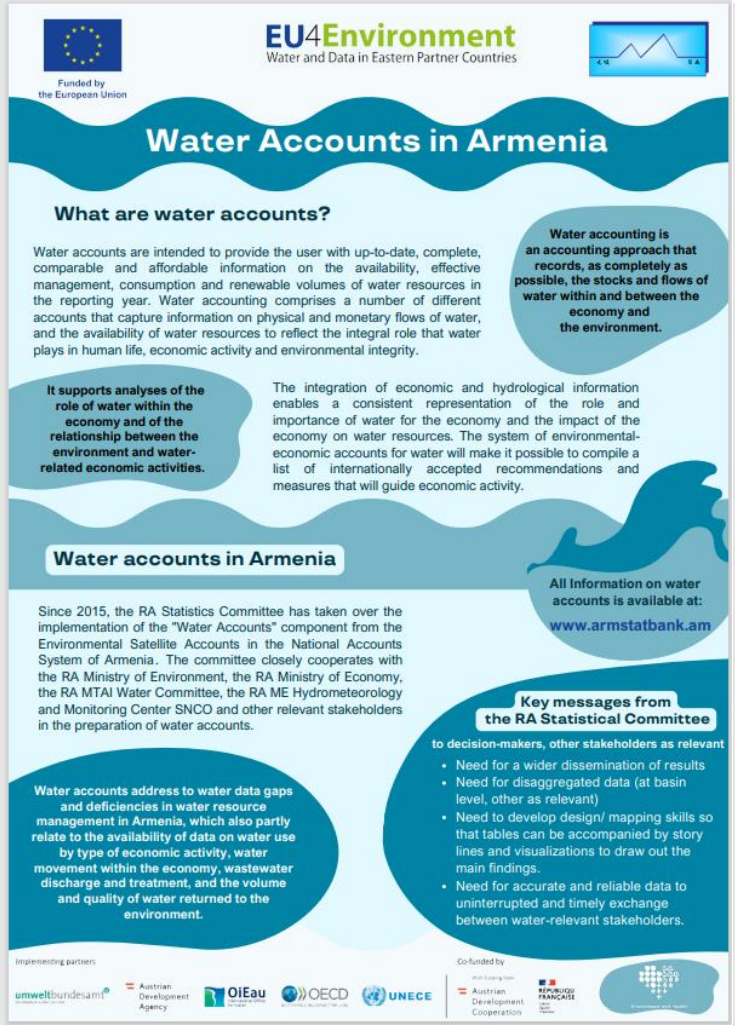


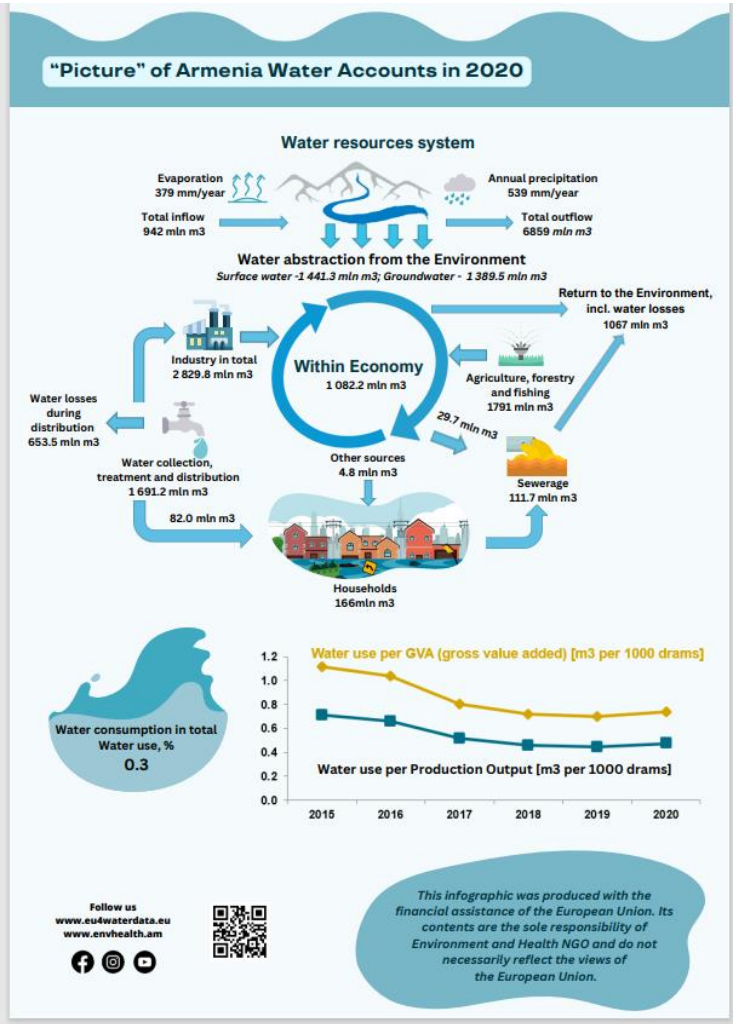
	2015	2016	2017	2018	2019	2020	2021	2022
K1 Water consumption [mln m3]	1 352.04	1 309.72	1 253.60	1 155.08	1 166.67	1 234.30	1 254.60	1 349.30
K2 Water consumption per GVA (gross value added) [m3 per 1000 drams]	0.30	0.29	0.25	0.21	0.20	0.22	0.20	0.18
K3 Water consumption per Production Output [m3 per 1000 drams]	0.19	0.18	0.16	0.14	0.13	0.14	0.13	0.11
K4 Water use [mln m3]	5 017.90	4 735.62	4 006.60	3 867.67	4 049.10	4 078.00	4 200.10	4 322.60
