

Joint Task Force on Environmental Statistics and Indicators

Nineteenth session, Geneva and online, 3-4 November 2022

Agenda Item 5. Review of the Guidelines for the Application of Environmental Indicators

Application of environmental indicators



Environmental Indicators-UNECE indicators



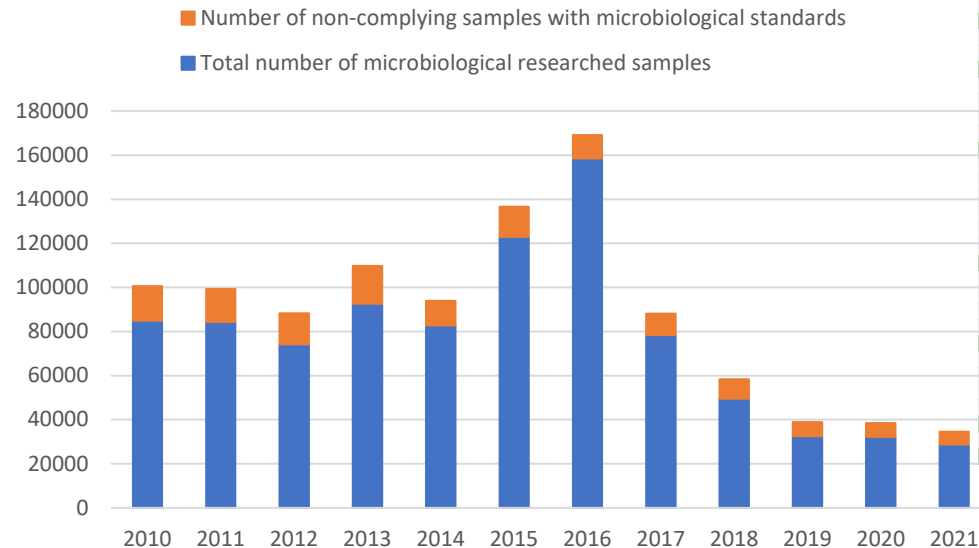
Regularly updated environmental indicators

➤ 43 out of 49 UNECE environmental indicators are available and accessible on *ArmstatBank* per 2022

➤ Producing and publishing *new indicator - C9*: Drinking water quality

	Armenia
A. Air pollution and ozone depletion	3
A1. Emissions of pollutants into the atmospheric air	x
A2. Ambient air quality in urban areas	x
A3. Consumption of ozone-depleting substances	x
B. Climate change	3
B1. Air temperature	x
B2. Atmospheric precipitation	x
B3. Greenhouse gas emissions	x
C. Water	13
C1. Renewable freshwater resources	x
C2. Freshwater abstraction	x
C3. Total water use	x
C4. Household water use per capita	x
C5. Water supply industry and population connected to water supply industry	x
C6. Connection of population to public water supply	x
C7. Water losses	x
C8. Reuse and recycling of freshwater	x
C9. Drinking water quality	x
C10. BOD and concentration of ammonium in rivers	x
C11. Nutrients in freshwater	x
C12. Nutrients in coastal seawaters	
C13. Concentrations of pollutants in coastal seawater and sediments (except nutrients)	
C14. Population connected to wastewater treatment	x
C15. Wastewater treatment facilities	x
C16. Polluted (non-treated) wastewaters	x
D. Biodiversity	6
D1. Protected areas	x
D2. Biosphere reserves and wetlands of international importance/place holder	x
D3. Forests and other wooded land	x
D4. Threatened and protected species	x
D5. Trends in the number and distribution of selected species	x
D6. Invasive alien species/place holder	x
E. Land and soil	2
E1. Land uptake	x
E2. Area affected by soil erosion	x
F. Agriculture	4
F1. Irrigation/place holder	x
F2. Fertilizer consumption	x
F3. Gross nitrogen balance	x
F4. Pesticide consumption	x
G. Energy	6
G1. Final energy consumption	x
G2. Total primary energy supply	x
G3. Energy intensity	x
G4. Renewable energy consumption	x
G5. Final electricity consumption/place holder	x
G6. Gross electricity production/place holder	x
H. Transport	2
H1. Passenger transport demand	x
H2. Freight transport demand	x
H3. Composition of road motor vehicle fleet by fuel type	
H4. Age of road motor vehicle fleet	
I. Waste	3
I1. Waste generation	x
I2. Management of hazardous waste	x
I3. Waste reuse and recycle	x
I4. Final waste disposal	x
J. Environmental financing	1
J1. Environment protection expenditure	x
Total	43

