Final Review Report

2025 Comprehensive Review of National Greenhouse Gas Inventory Data

pursuant to Article 38(1a) of Regulation (EU) No 2018/1999 and Article 4(4) of Regulation (EU) No 2018/841

Bulgaria

28 August 2025

European Environment Agency

Reference: No 3502/B2025/EEA.60384

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Introduction and conclusions from the 2025 comprehensive review

This Final Review Report presents the findings from the 2025 comprehensive review of the greenhouse gas (GHG) emission inventory of Bulgaria.

The comprehensive review was carried in accordance with Article 38(1a) of Regulation (EU) 2018/1999 ('Governance Regulation'). The purpose of the comprehensive review is to enable the Commission to set out the annual limit values of Bulgaria for the years from 2026 to 2030, in terms of tonnes of CO_2 equivalent, as required by Article 4(4) of Regulation (EU) No 2018/841 (the 'LULUCF Regulation').

The reviewers carried out checks to verify the transparency, accuracy, consistency, comparability and completeness of the national GHG inventory for the years 2016, 2017 and 2018 as well as 2021, 2022 and 2023 submitted in 2025 by Bulgaria pursuant to Articles 26 (4) of the Governance Regulation.

The initial checks were carried out on the draft inventory submissions submitted pursuant to Article 26(3) of the Governance Regulation. The review builds on the initial checks performed by the EU inventory team (European Environment Agency (EEA) and the European Topic Centre on Climate Change Mitigation (ETC/CM)). The comprehensive review was performed by a Technical Expert Review Team (TERT).

More information on the procedures for the 2025 comprehensive review is presented in the annexes of this review report.

Initial check and comprehensive review conclusions

1. The reviewers raised 21 issues with Bulgaria during the initial check and comprehensive review (see Table 1). The TERT provided recommendations for 9 of these issues. Other issues raised during the comprehensive review were clarified and are considered resolved.
2. The TERT identified cases where inventory data were prepared in a manner which is inconsistent with UNFCCC guidance documentation or Union rules. In particular, the TERT identified a number of under-estimates or over-estimates exceeding the threshold of significance pursuant to Article 31 of Commission Implementing Regulation (EU) No 2020/1208.
3. Bulgaria provided 3 revised estimates. Table 2 below summarises the revised estimates and further information is provided in the respective chapter of this report. The TERT agreed to all revised estimates.
4. The TERT did not deem necessary any technical corrections in the meaning of Article 38(2)(d) of Regulation (EU) No 2018/1999.
5. The TERT identified recommendations in order to improve the national inventory data of Bulgaria (see Table 3).
6. The TERT considers that it received a response from Bulgaria that was sufficient in order to undertake the comprehensive review appropriately.

Table 1: Overview of issues raised with Bulgaria

	Issues raised during the initial check	Issues raised during the comprehensive review	Recommendations	Revised estimates[1]	Technical corrections[2]
LULUCF	**8**	**13**	**9**	**3**	**-**

[1] Revised estimates: changes in inventory estimates triggered by the review and provided by the country.
[2] Technical corrections: changes in inventory estimates triggered by the review and provided by the TERT.

National totals for the purpose of Article 4(4) of Regulation (EU) 2018/841 (LULUCF)

Table 2 Totals net LULUCF emissions for the purpose of Article 4(4) of Regulation (EU) No 2018/841

Emission source category	**Reference**	**Emission estimates (kt CO_2 equivalent)[1]**					
		2016	**2017**	**2018**	**2021**	**2022**	**2023**
Total net greenhouse gas emissions for the LULUCF sector, pursuant to Article 26(4) of Regulation (EU) No 2018/1999	BGR-CRT-2025-V0-2-DataEntry-20250317-154159	-9 447.988	-9 426.971	-9 507.499	-9 201.696	-9 153.925	-8 601.072
Difference between revised estimates and original estimates provided by Bulgaria and accepted by the TERT[2]							
4A1 Forest land remaining forest land, CO_2, DOM (Dead wood)	BG-4A1-2025-0002	315.032	312.004	309.013	292.891	292.375	291.444
4A2 Land converted to Forest land, CO_2, Living biomass	BG-4A2-2025-0001	-35.148	-35.349	-33.108	-18.828	-55.941	-100.632
4G Harvested wood products, CO_2, HWPs	BG-4G-2025-0001	899.354	941.464	802.675	548.063	400.648	699.698
Total net greenhouse gas emissions for the LULUCF sector including revised estimates		-8 268.749	-8 208.852	-8 428.920	-8 379.570	-8 516.843	-7 710.562

