

Integrating climate aspects into strategic planning documents

Progress in SEEA: Water and Air emissions Accounts



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Statistical Committee of Armenia

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

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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 play 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 assessment of compliance with national climate change goals should take into account the following principles:

- Climate change is an intersecting, multi-sector 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 reduced;
- Resilience to the effects of climate change should increase and vulnerability should decrease.
- It is necessary to ensure consideration of costs and benefits in the context of long-term developments (to avoid illiquid assets);
- It is necessary to ensure vertical and horizontal coordination with strong leadership on the principle of "whole-of-government" and "whole-of-society".
- There is a need to implement a low-carbon policy in all sectors of the economy.

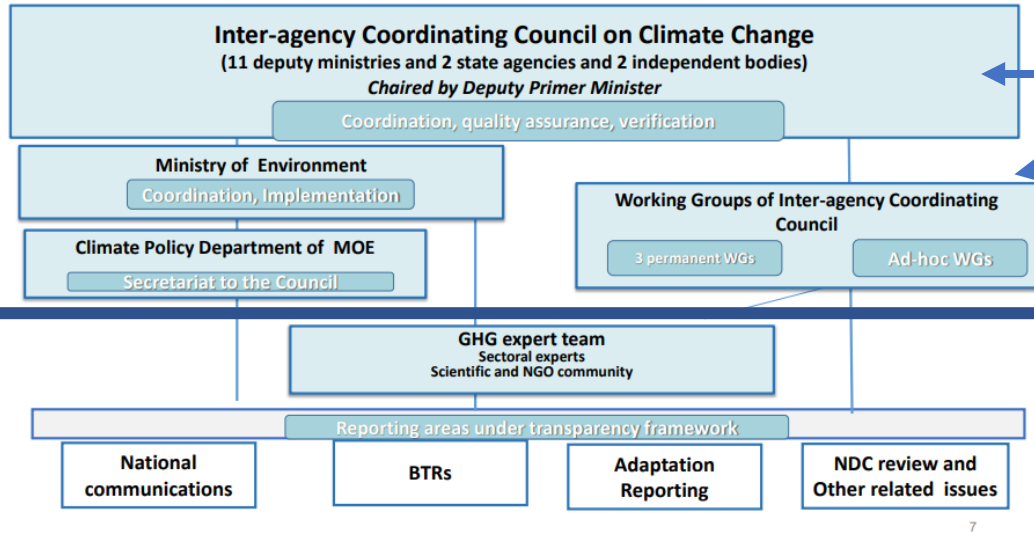
METHODOLOGY FOR CLIMATE MAINSTREAMING IN STRATEGIC PLANNING DOCUMENTS

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, including alternatives:
3. Documentation:
4. Performance monitoring.

Institutional Framework



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.

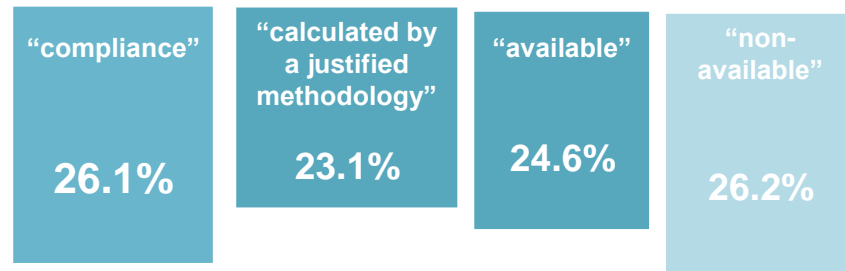
In 2021 National Action Program of Adaptation to Climate Change and the List of Measures for 2021-2025 approved by the Government guides efforts towards facilitating the integration of climate change adaptation into sectorial and provincial development plans.

In 2023, the Government approved “Long-term (until 2050) low greenhouse gas emissions development 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:

- The list of newly elaborated 34 climate change indicators and the procedure of 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 inter-agency working group on country reporting issues.

