

Final Air Emission Inventory Review Guidelines 2024

Developed for the Review of National Air Pollutant Emission Inventory Data 2024 under
Directive 2016/2284 (National Emission reduction Commitment Directive)
Service Contract No 09.0202/2023/903481/SER/ENV.C.3

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Contents

Abbreviations	3
I. Executive Summary.....	4
II. Introduction (2024 to 2027).....	5
III. Scope of the NECD Inventory Review 2024	8
IV. Roles and Responsibilities (2024 to 2027)	10
V. Organisation of the Review (2024 to 2027).....	12
VI. Technical expert review team 2024.....	14
VII. Schedule for the NECD Inventory Review 2024.....	15
VIII. Quality objectives and procedures (2024 to 2027).....	16
IX. Review of flexibility applications (2024 to 2027).....	17
References	19
Appendix 1 – Initial checks 2024.....	20
Appendix 2 – Sector specific checklist	21
Appendix 3 – Country codes	22

ABBREVIATIONS

CLRTAP	Air Convention (Convention on Long-range Transboundary Air Pollution)
E-PRTR	European Pollutant Release and Transfer Register
EEA	European Environment Agency
EIONET	European Environment Information and Observation Network
EMEP	The co-operative programme for monitoring and evaluation of the long-range transmission of air pollutants in Europe (unofficially 'European Monitoring and Evaluation Programme' = EMEP)
EMRT-NECD	EEA Emission Review Tool for the National Emission reduction Commitment Directive
ERC	Emission Reduction Commitment
EU	European Union
GNFR	Gridding nomenclature for reporting
HMs	Heavy Metals (Priority Heavy metals are lead (Pb), cadmium (Cd), mercury (Hg))
IPPU	Industrial Processes and Product Use
LPS	Large Point Source(s)
NECD	National Emission reduction Commitments Directive (Directive (EU) 2016/2284)
NFR	Nomenclature for reporting
NH ₃	Ammonia
NMVOC	Non-methane volatile organic compounds
NO _x	Nitrogen oxides
PM ₁₀	Fine particulate matter: particles with an aerodynamic diameter equal to or less than 10 micrometres (µm)
PM _{2.5}	Fine particulate matter: particles with an aerodynamic diameter equal to or less than 2.5 micrometres (µm)
POPs	Persistent Organic Pollutants
SO ₂	Sulphur dioxide
TERT	Technical expert review team

I. EXECUTIVE SUMMARY

1. The review of the air pollutant emission data submitted by Member States under the European Union's National Emission reduction Commitments Directive (EU) 2016/2284¹ is established in Article 10(3). The **general objective** of the NECD inventory reviews is to improve transparency, consistency, comparability, completeness, and accuracy of submitted data and as such to contribute to establishing accurate, reliable, and verified emission inventories for all Member States.
2. The assessment of the 2024 NECD inventory submissions² will focus on a **review of the main pollutants and PM₁₀** and on **all flexibility applications** submitted in 2024. The **main focus** of the 2024 NECD inventory review will be to **follow-up on findings from the 2023 NECD inventory review** for main pollutants and PM₁₀ and to provide support to Member States to the extent possible within the frame of the review in implementing these findings. New findings will only be raised for issues connected to
 - a. recalculations between the 2023 NECD inventory submissions and the 2024 NECD inventory submissions
 - b. time series consistency (especially the consistency of the 2022 emissions data that is reported for the first time in 2024 with the rest of the time series will be assessed)
 - c. the calculation of the national total or the national total for compliance
 - d. pollutants for which the Member State reported emissions in previous years or in 2024 that do not comply with the applicable emission reduction commitments.
3. The EEA published the 2023 version of the **EMEP/EEA Emissions Inventory Guidebook** on 2 October 2023. Thus it cannot be expected that all Member States used the 2023 version of the Guidebook for the 2024 NECD inventory submissions. Consequently, the methodologies from both the 2019 and 2023 version of the EMEP/EEA Emissions Inventory Guidebook will be accepted in the review.
4. The **EMRT-NECD** (Emission Review Tool for the National Emission reduction Commitments Directive), a web-based tool hosted by the EEA, will be used for communication between Member States and the review team. Member States will be asked to nominate a contact point and one substitute for all communication related to the 2024 NECD inventory review.
5. **Flexibility applications** submitted in 2024 will be reviewed as part of the 2024 NECD inventory review.
6. In the 2024 NECD inventory review, the **threshold of significance will be set at 0.5% of the national total**. This means that technical corrections will be calculated for findings which result in an over or under-estimate of more than a 0.5% of the national total in one of the reported years under review and where Member States did not provide a revised estimate.
7. Main periods of **interactions with Member States** during the 2024 NECD inventory review are expected to be:

¹ Directive (EU) 2016/2284 of the European Parliament and of the Council of 14 December 2016 on the reduction of national emissions of certain atmospheric pollutants, amending Directive 2003/35/EC and repealing Directive 2001/81/, available at <https://eur-lex.europa.eu/eli/dir/2016/2284/oj>

² The most recent submission or resubmission up until 15 March 2024 will be reviewed.

