



National Air Emissions Projections Review Guidelines under Service Request
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1. INTRODUCTION AND OBJECTIVES

1.1 THIS DOCUMENT

This document provides guidance for sector experts and lead reviewers undertaking reviews of air pollutant emissions projections prepared and reported by EU Member States under the National Emission reduction Commitments Directive (2016/2284), hereafter referred to as the NECD. It is also intended to inform Member States and other interested parties about the structure, process and content of the review. The review contract has been commissioned by the European Commission.

The document sets out:

- The policy and legislative context for the review
- The scope of the review
- Quality control processes and procedures
- Roles and responsibilities of the different parties involved in the review
- The schedule and process for the review, and
- The communications processes and structures being implemented to support the review.

This document has been updated from the projections review guidelines (2021) to support projections reviews undertaken in 2023.

1.2 POLICY CONTEXT

The NECD aims to reduce air pollution and its associated risks to the environment and human health and thus contribute to the 2030 targets of the Zero Pollution Action Plan¹. The NECD requires Member States to meet national emission reduction targets for selected pollutants (SO₂, NO_x, NMVOCs, NH₃ and PM_{2.5}, the so-called main pollutants) identified as being responsible for negative health impacts, acidification, eutrophication and ground-level ozone formation with potential for transboundary impacts.

The NECD defines national emission reduction commitments for the period 2020 to 2029² and more ambitious ones for 2030 and onwards. The Directive also requires that for 2025, Member States achieve a linear reduction between their emission levels defined by the emission reduction commitments for 2020 and the emission levels defined by the emission reduction commitments for 2030, or explain the reasons for deviating from this linear trajectory.

In addition to defining reduction commitments for the main pollutants and setting out reporting obligations for further pollutants and types of data, the NECD requires biennial reporting of emission projections, as well as the annual provision of an informative inventory report (IIR). All this helps measuring implementation of policies and measures (PaMs) more effectively and transparently.

The NECD also includes provisions for more regular and detailed reporting requirements by the European Commission to the European Parliament under Article 11. The text requires the Commission to report by 1 April 2020 and every 4 years thereafter to the European Parliament and Council on:

- Progress made in relation to the indicative emission levels and reduction commitments, and reasons for non-achievement; ambient air quality levels; and biodiversity and ecosystem objectives in the 7th Environment Action Programme;
- Additional measures needed to achieve national emission reduction commitments;
- The uptake of EU funds;
- A review of the national air pollution control programmes and projections to show their results and updates; and

¹ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021DC0400&qid=1623311742827>.

² These are identical to the reduction commitments by EU Member States to be met by 2020 and onwards under the revised Gothenburg Protocol.

- An evaluation of impacts arising from the NECD (looking at health, environmental and socioeconomic impacts).

The 2023 review of air pollutant projections, following up from the 2021 review of the projections and assessment of how they fulfil the requirements of the NECD, will therefore contribute to the Commission's reporting requirements under Article 11.

Member States are required to report their emission projections for NO_x, SO₂, NH₃, NMOVC, PM_{2.5}, and if available, black carbon. The projections must cover the years 2025, 2030 and where available, 2040 and 2050. For those projections, Member States are required to report "With Measures" (WM) and, where relevant³, "With Additional Measures" (WAM) scenarios. WAM scenarios should reflect the PaMs selected for adoption in NAPCPs which should be clearly described within the submission, including quantitative effects of each measure so that projections can be assessed for completeness, accuracy, consistency and comparability with other Member States.

1.3 OBJECTIVES

The emission projections review has been designed to be efficient and consistent across all Member States. The primary objectives of the emission projection reviews are to:

- Conduct a comprehensive technical review of emission projections reported by Member States in March 2023 under the NECD, alongside the relevant information submitted by the Member States in their Informative Inventory Reports in accordance with Article 8(3) of the NECD and via the EEA webtool on Additional Policies and Measures (the PaMs tool).
- Assess the implementation of recommendations and encouragements provided to MS as part of the 2021 NECD technical review of air pollution projections⁴.
- Effectively and transparently communicate with the Member States on the issues raised during the review of projections and to incorporate additional information provided by the Member States during the review process.
- Formulate conclusions and recommendations from the review.

³ A WAM scenario is required when existing PaMs are shown not to be sufficient to meet emission reduction commitments in the WM scenario.

⁴ Note that projections reviews undertaken in 2022 (which reviewed a limited number of late submissions) are referred to as a "2021 review" throughout as this reflects the time period in which the review would have taken place if the MS had reported according to the relevant submission deadline. Similarly, submissions or information from MS are referred to as "2021", even if they were provided in 2022.