[1] The tables presented in this report show numbers rounded to three decimal places, although most numbers are available with greater precision. For all calculations all available decimal places were used. Therefore, the totals shown may slightly differ from calculation results where only three decimals are taken into account.

[2] A positive difference indicates an increase compared to reported emissions or decrease in reported removals. A negative difference indicates a decrease compared to reported emissions or increase in reported removals. For more information on revised estimates and/or technical corrections, see Annex 1.

Statement from Bulgaria on the conclusions presented by the TERT

Bulgaria agrees with the aggregated GHG emission inventory estimates presented in Table 2.

Recommendations from the TERT, considering revised estimates and technical corrections deemed necessary by the TERT

Table 3: Recommendations from TERT (RE = Revised estimate; TC = Technical correction)

EMRT-ID	Key category	Category, gas, year	Recommendation	Revised estimate or technical correction in 2025 (RE/TC/no)
BG-4A1-2025-0002	Yes	4A1 Forest land remaining forest land, CO_2, 1990-2023	For 4A1 Forest land remaining forest land, deadwood carbon stock changes, the TERT noted that a model is used to calculate deadwood stocks without verification of its results. In response to a question raised during the review, an error in the calculation of deadwood stocks was identified by the Party which lead to the over-estimation of sinks in the years 2016 to 2023. Bulgaria explained that an error was identified in the aggregated values included in the NID table 229. This incorrect aggregated data from table 229 feeds into further estimation of emissions and removals and needed therefore to be revised. The Party explained that a typo in the calculation sheets was identified as the source of the error. Further, in response to the initial finding of the TERT the Party could verify the model results which show a good consistency with the average values and the observed trend in DW for South-East Europe as it is reported by Forest Europe (2020, p. 125-127). The Party further states that values are also consistent with the weighted averages of Europe – 11.9 m^3/ha and 6.9% of the growing stock (p.125). The values are also comparable with the ones reported by Croatia in their NID (Table 6.5-3, p.270, NID 2024). Bulgaria states that it will continue to try to derive more information and provide more robust verification. The TERT agreed with the explanation and the revised estimate provided by Party and recommends that Bulgaria include the revision of the estimate as well as the information about the verification into the next inventory submission.	RE
BG-4A2-2025-0001	Yes	4A2 Land converted to forest land, CO_2, 2021-2023	For category CRT table 4A2 Land converted to forest land net carbon changes in living biomass the TERT noted a conspicuous trend along the time series. The TERT noted that carbon gains in living biomass per area show a significant increase from 0.2 t/ha in 2021 via 0.59 t/ha in 2022 to 1.0 t/ha in 2023. Ultimately, net carbon stock change in living biomass per area in the year 2023 are equal to zero in 4A2 Land converted to forest land. Further biomass losses increase steadily from 1988 to 2008 before staying relatively stable until 2020 before markedly decreasing in 2021 before increasing abruptly like mentioned above. This leads to an abrupt increase in biomass losses per area in 4A2 The TERT notes that this is likely a calculation error. During the review the country provided a revised estimated based on the below described approach. The Party noted that biomass losses are calculated separately for coniferous (conif) and deciduous (decid) trees in land use changes converted to forest land. Therefore, area of Land converted to forest land in a certain year is stratified in conif	RE