- a. Member States to answer questions from the desk review (29 May – 12 June 2024); questions might be sent from 29 April up to 29 May 2024
- b. Member States to answer questions from the centralised review (17-21 June 2024)
- c. Member States to comment on potential technical corrections (1-26 July 2024)
- d. Member States to comment on the draft review reports (24 September - 15 October 2024)

II. INTRODUCTION (2024 TO 2027)

8. The **National Emission reduction Commitments Directive** (NECD, Directive (EU) 2016/2284) was adopted on 14 December 2016 and entered into force on 31 December 2016. It replaces and repeals the previous National Emission Ceilings Directive 2001/81/EC. The NECD sets national emission reduction commitments for 2020-2029 and 2030 onwards for SO₂, NO_x, NMVOC, NH₃ and PM_{2.5} (the ‘main pollutants’).
9. Article 10(2) of the NECD regulates the **reporting by Member States**. The dates for reporting and the time series that have to be covered are set in Annex I of the NECD. Member States have to report their national emission inventories and projections, spatially disaggregated national emission inventories, large point source inventories and the informative inventory reports to the European Commission (EC) and the European Environment Agency (EEA).
10. The **review** of the air pollutant emission data submitted by Member States under the NECD is established in Article 10(3):

"The Commission, assisted by the European Environment Agency and in consultation with the Member States concerned, shall review the national emission inventory data in the first year of reporting and regularly thereafter. That review shall involve the following:

(a) checks to verify the transparency, accuracy, consistency, comparability and completeness of information submitted;

(b) checks to identify cases where inventory data is prepared in a manner which is inconsistent with the requirements set out under international law, in particular under the LRTAP Convention;

(c) where appropriate, calculation of the resulting technical corrections necessary, in consultation with the Member State concerned.

Where the Member State concerned and the Commission are unable to reach an agreement on the necessity or on the content of the technical corrections pursuant to point (c), the Commission shall adopt a decision laying down the technical corrections to be applied by the Member State concerned."

11. The **general objective** of the NECD inventory reviews is to improve transparency, consistency, comparability, completeness, and accuracy of submitted data and as such to contribute to establishing accurate, reliable, and verified emission inventories for all Member States. The NECD inventory reviews ensure that the European Commission has adequate and reliable information on the quality of emissions data and associated information reported to the European Union (EU). The NECD inventory reviews assess the consistency of the submission with the requirements of the NECD, the EMEP Reporting Guidelines and the methodologies and data specified in the EMEP/EEA Emission Inventory Guidebook. The review process is intended to be transparent and

carried out in close cooperation with the nominated national contact point and national experts from Member States.

12. The results of the review are used as a basis for compliance checking against the applicable NECD emission reduction commitments, as stipulated in Annex II of the NECD.
13. These guidelines have been drafted to inform Member State representatives about the **general principles** guiding the NECD inventory reviews 2024 to 2027, as well as the **specific focus** of the respective year. The purpose of the guidelines is to document the review process in order to ensure that a thorough, consistent, and comprehensive approach is taken during the NECD inventory reviews 2024 to 2027. These guidelines are no European Commission guidelines on the interpretation of the NECD.
14. The NECD inventory reviews 2024 to 2027 will be carried out by the **team under service contract No 09.0202/2023/903481/SER/ENV.C.3**. The NECD inventory review will take place from January until December of each year. Representatives from Member States will interact with the review team at specific points during the review process (see VII Schedule).
15. Several terms are often used in the context of the NECD inventory reviews 2024 to 2027, e.g. in the present guidelines, when communicating with the Member States during the desk and centralised review and in the inventory review reports. The **most important terms** are defined in Table 1.

Table 1: Overview of frequently used terms

Closed observation	<p>This is used for an EMRT observation that no longer needs to be discussed with the Member State, and will not appear in the review report.</p> <p>The TERT may close an observation in the EMRT tool if:</p> <ul style="list-style-type: none"> the answer from a Member State answers the TERT's question, and the TERT concludes that no action needs to be taken by the Member State, or the TERT decides that an observation does not need question & answer with a Member State. <p>Closed observations are not usually followed-up in future reviews. Recommendations from previous reviews that have been fully implemented are closed by the TERT.</p>
Finding	<p>A finding is an issue with an air pollutant inventory that the technical expert review team identifies during the NECD inventory review and that needs to be addressed by the Member State in its next submission. There are four categories of findings: recommendations, technical corrections, unquantified technical corrections and revised estimates.</p>
Flexibility application	<p>Application by a Member State under Article 5 of the NECD to apply one of the flexibilities listed in the article in order to meet its emission reduction commitments.</p>
EMRT-NECD	<p>The EMRT-NECD (Emission Review Tool for the National Emission reduction Commitments Directive) is a web-based tool hosted by the EEA to facilitate quality checks and reviews of national emission inventories reported by EU Member States</p>

	under the NECD https://emrt-necd.eionet.europa.eu/
Key category	A key category means a source category of emissions that has a significant influence on Member States total emissions. Key categories are defined as those which, when ordered in descending order of magnitude, cumulatively add up to 80 % of the total level (i.e. a Member State's total emissions). More details on the concept and calculation of key categories are available in the EMEP/EEA Guidebook.
Nomenclature for reporting (NFR)	Member States report emission data under the NECD using an official reporting template. The emission reporting template lists approximately 140 different emission source categories (NFR categories). Summed-up, these categories give the national total. The latest versions of the reporting templates are included as Annexes to the 2023 Emission Reporting Guidelines ³ .
Observation	An observation is an issue with an air pollutant inventory that is identified during the NECD inventory review. An observation might be closed if clarified by a response from a Member State, or result in a finding.
Proxy solution	For issues that are above the threshold of significance and that are not easily quantifiable the TERT will, where possible, implement a method for improving the existing emissions estimates using e.g. data from neighbouring countries, and/or making best estimates of the penetration of abatement measures. Consequently, this does not necessarily deliver a complete "solution" to the issue, but results in an improvement to the existing emissions inventory, as it would provide an approximate estimate that is considered preferable to the current reporting from the Member State. In these cases, the Member State receives observation text accompanying the technical correction that emphasises the need for further improvement, ahead of the next submission.
Recommendation	A finding where an identified issue with an expected impact below the threshold of significance has not been resolved during the course of the review.
Resolved/Non-resolved finding	<p>This describes whether the review team has finished their work on a finding for this years' review.</p> <p>At the end of the review all findings that are described in the review report will be resolved, with the exception of revised estimates provided by the Member State that are not accepted by the TERT, which will be described as not resolved in the EMRT and the report.</p> <p>The status 'resolved' does not imply that the finding has been <i>addressed</i> by the Member State. This is assessed in the next review round and will be followed up with Member States if necessary.</p>
Revised Estimate (RE)	A finding for which a Member State has provided new estimates in response to an issue raised by the technical expert review team during the course of the review.