UNDER DEVELOPMENT

Armstat online Platform

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Reference tables

Main / Reference tables

Search Form: Show 25

Showing 1 to 25 of 64 entries

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	✓	🟢
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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	✓	🟢
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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	✓	🟢
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■ 12.9% environment related

Water Accounts – physical water supply and use tables

www.armstatbank.am

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English

>> ArmStatBank

1 Choose table 2 Choose variable 3 Show table

ArmStatBank >> Environment >> Environmental economic accounts >> Water Accounts >> Key Indicators by type and years

1 Choose table 2 Choose variable 3 Show table

Search in ArmStatBank

Show table About table

Edit and Calculate Save table as Table - Layout 2

xlsx csv px

+ Table settings

+ Save your retrieval

Key Indicators by type and years

	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

Physical water use and supply table by years, indicators and NACE categories and types

Select variable About table

Mark your selections and choose between table on screen and file format. Marking tips
For variables marked * you need to select at least one value

years * indicators *

Total 8 Selected 8 Total 16 Selected 0

2015 2016 2017 2018 2019 2020

1. Total abstraction from the environment (= 1.1.a + 1.1.b = 1.2.a + 1.2.b)
1.a. Abstraction for own use
1.b. Abstraction for distribution
1.1. Surface water
1.2. Groundwater
2. Use of water received from other economic units

Search Beginning of row

NACE categories and types *

Total 12 Selected 0

A 01-03 Agriculture, hunting, forestry and fishing
A 01-agriculture
A 03-fishing
B 05-09. Mining and quarrying C 10-33. Manufacturing F 41-43. Construction
C 10-33. Manufacturing
D 35. Electricity, gas, steam and air conditioning supply

Search Beginning of row

Number of selected data cells are: 8 (maximum number allowed is 100 000)
Presentation on screen is limited to 1 000 rows and 30 columns

Table - Layout 2 Continue



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Dissemination & Visualization: Infographics

Water Accounts in Armenia

What are water accounts?

Water accounts are intended to provide the user with up-to-date, complete, comparable and affordable information on the availability, effective management, consumption and renewable volumes of water resources in the reporting year. Water accounting comprises a number of different accounts that capture information on physical and monetary flows of water, and the availability of water resources to reflect the integral role that water plays in human life, economic activity and environmental integrity.

It supports analyses of the role of water within the economy and of the relationship between the environment and water-related economic activities.

The integration of economic and hydrological information enables a consistent representation of the role and importance of water for the economy and the impact of the economy on water resources. The system of environmental-economic accounts for water will make it possible to compile a list of internationally accepted recommendations and measures that will guide economic activity.

Water accounting is an accounting approach that records, as completely as possible, the stocks and flows of water within and between the economy and the environment.

Water accounts in Armenia

Since 2015, the RA Statistics Committee has taken over the implementation of the "Water Accounts" component from the Environmental Satellite Accounts in the National Accounts System of Armenia. The committee closely cooperates with the RA Ministry of Environment, the RA Ministry of Economy, the RA MTAI Water Committee, the RA ME Hydrometeorology and Monitoring Center SNCO and other relevant stakeholders in the preparation of water accounts.

All information on water accounts is available at: www.armstatbank.am

Key messages from the RA Statistical Committee

to decision-makers, other stakeholders as relevant

- Need for a wider dissemination of results
- Need for disaggregated data (at basin level, other as relevant)
- Need to develop design/ mapping skills so that tables can be accompanied by story lines and visualizations to draw out the main findings.
- Need for accurate and reliable data to uninterrupted and timely exchange between water-relevant stakeholders.

Water accounts address to water data gaps and deficiencies in water resource management in Armenia, which also partly relate to the availability of data on water use by type of economic activity, water movement within the economy, wastewater discharge and treatment, and the volume and quality of water returned to the environment.

