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

Summary

This report presents the results of the simplified review of the 2025 national inventory report of Estonia, 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
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 Estonia 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 20 May 2025 a draft version of this report was transmitted to the Government of Estonia, which provided comments on individual findings on 22 June 2025 that were addressed by the secretariat and incorporated, as appropriate, in this final version of the report.[3] Estonia did not provide any general comments on the report.

3. The secretariat conducted the simplified review of Estonia'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 Estonia'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, 30 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 (**5.43 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	No findings for this area
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 Estonia'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	7 027.80	6 818.69	209.11	kt	3.1	209.11
I.1.2.	2.A.2. Lime production	Table2(I)	CO_2	1990	118.84	129.69	–10.85	kt	–8.4	–10.85
I.1.3.	3.D.1.f. Cultivation of organic soils (i.e. histosols)	Table3	N_2O	1990	0.56	0.53	0.03	kt	5.7	8.03
I.1.4.	3.B.1.a. Other	Table3	CH_4	2022	4.28	4.55	–0.27	kt	–5.9	–7.57
I.1.5.	3.D.1.c. Urine and dung deposited by grazing animals	Table3	N_2O	2022	0.07	0.04	0.03	kt	85.9	8.53
I.1.6.	3.D.1.f. Cultivation of organic soils (i.e. histosols)	Table3	N_2O	2022	0.54	0.51	0.03	kt	5.2	7.08
I.1.7.	4.A.1. Forest land remaining forest land	Table4	Net CO_2 emissions/removals	1990	–5 927.02	–6 134.51	207.49	kt CO_2 eq	3.4	207.49
I.1.8.	4.B.1. Cropland remaining cropland	Table4	Net CO_2 emissions/removals	1990	646.36	603.38	42.97	kt CO_2 eq	7.1	42.97
I.1.9.	4.D.1. Wetlands remaining wetlands	Table4	Net CO_2 emissions/removals	1990	274.05	266.57	7.48	kt CO_2 eq	2.8	7.48
I.1.10.	4.A.1. Forest land remaining forest land	Table4	Net CO_2 emissions/removals	2022	–1 665.90	–1 429.09	–236.81	kt CO_2 eq	–16.6	–236.81
I.1.11.	4.B.2. Land converted to cropland	Table4	Net CO_2 emissions/removals	2022	138.59	131.50	7.09	kt CO_2 eq	5.4	7.09
I.1.12.	4.C.2. Land converted to grassland	Table4	Net CO_2 emissions/removals	2022	–86.03	–72.53	–13.50	kt CO_2 eq	–18.6	–13.50
I.1.13.	4.D.2. Land converted to wetlands	Table4	Net CO_2 emissions/removals	2022	17.76	8.38	9.39	kt CO_2 eq	112.0	9.39
I.1.14.	4.E.2. Land converted to settlements	Table4	Net CO_2 emissions/removals	2022	392.43	308.85	83.58	kt CO_2 eq	27.1	83.58
I.1.15.	4.F.2. Land converted to other land	Table4	Net CO_2 emissions/removals	2022	37.16	29.25	7.92	kt CO_2 eq	27.1	7.92

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.1.16.	4.G. Harvested wood products	Table4	Net CO_2 emissions/removals	2022	–662.89	–641.58	–21.31	kt CO_2 eq	–3.3	–21.31