EMRT-ID	Key category	Category, gas, year	Recommendation	Revised estimate or technical correction in 2025 (RE/TC/no)
			and decid and multiplied with respective living biomass losses to estimated carbon stocks losses in living biomass for a certain year. The identified error relates to an incorrect reference in the calculation sheet, where to calculate biomass losses in coniferous, coniferous biomass loss per ha was mistakenly linked to the land conversion area to decid (and not to land conversion area to conif) . This error affects the entire time series, but only the biomass losses from land use changes to coniferous are affected. As the annual land use change area to deciduous stands is typically larger (more than twice in 2023) than that to coniferous, the error leads to an over-estimation of the losses from land use changes to forest land. The TERT agreed with the revised estimate provided by Bulgaria. The TERT recommends that Bulgaria include the revised estimate in its next submission.	
BG-4G-2025-0001	Yes	4G Harvested wood products, CO_2, 1990-2023	For CO_2 emissions/removals from category 4G Harvested Wood Products (HWP) the TERT noted that the Party used FAO wood production data of HWP starting from 1990. The 2006 IPCC Guidelines state that it is required that inputs to and outputs from HWPs since 1961 are used in order to make valid estimates for recent years. During the review, following further errors were identified by the TERT in the calculation sheets provided by the Party. 1) Double counting of domestically produced and exported HWP. 2) The AD input data stemming from FAO stat is incomplete for wood pulp export and import for the years 1961 to 1967, industrial roundwood export for 1961 and industrial roundwood import for 1990. 3) The calculation of fIRW should be based on industrial roundwood production, import and export. The part of the formula referring to export was partly based on other industrial roundwood and partly based on industrial roundwood leading to values greater than 1. 4) Share of domestic hwp production and use was missing parenthesis, therefore leading to just multiplying of the f(irw) and f(pulp) with the export share and not with the production and export share. In response to the questions raised during the review, Bulgaria provided a revised estimate solving all identified issues above for 1990-2023 and stated that it will be included in the next submission. The TERT agreed with the revised estimate provided by the Party. The TERT recommends that Bulgaria include the revised estimate in its next submission.	RE
BG-4-2025-0002	No	4 Land use, land-use change and forestry, CO_2, 1990-2023	The TERT notes that the requirement related to the use of Approach 3 for land use changes according to the Governance Regulation, Annex V, Part III is not fulfilled. Based on information provided in chapter 6.2.3 of the NID the identification of land-use changes is not based on spatially-explicit observations of land-use categories and land-use conversions. As stated in the NID p. 323 "Major problem in presenting the land use pattern is the limited information on the land-use changes between particular categories. The activity data providers identify the total area for each individual land use category, but they do not provide detailed information on changes of area between each category." Further, in response to a question raised during the review, Bulgaria explained that the	No

EMRT-ID	Key category	Category, gas, year	Recommendation	Revised estimate or technical correction in 2025 (RE/TC/no)
			current representation of land constitutes "Approach 2". To ensure that the reporting of emissions and removals of all land-use conversions is compliant with the requirements in the LULUCF regulation, the TERT recommends that Bulgaria use activity data that meets the requirements of Approach 3 according to the 2006 IPCC Guidelines (e.g. repeated sampling approach a spatially defined grid and/or repeated wall to wall mapping sufficiently comprehensive to detect land use changes) in future submission.	
BG-4A1-2025-0001	Yes	4A1 Forest land remaining forest land, CH_4, 1990-2023	For 4(IV)A Forest land remaining forest land CH_4 for 1990-2023 the TERT noted that the emissions of CH_4 from wildfires are a significant pool of a key category. Due to the Governance Regulation (EU) 2018/1999, Annex V Part III significant pools of key categories have to be estimated using Tier 2 methodology. Currently Tier 1 is used. During the review the Party stated that plans exist to improve the estimation of emissions from forest fires. Prior to the 2025 submission, annual data on wildfires was checked in order to improve the calculations. However, more data is needed from the forestry authorities, but work will continue in this direction. The TERT noted that the issue is below the threshold of significance for a technical correction. The TERT recommends that Bulgaria apply Tier 2 in the reporting of CH_4 emissions from wildfires in Forest land remaining forest land in the next submission.	No
BG-4A1-2025-0003	Yes	4A1 Forest land remaining forest land, CO_2, 1990-2023	The TERT noted that carbon stock changes, mineral soils, for forest land are reported using the Tier 1 approach of the 2006 IPCC Guidelines. The TERT notes that reporting pools with Tier 1 methods in significant pools of a key category is not in line with Annex V Part 3 of the Governance Regulation. In response to a question raised during the review, the Member State explained that the current approach is validated by an analysis provided in the NID to justify the T1 equilibrium approach. Bulgaria stated the plan to further explore the feasibility of using modelling techniques for this pool and assess the availability and quality of the necessary data. The TERT recommends that the Member State implement Tier 2 or higher in the estimation of carbon stock changes on mineral forest soils in the next submission.	No
BG-4B1-2025-0001	No	4B1 Cropland remaining cropland, CO_2, 1990-2023	Regarding carbon stock changes in living biomass, for 4B1 Perennial cropland remaining perennial cropland, Table 237 depicts Total (above- and belowground) biomass stock (tC/ha) and accumulation rate (tC/ha/y) for perennial crops for the years 2000 until 2023. The TERT notes that division of biomass by the fixed maturity cycle does not result in the mentioned accumulation rate. During the review Bulgaria responded that biomass growth is based on the division of the weighted mean biomass stock of perennial crops younger than the maturity cycle by the maturity cycle and applies the growth rate over the total perennial cropland area (including the significant area of perennial crops above the maturity cycle). Therefore the methodology chosen should better reflect the overall	No

