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Report on the simplified review of the national inventory report of Lithuania submitted in 2025

Summary

This report presents the results of the simplified review of the 2025 national inventory report of Lithuania, conducted by the secretariat in accordance with the modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement.

Abbreviations and acronyms

CH_4	methane
CO_2	carbon dioxide
CO_2 eq	carbon dioxide equivalent
CRT	common reporting table
GHG	greenhouse gas
HFC	hydrofluorocarbon
HWP	harvested wood products
IE	included elsewhere
IEF	implied emission factor
LULUCF	land use, land-use change and forestry
MPGs	modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement
N	nitrogen
N_2O	nitrous oxide
NA	not applicable
NE	not estimated
NF_3	nitrogen trifluoride
NIR	national inventory report
NO	not occurring
PFC	perfluorocarbon
SF_6	sulfur hexafluoride

I. Introduction

1. This report covers the simplified review of the NIR of Lithuania submitted in 2025. The review was conducted by the secretariat in accordance with the MPGs,[1] particularly chapter VII thereof, and the simplified review procedures.[2]

2. On 22 May 2025 a draft version of this report was transmitted to the Government of Lithuania, which provided comments on individual findings on 19 June 2025 that were addressed by the secretariat and incorporated, as appropriate, in this final version of the report.[3] Lithuania did not provide any general comments on the report.

3. The secretariat conducted the simplified review of Lithuania's NIR, which involved an initial assessment of completeness and consistency with the MPGs.[4]

4. The findings of the initial assessment, presented in the annex, are the result of automated checks and do not necessarily indicate issues of completeness or consistency of the Party's reporting with the MPGs.

5. This report, including the findings listed in the annex and any comments provided by the Party (see para. 2 above), will be made available to and considered by the technical expert review team as part of the subsequent technical expert review of Lithuania's NIR.[5]

II. Initial assessment of completeness and consistency with the modalities, procedures and guidelines

A. Summary of findings

6. The table below provides a summary of the findings of the initial assessment by the secretariat. Tables I.1–I.7 list the findings and include detailed information on each one.

Summary of the initial assessment

Area of review	*Description*	*Assessment*
Dates of submission	2025 submission: CRTs, 15 April 2025	
	2024 submission: CRTs, 20 December 2024	
Recalculations	Recalculations that have changed estimated total GHG emissions or removals (excluding LULUCF) by more than 2 per cent for categories or subcategories above the threshold of significance (**8.94 kt CO_2 eq** for 2023)[a]	
	Recalculations for 1990 (the reference year for the Party's nationally determined contribution) and 2022 since the previous submission	See table I.1
Completeness	Detection of notation key "NE", or of missing gases or sectors in CRT 10 emission trends summary	See table I.2
Notation keys	Changes in notation keys reported for 1990 and 2022 since the previous submission	See table I.3
Sectoral and reference approaches	Difference in estimated energy consumption or CO_2 emissions, by fuel type, of more than 5 per cent between the reference and sectoral approaches for the latest reported year (2023)	See table I.4
Time-series consistency	The time series of emissions is assessed by calculating inter-annual changes for each category and gas and converting them to CO_2 eq. Inter-annual changes exceeding the significance	See table I.5

[1] Decision 18/CMA.1, annex.
[2] Contained in paras. 15–19 of the conclusions and recommendations from the 2023 joint meeting of lead reviewers, available at https://unfccc.int/documents/627213.
[3] As per para. 163 of the MPGs.
[4] As per para. 155 of the MPGs.
[5] As per para. 155 of the MPGs.

Area of review	*Description*	*Assessment*
	threshold are evaluated using the z-score method,[b] where outliers are identified as values exceeding a z-score of 3, based on the statistical distribution of the full time series	
IEFs	Comparison of IEFs reported for any significant subcategories under key categories with the range of IEFs reported by developed country Parties for the latest inventory year (2023) in their 2025 submission[c]	See table I.6
Key categories	New key categories identified since the previous submission for level (latest year) and trend	See table I.7
Previous areas of improvement	Status of implementation of previous areas of improvement identified in the latest report on the technical expert review of the Party's biennial transparency report	NA[d]

[a] Threshold calculated by the secretariat as 0.05 per cent of the national total GHG emissions for 2023, excluding LULUCF, or 500 kt CO_2 eq, whichever is lower (see para. 32 of the MPGs).

[b] Statistical measure that indicates how many standard deviations a data point is from the mean.

[c] Range defined by the median plus or minus two times the standard deviation, calculated from all available data points per category.

[d] As at the time of publication of this report, information on status of implementation of previous areas of improvement was not yet available.

B. Comments of the Party on the initial assessment

7. The Party did not provide any general comments.

Annex

Findings of the initial assessment of Lithuania's 2025 national inventory report

Tables I.1–I.7 detail the findings of the initial assessment by the secretariat of the Party's NIR.

