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

Summary

This report presents the results of the simplified review of the 2025 national inventory report of Croatia, 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
DC	degradable organic component
GHG	greenhouse gas
HFC	hydrofluorocarbon
HWP	harvested wood products
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

I. Introduction

1. This report covers the simplified review of the NIR of Croatia 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 16 May 2025 a draft version of this report was transmitted to the Government of Croatia,[3] which did not provide any comments on individual findings or any general comments on the report.

3. The secretariat conducted the simplified review of Croatia'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 Croatia'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, 14 April 2025	
	2024 submission: CRTs, 17 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 (**12.71 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)	No findings for this area
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 threshold are evaluated using the z-score method,[b] where outliers	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*
	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 Croatia'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.	3.G. Liming	Table3	CO_2	2022	5.87	18.70	–12.83	kt	–68.6	–12.83
I.1.2.	5.F.2. Annual change in total carbon storage	Table5	CO_2	2022	300.73	341.70	–40.97	kt	–12.0	–40.97

Table I.2
Findings on completeness

ID#	*Sector, category or gas*	*CRT*	*Gas*	*Inventory year*	*Notation key*	*Finding type*
I.2.1.	2.B.1. Ammonia production	Table2(I)	CH_4	1990	NE	Reporting of "NE" detected
I.2.2.	2.B.1. Ammonia production	Table2(I)	CH_4	2023	NE	Reporting of "NE" detected
I.2.3.	5.F.3. Annual change in total carbon storage in HWP waste	Table5	CO_2	1990	NE	Reporting of "NE" detected
I.2.4.	5.F.3. Annual change in total carbon storage in HWP waste	Table5	Total GHG emissions	1990	NE	Reporting of "NE" detected
I.2.5.	5.B.2. Anaerobic digestion at biogas facilities	Table5	N_2O	2023	NA, NE	Reporting of "NE" detected
I.2.6.	5.F.3. Annual change in total carbon storage in HWP waste	Table5	CO_2	2023	NE	Reporting of "NE" detected
I.2.7.	5.F.3. Annual change in total carbon storage in HWP waste	Table5	Total GHG emissions	2023	NE	Reporting of "NE" detected
I.2.8.	HFCs	Table10s6	–	1990	NO	Gas or sector not reported
I.2.9.	PFCs	Table10s6	–	2023	NO	Gas or sector not reported
I.2.10.	Unspecified mix of HFCs and PFCs	Table10s6	–	1990	NO	Gas or sector not reported
I.2.11.	Unspecified mix of HFCs and PFCs	Table10s6	–	2023	NO	Gas or sector not reported
I.2.12.	NF_3	Table10s6	–	1990	NO	Gas or sector not reported
I.2.13.	NF_3	Table10s6	–	2023	NO	Gas or sector not reported
I.2.14.	6. Other	Table10s6	–	1990	NO	Gas or sector not reported

ID#	Sector, category or gas	CRT	Gas	Inventory year	Notation key	Finding type
I.2.15.	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)
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 (%)
No findings for this area				

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.b. Petroleum refining	Table1	CO_2	1990	1991	2 424.74	1 623.70	–801.04	kt	–801.04	–33.0	–3.0
I.5.2.	1.A.1.c. Manufacture of solid fuels and other energy industries	Table1	CO_2	1990	1991	912.16	603.84	–308.32	kt	–308.32	–33.8	–3.5
I.5.3.	1.A.2.a. Iron and steel	Table1	CO_2	1990	1991	1 062.49	638.04	–424.45	kt	–424.45	–39.9	–4.5
I.5.4.	1.A.2.d. Pulp, paper and print	Table1	CO_2	1990	1991	303.30	200.56	–102.73	kt	–102.73	–33.9	–3.6
I.5.5.	1.A.2.f. Non-metallic minerals	Table1	CO_2	1990	1991	1 923.92	1 406.72	–517.19	kt	–517.19	–26.9	–3.5
I.5.6.	1.A.3.a. Domestic aviation	Table1	CO_2	2019	2020	32.05	16.65	–15.40	kt	–15.40	–48.1	–3.7
I.5.7.	1.A.3.b. Road transportation	Table1	CO_2	1990	1991	3 505.88	2 603.09	–902.79	kt	–902.79	–25.8	–3.0
I.5.8.	1.A.3.c. Railways	Table1	CO_2	1991	1992	149.28	98.36	–50.93	kt	–50.93	–34.1	–4.7
I.5.9.	1.A.4.a. Commercial/institutional	Table1	CO_2	1990	1991	854.65	576.89	–277.76	kt	–277.76	–32.5	–3.3
I.5.10.	1.B.2.a. Oil	Table1	CO_2	1990	1991	157.79	113.00	–44.79	kt	–44.79	–28.4	–5.2
I.5.11.	1.B.2.a. Oil	Table1	CH_4	1991	1992	6.32	10.86	4.55	kt	127.30	72.0	3.7
I.5.12.	1.B.2.a. Oil	Table1	CH_4	1992	1993	10.86	5.63	–5.23	kt	–146.47	–48.1	–3.9
I.5.13.	1.D.1.a. Aviation	Table1	CO_2	1990	1991	496.62	94.29	–402.32	kt	–402.32	–81.0	–3.2