EMRT-ID	Key category	Category, gas, year	Recommendation	Revised estimate or technical correction in 2025 (RE/TC/no)
			unbalanced age structure of the different perennial crops and consider the dynamic in the agricultural sector in the country after the socio-economic changes in the country since 1990. The TERT notes that the chosen approach under-estimates the growth (by not using the stock at maturity as a reference to calculate the increment but using the smaller mean stock of stands younger 30) and over-estimates at the same time activity data area because also area of stands older than the maturity cycle are multiplied with the growth factor. On the example of viticulture which was identified by the TERT as having the most pronounced imbalance of growth rates, it can be seen on basis of the provided calculation by the Party, that over-estimation and under-estimation balances each other out, leading to no difference above the threshold in comparison to the proposed methodology by the TERT. The TERT recommends to revise the methodology in line with the calculations provided by the Party, in line with the 2006 IPCC Guidelines. Therefore, growth rate should yield max biomass at age of maturity. The TERT notes that additionally it has to be decided if stands older maturity are still growing or no growth is assumed for crops older maturity cycle, considering that from the provided data it seems that harvesting occurs later than, as currently assumed, at the end of the maturity cycle. The TERT also recommends to revise Figure 140 in the NID, which provides erroneous information about the age structure of perennial cropland because age classes do not sum up to 100%.	
BG-4E2-2025-0002	Yes	4E2 Land converted to settlements, CO_2, 1990-2023	The TERT noted that carbon stock changes, mineral soils, for 4E2c Grassland converted to settlements are reported using the Tier 1 approach of the 2006 IPCC Guidelines. The TERT notes that reporting pools with Tier 1 methods in significant pools of a key category is not in line with Annex V Part 3 of the Governance Regulation. In response to a question raised during the review, the Member State explained that the current approach in use for reporting the emissions and removals from soil pool in case of land use conversion was implemented for 2024 submission and that Bulgaria will further investigate the possibility of improving the estimate. The TERT recommends that Bulgaria implement a Tier 2 approach in the estimation of carbon stock changes, mineral soils, for Grassland converted to settlements, in the next submission.	No
BG-4E2-2025-0001	Yes	4E2 Land converted to settlements, CO_2, 1990-2023	The TERT noted that carbon stock changes, mineral soils, for 4E2b Cropland converted to settlements are reported using the Tier 1 approach of the 2006 IPCC Guidelines. The TERT notes that reporting pools with Tier 1 methods in significant pools of a key category is not in line with Annex V Part 3 of the Governance Regulation. In response to a question raised during the review, the Member State explained that the current approach in use for reporting the emissions and removals from soil pool in case of land use conversion was implemented for 2024 submission and that Bulgaria will further investigate the possibility of improving the estimate. The TERT recommends that Bulgaria implement	No

EMRT-ID	Key category	Category, gas, year	Recommendation	Revised estimate or technical correction in 2025 (RE/TC/no)
			a Tier 2 approach in the estimation of carbon stock changes, mineral soils, for Cropland converted to settlements, in the next submission.	