K5 Water use per GVA (gross value added) [m3 per 1000 drams]	1.11	1.04	0.80	0.72	0.70	0.74	0.68	0.57
K6 Water use per Production Output [m3 per 1000 drams]	0.71	0.66	0.51	0.46	0.45	0.47	0.43	0.36
K7 The share of Water consumption in total Water use, %	27.00	28.00	31.00	29.87	28.81	0.30	0.30	0.30
K8 The share of Losses during transportation in the total Water use, %	14.72	15.04	20.60	20.40	18.33	16.03	16.90	15.03



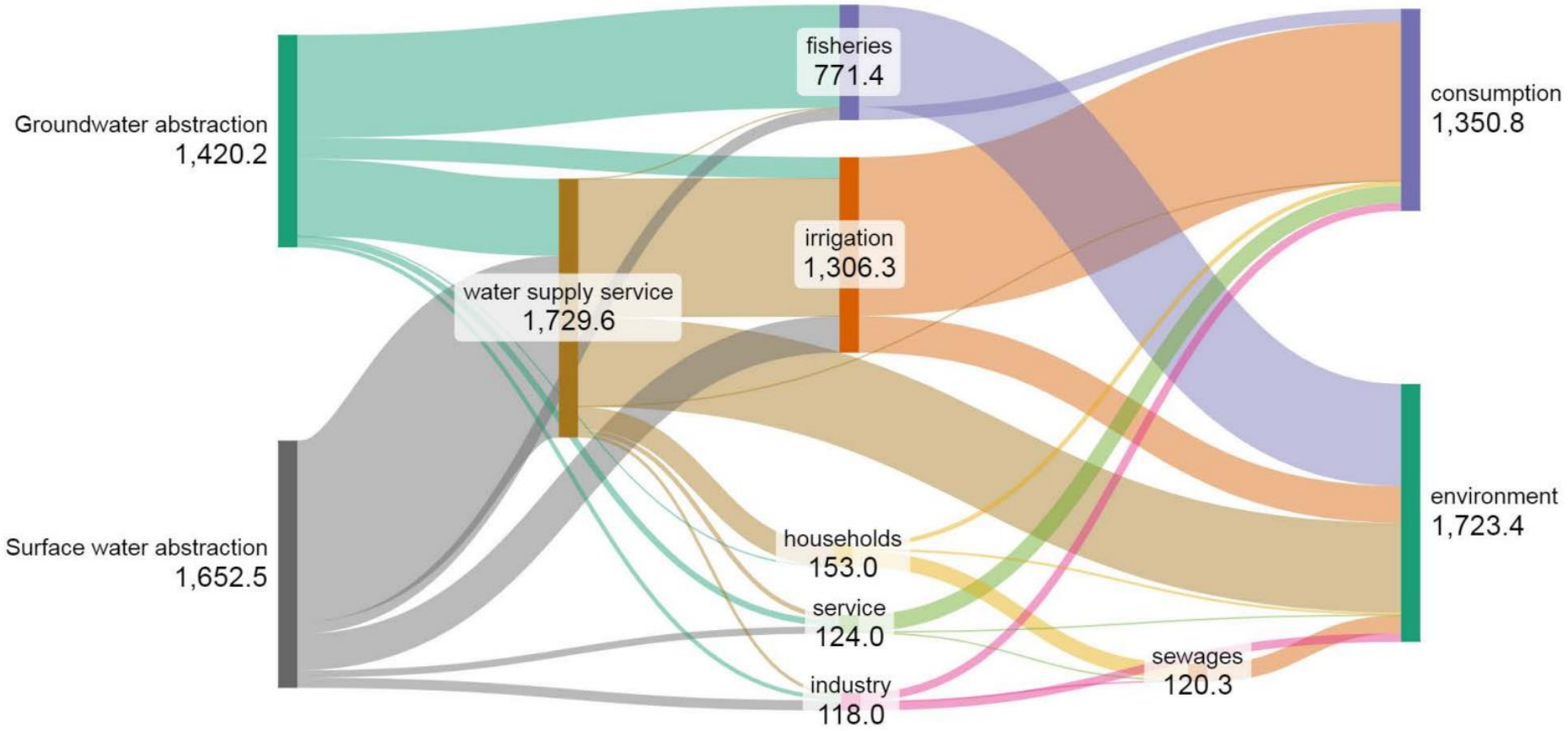
Dissemination & Visualization:

