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Reporting under the Convention on Long-range Transboundary Air Pollution

05 May 2023

Implementing partners



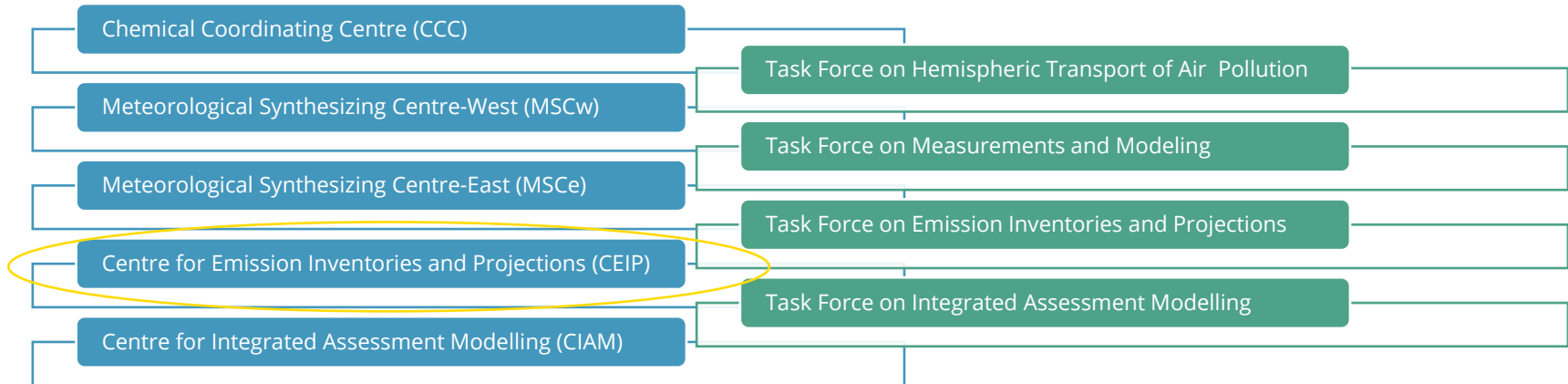
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CONVENTION ON LONG-RANGE TRANSBOUNDARY AIR POLLUTION – AIR CONVENTION

- Convention on Long-range Transboundary Air Pollution (CLRTAP)
- **Aim: improve air quality**
- **Eight protocols**
 - Gothenburg Protocol (1999)
 - Protocol on POPs (1998) (POPs = Persistent Organic Pollutants)
 - Protocol on Heavy Metals (1998)
 - Protocol on further reduction of Sulphur emissions (1994)
 - Protocol on VOCs (1991)
 - Protocol on NOx (1988)
 - Protocol on Reduction of Sulphur emissions (1985)
 - EMEP Protocol (Protocol on Long-term Financing of the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe)
- The Convention provides access to **emission, measurement and modelling data and information on the effects of air pollution on ecosystems, health, crops and materials.**

EMEP



CENTRE ON EMISSION INVENTORIES AND PROJECTIONS

- In 2007, the **Centre on Emission Inventories and Projections (CEIP)** was established by a decision of the UNECE Executive Body (ECE/EB.AIR/91)
- CEIP is hosted by Umweltbundesamt (Environment Agency Austria)
- **Main tasks of CEIP:**
 - **Compile emission data reported by Parties to the Convention** and import them into the EMEP/Centre on Emission Inventories and Projections database system
 - **Carry out annual quality control of inventories reported under the Convention**
 - **Develop emission data sets for modellers** (gridded data of EMEP pollutants for the EMEP area)
 - **Support the Implementation Committee** in reviewing compliance with reporting obligations
 - **Support EMEP by managing review of adjustment applications** to emission reduction commitments or inventories
 -

AIR EMISSION REPORTING DEADLINES UNDER CLRTAP

- **full time series of emissions annually by 15 February**
- Informative Inventory Reports annually by **15 March**
- projections 2015 onwards every four years by **15 March**
- gridded data 2017 onwards every four years by **1 May**
- supporting documentation for new adjustment application by **15 March**
- LPS information 2017 onwards every four years by **1 May**

