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

Summary

This report presents the results of the simplified review of the 2025 national inventory report of Canada, 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

C_2F_6	hexafluoroethane
C_3F_8	octafluoropropane
C_4F_{10}	perfluorobutane
C_5F_{12}	perfluoropentane
C_6F_{14}	perfluorohexane
$C_{10}F_{18}$	perfluorodecalin
c-C_3F_6	perfluorocyclopropane
c-C_4F_8	perfluorocyclobutane
CF_4	tetrafluoromethane
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 Canada 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 15 May 2025 a draft version of this report was transmitted to the Government of Canada, which provided comments on individual findings on 12 June 2025 that were addressed by the secretariat and incorporated, as appropriate, in this final version of the report.[3] Canada did not provide any general comments on the report.

3. The secretariat conducted the simplified review of Canada'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 Canada'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, 21 March 2025	
	2024 submission: CRTs, 24 October 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 (**346.96 kt CO_2 eq** for 2023)[a]	
	Recalculations for 2005 (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 2005 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[c] 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[d]	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[e]

[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] For Canada, the IEFs for fuel combustion activities in the energy sector were converted from a gross to a net calorific value basis using a factor of 0.90 for gaseous fuels and 0.95 for all other fuels, prior to comparison with the range of IEFs reported by other Parties included in Annex I to the Convention.

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

[e] 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 Canada'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.b. Petroleum refining	Table1	CO_2	2005	18 471.20	19 957.10	–1 485.90	kt	–7.4	–1 485.90
I.1.2.	1.A.2.a. Iron and steel	Table1	CO_2	2005	4 986.81	5 470.03	–483.22	kt	–8.8	–483.22
I.1.3.	1.D.1.b. Navigation	Table1	CO_2	2005	6 158.56	9 300.97	–3 142.41	kt	–33.8	–3 142.41
I.1.4.	1.D.3. CO_2 emissions from biomass	Table1	CO_2	2005	65 778.51	68 455.39	–2 676.88	kt	–3.9	–2 676.88
I.1.5.	1.A.1.a. Public electricity and heat production	Table1	CO_2	2022	57 503.63	55 847.44	1 656.19	kt	3.0	1 656.19
I.1.6.	1.A.1.b. Petroleum refining	Table1	CO_2	2022	14 532.41	14 133.43	398.98	kt	2.8	398.98
I.1.7.	1.A.1.c. Manufacture of solid fuels and other energy industries	Table1	CO_2	2022	103 165.28	106 045.29	–2 880.01	kt	–2.7	–2 880.01
I.1.8.	1.A.2.a. Iron and steel	Table1	CO_2	2022	4 493.41	4 858.70	–365.29	kt	–7.5	–365.29
I.1.9.	1.A.3.c. Railways	Table1	CO_2	2022	5 255.96	6 107.94	–851.98	kt	–13.9	–851.98
I.1.10.	1.A.3.d. Domestic navigation	Table1	CO_2	2022	3 271.41	4 628.75	–1 357.33	kt	–29.3	–1 357.33
I.1.11.	1.A.4.b. Residential	Table1	CH_4	2022	38.50	55.53	–17.03	kt	–30.7	–476.82
I.1.12.	1.B.2.b. Natural gas	Table1	CH_4	2022	289.11	342.25	–53.14	kt	–15.5	–1 487.81
I.1.13.	1.B.2.c. Venting and flaring	Table1	CO_2	2022	15 705.53	16 853.90	–1 148.37	kt	–6.8	–1 148.37
I.1.14.	1.B.2.c. Venting and flaring	Table1	CH_4	2022	1 322.66	1 397.40	–74.74	kt	–5.3	–2 092.64
I.1.15.	1.D.1.b. Navigation	Table1	CO_2	2022	3 540.69	5 999.31	–2 458.61	kt	–41.0	–2 458.61
I.1.16.	1.D.3. CO_2 emissions from biomass	Table1	CO_2	2022	55 096.32	57 968.32	–2 872.00	kt	–5.0	–2 872.00
I.1.17.	2.C.1. Iron and steel production	Table2(I)	CO_2	2005	10 793.30	10 309.96	483.34	kt	4.7	483.34
I.1.18.	2.D.3. Other	Table2(I)	CO_2	2005	7 579.89	9 937.80	–2 357.91	kt	–23.7	–2 357.91
I.1.19.	2.C.1. Iron and steel production	Table2(I)	CO_2	2022	8 994.54	7 809.32	1 185.22	kt	15.2	1 185.22
I.1.20.	2.D.3. Other	Table2(I)	CO_2	2022	9 321.60	12 213.35	–2 891.75	kt	–23.7	–2 891.75
I.1.21.	4.A.1. Forest land remaining forest land	Table4	Net CO_2 emissions/removals	2005	135 105.77	–64 221.74	199 327.51	kt CO_2 eq	310.4	199 327.51
I.1.22.	4.B.1. Cropland remaining cropland	Table4	Net CO_2 emissions/removals	2005	–25 374.10	–26 728.37	1 354.27	kt CO_2 eq	5.1	1 354.27