Infographics



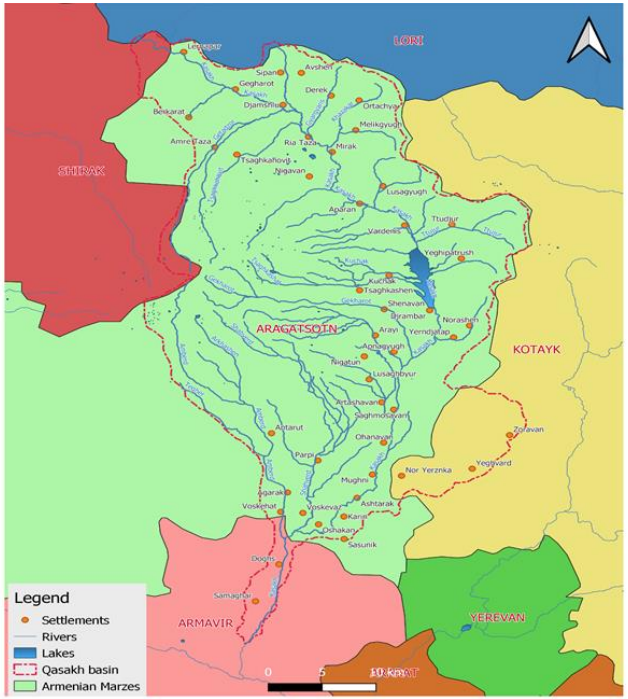


Water Accounts in Armenia, 2022 (mln.cub.m)