³ <https://www.ceip.at/reporting-instructions/annexes-to-the-2023-reporting-guidelines>

	Member States are encouraged to submit revised estimates only for revisions that are above the threshold of significance.
Technical correction (TC)	Issued by the technical expert review team for findings identified which result in an over- or under-estimate of more than a 0.5% of the national total in one of the reported years under review and where Member States did not provide a revised estimate which was accepted by the technical expert review team.
Tier	A tier represents a level of methodological complexity used for the calculation of the air emissions. Tier 1 is the simple (most basic) method that usually uses the emission factors provided in the EMEP/EEA Guidebook and has rather simple data requirements (often available in public statistical databases). Tier 2 is the intermediate approach and Tier 3 is the most elaborated and complex approach where usually detailed country specific data is needed.
Threshold of significance	The threshold of significance refers to a specific level of change in a Member State's national total (caused by a finding that identifies an over- or under-estimate of emissions) that is considered significant and triggers that the technical expert review team calculates a technical correction. In the NECD inventory review 2024, the threshold of significance is set at 0.5% of the national total.
Unquantified potential technical correction (UPTC)	A finding for which quantifying a technical correction is currently not possible for the technical expert review team. This is for cases where the expected impact is likely to exceed the determined thresholds of significance, but it is not possible to quantify the technical correction as part of the review. Situations where this may arise include but are not limited to situations where Tier 1 methods are used to make emission estimates for a key category.

III. SCOPE OF THE NECD INVENTORY REVIEW 2024

16. The scope of the 2024 NECD inventory review includes the assessment of **2024 submissions** as specified by Table A and B of Annex I to the NECD and all flexibility applications made in accordance with Article 5 of the NECD.
17. The assessment of the 2024 NECD inventory submissions will focus on a review of the **main pollutants and PM₁₀ and all flexibility applications** submitted in 2024. The main focus of the 2024 NECD inventory review will be to follow-up on findings from the 2023 NECD inventory review for main pollutants and PM₁₀⁴ and to provide support to Member States to the extent possible within the frame of the review in implementing these findings. New findings will only be raised for issues connected to
 - a. recalculations between the 2023 NECD inventory submissions and the 2024 NECD inventory submissions

⁴ Recommendations initially raised in previous review years that cover pollutants to be reviewed as part of the 2024 NECD inventory review (main pollutants and PM₁₀) and any other pollutant previously reviewed under the NECD inventory review (BC, CO, BaP, PAHs, PCBs, HCB, Cd, Hg, Pb, PCDD/F) that are of significance to the emission estimates of main pollutants or PM₁₀ will be included in the 2024 NECD inventory review.

- b. time series consistency (especially the consistency of the 2022 emissions data that is reported for the first time in 2024 with the rest of the time series will be assessed).
- c. the calculation of the national total or the national total for compliance
- d. pollutants for which the Member State reported emissions in previous years or in 2024 that do not comply with the applicable emission reduction commitments.

18. The table below provides details of the **scope of the 2024 NECD inventory review**.

Table 2: Details regarding the scope of the 2024 NECD inventory review

Parameter	Details
Member States	EU geographical coverage of the Member States as of 1 January 2024. The extent to which this is possible will depend on the information submitted by 15 February and resubmitted by 15 March 2024 at the latest. Includes the geographical territory of Member States, their exclusive economic zones and pollution control zones. Excludes the Canary Islands, the French overseas departments, Madeira, and the Azores, as per the NEC Directive Article 2.
Submission	The most recent submission or resubmission up until 15 March 2024.
Pollutants	Main pollutants NO _x , NMVOC, SO ₂ , NH ₃ , PM _{2.5} , and other pollutants: PM ₁₀
Years	2005, 2020-2022
Sources	All NFR categories that contribute to the national total, and the national total itself, will be considered. The following memo items will also be included: 1A3ai(ii) International aviation cruise (civil) 1A3aii(ii) Domestic aviation cruise (civil) 1A3di(i) International maritime navigation 1A3 Transport (fuel used) – where it is used for compliance purposes
EMEP/EEA Guidebook	The EEA published the 2023 version of the EMEP/EEA Emissions Inventory Guidebook on 2 October 2023. Thus it cannot be expected that all Member States used the 2023 version of the Guidebook for the 2024 NECD inventory submissions. Consequently, the methodologies from both the 2019 and 2023 version of the EMEP/EEA Emissions Inventory Guidebook will be accepted in the review.
Activity data	Reported activity data relevant to the pollutant emissions may be assessed in addition to the emission estimates.
Flexibilities	Flexibility applications made in accordance with Article 5 of the NECD.