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.1.23.	4.B.2. Land converted to cropland	Table4	Net CO_2 emissions/removals	2005	5 082.29	3 882.91	1 199.38	kt CO_2 eq	30.9	1 199.38
I.1.24.	4.D.1. Wetlands remaining wetlands	Table4	Net CO_2 emissions/removals	2005	2 174.62	2 638.78	–464.16	kt CO_2 eq	–17.6	–464.16
I.1.25.	4.E.2. Land converted to settlements	Table4	Net CO_2 emissions/removals	2005	8 572.04	5 907.12	2 664.91	kt CO_2 eq	45.1	2 664.91
I.1.26.	4.G. HWP	Table4	Net CO_2 emissions/removals	2005	–56 643.18	148 007.04	–204 650.23	kt CO_2 eq	–138.3	–204 650.23
I.1.27.	4.A.1. Forest land remaining forest land	Table4	Net CO_2 emissions/removals	2022	21 669.65	–107 865.03	129 534.68	kt CO_2 eq	120.1	129 534.68
I.1.28.	4.B.1. Cropland remaining cropland	Table4	Net CO_2 emissions/removals	2022	19 632.57	18 254.18	1 378.39	kt CO_2 eq	7.6	1 378.39
I.1.29.	4.B.2. Land converted to cropland	Table4	Net CO_2 emissions/removals	2022	5 089.30	3 366.47	1 722.83	kt CO_2 eq	51.2	1 722.83
I.1.30.	4.D.1. Wetlands remaining wetlands	Table4	Net CO_2 emissions/removals	2022	2 305.79	3 045.54	–739.76	kt CO_2 eq	–24.3	–739.76
I.1.31.	4.E.2. Land converted to settlements	Table4	Net CO_2 emissions/removals	2022	9 144.70	6 475.39	2 669.31	kt CO_2 eq	41.2	2 669.31
I.1.32.	4.G. HWP	Table4	Net CO_2 emissions/removals	2022	–3 974.36	131 563.88	–135 538.24	kt CO_2 eq	–103.0	–135 538.24
I.1.33.	5.A.1. Managed waste disposal sites	Table5	CH_4	2005	741.43	765.83	–24.39	kt	–3.2	–682.99
I.1.34.	5.A.1. Managed waste disposal sites	Table5	CH_4	2022	704.59	722.74	–18.15	kt	–2.5	–508.21

Table I.2
Findings on completeness

ID#	Sector, category or gas	CRT	Gas	Inventory year	Notation key	Finding type
I.2.1.	1.B.1.b. Fuel transformation	Table1	CH_4	2005	IE, NE	Reporting of “NE” detected
I.2.2.	1.B.1.b. Fuel transformation	Table1	N_2O	2005	NE	Reporting of “NE” detected
I.2.3.	1.B.1.b. Fuel transformation	Table1	Total GHG emissions	2005	IE, NE	Reporting of “NE” detected
I.2.4.	1.B.1.b. Fuel transformation	Table1	CH_4	2023	IE, NE	Reporting of “NE” detected
I.2.5.	1.B.1.b. Fuel transformation	Table1	N_2O	2023	NE	Reporting of “NE” detected
I.2.6.	1.B.1.b. Fuel transformation	Table1	Total GHG emissions	2023	IE, NE	Reporting of “NE” detected
I.2.7.	2.B.1. Ammonia production	Table2(I)	CH_4	2005	NE	Reporting of “NE” detected