<https://www.ceip.at/reporting-instructions>

AIR EMISSION DATA REPORTED UNDER CLRTAP

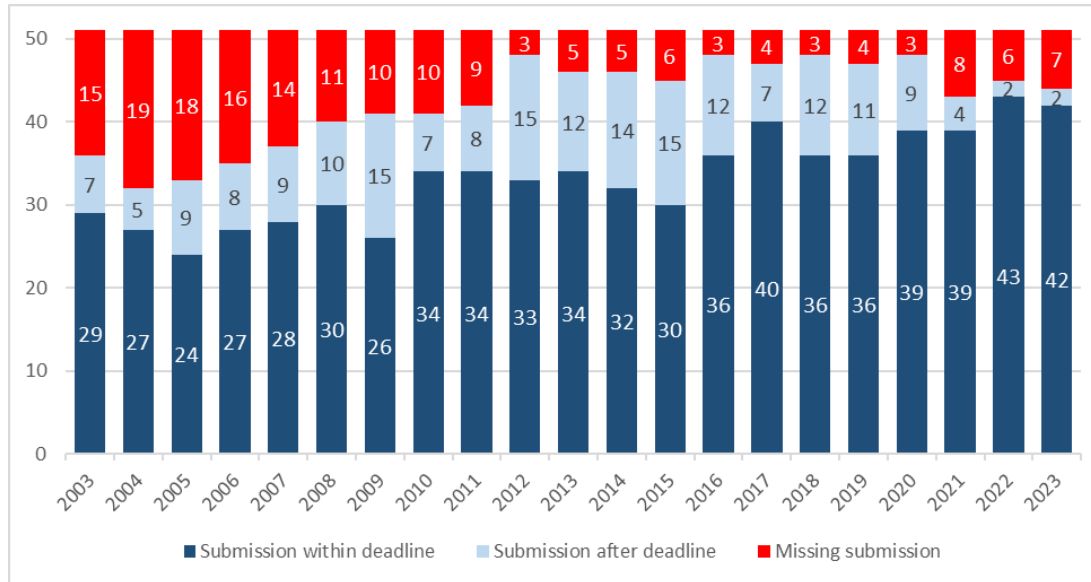
National total emissions and Emissions by NFR source category

- **1. Main pollutants** – SO_x , NO_x , NH_3 , NMVOC, CO: 1990- (x-2)
- **2. Particulate matter** – $\text{PM}_{2.5}$, PM_{10} , TSP, (BC): 2000- (x-2)
- **3. Heavy metals** – Pb, Cd, Hg / (As, Cr, Cu, Ni, Se, Zn): 1900- (x-2)
- **4. POPs** – PCDD/PCDF, PAHs ⁽²⁾, HCB, PCBs ; 1990- (x-2)
- **Activity data by source category** : 1990- (x-2)

ANNEX 1 – NFR EMISSION REPORTING TEMPLATE

	A	B	C	D	E	F	G	H	I	J	K	L
1	ANNEX 1: National sector emissions: Main pollutants, particulate matter, heavy metals and persistent organic pollutant											
2	NFR 2019-1											
3												
4	COUNTRY:	XX	(as ISO2 code)									
5	DATE:	05.02.2023	(as DD.MM.YYYY)									
6	YEAR:	2005	(as YYYY, year of emissions and activity data)									
7	Version:	v1.0	(as v1.0 for the initial submission)									
8												
9												
10	XX: 05.02.2023: 2005	NFR sectors to be reported			Main Pollutants (from 1990)				Particulate Matter (from 2000)			
11					NOx (as NO ₂)	NM VOC	SOx (as SO ₂)	NH ₃	PM _{2.5}	PM ₁₀	TSP	BC
12	NFR Aggregation for Gridding and LPS (GNFR)	NFR Code	Long name	Notes	kt	kt	kt	kt	kt	kt	kt	kt
13	A_PublicPower	1A1a	Public electricity and heat production									
14	B_Industry	1A1b	Petroleum refining									
15	B_Industry	1A1c	Manufacture of solid fuels and other energy industries									
16	B_Industry	1A2a	Stationary combustion in manufacturing industries and construction: Iron and steel									
17	B_Industry	1A2b	Stationary combustion in manufacturing industries and construction: Non-ferrous metals									
18	B_Industry	1A2c	Stationary combustion in manufacturing industries and construction: Chemicals									
19	B_Industry	1A2d	Stationary combustion in manufacturing industries and construction: Pulp, Paper and Print									
20	B_Industry	1A2e	Stationary combustion in manufacturing industries and construction: Food processing, beverages and tobacco									
21	B_Industry	1A2f	Stationary combustion in manufacturing industries and construction: Non-metallic minerals									
22	L_Offroad	1A2gvi	Mobile combustion in manufacturing industries and construction (please specify in the IIR)									
23	B_Industry	1A2gviii	Stationary combustion in manufacturing industries and construction: Other (please specify in the IIR)									
24	H_Aviation	1A3ai(i)	International aviation LTO (civil)									