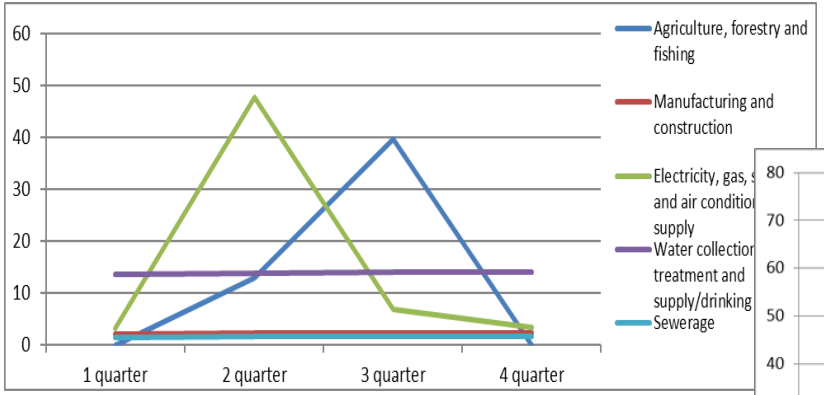


Water Accounts – physical water supply and use tables for Qasakh river basin

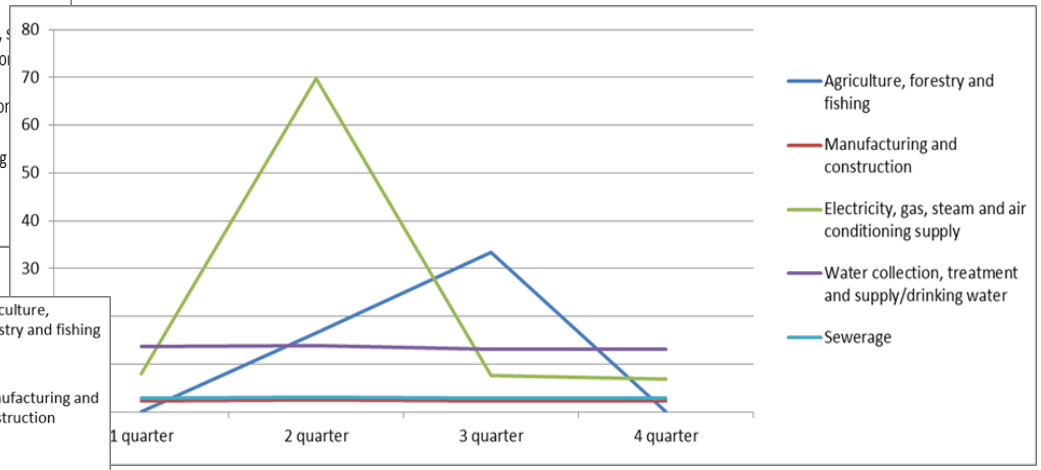
	2020 mln.cub.m	2021 mln.cub.m	2022 mln.cub.m
Water Use	198.1	225.4	212.5
Water Supply	176.5	206.4	184.4
Consumption	21.6	19.0	28.1