ID#	Sector, category or gas	CRT	Gas	Inventory year	Notation key	Finding type
I.2.8.	2.D.3. Other	Table2(I)	CH_4	2005	IE, NE, NO	Reporting of “NE” detected
I.2.9.	2.D.3. Other	Table2(I)	N_2O	2005	IE, NE, NO	Reporting of “NE” detected
I.2.10.	2.G.2. SF_6 and PFCs from other product use	Table2(I)	PFCs	2005	NE	Reporting of “NE” detected
I.2.11.	2.G.2. SF_6 and PFCs from other product use	Table2(I)	SF_6	2005	NE	Reporting of “NE” detected
I.2.12.	2.G.2. SF_6 and PFCs from other product use	Table2(I)	Total GHG emissions	2005	NE	Reporting of “NE” detected
I.2.13.	2.B.1. Ammonia production	Table2(I)	CH_4	2023	NE	Reporting of “NE” detected
I.2.14.	2.D.3. Other	Table2(I)	CH_4	2023	IE, NA, NE	Reporting of “NE” detected
I.2.15.	2.D.3. Other	Table2(I)	N_2O	2023	IE, NA, NE	Reporting of “NE” detected
I.2.16.	2.G.2. SF_6 and PFCs from other product use	Table2(I)	PFCs	2023	NE	Reporting of “NE” detected
I.2.17.	2.G.2. SF_6 and PFCs from other product use	Table2(I)	SF_6	2023	NE	Reporting of “NE” detected
I.2.18.	2.G.2. SF_6 and PFCs from other product use	Table2(I)	Total GHG emissions	2023	NE	Reporting of “NE” detected
I.2.19.	2.G.2. SF_6 and PFCs from other product use	Table2(II)	CF_4	2005	NE	Reporting of “NE” detected
I.2.20.	2.G.2. SF_6 and PFCs from other product use	Table2(II)	C_2F_6	2005	NE	Reporting of “NE” detected
I.2.21.	2.G.2. SF_6 and PFCs from other product use	Table2(II)	C_3F_8	2005	NE	Reporting of “NE” detected
I.2.22.	2.G.2. SF_6 and PFCs from other product use	Table2(II)	C_4F_{10}	2005	NE	Reporting of “NE” detected
I.2.23.	2.G.2. SF_6 and PFCs from other product use	Table2(II)	c-C_4F_8	2005	NE	Reporting of “NE” detected
I.2.24.	2.G.2. SF_6 and PFCs from other product use	Table2(II)	C_5F_{12}	2005	NE	Reporting of “NE” detected
I.2.25.	2.G.2. SF_6 and PFCs from other product use	Table2(II)	C_6F_{14}	2005	NE	Reporting of “NE” detected
I.2.26.	2.G.2. SF_6 and PFCs from other product use	Table2(II)	$C_{10}F_{18}$	2005	NE	Reporting of “NE” detected
I.2.27.	2.G.2. SF_6 and PFCs from other product use	Table2(II)	c-C_3F_6	2005	NE	Reporting of “NE” detected
I.2.28.	2.G.2. SF_6 and PFCs from other product use	Table2(II)	Unspecified mix of PFCs	2005	NE	Reporting of “NE” detected
I.2.29.	2.G.2. SF_6 and PFCs from other product use	Table2(II)	SF_6	2005	NE	Reporting of “NE” detected
I.2.30.	2.G.2. SF_6 and PFCs from other product use	Table2(II)	CF_4	2023	NE	Reporting of “NE” detected
I.2.31.	2.G.2. SF_6 and PFCs from other product use	Table2(II)	C_2F_6	2023	NE	Reporting of “NE” detected
I.2.32.	2.G.2. SF_6 and PFCs from other product use	Table2(II)	C_3F_8	2023	NE	Reporting of “NE” detected
I.2.33.	2.G.2. SF_6 and PFCs from other product use	Table2(II)	C_4F_{10}	2023	NE	Reporting of “NE” detected
I.2.34.	2.G.2. SF_6 and PFCs from other product use	Table2(II)	c-C_4F_8	2023	NE	Reporting of “NE” detected
I.2.35.	2.G.2. SF_6 and PFCs from other product use	Table2(II)	C_5F_{12}	2023	NE	Reporting of “NE” detected
I.2.36.	2.G.2. SF_6 and PFCs from other product use	Table2(II)	C_6F_{14}	2023	NE	Reporting of “NE” detected
I.2.37.	2.G.2. SF_6 and PFCs from other product use	Table2(II)	$C_{10}F_{18}$	2023	NE	Reporting of “NE” detected
I.2.38.	2.G.2. SF_6 and PFCs from other product use	Table2(II)	c-C_3F_6	2023	NE	Reporting of “NE” detected
I.2.39.	2.G.2. SF_6 and PFCs from other product use	Table2(II)	Unspecified mix of PFCs	2023	NE	Reporting of “NE” detected
I.2.40.	2.G.2. SF_6 and PFCs from other product use	Table2(II)	SF_6	2023	NE	Reporting of “NE” detected
I.2.41.	4.A.2. Land converted to forest land	Table4	N_2O	2005	IE, NE, NO	Reporting of “NE” detected
I.2.42.	4.B.1. Cropland remaining cropland	Table4	CH_4	2005	IE, NE, NO	Reporting of “NE” detected
I.2.43.	4.C.1. Grassland remaining grassland	Table4	Net CO_2 emissions/removals	2005	NA, NE, NO	Reporting of “NE” detected