Revised estimates provided by Bulgaria and accepted by the TERT[1]

1	EMRT ID:	BG-4A1-2025-0002
	EMRT URL:	https://emrt-esd.eionet.europa.eu/2025/BG-4A1-2025-0002
	Country:	Bulgaria
	Land use category:	4A1 Forest land remaining forest land
	Gases:	CO_2
	Pool:	DOM (Dead wood)
	Completed by LULUCF Expert:	Erwin Moldaschl
	Reviewed by Thematic Counterpart Expert:	
	Reviewed by Lead Reviewer:	Marina Vitullo
	Reviewed by Quality Controller:	Bernd Gugele
	The underlying problem:	For 4A1 FL remaining FL CSC of deadwood, the TERT noted that a model is used to calculate deadwood stocks without verification of its results. In response to a question raised during the review, an error in the calculation of deadwood stocks was identified by the Party which lead to the over-estimation of sinks in the years 2016 to 2023. Bulgaria explained that an error was identified in the aggregated values included in the NID table 229. This incorrect aggregated data from table 229 feeds into further estimation of emissions and removals and needed therefore to be revised. The Party explained that a typo in the calculation sheets was identified as the source of the error. Further, in response to the initial finding of the TERT the Party could verify the model results which show a good consistency with the average values and the observed trend in DW for South-East Europe as it is reported by Forest Europe (2020, p. 125-127). The Party further states that values are also consistent with the weighted averages of Europe – 11.9 m^3/ha and 6.9% of the growing stock (p.125). The values are also comparable with the ones reported by Croatia in their NID (Table 6.5-3, p.270, NID 2024). Bulgaria states that it will continue to try to derive more information and provide more robust verification. The Party provided revised estimates of carbon stock changes for deadwood pool under Forest land remaining forest land.
	Summarise the methodology used:	The revised estimated corrected the errors identified during the review week. The TERT agreed with the explanation and the revised estimate provided by Party and recommends that Bulgaria include the revision of the estimate as well as the information about the verification into the next inventory submission.

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	Original estimate (kt CO_2e)				Notes
Year	CO_2	CH_4	N_2O	Total GHG	
2016	-1 132.015			-1 132.015	
2017	-1 128.974			-1 128.974	
2018	-1 126.077			-1 126.077	
2021	-1 115.004			-1 115.004	
2022	-1 115.177			-1 115.177	
2023	-1 114.726			-1 114.726	

	Revised Estimate received from country (kt CO_2e)				Notes
Year	CO_2	CH_4	N_2O	Total GHG	
2016	-816.982			-816.982	
2017	-816.971			-816.971	
2018	-817.065			-817.065	
2021	-822.113			-822.113	
2022	-822.802			-822.802	
2023	-823.282			-823.282	

	Difference between RE and OE (kt CO_2e)			
Year	CO_2	CH_4	N_2O	Total GHG
2016	315.032			315.032
2017	312.004			312.004
2018	309.013			309.013
2021	292.891			292.891
2022	292.375			292.375
2023	291.444			291.444