Table I.1
Findings on recalculations

ID#	*Category*	*CRT*	*Gas*	*Inventory year*	*Estimate in latest submission (2025)*	*Estimate in previous submission (2024)*	*Difference*	*Unit*	*Difference (%)*	*Difference (kt CO_2 eq)*
I.1.1.	1.A.1.a. Public electricity and heat production	Table1	CO_2	2022	1 135.98	1 168.27	–32.30	kt	–2.8	–32.30
I.1.2.	1.A.4.b. Residential	Table1	CH_4	2022	3.55	5.36	–1.81	kt	–33.8	–50.72
I.1.3.	2.F.2. Foam blowing agents	Table2(I)	HFCs	2022	14.91	50.13	–35.22	kt CO_2 eq	–70.3	–35.22
I.1.4.	2.F.2. Foam blowing agents	Table2(II)	HFC-365mfc	2022	10.23	37.10	–26.87	t	–72.4	–21.60
I.1.5.	3.D.1.d. Crop residues	Table3	N_2O	1990	1.16	0.90	0.26	kt	28.4	67.70
I.1.6.	3.D.1.f. Cultivation of organic soils (i.e. histosols)	Table3	N_2O	1990	0.71	1.79	–1.08	kt	–60.3	–285.54
I.1.7.	3.D.1.d. Crop residues	Table3	N_2O	2022	1.30	1.17	0.14	kt	11.6	35.89
I.1.8.	3.D.1.f. Cultivation of organic soils (i.e. histosols)	Table3	N_2O	2022	0.75	1.70	–0.96	kt	–56.3	–254.11
I.1.9.	3.H. Urea application	Table3	CO_2	2022	22.72	48.10	–25.37	kt	–52.8	–25.37
I.1.10.	4.A.1. Forest land remaining forest land	Table4	Net CO_2 emissions/removals	1990	–6 003.51	–7 028.79	1 025.28	kt CO_2 eq	14.6	1 025.28
I.1.11.	4.A.1. Forest land remaining forest land	Table4	N_2O	1990	1.12	0.09	1.03	kt	1 089.8	272.48
I.1.12.	4.A.2. Land converted to forest land	Table4	Net CO_2 emissions/removals	1990	–702.61	–784.13	81.52	kt CO_2 eq	10.4	81.52
I.1.13.	4.A.2. Land converted to forest land	Table4	N_2O	1990	0.09	0.00	0.09	kt	175 058.3	24.60
I.1.14.	4.B.1. Cropland remaining cropland	Table4	Net CO_2 emissions/removals	1990	200.83	358.28	–157.45	kt CO_2 eq	–43.9	–157.45
I.1.15.	4.B.2. Land converted to cropland	Table4	Net CO_2 emissions/removals	1990	1 434.69	2 224.55	–789.86	kt CO_2 eq	–35.5	–789.86
I.1.16.	4.C.1. Grassland remaining grassland	Table4	Net CO_2 emissions/removals	1990	1 578.42	46.75	1 531.67	kt CO_2 eq	3 276.1	1 531.67
I.1.17.	4.C.2. Land converted to grassland	Table4	Net CO_2 emissions/removals	1990	–1 498.71	–613.84	–884.88	kt CO_2 eq	–144.2	–884.88
I.1.18.	4.D.1. Wetlands remaining wetlands	Table4	Net CO_2 emissions/removals	1990	422.72	517.32	–94.60	kt CO_2 eq	–18.3	–94.60

ID#	Category	CRT	Gas	Inventory year	Estimate in latest submission (2025)	Estimate in previous submission (2024)	Difference	Unit	Difference (%)	Difference (kt CO_2 eq)
I.1.19.	4.A.1. Forest land remaining forest land	Table4	Net CO_2 emissions/removals	2022	–4 784.15	–5 291.97	507.82	kt CO_2 eq	9.6	507.82
I.1.20.	4.A.1. Forest land remaining forest land	Table4	N_2O	2022	1.27	0.10	1.17	kt	1 162.2	309.07
I.1.21.	4.A.2. Land converted to forest land	Table4	Net CO_2 emissions/removals	2022	–1 106.77	–1 196.34	89.57	kt CO_2 eq	7.5	89.57
I.1.22.	4.A.2. Land converted to forest land	Table4	N_2O	2022	0.11	0.00	0.11	kt	595 779.4	28.54
I.1.23.	4.B.1. Cropland remaining cropland	Table4	Net CO_2 emissions/removals	2022	–1 412.12	–1 247.86	–164.26	kt CO_2 eq	–13.2	–164.26
I.1.24.	4.B.2. Land converted to cropland	Table4	Net CO_2 emissions/removals	2022	1 508.29	1 906.77	–398.47	kt CO_2 eq	–20.9	–398.47
I.1.25.	4.C.1. Grassland remaining grassland	Table4	Net CO_2 emissions/removals	2022	1 535.37	55.60	1 479.77	kt CO_2 eq	2 661.3	1 479.77
I.1.26.	4.C.2. Land converted to grassland	Table4	Net CO_2 emissions/removals	2022	–1 608.90	–668.65	–940.25	kt CO_2 eq	–140.6	–940.25
I.1.27.	4.D.1. Wetlands remaining wetlands	Table4	Net CO_2 emissions/removals	2022	837.25	856.17	–18.92	kt CO_2 eq	–2.2	–18.92
I.1.28.	4.E.2. Land converted to settlements	Table4	Net CO_2 emissions/removals	2022	578.75	512.48	66.27	kt CO_2 eq	12.9	66.27
I.1.29.	4.G. HWP	Table4	Net CO_2 emissions/removals	2022	–1 893.48	–1 467.42	–426.06	kt CO_2 eq	–29.0	–426.06
I.1.30.	5.D.1. Domestic wastewater	Table5	CH_4	1990	5.78	16.92	–11.14	kt	–65.8	–311.78
I.1.31.	5.D.1. Domestic wastewater	Table5	CH_4	2022	0.88	4.96	–4.07	kt	–82.2	–114.07