ID#	*Sector, category or gas*	*CRT*	*Gas*	*Inventory year*	*Notation key*	*Finding type*
I.2.44.	4.E.1. Settlements remaining settlements	Table4	N_2O	2005	IE, NE, NO	Reporting of "NE" detected
I.2.45.	4.A.2. Land converted to forest land	Table4	N_2O	2023	IE, NE, NO	Reporting of "NE" detected
I.2.46.	4.B.1. Cropland remaining cropland	Table4	CH_4	2023	IE, NE, NO	Reporting of "NE" detected
I.2.47.	4.C.1. Grassland remaining grassland	Table4	Net CO_2 emissions/removals	2023	NA, NE, NO	Reporting of "NE" detected
I.2.48.	4.E.1. Settlements remaining settlements	Table4	N_2O	2023	IE, NE, NO	Reporting of "NE" detected
I.2.49.	5.C.2. Open burning of waste	Table5	CO_2	2005	NA, NE	Reporting of "NE" detected
I.2.50.	5.C.2. Open burning of waste	Table5	CH_4	2005	NA, NE	Reporting of "NE" detected
I.2.51.	5.C.2. Open burning of waste	Table5	N_2O	2005	NA, NE	Reporting of "NE" detected
I.2.52.	5.C.2. Open burning of waste	Table5	Total GHG emissions	2005	NA, NE	Reporting of "NE" detected
I.2.53.	5.F.1. Long-term storage of carbon in waste disposal sites	Table5	CO_2	2005	NE	Reporting of "NE" detected
I.2.54.	5.F.1. Long-term storage of carbon in waste disposal sites	Table5	Total GHG emissions	2005	NE	Reporting of "NE" detected
I.2.55.	5.F.2. Annual change in total long-term carbon storage	Table5	CO_2	2005	NE	Reporting of "NE" detected
I.2.56.	5.F.2. Annual change in total long-term carbon storage	Table5	Total GHG emissions	2005	NE	Reporting of "NE" detected
I.2.57.	5.F.3. Annual change in total long-term carbon storage in HWP waste	Table5	CO_2	2005	NE	Reporting of "NE" detected
I.2.58.	5.F.3. Annual change in total long-term carbon storage in HWP waste	Table5	Total GHG emissions	2005	NE	Reporting of "NE" detected
I.2.59.	5.C.2. Open burning of waste	Table5	CO_2	2023	NA, NE	Reporting of "NE" detected
I.2.60.	5.C.2. Open burning of waste	Table5	CH_4	2023	NA, NE	Reporting of "NE" detected
I.2.61.	5.C.2. Open burning of waste	Table5	N_2O	2023	NA, NE	Reporting of "NE" detected
I.2.62.	5.C.2. Open burning of waste	Table5	Total GHG emissions	2023	NA, NE	Reporting of "NE" detected
I.2.63.	5.F.1. Long-term storage of carbon in waste disposal sites	Table5	CO_2	2023	NE	Reporting of "NE" detected
I.2.64.	5.F.1. Long-term storage of carbon in waste disposal sites	Table5	Total GHG emissions	2023	NE	Reporting of "NE" detected
I.2.65.	5.F.2. Annual change in total long-term carbon storage	Table5	CO_2	2023	NE	Reporting of "NE" detected
I.2.66.	5.F.2. Annual change in total long-term carbon storage	Table5	Total GHG emissions	2023	NE	Reporting of "NE" detected
I.2.67.	5.F.3. Annual change in total long-term carbon storage in HWP waste	Table5	CO_2	2023	NE	Reporting of "NE" detected