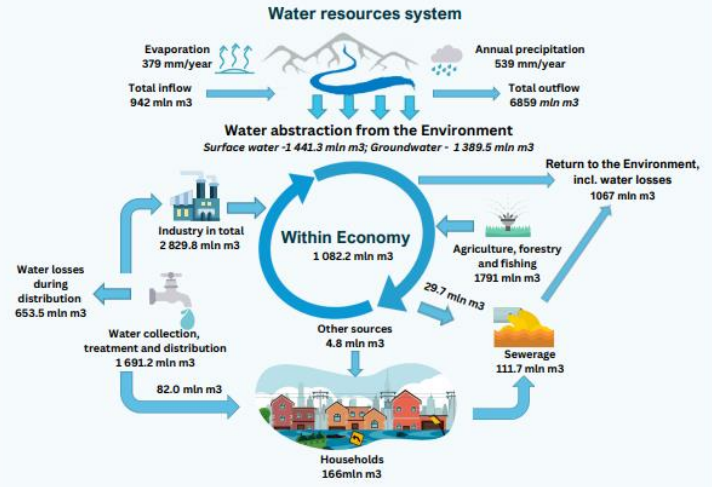
Implementing partners



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"Picture" of Armenia Water Accounts in 2020



Water consumption in total Water use, %
0.3