Table I.2
Findings on completeness

ID#	Sector, category or gas	CRT	Gas	Inventory year	Notation key	Finding type
I.2.1.	3.I. Other carbon-containing fertilizers	Table3	CO_2	1990	NE	Reporting of “NE” detected
I.2.2.	3.I. Other carbon-containing fertilizers	Table3	Total GHG emissions	1990	NE	Reporting of “NE” detected
I.2.3.	3.I. Other carbon-containing fertilizers	Table3	CO_2	2023	NE	Reporting of “NE” detected
I.2.4.	3.I. Other carbon-containing fertilizers	Table3	Total GHG emissions	2023	NE	Reporting of “NE” detected
I.2.5.	4.C.2. Land converted to grassland	Table4	N_2O	1990	IE, NE, NO	Reporting of “NE” detected
I.2.6.	4.D.1. Wetlands remaining wetlands	Table4	CH_4	1990	NE, NO	Reporting of “NE” detected
I.2.7.	4.D.2. Land converted to wetlands	Table4	CH_4	1990	NE, NO	Reporting of “NE” detected

ID#	Sector, category or gas	CRT	Gas	Inventory year	Notation key	Finding type
I.2.8.	4.D.2. Land converted to wetlands	Table4	N_2O	1990	NE, NO	Reporting of "NE" detected
I.2.9.	4.D.1. Wetlands remaining wetlands	Table4	CH_4	2023	NE, NO	Reporting of "NE" detected
I.2.10.	4.D.2. Land converted to wetlands	Table4	Net CO_2 emissions/removals	2023	NE, NO	Reporting of "NE" detected
I.2.11.	4.D.2. Land converted to wetlands	Table4	CH_4	2023	NE, NO	Reporting of "NE" detected
I.2.12.	4.D.2. Land converted to wetlands	Table4	N_2O	2023	NE, NO	Reporting of "NE" detected
I.2.13.	4.D.2. Land converted to wetlands	Table4	Total GHG emissions/removals	2023	NE, NO	Reporting of "NE" detected
I.2.14.	HFCs	Table10s6	–	1990	NO	Gas or sector not reported
I.2.15.	PFCs	Table10s6	–	1990	NO	Gas or sector not reported
I.2.16.	PFCs	Table10s6	–	2023	NO	Gas or sector not reported
I.2.17.	Unspecified mix of HFCs and PFCs	Table10s6	–	1990	NO	Gas or sector not reported
I.2.18.	Unspecified mix of HFCs and PFCs	Table10s6	–	2023	NO	Gas or sector not reported
I.2.19.	SF_6	Table10s6	–	1990	NO	Gas or sector not reported
I.2.20.	NF_3	Table10s6	–	1990	NO	Gas or sector not reported
I.2.21.	NF_3	Table10s6	–	2023	NO	Gas or sector not reported
I.2.22.	6. Other	Table10s6	–	1990	NO	Gas or sector not reported
I.2.23.	6. Other	Table10s6	–	2023	NO	Gas or sector not reported

Table I.3
Changes in notation keys reported since the previous submission

ID#	Category	CRT	Gas	Inventory year	Notation key reported in latest submission (2025)	Notation key reported in previous submission (2024)
I.3.1.	2.B.9. Fluorochemical production	Table2(II)	HFC-23	1990	–	NO
I.3.2.	2.B.9. Fluorochemical production	Table2(II)	HFC-32	1990	–	NO
I.3.3.	2.B.9. Fluorochemical production	Table2(II)	HFC-41	1990	–	NO
I.3.4.	2.B.9. Fluorochemical production	Table2(II)	HFC-43-10mee	1990	–	NO
I.3.5.	2.B.9. Fluorochemical production	Table2(II)	HFC-125	1990	–	NO
I.3.6.	2.B.9.a. By-product emissions	Table2(II)	HFC-23	1990	–	NO
I.3.7.	2.B.9.a. By-product emissions	Table2(II)	HFC-32	1990	–	NO
I.3.8.	2.B.9.a. By-product emissions	Table2(II)	HFC-41	1990	–	NO
I.3.9.	2.B.9.a. By-product emissions	Table2(II)	HFC-43-10mee	1990	–	NO
I.3.10.	2.B.9.a. By-product emissions	Table2(II)	HFC-125	1990	–	NO
I.3.11.	2.B.9.a. By-product emissions	Table2(II)	HFC-134	1990	–	NO
I.3.12.	2.B.9.a. By-product emissions	Table2(II)	HFC-134a	1990	–	NO