StatBank/ArmStatBank_8%20Environment_(C)%20Water%20resources/EE-c9.px/?xid=758da92b-35c0-4417-91db-c63322a2f



Environmental Indicators-SDG



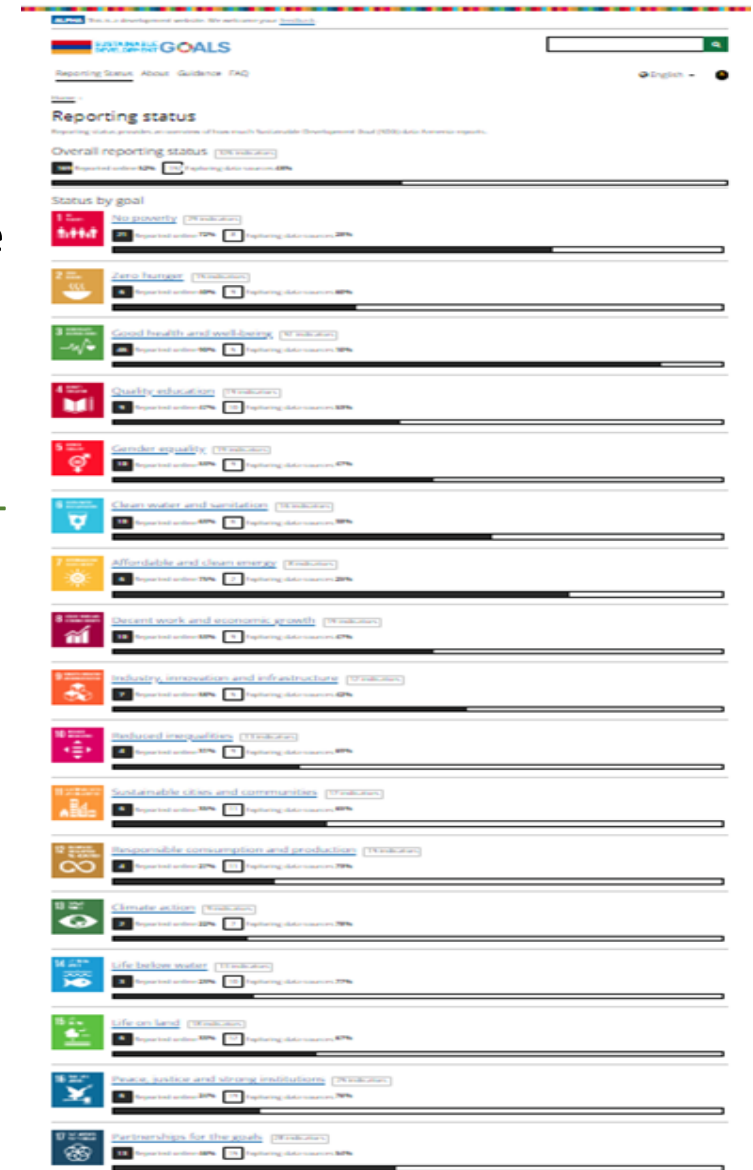
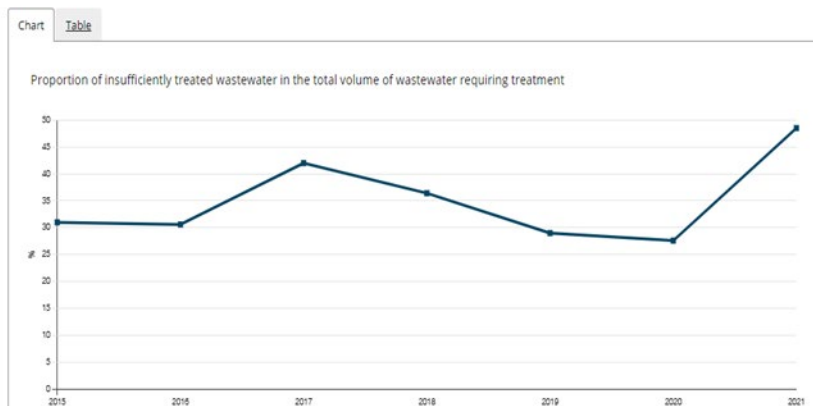
Regularly updated SDG indicators