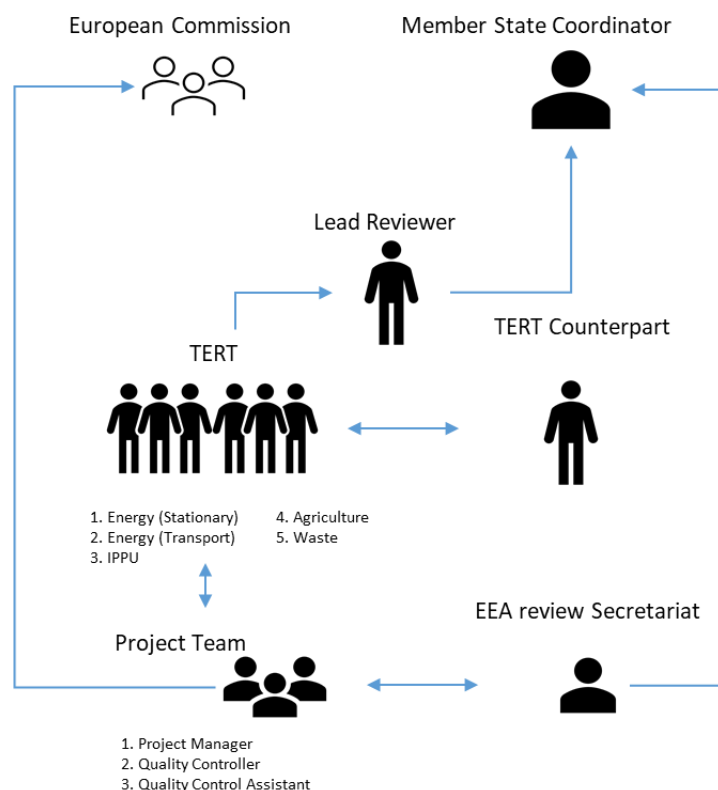
19. NECD submissions applicable to the 2024 NECD inventory review include the **NECD inventory submissions made in 2024** (which include emissions for the year 2022). Member States annually submit inventories to the European Commission and the EEA. Submissions consist of both quantitative and qualitative information. Quantitative data are reported as explained in part 1 of Annex IV to the NECD. Qualitative data, including methodologies used in calculating emissions, are included in an Informative Inventory Report (IIR) as explained in part 3 of Annex IV to the NECD.

20. Member States submit **gridded emission inventories and Large Point Source (LPS) inventories** every four years (first submission was in 2017) to the European Commission and the EEA as set out in Table C of Annex I to the NECD. The last submission of gridded data and LPS data was in 2021 and the next submission will be in 2025. A review of these datasets is not part of the 2024 NECD inventory review.
21. **Flexibility applications** submitted in 2024 will be reviewed as part of the 2024 NECD inventory review. This will consist of applications made in accordance with Article 5 of the NECD. Flexibility applications will be reviewed as detailed in chapter IX.

IV. ROLES AND RESPONSIBILITIES (2024 TO 2027)

22. The **European Commission** is responsible for the management of the NECD inventory review 2024 to 2027. The European Environment Agency will support the European Commission with the review process. The 2024 to 2027 NECD inventory review will be carried out by the team under service contract No 09.0202/2023/903481/SER/ENV.C.3. The review will be carried out in close cooperation with nominated national contact points and national experts from Member States. The European Commission will approve the schedule for the review and the selection of the technical expert review teams. With the assistance of the EEA, the European Commission will oversee the review process to ensure the quality of deliverables and ensure that all review reports are published in the public domain. The European Commission will take further appropriate action on technical corrections (see Table 1) that are still disputed (adopting a decision on technical corrections as appropriate).
23. **Member States** will nominate one national contact point and one substitute for all communication related to the NECD inventory review. Member States will also nominate national experts for inventory sectors. The national contact point will co-ordinate the national experts. The national experts will respond to questions received from the technical expert review team. They will make any additional information required for the review process available.
24. The **European Environment Agency** will support the review process with the provision of technical tools for communication between the review team and the Member States. The European Environment Agency will ensure that data for the review is provided to the review project team. The European Environment Agency will act as the contact point for national contact points.
25. The **team under service contract No 09.0202/2023/903481/SER/ENV.C.3** will consist of the review project team and the technical expert review team.
26. **The review project team** has the task to organise and steer the review and to ensure quality control. It consists of the project manager, project manager assistant and the quality controller and the quality controller assistant. The **review project team** will provide administrative support and, as appropriate, technical and methodological assistance including the provision of these guidelines.

Figure 1: Overview of responsibilities and interactions during the NECD Inventory Review



27. The **technical expert review team** is responsible for conducting a thorough and comprehensive technical assessment of the NECD inventory submissions in accordance with the procedures and time frames detailed in these guidelines. The technical expert review team will consist of subteams each assigned to different countries. A technical reviewer with substantial inventory review experience and management skills will serve as the subteam's lead reviewer. They will ensure the consistency, quality and objectivity of the technical assessments. All other technical reviewers will be sector experts for one of the following areas: Energy , Transport, Industrial Processes and Product Use (IPPU), Agriculture or Waste. Sector experts belonging to different teams assessing the same sector will act as **counterparts** checking each other's results to ensure that the four-eyes principle is fulfilled to ensure quality. Any potential conflicts of interest will be avoided by ensuring that members of the technical expert review team do not review a national inventory of their own country, or one where they contributed to estimating emissions. Should an expert need to act as a counterpart for their own country, an additional check by the quality control team will be performed to ensure an impartial assessment. The **flexibility review team** is another subteam of the technical expert review team that is responsible for reviewing flexibility applications.
28. The **quality control team**, forming part of the review project team, is responsible for ensuring that the quality assurance and quality control objectives of the review are met, which are detailed in chapter VIII. The quality control team will undertake QA/QC activities at all stages of the review.