ID#	*Category*	*CRT*	*Gas*	*Inventory year*	*Notation key reported in latest submission (2025)*	*Notation key reported in previous submission (2024)*
I.3.13.	2.B.9.a. By-product emissions	Table2(II)	HFC-143	1990	–	NO
I.3.14.	2.B.9.a. By-product emissions	Table2(II)	HFC-143a	1990	–	NO
I.3.15.	2.B.9.a. By-product emissions	Table2(II)	HFC-152	1990	–	NO
I.3.16.	2.B.9.a. By-product emissions	Table2(II)	HFC-152a	1990	–	NO
I.3.17.	2.B.9.a. By-product emissions	Table2(II)	HFC-161	1990	–	NO
I.3.18.	2.B.9.a. By-product emissions	Table2(II)	HFC-227ea	1990	–	NO
I.3.19.	2.B.9.a. By-product emissions	Table2(II)	HFC-236cb	1990	–	NO
I.3.20.	2.B.9.a. By-product emissions	Table2(II)	HFC-236ea	1990	–	NO
I.3.21.	2.B.9.a. By-product emissions	Table2(II)	HFC-236fa	1990	–	NO
I.3.22.	2.B.9.a. By-product emissions	Table2(II)	HFC-245ca	1990	–	NO
I.3.23.	2.B.9.a. By-product emissions	Table2(II)	HFC-245fa	1990	–	NO
I.3.24.	2.B.9.a. By-product emissions	Table2(II)	HFC-365mfc	1990	–	NO
I.3.25.	2.B.9.a. By-product emissions	Table2(II)	Unspecified mix of HFCs	1990	–	NO
I.3.26.	2.B.9.a. By-product emissions	Table2(II)	SF_6	1990	–	NO
I.3.27.	2.B.9.a. By-product emissions	Table2(II)	NF_3	1990	–	NO
I.3.28.	2.B.9.b. Fugitive emissions	Table2(II)	HFC-23	1990	–	NO
I.3.29.	2.B.9.b. Fugitive emissions	Table2(II)	HFC-32	1990	–	NO
I.3.30.	2.B.9.b. Fugitive emissions	Table2(II)	HFC-41	1990	–	NO
I.3.31.	2.B.9.b. Fugitive emissions	Table2(II)	HFC-43-10mee	1990	–	NO
I.3.32.	2.B.9.b. Fugitive emissions	Table2(II)	HFC-125	1990	–	NO
I.3.33.	2.B.9. Fluorochemical production	Table2(II)	HFC-23	2022	–	NO
I.3.34.	2.B.9. Fluorochemical production	Table2(II)	HFC-32	2022	–	NO
I.3.35.	2.B.9. Fluorochemical production	Table2(II)	HFC-41	2022	–	NO
I.3.36.	2.B.9. Fluorochemical production	Table2(II)	HFC-43-10mee	2022	–	NO
I.3.37.	2.B.9. Fluorochemical production	Table2(II)	HFC-125	2022	–	NO
I.3.38.	2.B.9.a. By-product emissions	Table2(II)	HFC-23	2022	–	NO
I.3.39.	2.B.9.a. By-product emissions	Table2(II)	HFC-32	2022	–	NO
I.3.40.	2.B.9.a. By-product emissions	Table2(II)	HFC-41	2022	–	NO
I.3.41.	2.B.9.a. By-product emissions	Table2(II)	HFC-43-10mee	2022	–	NO
I.3.42.	2.B.9.a. By-product emissions	Table2(II)	HFC-125	2022	–	NO
I.3.43.	2.B.9.a. By-product emissions	Table2(II)	HFC-134	2022	–	NO
I.3.44.	2.B.9.a. By-product emissions	Table2(II)	HFC-134a	2022	–	NO
I.3.45.	2.B.9.a. By-product emissions	Table2(II)	HFC-143	2022	–	NO
I.3.46.	2.B.9.a. By-product emissions	Table2(II)	HFC-143a	2022	–	NO
I.3.47.	2.B.9.a. By-product emissions	Table2(II)	HFC-152	2022	–	NO
I.3.48.	2.B.9.a. By-product emissions	Table2(II)	HFC-152a	2022	–	NO