Table I.2
Findings on completeness

ID#	Sector, category or gas	CRT	Gas	Inventory year	Notation key	Finding type
I.2.1.	1.B.2.a. Oil	Table1	CO_2	1990	NE, NO	Reporting of "NE" detected
I.2.2.	1.B.2.a. Oil	Table1	CH_4	1990	NE, NO	Reporting of "NE" detected
I.2.3.	1.B.2.a. Oil	Table1	Total GHG emissions	1990	NE, NO	Reporting of "NE" detected
I.2.4.	1.B.2.a. Oil	Table1	CO_2	2023	NE, NO	Reporting of "NE" detected
I.2.5.	1.B.2.a. Oil	Table1	CH_4	2023	NE, NO	Reporting of "NE" detected
I.2.6.	1.B.2.a. Oil	Table1	Total GHG emissions	2023	NE, NO	Reporting of "NE" detected
I.2.7.	4.A.2. Land converted to forest land	Table4	CH_4	1990	IE, NE, NO	Reporting of "NE" detected
I.2.8.	4.B.1. Cropland remaining cropland	Table4	CH_4	1990	NE, NO	Reporting of "NE" detected
I.2.9.	4.B.1. Cropland remaining cropland	Table4	N_2O	1990	NE, NO	Reporting of "NE" detected
I.2.10.	4.B.2. Land converted to cropland	Table4	Net CO_2 emissions/removals	1990	NE, NO	Reporting of "NE" detected
I.2.11.	4.B.2. Land converted to cropland	Table4	CH_4	1990	NE, NO	Reporting of "NE" detected
I.2.12.	4.B.2. Land converted to cropland	Table4	N_2O	1990	NE, NO	Reporting of "NE" detected
I.2.13.	4.B.2. Land converted to cropland	Table4	Total GHG emissions/removals	1990	NE, NO	Reporting of "NE" detected
I.2.14.	4.C.2. Land converted to grassland	Table4	CH_4	1990	IE, NE, NO	Reporting of "NE" detected
I.2.15.	4.C.2. Land converted to grassland	Table4	N_2O	1990	IE, NE, NO	Reporting of "NE" detected
I.2.16.	4.D.2. Land converted to wetlands	Table4	CH_4	1990	IE, NE, NO	Reporting of "NE" detected
I.2.17.	4.D.2. Land converted to wetlands	Table4	N_2O	1990	IE, NE, NO	Reporting of "NE" detected
I.2.18.	4.E.1. Settlements remaining settlements	Table4	Net CO_2 emissions/removals	1990	NA, NE, NO	Reporting of "NE" detected
I.2.19.	4.E.1. Settlements remaining settlements	Table4	CH_4	1990	NE, NO	Reporting of "NE" detected
I.2.20.	4.E.1. Settlements remaining settlements	Table4	N_2O	1990	NE, NO	Reporting of "NE" detected
I.2.21.	4.E.1. Settlements remaining settlements	Table4	Total GHG emissions/removals	1990	NA, NE, NO	Reporting of "NE" detected
I.2.22.	4.E.2. Land converted to settlements	Table4	Net CO_2 emissions/removals	1990	NE, NO	Reporting of "NE" detected

ID#	Sector, category or gas	CRT	Gas	Inventory year	Notation key	Finding type
I.2.23.	4.E.2. Land converted to settlements	Table4	CH_4	1990	NE, NO	Reporting of "NE" detected
I.2.24.	4.E.2. Land converted to settlements	Table4	N_2O	1990	NE, NO	Reporting of "NE" detected
I.2.25.	4.E.2. Land converted to settlements	Table4	Total GHG emissions/removals	1990	NE, NO	Reporting of "NE" detected
I.2.26.	4.A.2. Land converted to forest land	Table4	CH_4	2023	IE, NE, NO	Reporting of "NE" detected
I.2.27.	4.B.1. Cropland remaining cropland	Table4	CH_4	2023	NE, NO	Reporting of "NE" detected
I.2.28.	4.B.1. Cropland remaining cropland	Table4	N_2O	2023	NE, NO	Reporting of "NE" detected
I.2.29.	4.B.2. Land converted to cropland	Table4	CH_4	2023	NE, NO	Reporting of "NE" detected
I.2.30.	4.C.2. Land converted to grassland	Table4	CH_4	2023	IE, NE, NO	Reporting of "NE" detected
I.2.31.	4.C.2. Land converted to grassland	Table4	N_2O	2023	IE, NE, NO	Reporting of "NE" detected
I.2.32.	4.E.1. Settlements remaining settlements	Table4	Net CO_2 emissions/removals	2023	NA, NE, NO	Reporting of "NE" detected
I.2.33.	4.E.1. Settlements remaining settlements	Table4	CH_4	2023	NE, NO	Reporting of "NE" detected
I.2.34.	4.E.1. Settlements remaining settlements	Table4	N_2O	2023	NE, NO	Reporting of "NE" detected
I.2.35.	4.E.1. Settlements remaining settlements	Table4	Total GHG emissions/removals	2023	NA, NE, NO	Reporting of "NE" detected
I.2.36.	4.E.2. Land converted to settlements	Table4	CH_4	2023	NE, NO	Reporting of "NE" detected
I.2.37.	4.F.2. Land converted to other land	Table4	CH_4	2023	NE, NO	Reporting of "NE" detected
I.2.38.	5.B.2. Anaerobic digestion at biogas facilities	Table5	CH_4	2023	NE, NO	Reporting of "NE" detected
I.2.39.	5.B.2. Anaerobic digestion at biogas facilities	Table5	N_2O	2023	NE, NO	Reporting of "NE" detected
I.2.40.	5.B.2. Anaerobic digestion at biogas facilities	Table5	Total GHG emissions	2023	NE, NO	Reporting of "NE" detected
I.2.41.	5.C.2. Open burning of waste	Table5	CO_2	2023	NE, NO	Reporting of "NE" detected
I.2.42.	5.C.2. Open burning of waste	Table5	CH_4	2023	NE, NO	Reporting of "NE" detected
I.2.43.	5.C.2. Open burning of waste	Table5	N_2O	2023	NE, NO	Reporting of "NE" detected
I.2.44.	5.C.2. Open burning of waste	Table5	Total GHG emissions	2023	NE, NO	Reporting of "NE" detected
I.2.45.	HFCs	Table10s6	–	1990	NA, NO	Gas or sector not reported
I.2.46.	PFCs	Table10s6	–	1990	NA, NO	Gas or sector not reported
I.2.47.	PFCs	Table10s6	–	2023	NA, NO	Gas or sector not reported
I.2.48.	Unspecified mix of HFCs and PFCs	Table10s6	–	1990	NA, NO	Gas or sector not reported
I.2.49.	Unspecified mix of HFCs and PFCs	Table10s6	–	2023	NA, NO	Gas or sector not reported
I.2.50.	SF_6	Table10s6	–	1990	NA, NO	Gas or sector not reported
I.2.51.	NF_3	Table10s6	–	1990	NA, NO	Gas or sector not reported
I.2.52.	NF_3	Table10s6	–	2023	NA, NO	Gas or sector not reported
I.2.53.	6. Other	Table10s6	–	1990	NA	Gas or sector not reported
I.2.54.	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)*
No findings for this area						