V. ORGANISATION OF THE REVIEW (2024 TO 2027)

29. The review will be split into two phases: **initial checks** and **comprehensive review** (desk and centralised review and compliance assessment).
30. **Initial checks** will be carried out by the review project team. Significant findings from the initial checks that are not resolved within the initial checks phase will be followed up by the technical expert review team during the desk review and centralised review. For a list of the initial checks see Appendix 1.
31. The **comprehensive review** will be performed on the NECD submissions by the technical expert review team. During the comprehensive review, nominated national contact points, supported by national experts, may be asked to clarify issues and provide additional information related to their NECD submissions. The comprehensive review will be carried out through:
- a. **A desk review** which will include an in-depth review of the NECD submissions for SO₂, NO_x, PM_{2.5}, NH₃ and NMVOC and PM₁₀ conducted by the technical expert review team and a flexibilities review conducted by the flexibility review team, which will be a subset of the technical expert review team. For both in-depth and flexibilities review, the technical expert review team will consider the results of the initial checks provided by the review project team. The technical expert review team will subsequently formulate and send questions to the Member States. Member States will provide answers to those questions before the start of the centralised review.
 - b. **A centralised review** during which the technical expert review team reviews Member States' responses, will send follow-up questions, finalise recommendations, review revised estimates (see Table 1) and calculate potential technical corrections relating to the national emission inventories of SO₂, NO_x, PM_{2.5}, NH₃ and NMVOC and PM₁₀.
 - c. **Compliance assessments** during which compliance with the national emission reduction commitments will be evaluated.
32. The comprehensive review will start with a **desk review** during which the experts will assess the findings provided from the initial checks and will perform their own independent checks of the submitted data and inventories. Sector experts will follow the sector specific checklists (see Appendix 2) to ensure a consistent review across the Member States. Sector experts will draft initial questions to Member States and counterparts and lead reviewers will check them. Once a question is approved by the lead reviewer, lead reviewers will send it to the Member State any time during the period of the desk review. After the desk review Member States will have two weeks of time to answer the questions.
33. Then the expert review team will meet in person at the **centralised review**. Sector experts will revisit the critical issues in light of the Member States' responses, discuss these issues with their lead reviewers and draft conclusions, check revised estimates sent by Member States, calculate potential technical corrections or issue unquantified potential technical corrections. The technical expert review team may choose to provide an approximate estimate (proxy solution) that is considered preferable to the current reporting from the Member State as a way of avoiding unquantified potential technical corrections. Member States are encouraged to submit revised estimates only for revisions that are above the threshold of significance. At the end of the centralised review, sector experts will decide for all observations whether they can be closed

in the EMRT (the finding is not included in the review report), or whether an observation is resolved/unresolved (meaning that a recommendation is included in the review report).

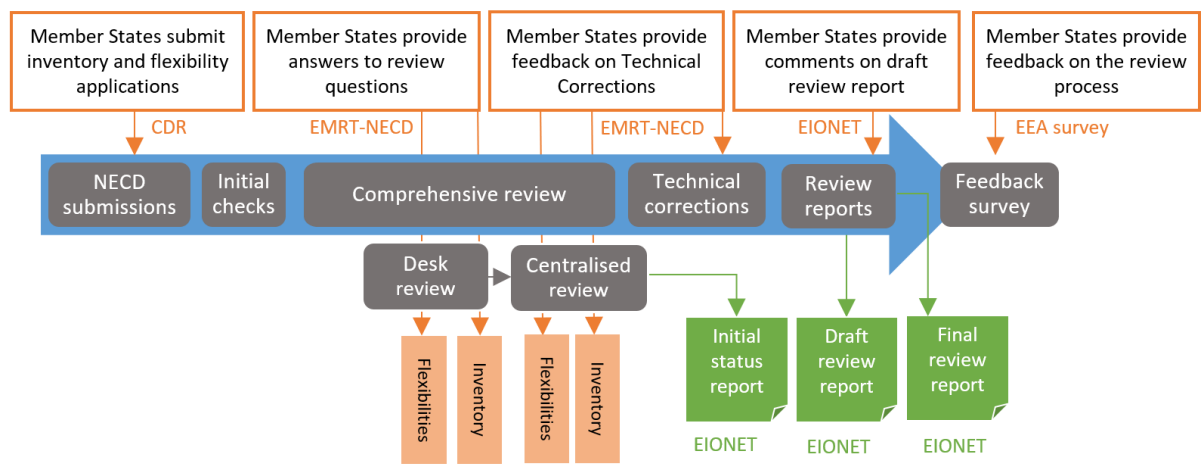
34. For unresolved issues, which are **potential technical corrections or unquantified potential technical corrections** (Table 1), a final communication step between TERT and Member State is foreseen after the centralised review. The TERT explains the unresolved issue and for potential technical correction attaches a calculation file (potential technical correction file). Member States will then have four weeks to send a revised estimate or accept the technical correction. If Member States accept the technical correction without providing own numbers, the issue will be treated as a technical correction. In the rare case that the technical expert review team does not agree with a revised estimate provided by a Member State, the Member State will be informed in writing.
35. **Initial status reports** will be issued by the EEA to all Member States after the centralised review, in an Excel format. The reports will include a list of all observation IDs for recommendations and currently agreed revised estimates from the NECD inventory review. Technical corrections and unquantified potential technical corrections will not be included in this report as they will still be under review by Member States. The purpose of the initial status report is to ensure that Member States can start to address the findings of the review in view of their next inventory submission, using the contents of the EMRT-NECD, without needing to wait for the publication of the final NECD inventory review reports. Member States will not be asked to provide comments on the initial status report.
36. **Draft review reports** will be issued by the EEA to all Member States after finalisation of all NECD inventory review findings. The reports will include all recommendations, revised estimates and technical corrections. The reports will include a quantitative assessment of all the revised estimates and technical corrections including reference to the national emission reduction commitments as defined by Directive (EU) 2016/2284. The reports will also include unquantified potential technical corrections. The reports will include an assessment of flexibility applications, where applicable. Based on revised national totals, calculated considering the effects of revised estimates, technical corrections and approved flexibilities, an assessment of compliance for the reported years since 2020 with the applicable emission reduction commitment will also be presented in the report. Finally, the reports will include a qualitative assessment of the quality of the NECD inventories submissions. Member States will have the opportunity to provide comments on their review report, and provide a statement within the report, before the report is finalised.
37. **Final review reports** will be issued to all Member States by the EEA. The technical expert review team will consider all comments received by Member States when finalising these reports. During and after this process, the European Commission may take further action on disputed technical corrections.
38. Communication between the technical expert review team and Member States will be through the EEA Emission Review Tool for the NECD (**EMRT-NECD**⁵), which is a web-based communication platform designed to streamline the communication and documentation process. Other communication routes will only be used in exceptional circumstances and if agreed with the respective Member State. Information provided to a specific member of the

⁵ Available at <https://emrt-necd.eionet.europa.eu/>

technical expert review team may be made available to other members of the team. Training on use of the EMRT-NECD will be available to Member States.