ID#	Category	CRT	Gas	Inventory year	Notation key reported in latest submission (2025)	Notation key reported in previous submission (2024)
I.3.49.	2.B.9.a. By-product emissions	Table2(II)	HFC-161	2022	–	NO
I.3.50.	2.B.9.a. By-product emissions	Table2(II)	HFC-227ea	2022	–	NO
I.3.51.	2.B.9.a. By-product emissions	Table2(II)	HFC-236cb	2022	–	NO
I.3.52.	2.B.9.a. By-product emissions	Table2(II)	HFC-236ea	2022	–	NO
I.3.53.	2.B.9.a. By-product emissions	Table2(II)	HFC-236fa	2022	–	NO
I.3.54.	2.B.9.a. By-product emissions	Table2(II)	HFC-245ca	2022	–	NO
I.3.55.	2.B.9.a. By-product emissions	Table2(II)	HFC-245fa	2022	–	NO
I.3.56.	2.B.9.a. By-product emissions	Table2(II)	HFC-365mfc	2022	–	NO
I.3.57.	2.B.9.a. By-product emissions	Table2(II)	Unspecified mix of HFCs	2022	–	NO
I.3.58.	2.B.9.a. By-product emissions	Table2(II)	SF_6	2022	–	NO
I.3.59.	2.B.9.a. By-product emissions	Table2(II)	NF_3	2022	–	NO
I.3.60.	2.B.9.b. Fugitive emissions	Table2(II)	HFC-23	2022	–	NO
I.3.61.	2.B.9.b. Fugitive emissions	Table2(II)	HFC-32	2022	–	NO
I.3.62.	2.B.9.b. Fugitive emissions	Table2(II)	HFC-41	2022	–	NO
I.3.63.	2.B.9.b. Fugitive emissions	Table2(II)	HFC-43-10mee	2022	–	NO
I.3.64.	2.B.9.b. Fugitive emissions	Table2(II)	HFC-125	2022	–	NO
I.3.65.	4.D.2. Land converted to wetlands	Table4	CH_4	1990	NE, NO	NA, NE, NO
I.3.66.	4.D.2. Land converted to wetlands	Table4	N_2O	1990	NE, NO	NA, NE, NO
I.3.67.	4.D.2. Land converted to wetlands	Table4	Net CO_2 emissions/removals	2022	NE, NO	NA, NE, NO
I.3.68.	4.D.2. Land converted to wetlands	Table4	CH_4	2022	NE, NO	NA, NE, NO
I.3.69.	4.D.2. Land converted to wetlands	Table4	N_2O	2022	NE, NO	NA, NE, NO
I.3.70.	4.D.2. Land converted to wetlands	Table4	Total GHG emissions/removals	2022	NE, NO	NA, NE, NO
I.3.71.	5.D.2. Industrial wastewater	Table5	N_2O	1990	IE	NA
I.3.72.	5.D.2. Industrial wastewater	Table5	Total GHG emissions	1990	IE	IE, NA
I.3.73.	5.D.2. Industrial wastewater	Table5	N_2O	2022	IE	NA
I.3.74.	5.D.2. Industrial wastewater	Table5	Total GHG emissions	2022	IE	IE, NA

Table I.4
Differences between the sectoral and reference approaches for the latest reported year

ID#	CRT table	Fuel type	Description	Difference between reference and sectoral approaches (%)
I.4.1.	Table1.A(c)	Liquid fuels (excluding international bunkers)	CO_2 emissions	6.9