STATUS OF REPORTING 2023



➤ 44 air emission inventory submissions (compares to 51 Parties)

STAGE 1 AND STAGE 2 REVIEW

- The inventories (NFR tables) submitted under CLRTAP are annually reviewed by CEIP in line with [UNECE Review Guidelines](#).
- Feedback is provided to the countries via national contact points before 15th of March (resubmission deadline) and again before the end of March.
- LINK TO STAGE 1 and 2 Report

A | B | C | D | E | F | G | H | I | K | L | M | N | P | R | S | T | U

Party	Inventory files NFR/Other	Informative Inventory Report	Notification form received	Stage 1 Status reports	Stage 2 review data	Stage 3 review data
ALBANIA	NFR 15 February 2023			Stage 1 Report	Stage 2 Analysis	
ARMENIA	NFR 15 February 2023	IIR 2 April 2023	X	Stage 1 Report	Stage 2 Analysis	

STAGE 1 AND STAGE 2 REVIEW

CLRTAP (Completeness of NFR Sectors from 2000 to 2020 without National Totals):

Component	% Value	% O	% NO	% NE	% NA	% IE	% C	% NR	% All
NOx	34.5	1.8	28.2	16.9	15.1	3.0	0.0	0.0	100.0
NM VOC	44.0	1.7	28.2	12.3	10.3	3.0	0.0	0.0	100.0
SOx	19.5	1.4	29.8	19.4	26.9	3.0	0.0	0.0	100.0
NH ₃	26.5	3.9	28.2	20.1	17.7	3.0	0.0	0.0	100.0
PM _{2.5}	39.4	1.4	28.2	16.4	11.3	3.0	0.0	0.0	100.0
PM ₁₀	40.3	1.4	28.2	12.3	14.4	3.0	0.0	0.0	100.0
TSP	42.0	1.4	28.2	10.4	14.4	3.0	0.0	0.0	100.0
BC	20.9	2.0	29.0	17.0	28.0	3.0	0.0	0.0	100.0
CO	20.8	0.7	29.0	15.3	31.0	3.0	0.0	0.0	100.0
Pb	18.1	1.4	29.0	19.8	28.3	3.0	0.0	0.0	100.0
Cd	21.9	1.0	29.0	16.9	28.2	3.0	0.0	0.0	100.0
Hg	17.1	1.4	29.0	19.8	29.3	3.0	0.0	0.0	100.0

MAIN (Unit = Mg)

		1990	1991	1992	1993	1994	1995	1996
NOx	1A3bi	5684	4915	3761	3111	2094	1094	5943
NOx	2B2						940	1552
NM VOC	1A3bi	6448	5563	4228	3540	2360	1237	6835
NM VOC	1A4bi	8916	9639	15423	24339	4435	16005	22909
NM VOC	1A4cii	1698	3344	1949	1619	1448	1475	1764
NM VOC	1B1a	2091	1515	362	167	98	95	52
NM VOC	NTCOMPL(NECD)	54470	53946	50752	55827	31640	38755	52367