39. Following the completion of each NECD inventory review cycle, Member States will have the opportunity to **provide feedback** on the review process.

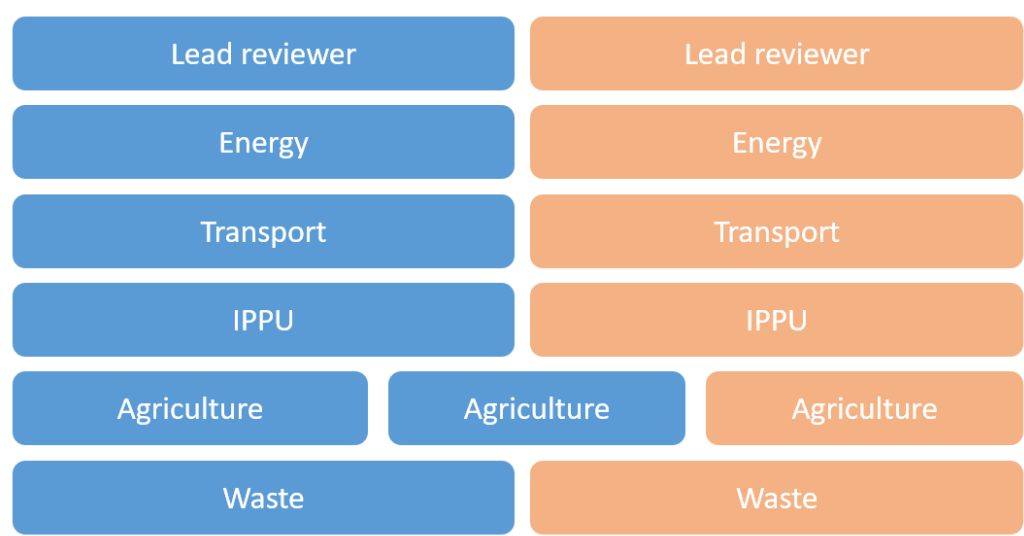
Figure 2: Overview of review approach including the activities that Member States will carry out



VI. TECHNICAL EXPERT REVIEW TEAM 2024

40. Since the 2024 NECD inventory review will focus on a follow-up review of the main pollutants and PM₁₀ and on all flexibility applications submitted in 2024 and new findings will only be raised under certain circumstances (see chapter III), the **technical expert review team** will be smaller than in other years and will consist of two subteams only. Only for the sector agriculture three sector experts are planned as several Member States report to be non-compliant with NH₃ emission reduction commitments and more work is expected for this sector.

Figure 3 Technical expert review team for 2024 NECD inventory review



VII. SCHEDULE FOR THE NECD INVENTORY REVIEW 2024

Table 3: Detailed schedule of the 2024 NECD inventory review *highlighting activities involving Member States in blue*

Activity	Date
Deadline for the inventory submission; deadline for MS to inform Commission of their intention to apply for a flexibility	15 February
Nomination of MS contact points for the review via the EEA	4 March
Deadline for resubmissions of the inventory; deadline for the submission of the Informative Inventory Report and Flexibility Applications	15 March
Initial checks begin	25 March
Initial checks end	19 April
Training webinar for EMRT-NECD MS users performed by EEA	22 April
TERT training webinar and kick-off meeting for the review	29 April
Questions can be sent via EMRT-NECD from the TERT to MS	From 29 April
Desk based review – main pollutants and flexibility applications; sector experts perform review	29 April - 23 May
Desk based review – main pollutants and flexibility applications; lead reviewers finalise work	24 May - 28 May
Deadline for questions to MS sent via EMRT-NECD	29 May
Deadline for answers by MS to questions sent via EMRT-NECD	12 June
Centralised review – main pollutants and flexibility applications, (including requirement for Member State involvement through further Q&A)	17 - 21 June
Potential technical corrections sent via EMRT-NECD by EEA	1 July
Initial status reports sent to Member States by EEA	1 July
Feedback from MS on potential Technical Corrections	26 July
Draft review reports sent to Member States by EEA	23 September
Deadline for MS to send comments on draft review reports to EEA	15 October
Final review reports sent to Member States by EEA	6 November
Final horizontal project report sent to the European Commission	5 December

VIII. QUALITY OBJECTIVES AND PROCEDURES (2024 TO 2027)

41. It is the responsibility of the project team to ensure that the following quality objectives are met and that the following quality procedures are undertaken during the project. The overall responsibility lies with the Quality Control Team who will provide relevant guidance, training, and tools to support these objectives and procedures.
42. The following **quality objectives** will be used for the review:
 - a. Ensure that the review is performed in line with the mandate given in the NECD
 - b. Ensure that the review is carried out consistently across Member States
 - c. Ensure that questions to national contact points and recommendations in the review report are quality checked, formulated in a clear and understandable way, and consistent with the EMEP/EEA Guidebook
 - d. Ensure that the review reports are prepared in line with the review report template
 - e. Ensure that work progresses according to the project timeline and deadlines
 - f. Limit the burden on Member States to the extent possible.
43. The following **quality procedures** will be in place in order to meet the quality objectives:
 - a. The technical expert review team will receive training on the procedures, tools, guidelines, templates and systems available to them to support the review process
 - b. The technical expert review team will complete sector-specific checklists
 - c. The technical expert review team will use the EMRT-NECD communications platform
 - d. Sector experts will be assigned counterparts who will check issues, as required
 - e. Lead reviewers and the quality control team will check issues, as required
 - f. All questions and recommendations will be checked by lead reviewers
 - g. All revised estimates and technical corrections will be checked by lead reviewers and the quality control team
 - h. Assessments of compliance will be independently calculated by the quality control team and the project co-ordination team and cross-checked
 - i. Processes for generating review reports will be tested for robustness using dummy data
 - j. Draft and final review reports will be quality checked by lead reviewers and the quality control team.