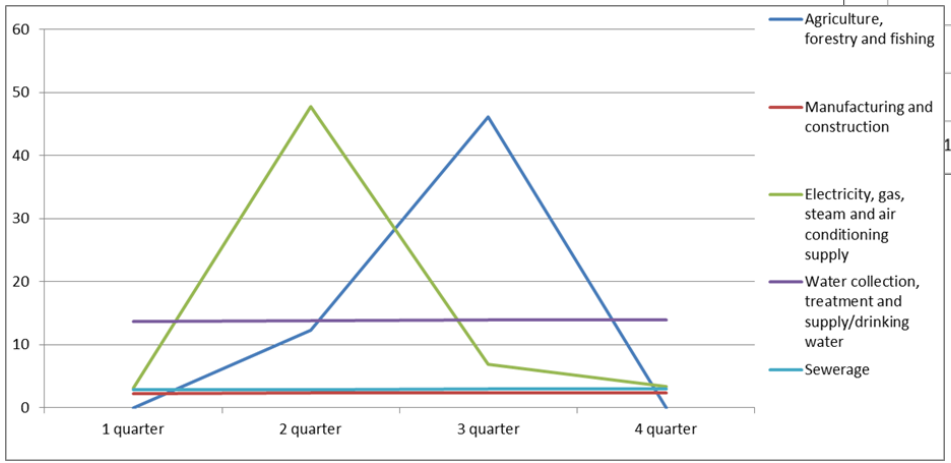


Water Accounts – physical water supply and use tables

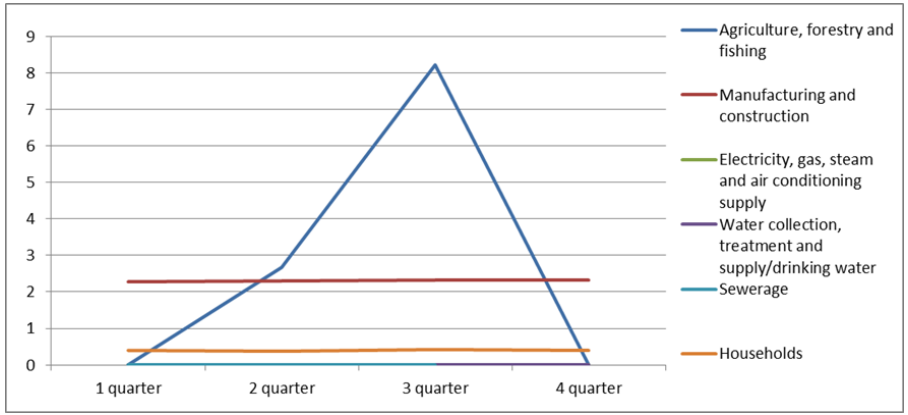


Water Use by NACE and quarters for 2020, 2021 and 2022

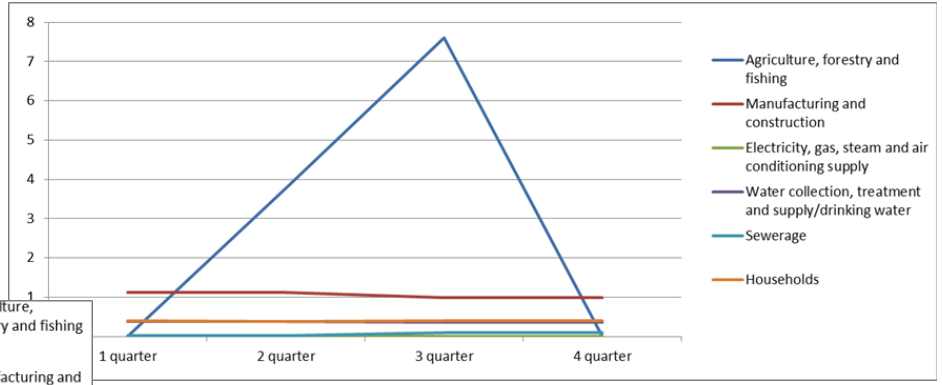


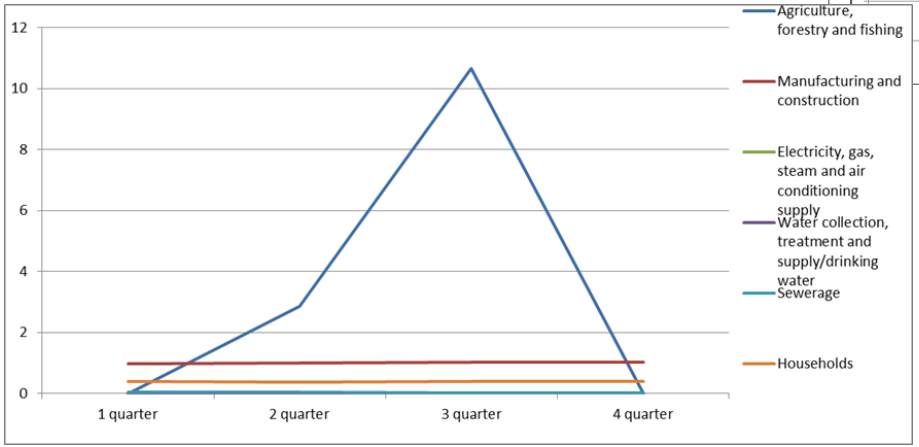


Water Accounts – physical water supply and use tables



Water Consumption by NACE and quarters for 2020, 2021 and 2022

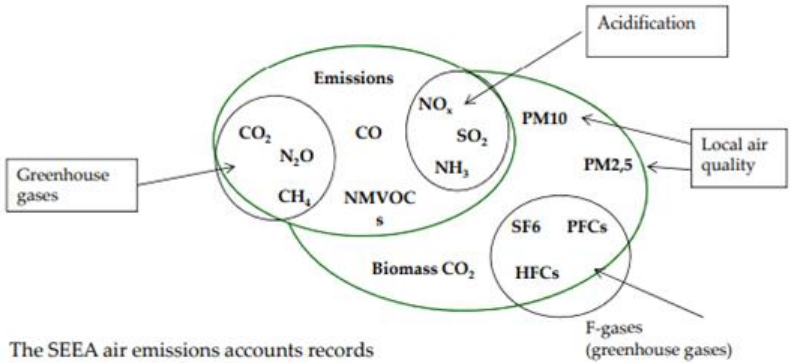




Air Emissions Accounts for Armenia –

Data evaluation and road map for implementation