ID#	Sector, category or gas	CRT	Gas	Inventory year	Notation key	Finding type
I.2.68.	5.F.3. Annual change in total long-term carbon storage in HWP waste	Table5	Total GHG emissions	2023	NE	Reporting of "NE" detected
I.2.69.	Unspecified mix of HFCs and PFCs	Table10s6	–	2005	NA, NO	Gas or sector not reported
I.2.70.	Unspecified mix of HFCs and PFCs	Table10s6	–	2023	NA, NO	Gas or sector not reported
I.2.71.	6. Other	Table10s6	–	2005	NA	Gas or sector not reported
I.2.72.	6. Other	Table10s6	–	2023	NA	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.	1.B.1.b. Fuel transformation	Table1	CH_4	2005	IE, NE	NA
I.3.2.	1.B.1.b. Fuel transformation	Table1	Total GHG emissions	2005	IE, NE	IE, NA, NE
I.3.3.	1.B.1.b. Fuel transformation	Table1	CH_4	2022	IE, NE	NA
I.3.4.	1.B.1.b. Fuel transformation	Table1	Total GHG emissions	2022	IE, NE	IE, NA, NE
I.3.5.	2.D.3. Other	Table2(I)	CH_4	2005	IE, NE, NO	NE, NO
I.3.6.	2.D.3. Other	Table2(I)	N_2O	2005	IE, NE, NO	NE, NO
I.3.7.	2.G.1. Electrical equipment	Table2(I)	NF_3	2005	–	NA
I.3.8.	2.D.3. Other	Table2(I)	CH_4	2022	IE, NA, NE	NA, NE
I.3.9.	2.D.3. Other	Table2(I)	N_2O	2022	IE, NA, NE	NA, NE
I.3.10.	2.G.1. Electrical equipment	Table2(I)	NF_3	2022	–	NA
I.3.11.	2.G.1. Electrical equipment	Table2(II)	HFC-23	2005	–	NA
I.3.12.	2.G.1. Electrical equipment	Table2(II)	NF_3	2005	–	NA
I.3.13.	2.G.1. Electrical equipment	Table2(II)	HFC-23	2022	–	NA
I.3.14.	2.G.1. Electrical equipment	Table2(II)	NF_3	2022	–	NA
I.3.15.	4.E.1. Settlements remaining settlements	Table4	N_2O	2005	IE, NE, NO	IE, NO
I.3.16.	5.C.2. Open burning of waste	Table5	CO_2	2005	NA, NE	NE
I.3.17.	5.C.2. Open burning of waste	Table5	CH_4	2005	NA, NE	NE
I.3.18.	5.C.2. Open burning of waste	Table5	N_2O	2005	NA, NE	NE
I.3.19.	5.C.2. Open burning of waste	Table5	Total GHG emissions	2005	NA, NE	NE
I.3.20.	5.C.2. Open burning of waste	Table5	CO_2	2022	NA, NE	NE
I.3.21.	5.C.2. Open burning of waste	Table5	CH_4	2022	NA, NE	NE
I.3.22.	5.C.2. Open burning of waste	Table5	N_2O	2022	NA, NE	NE
I.3.23.	5.C.2. Open burning of waste	Table5	Total GHG emissions	2022	NA, NE	NE

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)	Energy consumption	–10.8
I.4.2.	Table1.A(c)	Solid fuels (excluding international bunkers)	Energy consumption	6.6