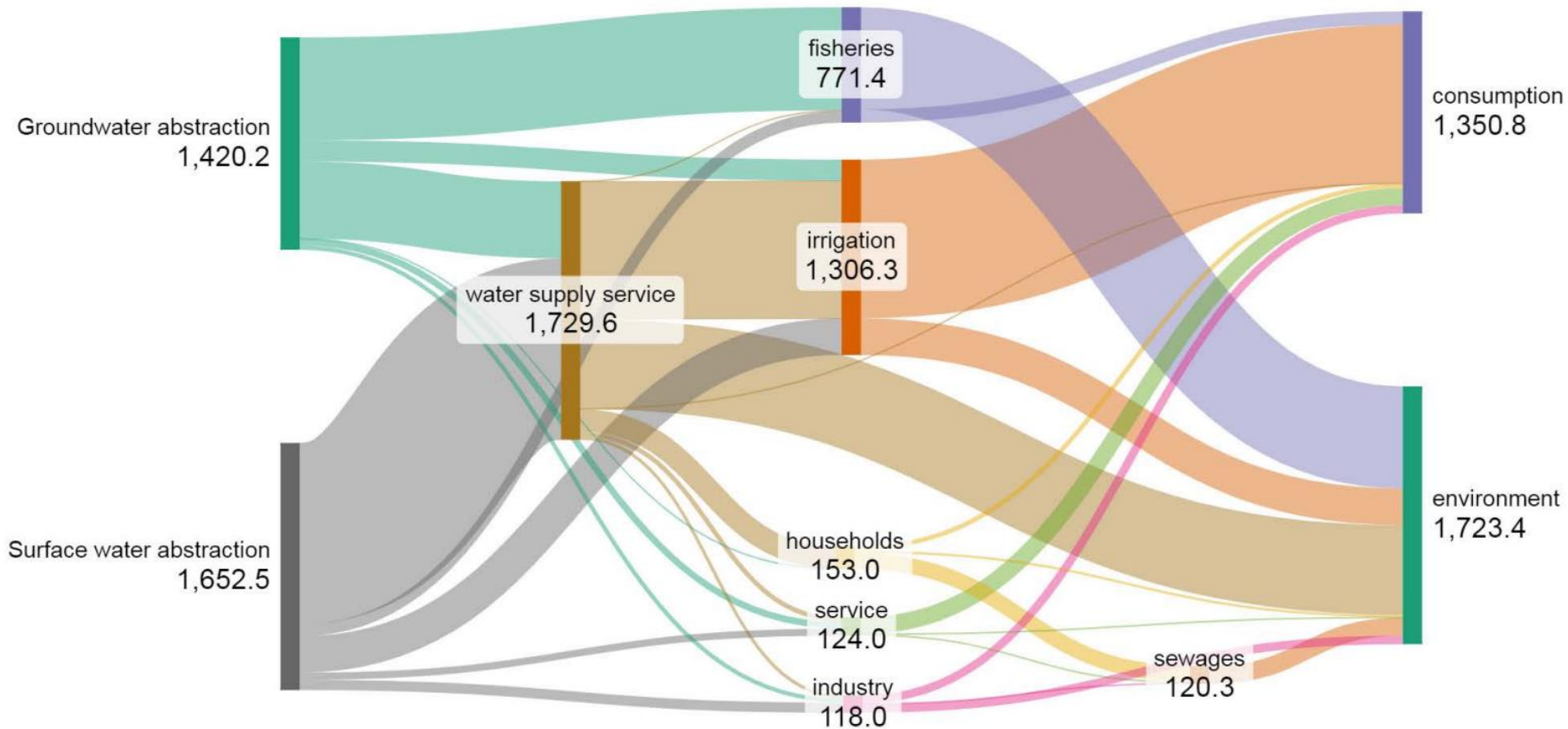


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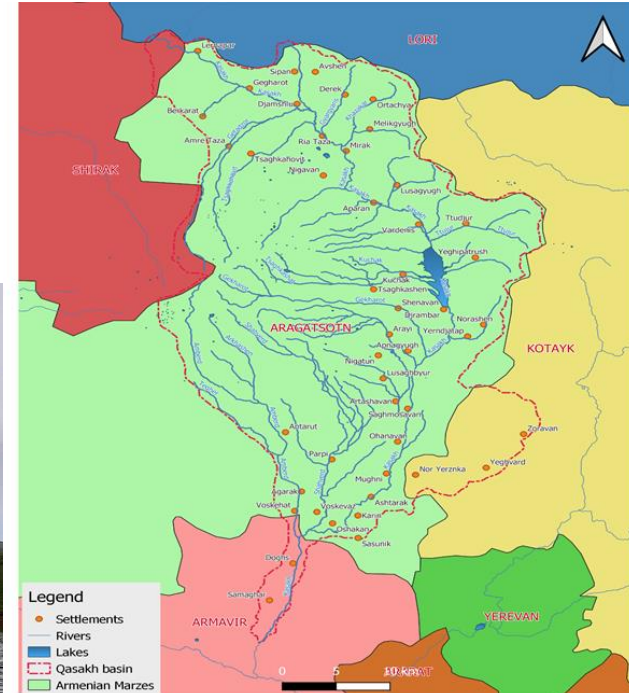
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Water Accounts in Armenia, 2022 (mln.cub.m)