Scope of the accounts: Gaseous and particulate substances released to the atmosphere by establishments and households as a result of production, consumption and accumulation processes.



The SEEA air emissions accounts records the generation of air emissions by resident economic units and by type of substance.

Building Armenia's National Transparency Framework under the Paris Agreement UNDP-GEF project

UN Framework Convention on Climate Change (UNFCCC)

Convention on Long-Range Transboundary Air Pollution (LRTAP)

Air Emissions Accounts

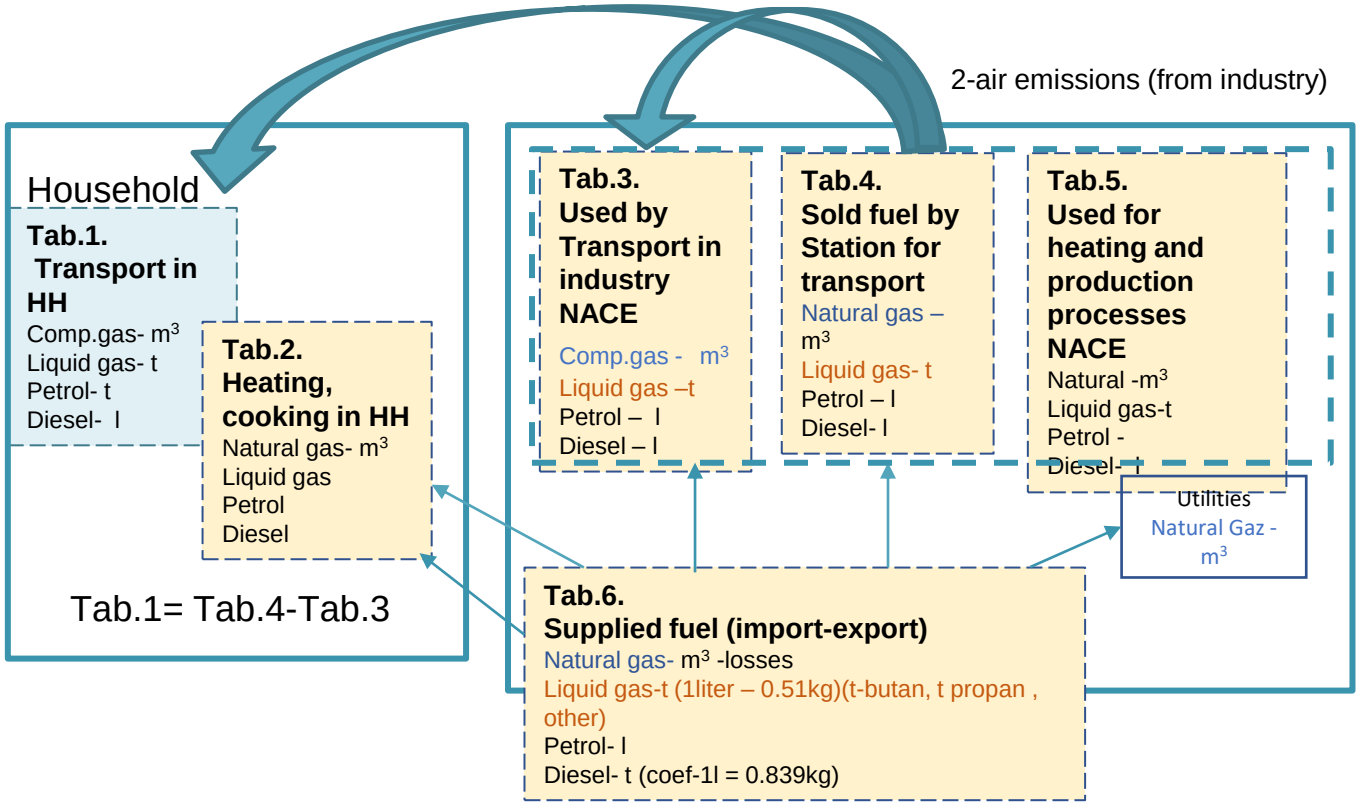
Greenhouse gases (categories: CRF -Common Reporting Format)