- A dedicated section on SDGs indicators is established on the website of the Statistical Committee (ARMSTAT) <https://sdg.armstat.am/>
- 169 (52%) out of 326 SDG indicators are reported at the ARMSTAT
- 16 out of Environmental related 20 indicators are reported at the ARMSTAT



Indicator 6.3.1.a

Proportion of insufficiently treated wastewater in the total volume of wastewater requiring treatment



Environmental economic accounts



Regularly updated water account

➤ Water Account System developed, published and updated regularly

armstatbank.am/pxweb/en/ArmStatBank/?rxid=710c6cb9-314c-4b95-8fec-29ef0a24b6de

ArmStatBank

- 1. Economy and finances
- 2. Population and social processes
- 3. Industry (including Energy), construction, trade and services
- 4. Transport and tourism
- 5. Foreign trade
- 6. Agriculture, forestry and fishing
- 7. Food Security
- 8 Environment**
 - (A) Emissions of pollutants into the atmospheric air
 - (B) Climate change
 - (C) Water resources
 - (D) Biodiversity
 - (E,F) Land and Agriculture
 - (H) Transport
 - (I) Waste
 - (J) Environmental financing
- Mining of solid minerals by indicators and years
- Water Accounts**
 - Physical water use and supply table by years, indicators and NACE categories and types
 - Physical water use and supply matrix inside economy by years, indicators and NACE categories and types
 - Hybrid water supply table by years, indicators and NACE categories and types
 - Hybrid water use table by years, indicators and NACE categories and types
 - Key Indicators by type and years
- Life quality

Ongoing activities

- Accounting air emission has been started to develop,
- 1st draft has been developed.

Climate change-related statistics



UNECE

A [Roadmap](#) for the development of climate change-related statistics in the Republic of Armenia has been developed with the support of the UNECE Statistical Division. Which will:

- assist compilers of Armenia's national GHG inventory by assessing the usefulness of the official statistics for inventory compilation,
- improve the quality of statistics used in the GHG inventory; for example, based on the recommendations of inventory review reports,
- analyze the statistical needs related to the Kyoto Protocol and other global or regional agreements on climate change,
- ensure the provision of new data to meet the needs of climate change analysts.

Environmental indicators of life quality



- **19 indicators with relevant metadata have been developed according to OECD recommendations and requirements**

- ☐ **Methodological notes**

https://www.armstat.am/file/ECASTAT/ECO/en/Annex%208_EN.pdf

- ☐ **Glossary**

https://www.armstat.am/file/ECASTAT/ECO/en/Annex%209_EN.pdf



- **For 17 out of 19 indicators, the [Composite indicators](#) by marzes (regions) and Yerevan city were calculated through the [web application](#)**

Twinning Partnership with the Statistical Committee of the Republic of Armenia for the Project Implementation within the World Bank's Implementation of the National Strategy Program for Strengthening of the National Statistical System

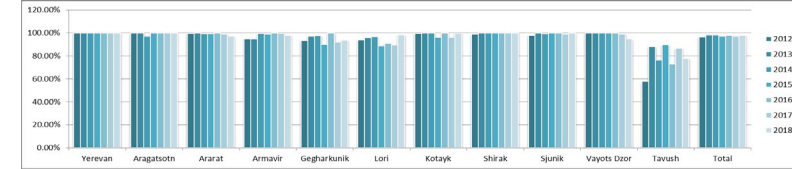
Pre-selected environmental quality of life indicators list

Target concept	Indicator
Impact of environmental hazards on human health:	
Environmental health	1. Mortality rate attributed to household and ambient air pollution
	2. Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services)
	3. Mortality rate attributed to unintentional poisoning
Natural disasters impact	1. Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population
Access to environmental services and amenities	
Intangible services and amenities	1. Terrestrial protected areas (% of total land area)
	2. Forest area as a proportion of total land area
Objective services and amenities	1. Proportion of population using safely managed drinking water services
	2. Exceedance of air quality standards in urban areas
	3. Proportion of population using safely managed sanitation services
	4. Green area per 100,000 inhabitants
Subjective services and amenities	1. Satisfaction with the quality of water supply
	2. Satisfaction with the level of pollution
	3. Satisfaction with the level of noise
	4. Satisfaction with the quality of waste management
	5. Satisfaction with the level of traffic
	6. Satisfaction with the availability of green areas
Quality of the environment	1. Proportion of bodies of water with good ambient water quality
	2. Level of water stress: freshwater withdrawal as a proportion of available freshwater resources
	3. Annual mean levels of fine particulate matter in cities