STAGE 3 – IN-DEPTH REVIEW OF EMISSION INVENTORIES

S3 review 2018 - 2021

21 Parties have been reviewed in period 2018-2021. Within this period review focused on non-EU MS.

- **2021:** [Kazakhstan](#), [Liechtenstein](#), [Monaco](#) and [Montenegro](#)
- **2020:** [European Union](#), [North Macedonia](#), [Iceland](#), [Kyrgyzstan](#), [Switzerland](#).
Kazakhstan, Liechtenstein and Monaco did not submit data on time, review postponed to 2021.
- **2019:** [Albania](#), [Georgia](#), [Norway](#), [Russian Federation](#), [Serbia](#), [Turkey](#).
- **2018:** [Armenia](#), [Azerbaijan](#), [Belarus](#), [Finland](#), [Moldova](#), [Ukraine](#)

<https://www.ceip.at/review-of-emission-inventories/in-depth-review-of-ae-inventories>

- 2023 review: emissions from the sector agriculture 41 Parties are reviewed; including Armenia, Ukraine, Georgia

EMISSION DATA BASE

Search for officially reported emission data

Please select the countries or areas and years as well as the data format, then press the "Search" button. Choose the items from the listboxes by clicking the left mouse button. For multiple selection hold the Ctrl or Strg key pressed.

Countries / Areas	Years
ALL	2050
EU-27 (per country)	2030
-----	2025
Albania	2019
Armenia	2018

Reported until

Select output format

- National Totals/Sectors, HTML
- National Totals/Sectors, Semicolon-Separated (CSV file)

Search (opens in new tab)

<https://www.ceip.at/webdab-emission-database>

GAPS IN REPORTING

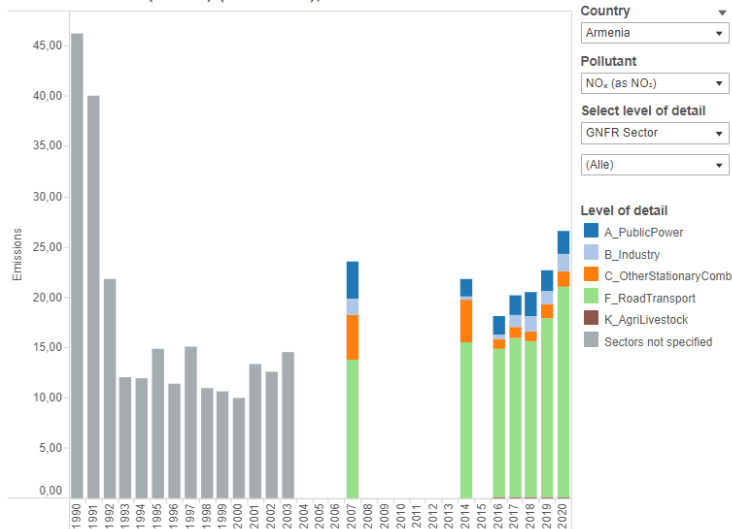
- Focus of the following slides on **Armenia, Azerbaijan, Georgia, Republic of Moldova, Ukraine**
- EU4Env – Water and Data Countries

	NFR Table reported in	Years reported	Gridded data reported in	Projections Data for 2025 and 2030
Armenia	2023	2021	x	x
Azerbaijan	2019	1990-2017	x	x
Georgia	2023	1990-2021	2017	2021
Republic of Moldova	2022	1990-2020	x	x
Ukraine	2023	2021	x	x

EMISSION DATA REPORTED BY ARMENIA

- ✓ emissions reported in 2023
- ✗ incomplete time series
- ✗ for the early part of the time series only national total reported
- ✗ incomplete reporting (NO_x emissions are not reported for all GNFR sectors)
- ✗ distribution between NFR sectors