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)	Solid fuels (excluding international bunkers)	Energy consumption	–20.1
I.4.2.	Table1.A(c)	Solid fuels (excluding international bunkers)	CO_2 emissions	75.5

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.2.e. Food processing, beverages and tobacco	Table1	CO_2	1991	1992	639.87	358.36	–281.51	kt	–281.51	–44.0	–3.8
I.5.2.	1.A.2.g. Other	Table1	CO_2	1991	1992	1 215.16	463.64	–751.52	kt	–751.52	–61.8	–5.2
I.5.3.	1.A.3.b. Road transportation	Table1	CO_2	1991	1992	2 018.69	1 013.11	–1 005.58	kt	–1 005.58	–49.8	–4.7
I.5.4.	1.A.3.b. Road transportation	Table1	CH_4	1991	1992	0.82	0.36	–0.45	kt	–12.67	–55.5	–5.0
I.5.5.	1.A.3.b. Road transportation	Table1	N_2O	1991	1992	0.07	0.03	–0.04	kt	–9.37	–52.2	–4.5
I.5.6.	1.A.3.e. Other transportation	Table1	CO_2	2020	2021	200.33	158.72	–41.61	kt	–41.61	–20.8	–3.1
I.5.7.	1.A.4.a. Commercial/institutional	Table1	CH_4	1994	1995	0.24	0.01	–0.23	kt	–6.44	–94.3	–4.8
I.5.8.	1.A.4.b. Residential	Table1	CO_2	1991	1992	1 002.66	525.01	–477.66	kt	–477.66	–47.6	–5.1
I.5.9.	1.A.4.b. Residential	Table1	CH_4	1991	1992	2.29	1.33	–0.96	kt	–26.78	–41.8	–4.0
I.5.10.	1.B.2.b. Natural gas	Table1	CH_4	1991	1992	2.23	1.30	–0.93	kt	–25.95	–41.5	–3.7
I.5.11.	1.D.1.a. Aviation	Table1	CO_2	2019	2020	210.33	72.11	–138.22	kt	–138.22	–65.7	–3.4
I.5.12.	1.D.1.b. Navigation	Table1	CO_2	2011	2012	588.43	1 259.46	671.03	kt	671.03	114.0	3.5
I.5.13.	2.A.1. Cement production	Table2(I)	CO_2	2008	2009	602.72	257.00	–345.72	kt	–345.72	–57.4	–3.0
I.5.14.	2.A.2. Lime production	Table2(I)	CO_2	1991	1992	132.97	59.10	–73.87	kt	–73.87	–55.6	–4.1
I.5.15.	2.A.4. Other process uses of carbonates	Table2(I)	CO_2	2011	2012	2.07	203.14	201.07	kt	201.07	9 701.7	3.5
I.5.16.	2.A.4. Other process uses of carbonates	Table2(I)	CO_2	2013	2014	236.52	0.57	–235.95	kt	–235.95	–99.8	–4.1
I.5.17.	2.F.1. Refrigeration and air conditioning	Table2(I)	HFCs	2019	2020	209.92	172.19	–37.72	kt CO_2 eq	–37.72	–18.0	–4.3
I.5.18.	2.F.2. Foam blowing agents	Table2(I)	HFCs	2007	2008	32.79	3.66	–29.12	kt CO_2 eq	–29.12	–88.8	–4.6