Table I.5
Findings on time-series consistency

ID#	*Category*	*CRT*	*Gas*	*Year 1*	*Year 2*	*Value 1*	*Value 2*	*Difference*	*Unit*	*Difference (CO_2 eq)*	*Difference (%)*	*Z-score*
I.5.1.	1.A.1.a. Public electricity and heat production	Table1	CO_2	1991	1992	12 856.57	7 587.97	–5 268.60	kt	–5 268.60	–41.0	–4.8
I.5.2.	1.A.1.b. Petroleum refining	Table1	CO_2	1991	1992	1 727.27	992.28	–734.99	kt	–734.99	–42.6	–3.3
I.5.3.	1.A.1.c. Manufacture of solid fuels and other energy industries	Table1	CO_2	2014	2015	27.43	84.50	57.07	kt	57.07	208.0	4.2
I.5.4.	1.A.2.c. Chemicals	Table1	CO_2	1991	1992	431.81	187.11	–244.70	kt	–244.70	–56.7	–3.7
I.5.5.	1.A.2.d. Pulp, paper and print	Table1	CO_2	1991	1992	282.58	177.90	–104.68	kt	–104.68	–37.0	–3.5
I.5.6.	1.A.2.d. Pulp, paper and print	Table1	CO_2	1992	1993	177.90	70.47	–107.42	kt	–107.42	–60.4	–3.6
I.5.7.	1.A.2.e. Food processing, beverages and tobacco	Table1	CO_2	1991	1992	740.97	490.30	–250.68	kt	–250.68	–33.8	–3.4
I.5.8.	1.A.2.e. Food processing, beverages and tobacco	Table1	CO_2	1992	1993	490.30	219.55	–270.75	kt	–270.75	–55.2	–3.7
I.5.9.	1.A.2.f. Non-metallic minerals	Table1	CO_2	1991	1992	2 909.49	1 034.28	–1 875.21	kt	–1 875.21	–64.5	–5.3
I.5.10.	1.A.2.g. Other	Table1	CO_2	1991	1992	1 795.59	1 127.84	–667.76	kt	–667.76	–37.2	–4.1
I.5.11.	1.A.2.g. Other	Table1	CO_2	1992	1993	1 127.84	611.69	–516.15	kt	–516.15	–45.8	–3.1
I.5.12.	1.A.2.g. Other	Table1	N_2O	1995	1996	0.08	0.05	–0.04	kt	–9.59	–43.1	–3.2
I.5.13.	1.A.3.b. Road transportation	Table1	CO_2	1991	1992	5 818.71	3 713.65	–2 105.07	kt	–2 105.07	–36.2	–3.9
I.5.14.	1.A.3.b. Road transportation	Table1	CH_4	1991	1992	1.79	1.10	–0.69	kt	–19.45	–38.7	–4.3
I.5.15.	1.A.3.b. Road transportation	Table1	N_2O	2003	2004	0.27	0.15	–0.12	kt	–30.86	–43.8	–3.8
I.5.16.	1.A.3.c. Railways	Table1	CO_2	1994	1995	374.80	241.57	–133.23	kt	–133.23	–35.5	–4.2
I.5.17.	1.A.3.c. Railways	Table1	N_2O	1994	1995	0.15	0.09	–0.05	kt	–13.85	–35.5	–4.2
I.5.18.	1.A.3.d. Domestic navigation	Table1	CO_2	1995	1996	3.06	15.53	12.46	kt	12.46	407.1	3.7
I.5.19.	1.A.4.a. Commercial/institutional	Table1	CO_2	1991	1992	3 393.03	1 455.54	–1 937.49	kt	–1 937.49	–57.1	–5.3
I.5.20.	1.A.4.a. Commercial/institutional	Table1	N_2O	1995	1996	0.10	0.03	–0.07	kt	–18.11	–71.3	–4.4
I.5.21.	1.A.4.b. Residential	Table1	CO_2	1991	1992	2 721.59	1 344.45	–1 377.14	kt	–1 377.14	–50.6	–5.1
I.5.22.	1.A.4.b. Residential	Table1	CH_4	1991	1992	7.28	3.85	–3.43	kt	–96.05	–47.1	–4.7
I.5.23.	1.A.4.c. Agriculture/forestry/fishing	Table1	CO_2	1991	1992	1 181.39	725.07	–456.33	kt	–456.33	–38.6	–4.3
I.5.24.	1.A.4.c. Agriculture/forestry/fishing	Table1	CH_4	1991	1992	0.64	0.17	–0.47	kt	–13.06	–72.9	–5.4
I.5.25.	1.A.4.c. Agriculture/forestry/fishing	Table1	N_2O	1990	1991	0.41	0.29	–0.13	kt	–33.80	–30.9	–4.3
I.5.26.	1.D.1.a. Aviation	Table1	CO_2	1991	1992	480.11	194.18	–285.93	kt	–285.93	–59.6	–3.7
I.5.27.	1.D.3. CO_2 emissions from biomass	Table1	CO_2	2021	2022	6 776.77	6 206.03	–570.74	kt	–570.74	–8.4	–3.1
I.5.28.	2.A.1. Cement production	Table2(I)	CO_2	1991	1992	1 549.97	754.95	–795.01	kt	–795.01	–51.3	–4.5
I.5.29.	2.A.2. Lime production	Table2(I)	CO_2	1991	1992	213.77	118.78	–94.99	kt	–94.99	–44.4	–3.6
I.5.30.	2.A.2. Lime production	Table2(I)	CO_2	1992	1993	118.78	36.63	–82.15	kt	–82.15	–69.2	–3.0
I.5.31.	2.A.3. Glass production	Table2(I)	CO_2	1994	1995	4.98	14.41	9.43	kt	9.43	189.6	4.1
I.5.32.	2.A.4. Other process uses of carbonates	Table2(I)	CO_2	1992	1993	193.35	92.12	–101.22	kt	–101.22	–52.4	–4.9
I.5.33.	2.B.2. Nitric acid production	Table2(I)	N_2O	2008	2009	9.38	2.12	–7.26	kt	–1 923.29	–77.4	–5.0
I.5.34.	2.D.1. Lubricant use	Table2(I)	CO_2	1996	1997	9.09	18.19	9.09	kt	9.09	100.0	4.0