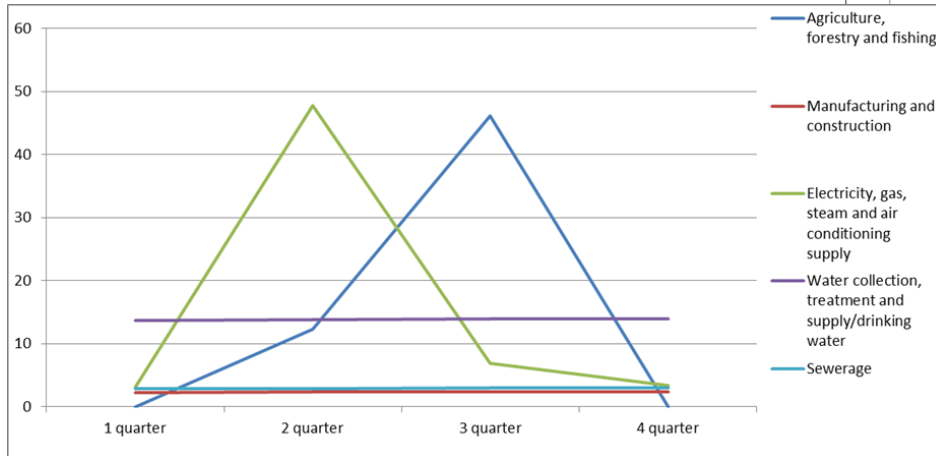
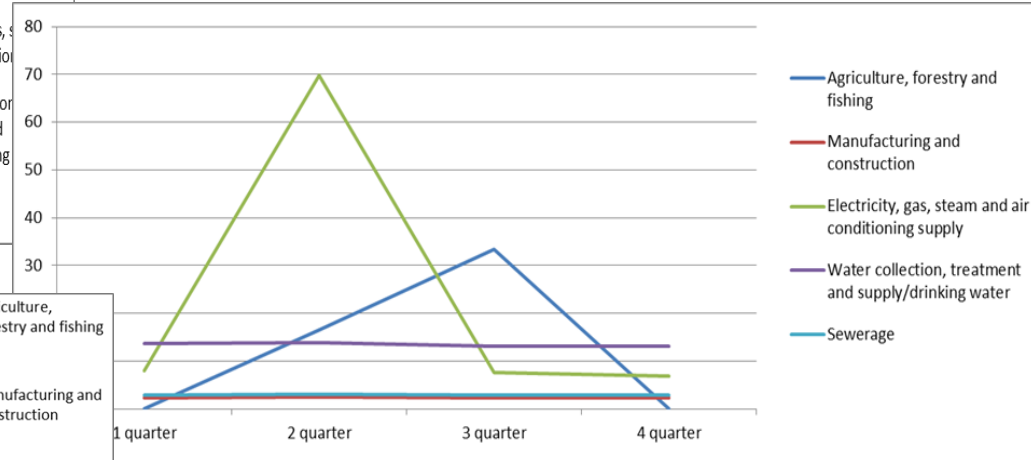
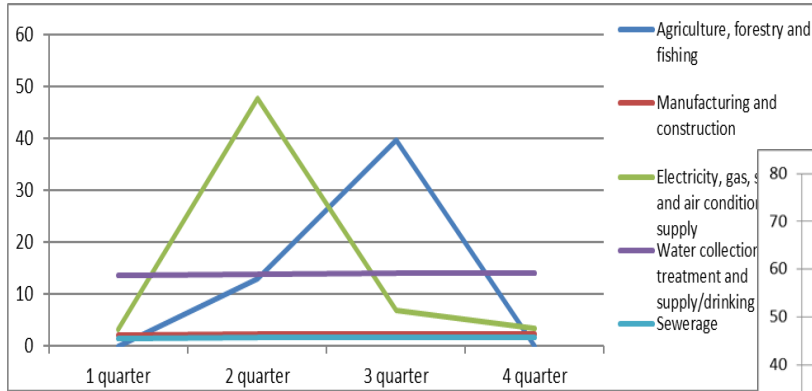
Water Accounts – physical water supply and use tables for Qasakh river basin