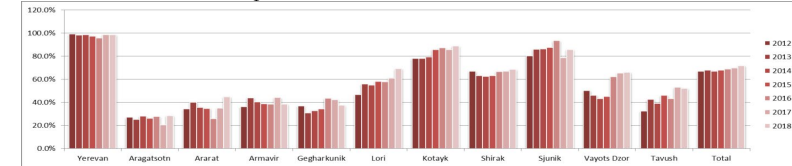
Basic Set of Environment Statistics (BSES) of the Framework for the Development of Environment Statistics (FDES 2013)

It follows the hierarchical structure of the FDES and serves as a tool to assess the national relevance, importance, availability and sources of the individual statistics contained in the BSES. It also helps to identify relevant quantitative and qualitative data gaps, and to develop a plan for filling them in with a view to strengthen environment statistics according to national priorities, needs and available resources.

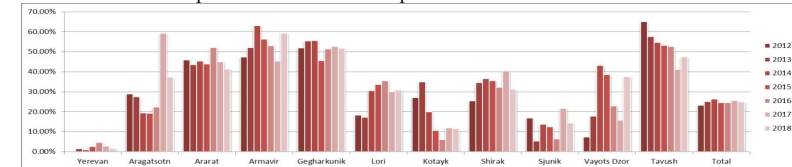
Proportion of population using safely managed drinking water services



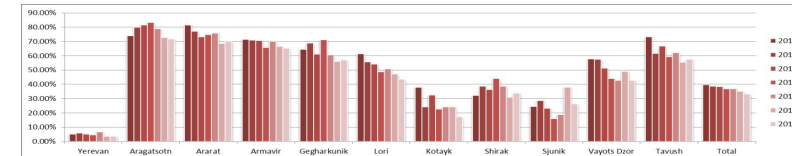
Proportion of population using safely managed sanitation services / Centralized sanitation compound



Proportion of population using safely managed sanitation services / Local sanitation compound /hole with waste products/



Proportion of population using safely managed sanitation services / Outside toilet



Proposals of new indicators



- **Component: Environmental resources and their use**
- **Sub component: Water resources**
- **Topic: Abstraction, use and returns of water**
- **Indicator: Water abstraction by economic activities (NACE)**

Proposal

To add
Water abstraction by economic
activities (NACE)

Rational

The indicator is used in Water
accounts

Example: Freshwater abstraction by economic activities

[https://statbank.armstat.am/pxweb/en/ArmStatBank/ArmStatBank_8%20Environment_\(C\)%20Water%20resources/EE-c2-1.px](https://statbank.armstat.am/pxweb/en/ArmStatBank/ArmStatBank_8%20Environment_(C)%20Water%20resources/EE-c2-1.px)

The screenshot shows the web interface of the ArmStatBank. The URL is [https://statbank.armstat.am/pxweb/en/ArmStatBank/ArmStatBank_8%20Environment_\(C\)%20Water%20resources/EE-c2-1.px](https://statbank.armstat.am/pxweb/en/ArmStatBank/ArmStatBank_8%20Environment_(C)%20Water%20resources/EE-c2-1.px). The page title is "Statistical Committee of the Republic of Armenia". The breadcrumb trail is: ArmStatBank >> 8 Environment >> (C) Water resources >> (C2-1) Freshwater abstraction by NACE and years. The interface has three steps: 1. Choose table, 2. Choose variable, and 3. Show table. The current step is "Choose variable". The title of the page is "(C2-1) Freshwater abstraction by NACE and years". There are two tabs: "Select variable" (active) and "About table". Below the tabs, there is a message: "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". The main content area has two columns: "NACE*" and "years*". The "NACE*" column has a search box and a "Beginning of row" checkbox. The "years*" column has a search box and a "Beginning of row" checkbox. The "NACE*" column shows a list of variables: "Total 11 Selected: 0", "Total", "Section A (codes 01-03) Agriculture, forestry and fishing", "Section A (code 01 81 1) Irrigation", "Section A (code 03) Fishing", "Section B (codes 05-08) Mining and quarrying", and "Section C (codes 10-33) Manufacturing". The "years*" column shows a list of years: "Total 11 Selected: 0", "2011", "2012", "2013", "2014", "2015", and "2016".