ID#	Category	CRT	Gas	Year 1	Year 2	Value 1	Value 2	Difference	Unit	Difference (CO_2 eq)	Difference (%)	Z-score
I.5.35.	2.F.1. Refrigeration and air conditioning	Table2(I)	HFCs	2017	2018	636.34	480.16	–156.18	kt CO_2 eq	–156.18	–24.5	–3.7
I.5.36.	2.G.3. N_2O from product uses	Table2(I)	N_2O	2005	2006	0.23	0.13	–0.10	kt	–25.69	–41.9	–4.0
I.5.37.	2.G.3. N_2O from product uses	Table2(I)	N_2O	2007	2008	0.10	0.02	–0.08	kt	–22.04	–79.2	–3.3
I.5.38.	2.F.1. Refrigeration and air conditioning	Table2(II)	HFC-125	2015	2016	47.00	72.23	25.23	t	79.98	53.7	3.7
I.5.39.	2.F.1. Refrigeration and air conditioning	Table2(II)	HFC-125	2017	2018	63.93	45.55	–18.38	t	–58.27	–28.8	–3.1
I.5.40.	2.F.1. Refrigeration and air conditioning	Table2(II)	HFC-143a	2017	2018	47.79	31.42	–16.36	t	–78.55	–34.2	–3.5
I.5.41.	3.A.1.a. Dairy cattle	Table3	CH_4	1992	1993	73.91	65.34	–8.57	kt	–239.92	–11.6	–3.0
I.5.42.	3.A.1.b. Non-dairy cattle	Table3	CH_4	1992	1993	65.03	46.85	–18.19	kt	–509.23	–28.0	–3.6
I.5.43.	3.A.3. Swine	Table3	CH_4	1991	1992	3.14	2.43	–0.71	kt	–19.82	–22.6	–3.5
I.5.44.	3.A.3. Swine	Table3	CH_4	1992	1993	2.43	1.78	–0.65	kt	–18.23	–26.8	–3.2
I.5.45.	3.B.1.b. Non-dairy cattle	Table3	CH_4	1992	1993	4.12	3.01	–1.11	kt	–31.18	–27.0	–3.5
I.5.46.	3.B.1.b. Non-dairy cattle	Table3	N_2O	1992	1993	0.29	0.21	–0.09	kt	–22.88	–29.4	–3.6
I.5.47.	3.B.3. Swine	Table3	CH_4	1991	1992	11.72	8.99	–2.73	kt	–76.39	–23.3	–3.6
I.5.48.	3.B.3. Swine	Table3	CH_4	1992	1993	8.99	6.52	–2.47	kt	–69.16	–27.5	–3.2
I.5.49.	3.B.3. Swine	Table3	N_2O	1991	1992	0.32	0.24	–0.08	kt	–20.78	–24.5	–3.6
I.5.50.	3.B.3. Swine	Table3	N_2O	1992	1993	0.24	0.17	–0.07	kt	–17.98	–28.0	–3.0
I.5.51.	3.B.5. Indirect N_2O emissions	Table3	N_2O	1991	1992	0.79	0.65	–0.15	kt	–38.90	–18.5	–3.5
I.5.52.	3.B.5. Indirect N_2O emissions	Table3	N_2O	1992	1993	0.65	0.50	–0.14	kt	–37.86	–22.1	–3.4
I.5.53.	3.D.1.a. Inorganic N fertilizers	Table3	N_2O	1991	1992	3.90	1.38	–2.51	kt	–666.29	–64.5	–4.8
I.5.54.	3.D.1.b. Organic N fertilizers	Table3	N_2O	1991	1992	1.16	0.96	–0.20	kt	–52.18	–17.0	–3.4
I.5.55.	3.D.1.b. Organic N fertilizers	Table3	N_2O	1992	1993	0.96	0.77	–0.19	kt	–51.22	–20.1	–3.3
I.5.56.	3.D.1.c. Urine and dung deposited by grazing animals	Table3	N_2O	1992	1993	1.17	0.97	–0.21	kt	–54.66	–17.6	–3.4
I.5.57.	3.D.2. Indirect N_2O emissions from managed soils	Table3	N_2O	1991	1992	1.57	0.86	–0.70	kt	–186.08	–44.8	–4.7
I.5.58.	3.G. Liming	Table3	CO_2	2019	2020	12.42	38.18	25.76	kt	25.76	207.5	3.4
I.5.59.	3.H. Urea application	Table3	CO_2	1991	1992	69.73	24.74	–44.99	kt	–44.99	–64.5	–3.1
I.5.60.	3.H. Urea application	Table3	CO_2	2021	2022	69.00	22.72	–46.27	kt	–46.27	–67.1	–3.2
I.5.61.	4.A.1. Forest land remaining forest land	Table4	Net CO_2 emissions/removals	1997	1998	439.40	–6 999.56	–7 438.96	kt CO_2 eq	–7 438.96	–1 693.0	–4.0
I.5.62.	4.A.2. Land converted to forest land	Table4	Net CO_2 emissions/removals	1999	2000	–811.93	–750.00	61.93	kt CO_2 eq	61.93	–7.6	3.1
I.5.63.	4.B.1. Cropland remaining cropland	Table4	Net CO_2 emissions/removals	2019	2020	–893.52	–1 226.79	–333.27	kt CO_2 eq	–333.27	37.3	–3.3
I.5.64.	4.B.2. Land converted to cropland	Table4	Net CO_2 emissions/removals	2005	2006	761.18	1 276.79	515.61	kt CO_2 eq	515.61	67.7	3.0
I.5.65.	4.F.2. Land converted to other land	Table4	Net CO_2 emissions/removals	2017	2018	52.76	727.63	674.88	kt CO_2 eq	674.88	1 279.2	3.8

ID#	Category	CRT	Gas	Year 1	Year 2	Value 1	Value 2	Difference	Unit	Difference (CO_2 eq)	Difference (%)	Z-score
I.5.66.	4.F.2. Land converted to other land	Table4	Net CO_2 emissions/removals	2018	2019	727.63	47.44	–680.19	kt CO_2 eq	–680.19	–93.5	–3.8
I.5.67.	4.F.2. Land converted to other land	Table4	N_2O	2018	2019	0.02	0.09	0.07	kt	19.41	441.1	3.1
I.5.68.	4.F.2. Land converted to other land	Table4	N_2O	2019	2020	0.09	0.01	–0.08	kt	–19.96	–83.8	–3.2
I.5.69.	5.A.1. Managed waste disposal sites	Table5	CH_4	2017	2018	23.47	19.41	–4.06	kt	–113.70	–17.3	–3.5
I.5.70.	5.B.1. Composting	Table5	CH_4	2015	2016	0.53	1.19	0.67	kt	18.63	125.7	3.6
I.5.71.	5.B.1. Composting	Table5	N_2O	2015	2016	0.03	0.07	0.04	kt	10.58	125.7	3.6
I.5.72.	5.D.1. Domestic wastewater	Table5	CH_4	1991	1992	5.79	3.98	–1.80	kt	–50.53	–31.2	–4.2
I.5.73.	5.F.3. Annual change in total carbon storage in HWP waste	Table5	CO_2	2012	2013	34.83	23.14	–11.69	kt	–11.69	–33.6	–3.0