IX. Review of flexibility applications (2024 to 2027)

44. All **new flexibility applications** will be reviewed.
45. Article 8(4) of the NECD requires that all Member States who opt for a flexibility mechanism include **supporting information** for the application in the Informative Inventory Report to be submitted by 15 March, including a demonstration that the use of the flexibility fulfils the relevant conditions set out in Article 5(1) and part 4 of Annex IV, or in Article 5(2), (3) or (4), where applicable. If a Member State submits a flexibility application under the CLRTAP, all relevant supporting information should also be submitted under the NECD.
46. Article 5(8) of the NECD explains that ‘The Commission, when exercising its powers under paragraphs 6 and 7 [reviewing the use of flexibilities], shall take into account the relevant guidance documents developed under the LRTAP Convention. So far only guidance for the review of adjustment applications has been developed under the LRTAP Convention (see paragraph 52).
47. The review of flexibility applications under the NECD will in principle follow the process for reviewing adjustment applications under the CLRTAP (as presented in relevant EB decisions, and supporting technical guidance documents (see paragraph 52), however without prejudice to the additional arrangements specified in part 4 of Annex IV to the NECD.⁶ The process allows inter alia the submission of **additional information** during the review, necessary for a proper and full assessment of the flexibility application. Technical corrections, revised estimates, and acceptance of a flexibility application may change the national emission totals making a specific flexibility application no longer necessary or making a specific flexibility application incompatible/invalid when applied to the same category for which a technical correction or revised estimate was approved. Any recommendation on the review of concerned flexibility applications should be subject to the outcome of the work on technical corrections and revised estimates. The review of a flexibility application can recommend acceptance or rejection (with the possibility of a resubmission next year if still appropriate/required).
48. If a Member State applies for more than one flexibility and not all of these flexibilities are required to bring that Member State into compliance, the Member State will be informed that in accordance with the intent of the flexibility application procedure, recommendation for approval will be limited to **flexibilities necessary to bring about compliance**, and the Member State be invited to withdraw one or more of its flexibility applications.
49. The **conclusions** of the review of flexibility applications submitted in the respective year will be presented in an annex to the final review report in line with the timelines as set out in VII Schedule for the NECD Inventory Review 2024.

Inventory adjustments

50. Previously approved adjustments relating to **compliance with emission ceilings** are not valid for demonstrating compliance with Emission Reduction Commitments (ERCs), and will therefore be rejected **without being reviewed**.
51. The **minimum supporting information** required for an adjustment is highlighted in part 4.1 of Annex IV of the NEC Directive (which is based on paragraph 2 of the Annex to CLRTAP Executive

⁶ See the following overview and guidance documentation:
[ECE/EB.AIR/111/Add.1](#), [ECE/EB.AIR/113/Add.1](#), [ECE/AB.AIR/127/Add.1](#) and [ECE/EB.AIR/130](#).

Body Decision 2012/12). In the chapeau of Annex IV, it is further specified that adjusted emission inventories should be prepared using the **EMEP reporting guidelines** (which in its turn contain references to the relevant EB decisions 2012/3 and 2012/12, as amended by 2014/1), while also adding that reliance upon these EMEP reporting guidelines is without prejudice to the additional arrangements specified in part 4 of Annex IV.

52. The Task Force on Emission Inventories and Projections (TFEIP) under the Air Convention have developed **technical guidance for Parties making adjustment applications and for the expert review of adjustment applications** (ECE/EB.AIR/130) (UNECE, 2015) and **technical guidance on inventory adjustments** in an emissions reduction commitment framework and an adjustment application Excel template (“Annex IIa”) that is specifically for applying for an inventory adjustment in an ERC framework⁷. The template was updated and improved in January 2024 for use in the 2024 reporting round.

⁷ These are available at: <https://www.ceip.at/technical-guidance-adjustments-erc>.

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European Environment Agency, Copenhagen.

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NEC Directive 2001, DIRECTIVE 2001/81/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 23 October 2001 on national emission ceilings for certain atmospheric pollutants.

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pollutants, amending Directive 2003/35/EC and repealing Directive 2001/81/EC.

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TFEIP 2022, Technical Guidance for Emissions Inventory Adjustments under the Amended
Gothenburg Protocol Inventory adjustments in the context of Emission Reduction Commitments
https://www.ceip.at/fileadmin/inhalte/ceip/00_pdf_other/2022/technical_guidance_for_erc_adjustments_issue1.1.pdf

UNECE 2015, Guidance for Parties Making Adjustment Applications and for the Expert Review of
Adjustment Applications (ECE/EB.Air/130).

http://www.ceip.at/fileadmin/inhalte/emep/Adjustments/ECE_EB_AIR_130_AV_for_the_web.pdf

UNECE 2013. Guidelines for Reporting Emissions and Projections Data under the Convention on
Long-range Transboundary Air Pollution.

https://www.unece.org/fileadmin/DAM/env/documents/2013/air/eb/ece.eb.air.125_E_ODS.pdf