Emissions of NO_x (as NO₂) (kilotonnes), Armenia



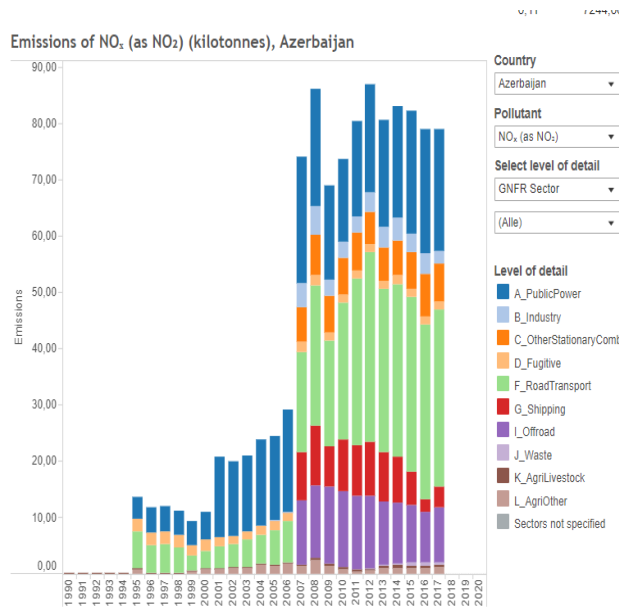
The data presented in this data viewer uses the GNFR14 and NFR14 nomenclature and is the officially reported data submitted up to 01 Juli 2022.

Source: www.ceip.at

A_PublicPower
B_Industry
C_OtherStationaryComb
D_Fugitive
E_Solvents
F_RoadTransport
G_Shipping
H_Aviation
I_Offroad
J_Waste
K_AgriLivestock
L_AgriOther
M_Other

EMISSION DATA REPORTED BY AZERBAIJAN

- ✘ emissions reported in 2019 the last time
- ✓ complete time series since 1995
- ✓ NO_x emissions reported for all important GNFR sectors for recent years
- ✘ **pronounced** change in emission reporting between 2006 and 2007
- ✘ distribution between NFR sectors



The data presented in this data viewer uses the GNFR14 and NFR14 nomenclature and is the officially reported data submitted up to 01 Jul 2022.

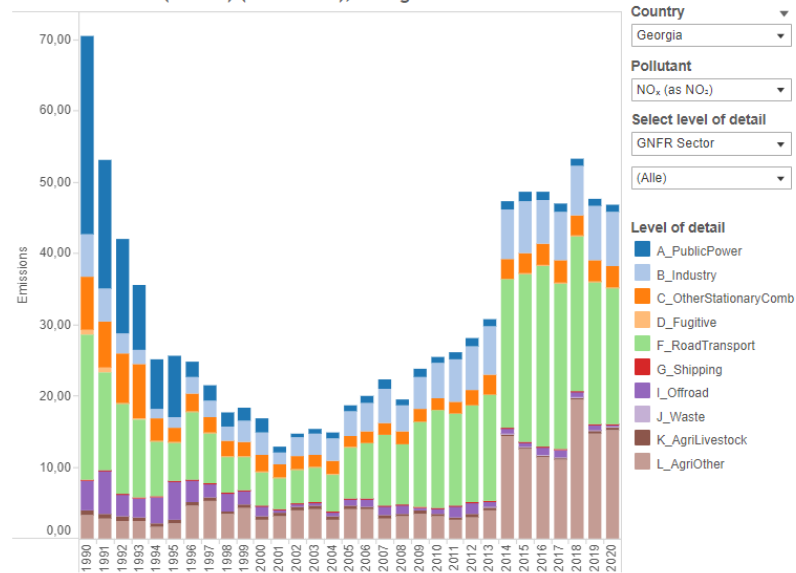
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K_AgriLivestock
L_AgriOther
M_Other

EMISSION DATA REPORTED BY GEORGIA

- ✓ emissions reported in 2023
- ✓ complete time series since 1990
- ✓ NO_x emissions reported for most important GNFR sectors for recent years
- ✗ steep increase in L_Agri other emissions between 2013 and 2014