2. SCOPE AND PRIORITISATION

During the review, Sector Experts will perform checks on the projections submitted by Member States. Reviewers (particularly those who have previously engaged in the review of historical emissions inventories) should note that there are distinct differences between historical emissions inventory reviews and the processes described here. This is because the NECD and the EEA/EMEP Guidelines include different requirements for emission projections compared to historical emission inventories. Submitted projections data may be limited in terms of activity data provision and the detail of methodological description given (beyond that supplied for the historical inventory). Underlying information may be particularly limited, apart from where 'with additional measures' scenarios are documented, with the PaMs supporting such measures being reported through the EEA webtool (in accordance with the Implementing Act for the NECD⁵).

At its 42nd session (Geneva, 12-16 December 2022), the Executive Body of the Air Convention (CLRTAP) adopted the 2023 guidelines for reporting emissions and projections data. This includes an updated version of the Annex IV template for reporting projections, which enables a more disaggregated reporting of projected emissions and activity data (using the same detailed NFR format as the historical inventory reporting) compared to the previous 2014 Annex IV template. Whilst CLRTAP parties are encouraged to use this template for 2023 submissions, it is not mandatory until 2024. Article 10(2) of the NECD states that reporting under the NECD shall be consistent with reporting under the CLRTAP, but for the new template to become fully binding under the NECD, a delegated act is still to be adopted to change the NECD Annex (which currently states that projections have to be reported at aggregated level). Therefore, for projections data submitted in 2023 Member States may report in the updated Annex IV Projections reporting template (2023) or the previous version (2014). Data is provided in a disaggregated format in the updated Annex IV template and therefore it is important to acknowledge that there is a higher level of scrutiny possible with data submitted using the update Annex IV template. Sector experts will perform checks consistently across both reporting formats; however, lead reviewers will need to consider the reporting format used when forming conclusions on the quality of the submission.

All checks are listed in the Sector Experts Checklist available on the review SharePoint site, which is accessible to the Technical Review Team (TRT) participating in the review. This includes a prioritisation of the checks linked to the reporting requirements under the NECD and EMEP/EEA Guidelines. In general, the TRT will carry out the following checks:

- Review **implementation of recommendations and encouragements** provided to MS as part of the 2021 NECD technical review of air pollution projections. This will be supported by the check on recalculations between the submitted projections data reviewed in 2021, and those submitted in 2023.
- Checking the **consistency** of the projections with the historical inventory with which it should be consistent (i.e. either x-3 or x-2).
- Checking the **accuracy and comparability** of the projections by assessing the use of emission factors e.g. the approaches used for extrapolating historical emission factors from the 2019 EMEP/EEA Guidebook to give emission factors that accurately represent future years, whether these approaches follow best practice and expected trends, and checking that the projected activity data represent realistic trends.
- Checking **completeness** of projections by assessing any missing main sources for which the emission estimates are available in the historical emission inventory.
- Checking the extent to which the **reduction commitments** would be met on the basis of the 'with measures' (WM) and 'with additional measures' (WAM) projections, and the extent of the gap, if any, for the following years: .

⁵ COMMISSION IMPLEMENTING REGULATION (EU) 2020/1208 of 7 August 2020. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020R1208&from=LT>

- 2025 projections against the 2020-2029 emission reduction commitments (ERC);
- 2025 projections against the linear reduction trajectory;
- 2030 and, where available, 2040 and 2050 projections against the 2030 ERC;
- Checking the **transparency** of the Information Inventory Report (IIR) in describing the methods, data and assumptions used to calculate the projections estimates.

Table 2-1 below provides details of the general scope of the review performed by the TRT.

Table 2-1 Summary of the scope of the review

Scope element	Coverage	Further description
Emission projections submission	2023 NECD projection submission	2023 NECD submissions received by the 15 March.
Additional PaMs submission	2023 submission of additional PaMs via the EEA webtool	PaMs submitted to the EEA-PaM tool since the 2021 projections review, and received before the start of the desk review (May 2023).
Member States	All	EU geographical coverage of the Member States as of 1 January 2023. The extent to which this is possible will depend on the information submitted and will be reviewed on 15 March 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.
Pollutants	SO ₂ , NO _x , NH ₃ , NMVOC, PM _{2.5} (and, where available, black carbon)	
Sectors	All NFR codes	All NFR codes in Annex IV of the 2014 Reporting Guidelines (ECE/EB.AIR.125) and all NFR codes in Annex IV reporting template (2023) with a focus on (but not limited to) those identified as level key categories for the base year.
Years	2025, 2030 (and, where available, 2040 and 2050)	2030 (in the context of the 2030 ERC) and 2025 (in case of the 2020-29 ERC and the linear reduction trajectory as stipulated by Article 4(2) of the NECD). 2040 and 2050 where submitted by Member States.