	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

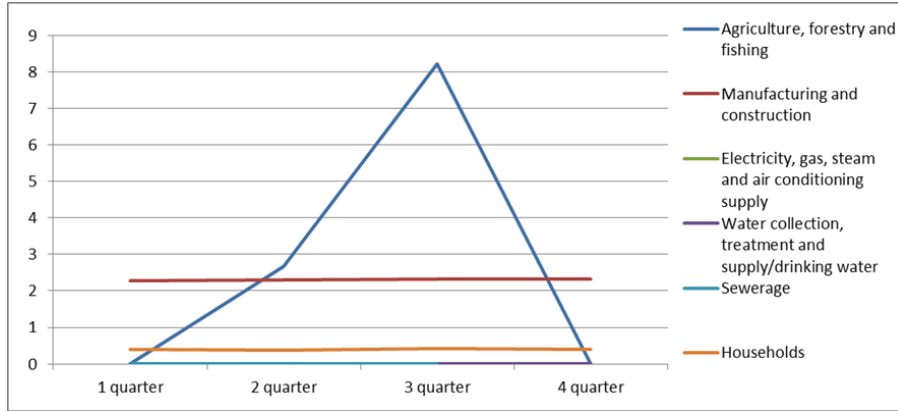


Water Accounts – physical water supply and use tables

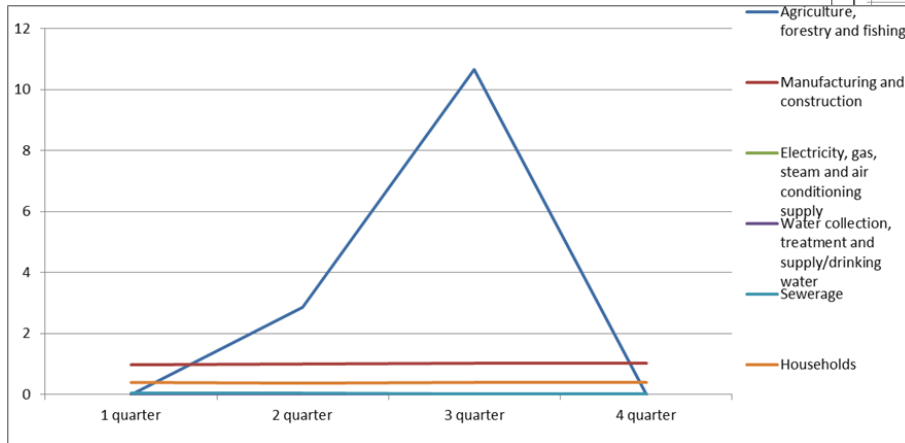
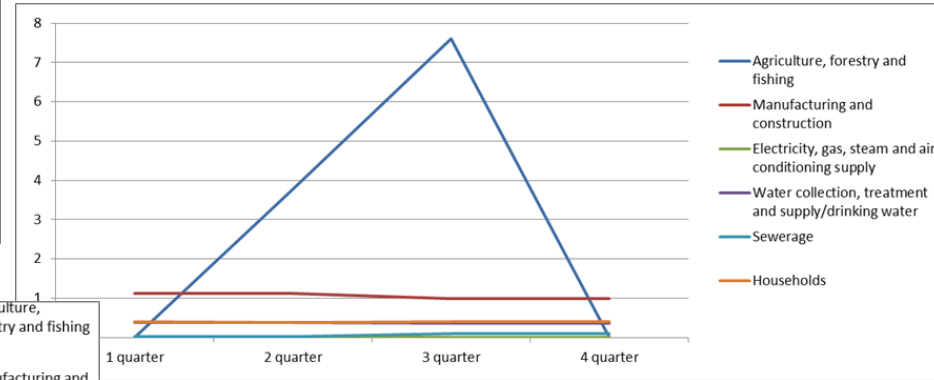
Water Use by NACE and quarters for 2020, 2021 and 2022



Water Accounts – physical water supply and use tables

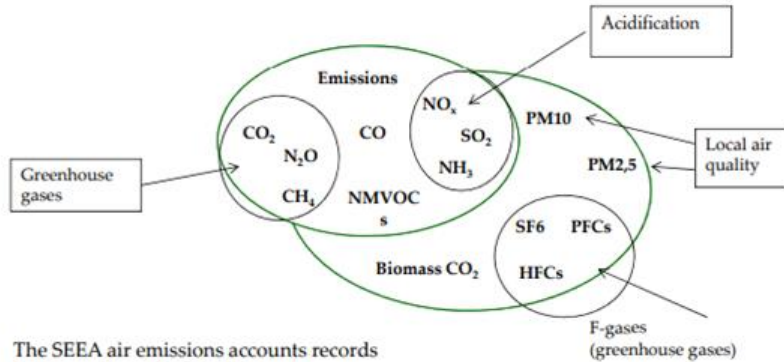


Water Consumption by NACE and quarters for 2020, 2021 and 2022



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)