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.c. Manufacture of solid fuels and other energy industries	Table1	CH_4	1998	1999	73.67	106.90	33.23	kt	930.42	45.1	4.4
I.5.2.	1.A.2.a. Iron and steel	Table1	CO_2	2008	2009	5 245.51	3 881.24	–1 364.27	kt	–1 364.27	–26.0	–3.0
I.5.3.	1.A.3.a. Domestic aviation	Table1	CO_2	2019	2020	8 266.84	4 520.86	–3 745.98	kt	–3 745.98	–45.3	–4.3
I.5.4.	1.A.3.b. Road transportation	Table1	CO_2	2019	2020	130 825.59	110 251.23	–20 574.36	kt	–20 574.36	–15.7	–4.9
I.5.5.	1.A.3.c. Railways	Table1	CO_2	2008	2009	5 857.21	5 007.88	–849.33	kt	–849.33	–14.5	–3.4
I.5.6.	1.A.3.d. Domestic navigation	Table1	CO_2	2019	2020	3 313.36	2 939.23	–374.13	kt	–374.13	–11.3	–3.5
I.5.7.	1.A.3.d. Domestic navigation	Table1	CO_2	2021	2022	2 859.48	3 271.41	411.93	kt	411.93	14.4	3.2
I.5.8.	1.A.4.b. Residential	Table1	CH_4	1997	1998	66.55	53.95	–12.60	kt	–352.79	–18.9	–3.2
I.5.9.	1.B.1.a. Coal mining and handling	Table1	CH_4	1991	1992	115.11	92.25	–22.86	kt	–640.15	–19.9	–3.1
I.5.10.	1.D.1.a. Aviation	Table1	CO_2	2019	2020	15 051.70	6 531.39	–8 520.30	kt	–8 520.30	–56.6	–4.7
I.5.11.	2.A.1. Cement production	Table2(I)	CO_2	2008	2009	6 988.37	5 364.04	–1 624.33	kt	–1 624.33	–23.2	–3.1
I.5.12.	2.A.2. Lime production	Table2(I)	CO_2	2008	2009	1 624.46	1 272.41	–352.05	kt	–352.05	–21.7	–3.1
I.5.13.	2.C.1. Iron and steel production	Table2(I)	CO_2	2008	2009	11 255.60	8 491.30	–2 764.30	kt	–2 764.30	–24.6	–3.0
I.5.14.	2.F.4. Aerosols	Table2(I)	HFCs	2013	2014	776.26	1 182.01	405.74	kt CO_2 eq	405.74	52.3	3.2
I.5.15.	2.F.1. Refrigeration and air conditioning	Table2(II)	HFC-125	2009	2010	389.15	343.99	–45.16	t	–143.14	–11.6	–3.1
I.5.16.	2.F.1. Refrigeration and air conditioning	Table2(II)	HFC-125	2017	2018	635.71	749.75	114.05	t	361.53	17.9	3.5
I.5.17.	2.F.4. Aerosols	Table2(II)	HFC-134a	2013	2014	539.88	826.16	286.28	t	372.17	53.0	3.2
I.5.18.	3.D.1.e. Mineralization/immobilization associated with loss/gain of soil organic matter	Table3	N_2O	2021	2022	1.59	5.43	3.84	kt	1 017.80	242.0	3.2
I.5.19.	4.A.1. Forest land remaining forest land	Table4	CH_4	1990	1991	12.12	43.82	31.70	kt	887.73	261.7	5.1
I.5.20.	4.A.1. Forest land remaining forest land	Table4	N_2O	1990	1991	0.47	1.81	1.34	kt	354.02	282.9	5.1
I.5.21.	4.B.2. Land converted to cropland	Table4	Net CO_2 emissions/removals	1992	1993	10 817.42	8 952.62	–1 864.80	kt CO_2 eq	–1 864.80	–17.2	–3.7
I.5.22.	4.D.1. Wetlands remaining wetlands	Table4	Net CO_2 emissions/removals	1990	1991	1 151.09	1 609.50	458.41	kt CO_2 eq	458.41	39.8	4.2

ID#	Category	CRT	Gas	Year 1	Year 2	Value 1	Value 2	Difference	Unit	Difference (CO_2 eq)	Difference (%)	Z-score
I.5.23.	4.D.2. Land converted to wetlands	Table4	Net CO_2 emissions/removals	1993	1994	3 032.16	780.61	–2 251.56	kt CO_2 eq	–2 251.56	–74.3	–5.0