ID#	Category	CRT	Gas	Year 1	Year 2	Value 1	Value 2	Difference	Unit	Difference (CO_2 eq)	Difference (%)	Z-score
I.5.14.	1.D.1.a. Aviation	Table1	CO_2	2019	2020	605.86	163.82	–442.04	kt	–442.04	–73.0	–3.6
I.5.15.	2.A.2. Lime production	Table2(I)	CO_2	2008	2009	232.64	152.00	–80.64	kt	–80.64	–34.7	–3.4
I.5.16.	2.A.3. Glass production	Table2(I)	CO_2	1991	1992	38.50	21.06	–17.44	kt	–17.44	–45.3	–4.0
I.5.17.	2.A.4. Other process uses of carbonates	Table2(I)	CO_2	2004	2005	19.77	37.03	17.26	kt	17.26	87.3	3.3
I.5.18.	2.B.2. Nitric acid production	Table2(I)	N_2O	2012	2013	2.19	0.81	–1.38	kt	–366.46	–63.2	–3.3
I.5.19.	2.D.3. Other	Table2(I)	CO_2	1990	1991	150.65	95.84	–54.82	kt	–54.82	–36.4	–3.2
I.5.20.	3.A.1.a. Other	Table3	CH_4	1991	1992	68.91	54.95	–13.96	kt	–390.87	–20.3	–4.8
I.5.21.	3.A.2. Sheep	Table3	CH_4	1991	1992	6.02	4.31	–1.71	kt	–47.94	–28.4	–3.5
I.5.22.	3.A.3. Swine	Table3	CH_4	1991	1992	2.43	1.77	–0.66	kt	–18.44	–27.1	–3.0
I.5.23.	3.B.1.a. Other	Table3	CH_4	1991	1992	8.95	7.58	–1.37	kt	–38.41	–15.3	–3.2
I.5.24.	3.B.1.a. Other	Table3	N_2O	1991	1992	0.28	0.22	–0.06	kt	–15.91	–21.4	–4.8
I.5.25.	3.B.5. Indirect N_2O emissions	Table3	N_2O	1991	1992	0.54	0.42	–0.12	kt	–31.20	–21.8	–4.5
I.5.26.	3.D.1.a. Inorganic N fertilizers	Table3	N_2O	2008	2009	2.67	1.43	–1.25	kt	–330.47	–46.6	–3.7
I.5.27.	3.D.1.b. Organic N fertilizers	Table3	N_2O	1991	1992	0.77	0.61	–0.15	kt	–40.88	–20.1	–4.7
I.5.28.	3.D.1.c. Urine and dung deposited by grazing animals	Table3	N_2O	1991	1992	0.42	0.32	–0.10	kt	–26.90	–24.2	–4.3
I.5.29.	3.D.1.d. Crop residues	Table3	N_2O	1991	1992	0.64	0.38	–0.26	kt	–69.26	–40.9	–3.1
I.5.30.	3.D.2. Indirect N_2O Emissions from managed soils	Table3	N_2O	2008	2009	1.29	0.87	–0.42	kt	–110.73	–32.4	–3.7
I.5.31.	4.A.2. Land converted to forest land	Table4	Net CO_2 emissions/removals	2015	2016	–137.43	–224.27	–86.84	kt CO_2 eq	–86.84	63.2	–3.0
I.5.32.	4.B.1. Cropland remaining cropland	Table4	Net CO_2 emissions/removals	2006	2007	91.52	283.83	192.31	kt CO_2 eq	192.31	210.1	3.9
I.5.33.	4.B.1. Cropland remaining cropland	Table4	Net CO_2 emissions/removals	2012	2013	328.89	136.24	–192.65	kt CO_2 eq	–192.65	–58.6	–4.0
I.5.34.	4.B.2. Land converted to cropland	Table4	Net CO_2 emissions/removals	2008	2009	96.74	128.06	31.32	kt CO_2 eq	31.32	32.4	3.2
I.5.35.	4.E.2. Land converted to settlements	Table4	Net CO_2 emissions/removals	2000	2001	158.28	298.06	139.78	kt CO_2 eq	139.78	88.3	3.1
I.5.36.	4.G. HWP	Table4	Net CO_2 emissions/removals	1990	1991	–317.85	176.24	494.09	kt CO_2 eq	494.09	–155.4	3.2
I.5.37.	5.A.2. Unmanaged waste disposal sites	Table5	CH_4	2009	2010	4.28	0.89	–3.39	kt	–94.78	–79.1	–3.7
I.5.38.	5.D.1. Domestic wastewater	Table5	CH_4	2019	2020	13.35	11.61	–1.74	kt	–48.74	–13.0	–4.0
I.5.39.	5.D.2. Industrial wastewater	Table5	CH_4	2008	2009	4.67	3.45	–1.22	kt	–34.18	–26.1	–3.1
I.5.40.	5.F.2. Annual change in total carbon storage	Table5	CO_2	2006	2007	405.35	500.30	94.94	kt	94.94	23.4	3.2