1	EMRT ID:	BG-4A2-2025-0001
	EMRT URL:	https://emrt-esd.eionet.europa.eu/2025/BG-4A2-2025-0001
	Country:	Bulgaria
	Land use category:	4A2 Land converted to Forest land
	Gases:	CO_2
	Pool:	Living biomass
	Completed by LULUCF Expert:	Erwin Moldaschl
	Reviewed by Thematic Counterpart Expert:	
	Reviewed by Lead Reviewer:	Marina Vitullo
	Reviewed by Quality Controller:	Justin Goodwin
	The underlying problem:	For category CRT table 4A2 Land converted to forest land net carbon changes in living biomass the TERT noted a conspicuous trend along the time series. The TERT noted that carbon gains in living biomass per area show a significant increase from 0.2 t/ha in 2021 via 0.59 t/ha in 2022 to 1.0 t/ha in 2023. Ultimately, net carbon stock change in living biomass per area in the year 2023 are equal to zero in 4A2 Land converted to forest land. Further biomass losses increase steadily from 1988 to 2008 before staying relatively stable until 2020 before markedly decreasing in 2021 before increasing abruptly like mentioned above. This leads to an abrupt increase in biomass losses per area in 4A2 The TERT notes that this is likely a calculation error.
	Summarise the methodology used:	During the review the country provided a revised estimated based on the below described approach. The Party noted that biomass losses are calculated separately for coniferous (conif) and deciduous (decid) trees in land use changes converted to forest land. Therefore, area of Land converted to forest land in a certain year is stratified in conif and decid and multiplied with respective living biomass losses to estimated carbon stocks losses in living biomass for a certain year. The identified error relates to an incorrect reference in the calculation sheet, where to calculate biomass losses in conif, conif biomass loss per ha was mistakenly linked to the land conversion area to decid (and not to land conversion area to conif). This error affects the entire time series, but only the biomass losses from land use changes to coniferous are affected. As the annual land use change area to deciduous stands is typically larger (more than twice in 2023) than that to coniferous, the error leads to an over-estimation of the losses from land use changes to forest land. The TERT agreed with the revised estimate provided by Bulgaria. The TERT recommends that Bulgaria include the revised estimate in its next submission.

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	Original estimate (kt CO_2e)				Notes
Year	$CO_2$1	CH_4	N_2O	Total GHG	
2016	-206.382			-206.382	
2017	-199.507			-199.507	
2018	-201.547			-201.547	
2021	-215.319			-215.319	
2022	-111.064			-111.064	
2023	0.973			0.973	

	Revised Estimate received from country (kt CO_2e)				Notes
Year	CO_2	CH_4	N_2O	Total GHG	
2016	-241.530			-241.530	
2017	-234.856			-234.856	
2018	-234.656			-234.656	
2021	-234.147			-234.147	
2022	-167.005			-167.005	
2023	-99.659			-99.659	

	Difference between RE and OE (kt CO_2e)			
Year	CO_2	CH_4	N_2O	Total GHG
2016	-35.148			-35.148
2017	-35.349			-35.349
2018	-33.108			-33.108
2021	-18.828			-18.828
2022	-55.941			-55.941
2023	-100.632			-100.632

1	EMRT ID:	BG-4G-2025-0001
	EMRT URL:	https://emrt-esd.eionet.europa.eu/2025/BG-4G-2025-0001
	Country:	Bulgaria
	Land use category:	4G Harvested wood products
	Gases:	CO_2
	Pool:	HWPs
	Completed by LULUCF Expert:	Erwin Moldaschl
	Reviewed by Thematic Counterpart Expert:	
	Reviewed by Lead Reviewer:	Marina Vitullo
	Reviewed by Quality Controller:	Justin Goodwin
	The underlying problem:	For CO_2 emissions/removals from category 4G Harvested Wood Products (HWP) the TERT noted that the Party used FAO wood production data of HWP starting from 1990. The 2006 IPCC Guidelines requires the use of inputs to and outputs from HWPs since 1961 to make valid estimates for recent years. During the review, following further errors were identified by the TERT in the calculation sheets provided by the Party. 1) Double counting of domestically produced and exported HWP. 2) The AD input data stemming from FAO stat is incomplete for wood pulp export and import for the years 1961 to 1967, industrial roundwood export for 1961 and industrial roundwood import for 1990 3) The calculation of fIRW should be based on industrial roundwood production, import and export. The part of the formula referring to export was partly based on other industrial roundwood and partly based on industrial roundwood leading to values greater than 1. 4) Share of domestic hwp production and use was missing parenthesis, therefore leading to just multiplying of the f(irw) and f(pulp) with the export share and not with the production and export share.
	Summarise the methodology used:	In response to the questions raised during the review, Bulgaria provided a revised estimate solving all identified issues above for 1990-2023 and stated that it will be included in the next submission. The TERT agreed with the revised estimate provided by the Party. The TERT recommends that Bulgaria include the revised estimate in its next submission.