2.1 WORKING WITH DIFFERENT VERSIONS OF THE ANNEX IV PROJECTIONS TEMPLATE

At its 42nd session (Geneva, 12-16 December 2022), the Executive Body of the CLRTAP adopted the 2023 guidelines for reporting emissions and projections data. This includes an updated version of the Annex IV template for reporting projections, which enables a more disaggregated reporting of projected emissions and activity data (using the same detailed NFR format as the historical inventory reporting) compared to the previous 2014 Annex IV template.

As a fundamental quality metric of the review of projections data it is important that the TRT provide a consistent level of review across all Member States regardless of which version of the Annex IV

template is submitted. Use of the updated reporting template (2023 version) may allow for further checks on the quality of submissions, in particular consistency with the historical inventory and the assumptions around projected activity data and emissions of key sub-sectors. For example, the implied emission factor (IEF) check listed in Section 3.1 is only possible to perform on data submitted in the updated Annex IV template (2023).

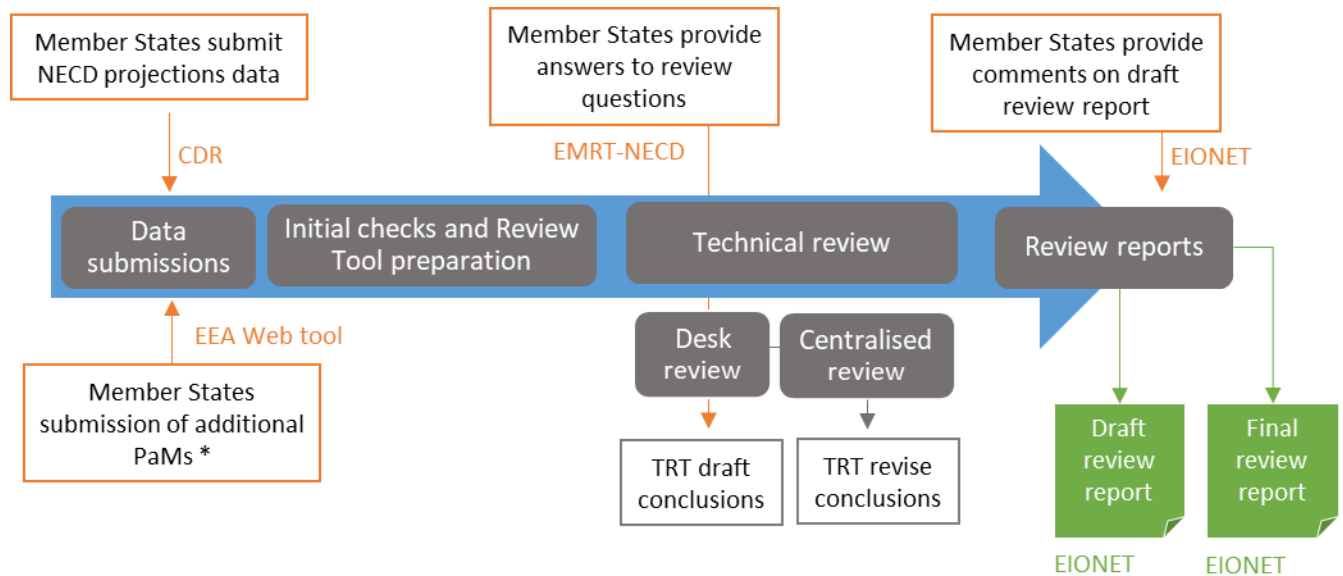
In recognition of this the 2023 projections review will take the following steps to ensure consistency:

- Checklists provided to sector experts will include the same checks for Member State submissions regardless of which version of the Annex IV template is submitted to encourage consistency of review.
- Where the 2014 version of the template is used, the TRT will be encouraged to refer to information in the IIRs or send questions to Member States to obtain comparable levels of detailed information, the aim being to ensure that the use of the 2014 or 2023 versions of the template do not affect the thoroughness of review possible.
- Lead reviewers will be cognisant of the impact of the version of the Annex IV template used for the projections submission on the number of findings resulting from the projections review when forming overall quality scores. It is acknowledged that a review which results in a greater number of findings (recommendations or encouragements) does not necessarily imply a lower overall quality score than a submission which results in fewer findings, and the number of findings will not be used as an indicator of quality. It is necessary to consider the extent/scope/significance of each finding to obtain a sufficient understanding of the overall quality.

3. REVIEW PROCESS AND METHODOLOGY

The review follows a logical process from the collation of submitted data reported via the EEA’s CDR through to communication of the findings of the review process through Member State review reports and the Horizontal Review and Evaluation reports delivered to the European Commission. The workflow for the review process is presented in Figure 3-1 below. Each part of the review will involve different parts of the review team, whose roles are described in Section 4, while the review schedule is laid out in Section 6.