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Long-range Transboundary Air Pollution 2023 as adopted by Decision 2022/1
(ECE/EB.AIR/150/Add.1).

https://www.ceip.at/fileadmin/inhalte/ceip/00_pdf_other/2022/emissions_reporting_guidelines_2023_final.pdf

UNECE 2016. Updated 'Methods and procedures' document laying down the process for the EMEP
emission inventory review.

http://www.unece.org/fileadmin/DAM/env/documents/2016/AIR/EMEP/Informal_Document/3_Methods_Procedures_update_proposal_May2016_ISSUE1_TFEIP.pdf

APPENDIX 1 – INITIAL CHECKS 2024

For the review of national inventories and the follow-up of the 2023 NECD inventory review, the following initial checks will be performed for main pollutants and PM₁₀:

- a. Identification of significant **time series inconsistencies** with a special focus on the years 2005, 2020 - 2022 in the 2024 NECD emissions inventory submissions. Differences greater than a factor of 2 will be flagged.
- b. Identification of significant **recalculations** (recalculation is >10% and concerns a key category) between the 2023 and 2024 NECD emissions inventory submissions. For main pollutants the inventory years 2005 and 2020 to 2022 will be checked.
- c. Identification of instances where **Implied Emission Factors** are outside of a 95% confidence interval compared with other Member States.
- d. Initial assessment of whether **recommendations** concerning main pollutants from the 2023 NECD inventory review **have been implemented**, excluding revised estimates and technical corrections.
- e. Flag instances where **“zero” or empty cells** are reported. In this check also memo items are included.
- f. Flag instances where **NA/NE/NR is reported while Tier 1 methods exist** in the Guidebook. In this check also memo items are included.
- g. Flag instances where **‘NA’ reporting** is not consistent with expected reporting
- h. Flag instances where **national total or national total** for compliance is incorrectly calculated
- i. Flag instances where PM₁₀ estimates are smaller than PM_{2.5} estimates
- j. Flag instances where PM₁₀ estimates are unexpectedly equal to PM_{2.5} estimates
- k. Flag instances where PM₁₀ is expected due to reporting of PM_{2.5}
- l. Flag instances where the reporting of pollutant emissions is expected due to reporting of other pollutant emissions
- m. Flag instances where implied emission factors and pollutant ratios are outliers compared to other Member States
- n. Flag instances where PM_{2.5} has been recalculated and PM₁₀ has not been recalculated and vice versa.

While the full set of initial checks will be performed like in other years, sector experts will be advised not to raise new questions concerning minor issues identified by the initial checks, such as notation key issues.

APPENDIX 2 – SECTOR SPECIFIC CHECKLIST

For the review of national inventories and the follow up of the 2023 NECD inventory review, the following checks will likely form part of the **sector specific checklist**:

- a. Assess significant issues **raised by the initial checks**
- b. Assess the **implementation of recommendations, revised estimates, and technical corrections** from the 2023 NECD inventory review
- c. Assess **revised estimates** provided by Member States during the review
- d. Calculate **technical corrections**, where necessary
- e. Check **major recalculations**
- f. Check major **time series inconsistencies** for the year 2022
- g. Review new **flexibility applications** where relevant
- h. For all pollutants for which the Member State reported emissions in previous years or in 2024 that do not comply with the applicable emission reduction commitments
 - Examine the application of the EMEP Reporting Guidelines and the use of the EMEP/EEA Guidebook 2019/2023 and identify non-compliance with these requirements for all
 - Examine whether the good practice guidance of the EMEP/EEA Guidebook 2023 has been applied and documented in the Informative Inventory Report, in particular in relation to transparency, noting the identification of key categories, selection and use of methodologies and assumptions, development and selection of emission factors, collection and selection of activity data, reporting of recalculations and consistent time-series and quality assurance and quality control procedures, and identify any inconsistencies
 - Check that for key categories a Tier 2 or higher methodology is used
 - Compare emission estimates, activity data, implied emission factors and any recalculations with data from previous submissions, to identify any irregularities or inconsistencies
 - Identify any missing sources and examine any explanatory information relating to their exclusion from the inventory. It may be necessary to draw on other national datasets to achieve this analysis, such as information submitted to the MMR/UNFCCC
 - Identify the reasons for any differences between a Member State's and the project team's key category determination
 - Assess the consistency of information in the reporting tables with that in the Informative Inventory Report
 - Identify areas for further improvement of the inventories and note possible ways for improving the estimation and the reporting of inventory information.
- i. Examine in particular emission estimates for categories for which adjustment applications have been submitted.

APPENDIX 3 – COUNTRY CODES

Table 4: Country codes used in the tools and materials

EMRT-NECD		EEA locator	
Country	Country code (ISO)	Country name	Party code
Austria	AT	Austria	AT
Belgium	BE	Belgium	BE
Bulgaria	BG	Bulgaria	BG
Croatia	HR	Croatia	HR
Cyprus	CY	Cyprus	CY
Czech Republic	CZ	Czech Republic	CZ
Denmark	DK	Denmark	DK
Estonia	EE	Estonia	EE
Finland	FI	Finland	FI
France	FR	France with Mayotte	FM
Germany	DE	Germany	DE
Greece	GR	Greece	GR
Hungary	HU	Hungary	HU
Ireland	IE	Ireland	IE
Italy	IT	Italy	IT
Latvia	LV	Latvia	LV
Lithuania	LT	Lithuania	LT
Luxembourg	LU	Luxembourg	LU
Malta	MT	Malta	MT
Netherlands	NL	Netherlands	NL
Poland	PL	Poland	PL
Portugal	PT	Portugal	PT
Romania	RO	Romania	RO
Slovakia	SK	Slovakia	SK
Slovenia	SI	Slovenia	SI
Spain	ES	Spain	ES
Sweden	SE	Sweden	SE