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	Original estimate (kt CO_2e)				Notes
Year	CO_2[1]	CH_4	N_2O	Total GHG	
2016	-1 135.998			-1 135.998	
2017	-1 355.442			-1 355.442	
2018	-1 232.685			-1 232.685	
2021	-1 169.703			-1 169.703	
2022	-972.309			-972.309	
2023	-1 242.189			-1 242.189	

	Revised Estimate received from country (kt CO_2e)				Notes
Year	CO_2	CH_4	N_2O	Total GHG	
2016	-236.644			-236.644	
2017	-413.978			-413.978	
2018	-430.011			-430.011	
2021	-621.640			-621.640	
2022	-571.661			-571.661	
2023	-542.491			-542.491	

	Difference between RE and OE (kt CO_2e)			
Year	CO_2	CH_4	N_2O	Total GHG
2016	899.354			899.354
2017	941.464			941.464
2018	802.675			802.675
2021	548.063			548.063
2022	400.648			400.648
2023	699.698			699.698

[1] Carbon stock changes (in kt C) from the CRT tables have been converted into kt CO_2 by multiplying by -44/12.

Annex I: Legal background and procedures of the 2025 comprehensive review

The LULUCF Regulation (EU) 2018/841 sets net emission removal targets for 2030 and net emission budgets in the period 2026 to 2029. In Article 4(5) of the LULUCF Regulation, the Commission is required to adopt decision setting out the annual limit values for net greenhouse gas removals for each year in the period from 2026 to 2029, for which it shall carry out a comprehensive review.

The Governance Regulation (EU) 2018/1999 lays down annual reporting obligations, compliance checks and a review process to ensure that the compliance with annual GHG emission limits is assessed in a credible, consistent, transparent and timely manner.

The requirements for the review of the national inventory data submitted by countries are set out in Article 38 of Regulation (EU) 2018/1999. The details concerning the review process, such as the timing and steps of conducting of the annual and comprehensive reviews are set out in Chapter V and Annex XXII of the Commission Implementing Regulation (EU) No 2020/1208.

The 2025 reviews were thus held as a comprehensive review in line with Article 38(1a) of Regulation (EU) 2018/1999in concert with the reviews required by the LULUCF Regulation.

Objectives

The objectives of the comprehensive review of countries' GHG emission inventories in 2025 are:

a) to support the European Commission by ensuring it has accurate, reliable and verified information on annual GHG emissions for
    - determining the budget for the period 2026-2029 according to Article 4(4) of Regulation (EU) 2018/841.

b) to assist countries in improving the quality of their GHG inventories.

Procedures

The scope of the 2025 comprehensive review is presented in Table A-1. The checks carried out during the 2025 comprehensive review are presented in Annex II.

The initial checks were carried out by the EEA with support from the ETC/CM. All findings from the initial checks that were partly resolved or not resolved within the initial check phase were followed up in the comprehensive review.

The EEA LULUCF experts consisted of the following experts:

- Sector experts: Raul Abad-Viñas and Peter Iversen (EEA)
- Quality coordinator: Lucia Perugini (EEA)

The comprehensive review 2025 was performed by a Technical Expert Review Team (TERT) under service contract **No 3502/B2025/EEA.60384** implementing Framework service contract No EEA/CET/24/002of the European Environment Agency. The lead reviewers and sector review experts did not review emission inventories of countries where these individuals have themselves contributed to the compilation of that inventory, or presently are or have been any part of the decision-making process related to the compilation of that inventory.

The TERT consisted of the following experts:

- Iordanis Tzamtzis, Lora Stoeva, Rosie Brook, Carmen Schmid, Boštjan Mali, Andis Lazdiņš, Sven van Baren, Bradley Matthews, Valentin Bellassen, Aldis Butlers, Mattias Lundblad, Juan José Rincón Cristóbal, Etienne Mathias, Erwin Moldaschl and Mélanie Juillard;
- Lead reviewers: Peter Weiss, Kevin Black, Sandro Federici and Marina Vitullo.