Table I.6

Comparison between implied emission factors reported for key categories and the range of implied emission factors from the 2025 national inventory reports of developed country Parties

ID#	Category	CRT	Gas	Unit	IEF reported	Comparison
I.6.1.	2.F.1.c. Industrial refrigeration – HFC-134a	Table2(II).B-Hs2	Disposal loss factor	%	30.000	Below range
I.6.2.	3.A.4.h.i. Rabbit	Table3.A	CH_4	kg CH_4/head/year	0.590	Above range

Table I.7

Identification of new key categories

ID#	New key category	Gas	Criteria	Inventory year
I.7.1.	1.A.1. Fuel combustion – energy industries – liquid fuels	CO_2	Trend	2023
I.7.2.	1.A.1. Fuel combustion – energy industries – solid fuels	CO_2	Trend	2023
I.7.3.	1.A.1. Fuel combustion – energy industries – gaseous fuels	CO_2	Trend	2023
I.7.4.	1.A.1. Fuel combustion – energy industries – other fossil fuels	CO_2	Trend	2023
I.7.5.	1.A.2. Fuel combustion – manufacturing industries and construction – liquid fuels	CO_2	Trend	2023
I.7.6.	1.A.2. Fuel combustion – manufacturing industries and construction – liquid fuels	CO_2	Level	2023
I.7.7.	1.A.2. Fuel combustion – manufacturing industries and construction – solid fuels	CO_2	Trend	2023
I.7.8.	1.A.2. Fuel combustion – manufacturing industries and construction – gaseous fuels	CO_2	Trend	2023

ID#	*New key category*	*Gas*	*Criteria*	*Inventory year*
I.7.9.	1.A.3.b. Road transportation	CO_2	Trend	2023
I.7.10.	1.A.4. Other sectors – liquid fuels	CO_2	Trend	2023
I.7.11.	1.A.4. Other sectors – solid fuels	CO_2	Trend	2023
I.7.12.	1.A.4. Other sectors – solid fuels	CH_4	Trend	2023
I.7.13.	1.A.4. Other sectors – gaseous fuels	CO_2	Trend	2023
I.7.14.	1.A.4. Other sectors – peat	CO_2	Trend	2023
I.7.15.	1.A.4. Other sectors – biomass	CH_4	Trend	2023
I.7.16.	1.B.2.a. Fugitive emissions from fuels – oil and natural gas – oil	CO_2	Trend	2023
I.7.17.	2.A.1. Cement production	CO_2	Trend	2023
I.7.18.	2.A.2. Lime production	CO_2	Trend	2023
I.7.19.	2.A.4. Other process uses of carbonates	CO_2	Trend	2023
I.7.20.	2.B.1. Ammonia production	CO_2	Trend	2023
I.7.21.	2.B.2. Nitric acid production	N_2O	Level	2023
I.7.22.	2.B.2. Nitric acid production	N_2O	Trend	2023
I.7.23.	2.F.1. Refrigeration and air conditioning	Aggregate fluorinated gases	Trend	2023
I.7.24.	3.A. Enteric fermentation	CH_4	Trend	2023
I.7.25.	3.D.1. Direct N_2O emissions from managed soils	N_2O	Trend	2023
I.7.26.	3.D.2. Indirect N_2O emissions from managed soils	N_2O	Trend	2023
I.7.27.	4.A.1. Forest land remaining forest land	CO_2	Trend	2023
I.7.28.	4.B.1. Cropland remaining cropland	CO_2	Trend	2023
I.7.29.	4.B.2. Land converted to cropland	CO_2	Trend	2023
I.7.30.	4.C.2. Land converted to grassland	CO_2	Trend	2023
I.7.31.	4.D.1.1. Peat extraction remaining peat extraction	CO_2	Trend	2023
I.7.32.	4.E.2. Land converted to settlements	CO_2	Trend	2023
I.7.33.	4.G. HWP	CO_2	Trend	2023
I.7.34.	4(II). Emissions and removals from drainage and rewetting and other management of organic and mineral soils	CO_2	Trend	2023
I.7.35.	4(II). Emissions and removals from drainage and rewetting and other management of organic and mineral soils	N_2O	Level	2023
I.7.36.	4(II). Emissions and removals from drainage and rewetting and other management of organic and mineral soils	N_2O	Trend	2023
I.7.37.	5.A. Solid waste disposal	CH_4	Trend	2023
I.7.38.	5.B. Biological treatment of solid waste	CH_4	Level	2023
I.7.39.	5.B. Biological treatment of solid waste	CH_4	Trend	2023