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.2. Manufacturing industries and construction – other fossil fuels	Table1.A(a)s2	CO_2	t/TJ	143.000	Above range
I.6.2.	2.F.1.e. Mobile air conditioning – HFC-134a	Table2(II).B-Hs2	Product life factor	%	30.000	Above range
I.6.3.	5.D.1. Domestic wastewater	Table5.D	CH_4	kg/kg DC	0.240	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.2. Fuel combustion – manufacturing industries and construction – liquid fuels	CO_2	Trend	2023
I.7.5.	1.A.2. Fuel combustion – manufacturing industries and construction – solid fuels	CO_2	Trend	2023
I.7.6.	1.A.2. Fuel combustion – manufacturing industries and construction – gaseous fuels	CO_2	Trend	2023
I.7.7.	1.A.2. Fuel combustion – manufacturing industries and construction – other fossil fuels	CO_2	Trend	2023
I.7.8.	1.A.3.b. Road transportation	CO_2	Trend	2023
I.7.9.	1.A.4. Other sectors – liquid fuels	CO_2	Trend	2023
I.7.10.	1.A.4. Other sectors – solid fuels	CO_2	Trend	2023
I.7.11.	1.A.4. Other sectors – gaseous fuels	CO_2	Trend	2023
I.7.12.	1.B.2.a. Fugitive emissions from fuels – oil and natural gas – oil	CH_4	Trend	2023
I.7.13.	2.A.1. Cement production	CO_2	Trend	2023
I.7.14.	2.B.1. Ammonia production	CO_2	Level	2023
I.7.15.	2.B.1. Ammonia production	CO_2	Trend	2023
I.7.16.	2.B.2. Nitric acid production	N_2O	Trend	2023
I.7.17.	2.F.1. Refrigeration and air conditioning	Aggregate fluorinated gases	Trend	2023
I.7.18.	3.A. Enteric fermentation	CH_4	Trend	2023
I.7.19.	3.B. Manure management	N_2O	Trend	2023

ID#	New key category	Gas	Criteria	Inventory year
I.7.20.	3.D.1. Direct N_2O emissions from managed soils	N_2O	Trend	2023
I.7.21.	4.A.1. Forest land remaining forest land	CO_2	Trend	2023
I.7.22.	4.A.2. Land converted to forest land	CO_2	Trend	2023
I.7.23.	4.B.2. Land converted to cropland	CO_2	Trend	2023
I.7.24.	4.C.2. Land converted to grassland	CO_2	Trend	2023
I.7.25.	4.E.2. Land converted to settlements	CO_2	Trend	2023
I.7.26.	5.A. Solid waste disposal	CH_4	Trend	2023
I.7.27.	5.D. Wastewater treatment and discharge	CH_4	Trend	2023