The comprehensive review was coordinated by Bernd Gugele and Justin Goodwin.

The EEA review secretariat consisting of Claire Qoul, Lærke Callisen, Peter Iversen and Roxy Cottey prepared and coordinated the comprehensive review as foreseen in Article 30 of Commission Implementing regulation (EU) No 2020/1208 and Article 42 of the Governance Regulation (EU) 2018/1999.

The comprehensive review was performed on the basis 15 April submissions of GHG emission data and the national inventory document (NID) under the Governance Regulation.

Where relevant, the TERT calculated technical corrections for over- or under-estimates identified in a mandatory category in the countries' GHG inventories that exceed the threshold of significance. Technical corrections have been calculated only for the years 2016-2018 and 2021-2023. If the technical correction exceeds the threshold of significance for at least one year of the inventory under review (2021-2023) but not for all the years, the technical correction was calculated only for those years where the technical correction exceeds the threshold of significance.

Table A-1: Scope of the comprehensive review 2025

Element	Scope	Further information
Countries	EU geographical coverage of the Member States, Norway and Iceland	
Years	2016, 2017, 2018, 2021, 2022 and 2023	According to GovReg Article 38(1a); According to LULUCF Article 4(4)
Gases	CO_2, CH_4 and N_2O	
Sectors	LULUCF	

Annex II: Checks carried out during the 2025 initial checks and review

The checks carried out during the 2025 initial checks are pursuant to Article 37(4) of Regulation (EU) 2018/1999 and Article 6 of Commission Delegated Regulation (EU) 2020/1044 and the comprehensive review following Article 38(1a) of Regulation (EU) 2018/1999 and Article 30 of the Commission Implementing Regulation (EU) No 2020/1208.

Initial checks may include:

1. Assessment whether all emission source categories and gases required under Regulation (EU) No 2018/841 are reported;
2. Assessment whether emissions data time series are consistent;
3. Assessment whether implied emission factors across Member States/countries are comparable taking the IPCC default emission factors for different national circumstances into account;
4. Assessment of the use of 'Not Estimated' notation keys where IPCC Tier 1 methodologies exist and where the use of the notation key is not justified in accordance with point 32 of the Annex to Decision 18/CMA.1;
5. Analysis of recalculations performed for the inventory submission, including whether the recalculations are based on methodological changes;
6. Assessment whether issues from earlier Union initial checks and reviews as well as recommendations from UNFCCC reviews have been implemented by the Member State;
7. Assessment of the accuracy of Member States' emissions by sources and removals by sinks estimates in relation to Union key categories;
8. Assessment of the transparency and completeness of the methodological descriptions reported by Member States for the Union key categories;
9. Assessment of monitoring and reporting of emissions by sources and removals by sinks in the land use, land use change and forestry (LULUCF) sector pursuant to Part 3 of Annex V to Regulation (EU) 2018/1999, including the assignment of key categories, Tier methodology applied, and a comparison of reported land use and land use change activity data with information derived from the Union and Member State programmes and surveys.

Comprehensive review checks:

1. Detailed examination of the inventory estimates including methodologies used by the Member State in the preparation of inventories;
2. Detailed analysis of the Member State's implementation of recommendations related to improving inventory estimates as listed in its most recent UNFCCC annual review report made available to that Member State before the submission under review where recommendations have not been implemented;
3. Detailed analysis of the justification provided by the Member State for not implementing them;
4. Detailed assessment of the time series consistency of the greenhouse gas emissions estimates;
5. Detailed assessment whether the recalculations made by a Member State in the given inventory submission as compared to the previous one are transparently reported and made in accordance with the greenhouse gas inventory guidelines;
6. Follow-up on the results of the initial checks and on any additional information submitted by the Member State under review in response to questions from the technical experts review team and other relevant checks; -
7. Other relevant checks complementing the initial checks.
8. Check that all gases and pools are reported under LULUCF.