Emissions of NO_x (as NO₂) (kilotonnes), Georgia



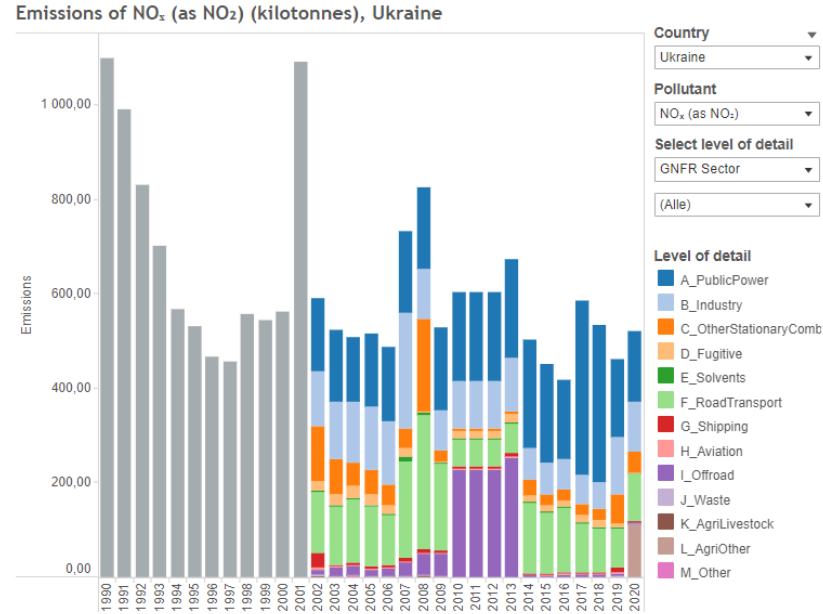
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Source: www.ceip.at

EMISSION DATA REPORTED BY THE UKRAINE

- ✓ emissions reported in 2023
- ✗ for the early part of the time series only national total reported
- ✓ NO_x emissions reported for all GNFR sectors
- ✗ Distribution between NFR sectors
- ✗ inconsistent time series

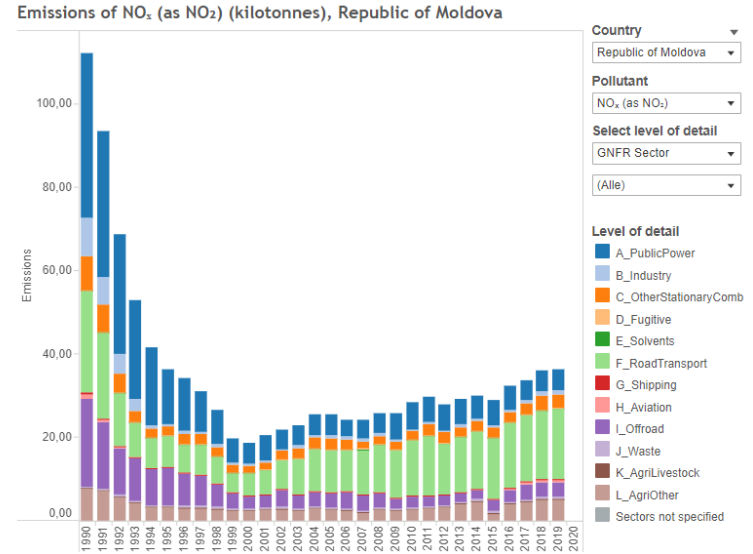


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Source: www.ceip.at

EMISSION DATA REPORTED BY THE REPUBLIC OF MOLDOVA

- ✗ emissions reported in 2022
- ✓ NO_x emissions reported for all GNFR sectors for recent years



The data presented in this data viewer uses the GNFR14 and NFR14 nomenclature and is the officially reported data submitted up to 01 Juli 2022.

Source: www.ceip.at

EXCELLENT REPORTING

- Air emission inventory data submitted every year
- Full-time series of air emission inventory data submitted
- Informative Inventory reports submitted every year
- Gridded data and LPS submitted every four years
- Projected air emission data submitted every four years
- Reporting complete (includes all relevant emission sources)
- Recommendations of the in-depth review implemented

CONTACT & INFORMATION

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Regional training on air quality and
emissions to air statistics and
indicators

05 May 2023