ID#	Category	CRT	Gas	Year 1	Year 2	Value 1	Value 2	Difference	Unit	Difference (CO_2 eq)	Difference (%)	Z-score
I.5.19.	2.F.1. Refrigeration and air conditioning	Table2(II)	HFC-125	2019	2020	22.97	19.05	–3.92	t	–12.44	–17.1	–4.4
I.5.20.	2.F.1. Refrigeration and air conditioning	Table2(II)	HFC-134a	2006	2007	24.58	34.92	10.34	t	13.44	42.1	3.9
I.5.21.	2.F.1. Refrigeration and air conditioning	Table2(II)	HFC-143a	2019	2020	17.09	12.66	–4.44	t	–21.30	–26.0	–4.4
I.5.22.	2.F.2. Foam blowing agents	Table2(II)	HFC-134a	2007	2008	23.22	0.14	–23.09	t	–30.01	–99.4	–4.5
I.5.23.	3.A.1.a. Other	Table3	CH_4	1992	1993	40.05	32.04	–8.01	kt	–224.41	–20.0	–3.7
I.5.24.	3.A.2. Sheep	Table3	CH_4	1992	1993	1.13	0.76	–0.38	kt	–10.52	–33.2	–3.8
I.5.25.	3.A.3. Swine	Table3	CH_4	1991	1992	0.82	0.56	–0.27	kt	–7.44	–32.3	–4.1
I.5.26.	3.B.1.a. Other	Table3	N_2O	1992	1993	0.17	0.14	–0.03	kt	–8.31	–18.3	–3.1
I.5.27.	3.B.3. Swine	Table3	CH_4	1991	1992	3.78	2.52	–1.26	kt	–35.18	–33.3	–4.1
I.5.28.	3.D.1.a. Inorganic N fertilizers	Table3	N_2O	1992	1993	0.92	0.47	–0.45	kt	–118.31	–48.7	–4.1
I.5.29.	3.D.1.c. Urine and dung deposited by grazing animals	Table3	N_2O	1992	1993	0.22	0.17	–0.05	kt	–12.33	–21.4	–3.6
I.5.30.	3.D.2. Indirect N_2O emissions from managed soils	Table3	N_2O	1992	1993	0.61	0.43	–0.18	kt	–48.16	–29.6	–3.5
I.5.31.	3.G. Liming	Table3	CO_2	1997	1998	5.76	24.95	19.19	kt	19.19	333.3	3.3
I.5.32.	4.A.1. Forest land remaining forest land	Table4	CH_4	2005	2006	2.73	2.99	0.25	kt	7.11	9.3	3.2
I.5.33.	4.A.1. Forest land remaining forest land	Table4	CH_4	2006	2007	2.99	2.74	–0.25	kt	–6.99	–8.4	–3.2
I.5.34.	5.D.1. Domestic wastewater	Table5	CH_4	1997	1998	3.94	3.41	–0.53	kt	–14.87	–13.5	–3.3
I.5.35.	5.D.1. Domestic wastewater	Table5	CH_4	2007	2008	2.80	2.25	–0.56	kt	–15.59	–19.9	–3.5
I.5.36.	5.F.1. Long-term storage of carbon in waste disposal sites	Table5	CO_2	2018	2019	3 624.52	2 059.24	–1 565.27	kt	–1 565.27	–43.2	–3.6

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.3.b. Road transportation – biomass	Table1.A(a)s3	CO_2	t/TJ	63.565	Below range
I.6.2.	2.F.1.e. Mobile air conditioning – HFC-32	Table2(II).B-Hs2	Product life factor	%	30.000	Above range
I.6.3.	2.F.1.e. Mobile air conditioning – HFC-125	Table2(II).B-Hs2	Product life factor	%	30.000	Above range
I.6.4.	2.F.1.e. Mobile air conditioning – HFC-143a	Table2(II).B-Hs2	Product life factor	%	30.000	Above range
I.6.5.	3.A.1.a.i. Mature dairy cattle	Table3.A	CH_4	kg CH_4/head/year	162.868	Above range
I.6.6.	3.D.1.b. Organic N fertilizers	Table3.D	N_2O	kg N_2O-N/kg N	0.000	Below range
I.6.7.	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

Table I.7
Identification of new key categories

ID#	*New key category*	*Gas*	*Criteria*	*Inventory year*
I.7.1.	1.A.2. Fuel combustion – manufacturing industries and construction – liquid fuels	CO_2	Level	2023
I.7.2.	1.A.4. Other sectors – solid fuels	CO_2	Trend	2023
I.7.3.	4.C.1. Grassland remaining grassland	CO_2	Level	2023