Proposals of new indicators



- **Component: Environmental resources and their use**
- **Sub component: Mineral resources**
- **Topic: Extraction of solid mineral resources**
- **Indicator: Extraction by type of minerals and by economic activities (NACE)**

Proposal

To add
Extraction of minerals by type
and economic activities (NACE)

Rational

Statistics on the amounts of
minerals extracted or produced,
are important to measure the
pressure on these resources and
environment.

Example: Extraction by mineral type and by economic activities

<https://statbank.armstat.am/pxweb/en/ArmStatBank/ArmStatBank8%20Environment/EE-min.px>

The screenshot shows the ArmStatBank web interface for the Republic of Armenia. The page title is "Mining of solid minerals by indicators and years". The interface includes a search bar, a navigation menu, and a table selection tool. The table selection tool has two columns: "indicators" and "years". The "indicators" column has 31 items, with 0 selected. The "years" column has 14 items, with 0 selected. The selected items are: "Coal, cub, m", "Salt, t", "Andesite, cub, m", "Andesite basalt, cub, m", "Andesite dacite, cub, m", and "Andesite trachyte, cub, m". The years selected are: "2008", "2009", "2010", "2011", "2012", and "2013".

indicators *	years *
Total: 31 Selected: 0	Total: 14 Selected: 0
Coal, cub, m	2008
Salt, t	2009
Andesite, cub, m	2010
Andesite basalt, cub, m	2011
Andesite dacite, cub, m	2012
Andesite trachyte, cub, m	2013

Proposals of new indicators



- **Component: Environmental protection, management and engagement**
- **Sub component: Environmental governance and regulation**
- **Topic: Environmental regulation and instruments**
- **Indicator: Payments for use of natural resources**

Proposal

To add
Payments for use of natural resources

Rational

Because it is not determined
only by taxes, but also by
natural usage fees

Example: Environmental taxes and payments for nature use by types and years
[https://statbank.armstat.am/pxweb/en/ArmStatBank/ArmStatBank_8%20Environment_\(J\)%20Environmental%20financing/EE-j-2.px](https://statbank.armstat.am/pxweb/en/ArmStatBank/ArmStatBank_8%20Environment_(J)%20Environmental%20financing/EE-j-2.px)

Environmental taxes

- for hazardous substances discharged into water basin
- for hazardous substances emitted into atmosphere from stationary sources of emission
- waste disposed in landfills
- for goods that cause damage to the environment

Payments for use of natural resources

- for water use
- for exhausted reserves of non-metallic minerals, under-ground fresh and mineral waters and reserves of extracted salt
- for use of bioresources

Proposals of new indicators



- **Component: Extreme events and disasters**
- **Sub component: Natural Extreme Events and Disasters**
- **Topic: 1. Occurrence of natural extreme events and disasters**
2. Impact of natural extreme events and disasters (also by gender)

Proposal

To add
Extreme events and disasters

Rational

To Inform better the recent
global policies and support to
the policy development

Example: Extreme events and disasters

https://www.armstat.am/file/article/eco_book_2021_15.pdf

Proposals of new indicators



- **Component: Environmental conditions and quality**
- **Sub component: Soil pollution**
- **Topic: 1. ?**
2. ?

Proposal

To add
Soil pollution component and topics

Rational

Proposed E-3.1 indicator doesn't allow
to the countries assess the state and
increase of soil pollution

Comments to the indicators



- **Component: Residuals**
- **Sub component: Emissions to air**
- **Topic: Emissions of greenhouse gases**
- **Indicator: Sulphur dioxide (SO₂), nitrogen oxides (NO_x) (given in terms of dioxide nitrogen, NO₂), non-methane volatile organic compounds (NMVOCs), ammonia (NH₃), carbon monoxide (CO), hydrocarbons (CH) and particulate matter (PM₁₀, PM_{2.5} and total suspended particulates (TSP));**

Proposal

To remove from the topic emissions of greenhouse gases

Rational

Need to be clarified?

Comments to the indicators



- **Component: Environmental conditions and quality**
- **Sub component: Physical conditions**
- **Topic: Atmosphere, climate and weather**
- **Indicator: B-1.1? Mean temperature anomaly (compared to climate normal 1991–2020)**

Proposal

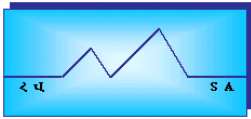
To add
Mean temperature anomaly (compared
to climate normal 1991–2020)

Rational

The WMO will release the new climatic
normals 1991–2020. The planned
release date is August 1, 2023.

Thank you!





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