1. Carbon dioxide – CO2
2. Carbon dioxide from biomass combustion
3. Nitrous oxide – N2O
4. Methane – CH4
5. Hydrofluorocarbons – HFCs (combined)
6. Perfluorocarbons – PFCs (combined)
7. Sulfur hexafluoride SF6 and Nitrogen trifluoride NF3

Air pollutants (categories: NFR - Nomenclature For Reporting)

8. Nitrogen oxides – NOx
9. Sulfur oxides – SOx
10. Ammonia – NH3
11. Non-methane volatile organic compounds – NMVOC
12. Carbon Monoxide – CO
13. Particulate matter less than 10 microns – PM10
14. Particulate matter less than 2.5 microns – PM2.5

Air Emissions Accounts



Air Emissions Accounts

Data from statistical datasets distributed by NACE

2017	1-transport	1-energy	Total consumption
Petrol	20 231.0	15 830.7	25 709.40
Diesel	75 349.7	89 467.1	92 698.74
Natural gas	41 532 983.2	45 013 314.7	41 532 983.2
Liquefied gas	-	-	-

Example for petrol consumption by vehicle categories and NACE

NACE	Trucks	Passenger bus	Passenger cars	Special cars
1	1.795	0	16.615	0
2	1.7	0	37.38	1.3
3	0	0	0	0
7	112.9864	104.25621	1141.7574	0
8	10.41415	24.547642	108.90226	13.83594
…	…	…	…	…
96	0.89	0	5.34	0.4

Distribution of fuel consumption by vehicle categories according to IPCC and CLRTAP reports

2017	Petrol		Diesel		Natural gas	Liquefied gas	
	1000 liter	**t**	**1000 liter**	**t**	**1000 cub m**	**1000 liter**	**t**
Pcars	131 859.6	97 576.1	334.92	280.998	446 414.4	9 944.31	5 071.6
Ltrucks	9 387.4	6 946.6	-	-	31 258.2	216.08	110.2
Htrucks	966.4	715.1	160 000.36	134 240.302			
Total	142 213.3	104 526.8	160 335.3	134 521.3	477 672.6	10 160.4	5 181.8

Imported fuel

Air Emissions Accounts

GHG emissions distributed by types of vehicles, fuel, NACE and households

2017	Petrol			Diesel			Natural gas		
	CO2	CH4	N2O	CO2	CH4	N2O	CO2	CH4	N2O
Pcars	299.55	0.14265	0.01383	0.89534	0.00005	0.00005	908.59	1.4698	0.04793
Ltrucks	21.325	0.01016	0.00098				63.62	0.103	0.00336
Htrucks	2.2	0.00105	0.0001	427.72	0.02251	0.02251			
Total	323.075	0.15386	**0.01491**	**428.6153**	**0.02256**	**0.02256**	**972.21**	**1.5728**	**0.05129**

Total emissions where H is distributed through NACE and households

NACE	Pollutants		GHGs	
	Total emissions, Gg	t/1000 drams GVA	Total GHG, CO2 eq.	CO2 eq. /1000 drams GVA
A	33.44	0.04	2 097.01	2.51
B	4.81	0.03	540.54	2.91
C	64.74	0.11	763.02	1.29
D35	6.32	0.03	2 933.95	12.93
E-H	61.17	0.05	409.32	0.34
I-S	1.86	0.00	702.91	0.34
Households	8.94	-	2 577.58	-

THANK YOU