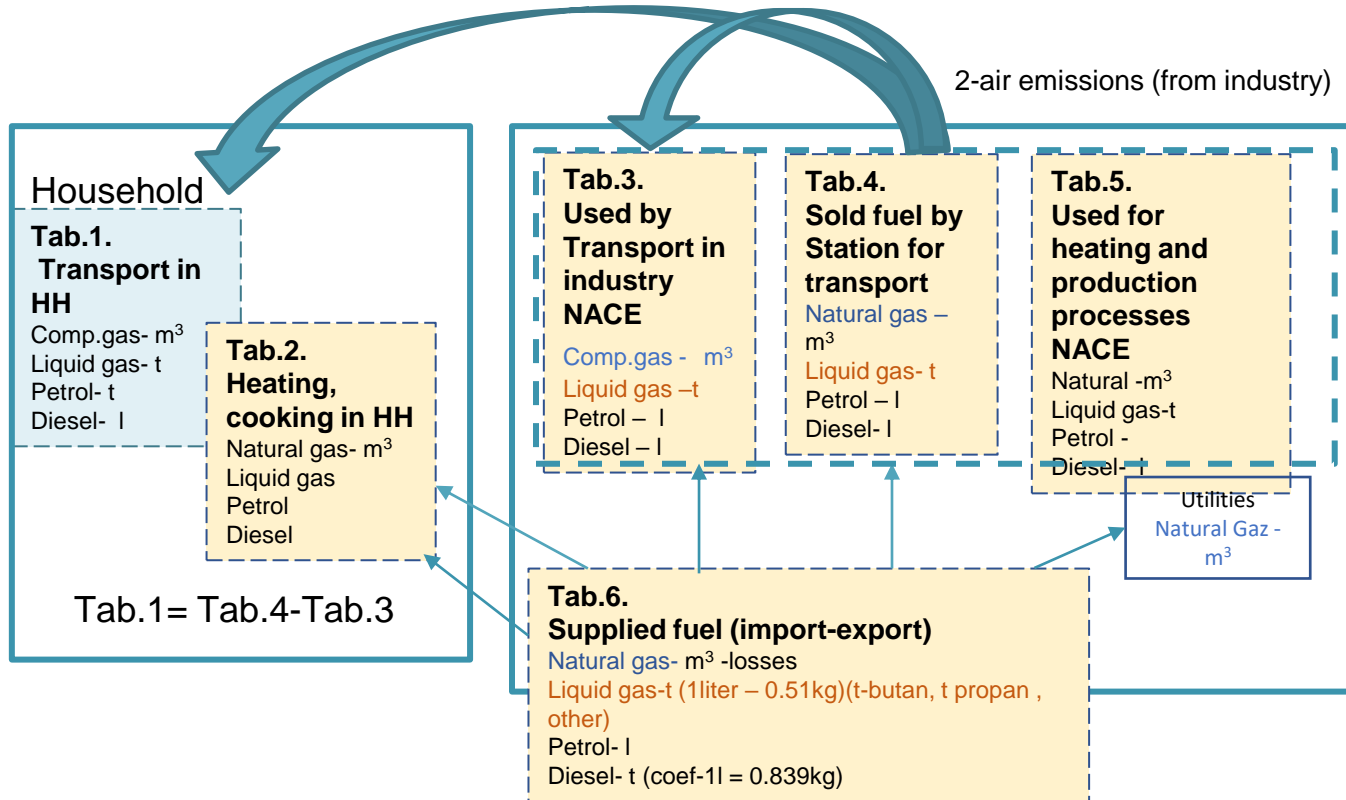
Convention on Long-Range Transboundary Air Pollution (LRTAP)

Air Emissions Accounts

Greenhouse gases (categories: C RF -Common Reporting Format) Air pollutants (categories: NFR - Nomenclature For Reporting)

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
8. Nitrogen oxides – NO_x
9. Sulfur oxides – SO_x
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 – PM_{2.5}

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

NA CE	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 dra ms GVA	Total GHG, CO2 eq.	CO2 eq. /1000 d rams 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
Househol ds	8.94	-	2 577.58	-



THANK YOU