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.	1.A.1. Energy industries – liquid fuels	Table1.A(a)s1	CO_2	t/TJ	58.827	Below range
I.6.2.	1.A.1. Energy industries – gaseous fuels	Table1.A(a)s1	CO_2	t/TJ	50.754	Below range
I.6.3.	1.A.1. Energy industries – gaseous fuels	Table1.A(a)s1	CH_4	kg/TJ	48.954	Above range
I.6.4.	1.A.2 Manufacturing industries and construction – gaseous fuels	Table1.A(a)s2	CO_2	t/TJ	50.477	Below range
I.6.5.	1.A.3.a. Domestic aviation – aviation gasoline	Table1.A(a)s3	CO_2	t/TJ	69.374	Below range
I.6.6.	1.A.3.a. Domestic aviation – jet kerosene	Table1.A(a)s3	CO_2	t/TJ	68.441	Below range
I.6.7.	1.A.3.b. Road transportation – gasoline	Table1.A(a)s3	CO_2	t/TJ	68.978	Below range
I.6.8.	1.A.3.b. Road transportation – diesel oil	Table1.A(a)s3	CO_2	t/TJ	69.896	Below range
I.6.9.	1.A.3.b. Road transportation – liquefied petroleum gases	Table1.A(a)s3	CO_2	t/TJ	59.858	Below range
I.6.10.	1.A.3.b. Road transportation – gaseous fuels	Table1.A(a)s3	CO_2	t/TJ	48.371	Below range
I.6.11.	1.A.3.b. Road transportation – biomass	Table1.A(a)s3	CO_2	t/TJ	66.009	Below range
I.6.12.	1.A.3.c. Railways – liquid fuels	Table1.A(a)s3	CO_2	t/TJ	69.896	Below range
I.6.13.	1.A.3.d. Domestic navigation – residual fuel oil	Table1.A(a)s3	CO_2	t/TJ	74.259	Below range
I.6.14.	1.A.3.d. Domestic navigation – gas/diesel oil	Table1.A(a)s3	CO_2	t/TJ	69.896	Below range
I.6.15.	1.A.3.e. Other transportation – liquid fuels	Table1.A(a)s3	CO_2	t/TJ	69.087	Below range
I.6.16.	1.A.3.e. Other transportation – gaseous fuels	Table1.A(a)s3	CO_2	t/TJ	50.461	Below range
I.6.17.	1.A.4 Other sectors – liquid fuels	Table1.A(a)s4	CO_2	t/TJ	68.393	Below range
I.6.18.	1.A.4 Other sectors – gaseous fuels	Table1.A(a)s4	CO_2	t/TJ	50.327	Below range
I.6.19.	2.F.1.a. Commercial refrigeration – C_3F_8	Table2(II).B-Hs2	Product life factor	%	16.000	Above range
I.6.20.	3.B.1.b. Non-dairy cattle	Table3.B(b)	N_2O	kg N_2O/head/year	0.708	Above range
I.6.21.	3.B.4.a. Buffalo	Table3.B(b)	N_2O	kg N_2O/head/year	0.990	Above range
I.6.22.	3.B.4.g. Poultry	Table3.B(b)	N_2O	kg N_2O/head/year	0.013	Above range
I.6.23.	3.B.4.h.i. Rabbit	Table3.B(b)	N_2O	kg N_2O/head/year	0.149	Above range
I.6.24.	3.D.1.a. Inorganic N fertilizers	Table3.D	N_2O	kg N_2O-N/kg N	0.000	Below range
I.6.25.	3.D.1.b. Organic N fertilizers	Table3.D	N_2O	kg N_2O-N/kg N	0.000	Below range
I.6.26.	3.D.1.b. Organic N fertilizers – 3.D.1.b.i. Animal manure applied to soils	Table3.D	N_2O	kg N_2O-N/kg N	0.000	Below range

ID#	*Category*	*CRT*	*Gas*	*Unit*	*IEF reported*	*Comparison*
I.6.27.	3.D.1.b. Organic N fertilizers – 3.D.1.b.ii. Sewage sludge applied to soils	Table3.D	N_2O	kg N_2O-N/kg N	0.000	Below range
I.6.28.	3.D.2.a. Atmospheric deposition	Table3.D	N_2O	kg N_2O-N/kg N	0.000	Below range
I.6.29.	3.D.2.b. N leaching and run-off	Table3.D	N_2O	kg N_2O-N/kg N	0.000	Below range

Table I.7
Identification of new key categories

ID#	*New key category*	*Gas*	*Criteria*	*Inventory year*
I.7.1.	3.B. Manure management	CH_4	Trend	2023
I.7.2.	3.B. Manure management	N_2O	Level	2023
I.7.3.	3.D.2. Indirect N_2O emissions from managed soils	N_2O	Level	2023
I.7.4.	4.B.2. Land converted to cropland	CO_2	Level	2023