Figure 3-1 Projections Review Workflow



*It should be noted that PaMs are often submitted by MS alongside NAPCP submissions. The timeline for reporting additional PaMs is therefore different to the projections submission and therefore availability of data from the EEA PAMS tool will vary between MS.

3.1 INITIAL CHECKS

Initial Checks	
Submission Deadline	15/03/2023
Initial checks Deadline	05/05/2023

Initial checks on the projections data submitted will be undertaken prior to the Desk Review and will be by the QA/QC team. The checks to be run on the data are:

- **Base year:** to check that the emissions projections are based on an up to date version of the emissions inventory (x-3 as specified in Annex IV Part 2 of the NECD or x-2).
- **Years reported:** to check that the emissions projections have been provided for 2025 and 2030 and to check whether projections are also included for 2040 and 2050.
- **Scenarios and underlying information reported:** to check that the WM and WAM (as appropriate) emissions projections and underlying information have been provided in the IIR.
- **National totals:** to check whether the projected national total emissions are the same as the sum of the reported projected sectoral emissions.
- **Non-zero completeness check:** to check for the reporting of zero values.

- **Cross-pollutant completeness check:** to check that all relevant pollutants are reported from each source.
- **Trend check:** to identify sources that show trend outliers compared to the EU trends.
- **Implied emission factors (IEFs):** time series viewer of IEFs calculated for each MS by sector to assess whether changes in the IEF with time is considered appropriate by the TRT. This check is only possible to perform on data submitted in the updated Annex IV template (2023).

Any issues flagged by these initial checks will be provided to the TRT prior to the start of the Desk Review. Where appropriate, they will be added to the EMRT-NECD (see section 8) ready for the Sector Experts to review. The underlying assumptions used to identify these flags will be provided to the TRT.

In this preparatory phase, projections data submitted by Member States will also be processed and compiled into the Projections Review Tool which will be made available to the TRT to facilitate review. Details on its contents is given in Section 10.

3.2 DESK REVIEW

The Desk Review will be conducted by the TRT experts facilitated by review tools and checklists and supported by the quality controller and EEA secretariat. The timelines of the desk review are given below.

Desk review		
Desk Review Week 1 – (deadline for submitting projection questions to Member States)	19/05/2023	2 weeks for SEs starting from 8/05/2023
Deadline for Member State responses	26/05/2023	1 week for MS response
Desk Review Week 2 - complete reviews and close any follow up questions	02/06/2023	1 week to review answers & close following MS responses

Figure 3-2 shows the decision tree for sector experts undertaking the projections review 2023. Sector Experts will begin their work reviewing the implementation of recommendations and encouragements given as part of the 2021 projections review. It is important that this is reviewed first, to ensure no duplication of clarification is requested to Member States. The TRT will then proceed to review the findings made from the initial checks, and then finally undertake checks from the relevant sector specific checklists (see section 3.4) with the support of the Projections Review Tool.

Issues in the EMRT-NECD will either be resolved within the EMRT-NECD, through discussion within the TRT or through dialogue with the Member State, or will result in a recommendation or an encouragement. Whether a finding is concluded as a recommendation or an encouragement depends on the type of issue (see section 3.5). Where the sector expert deduces that the recommended improvement action is primarily concerned with improving the historical inventory (that the projections are based on), then the TRT should note this in the EMRT and conclude the issues as “resolved” with no recommendation or encouragement needed. Following the centralised review, these issues will be extracted from the EMRT and provided to the NECD historical inventory review team for information, to support their work (the centralised review of the NECD historical inventory review being held after the centralised review of the projections review).

Lead reviewers have the responsibility of managing and coordinating their sector experts and ensuring that communication with and through their TRT allows for a smooth, ordered and consistent review process.

3.3 CENTRALISED REVIEW

The centralised review will be conducted as a one-day meeting attended by the Project Manager, QA/QC Managers and the TRT with the following days set aside for Lead Reviewers to compile quality

assessments. The aim of the first day of the centralised review is to ensure consistency of approach across the TRT by allowing time for discussion on cross-cutting aspects of the reviews and discuss and resolve any complex issues which have arisen. The centralised review will be run as a hybrid event, where those within easy access of Oxford, where the quality control team are based, invited to attend in person, and other members of the TRT joining via Microsoft Teams. Sector Experts will attend the Centralised Review for the first day only with the remainder of the week set aside for Lead Reviewers to compile and discuss quality ratings.

The centralised review will cover:

- Discussions regarding outstanding issues
- Finalisation of all issues, including recommendations and encouragements
- Consolidation of review results and any outstanding issues

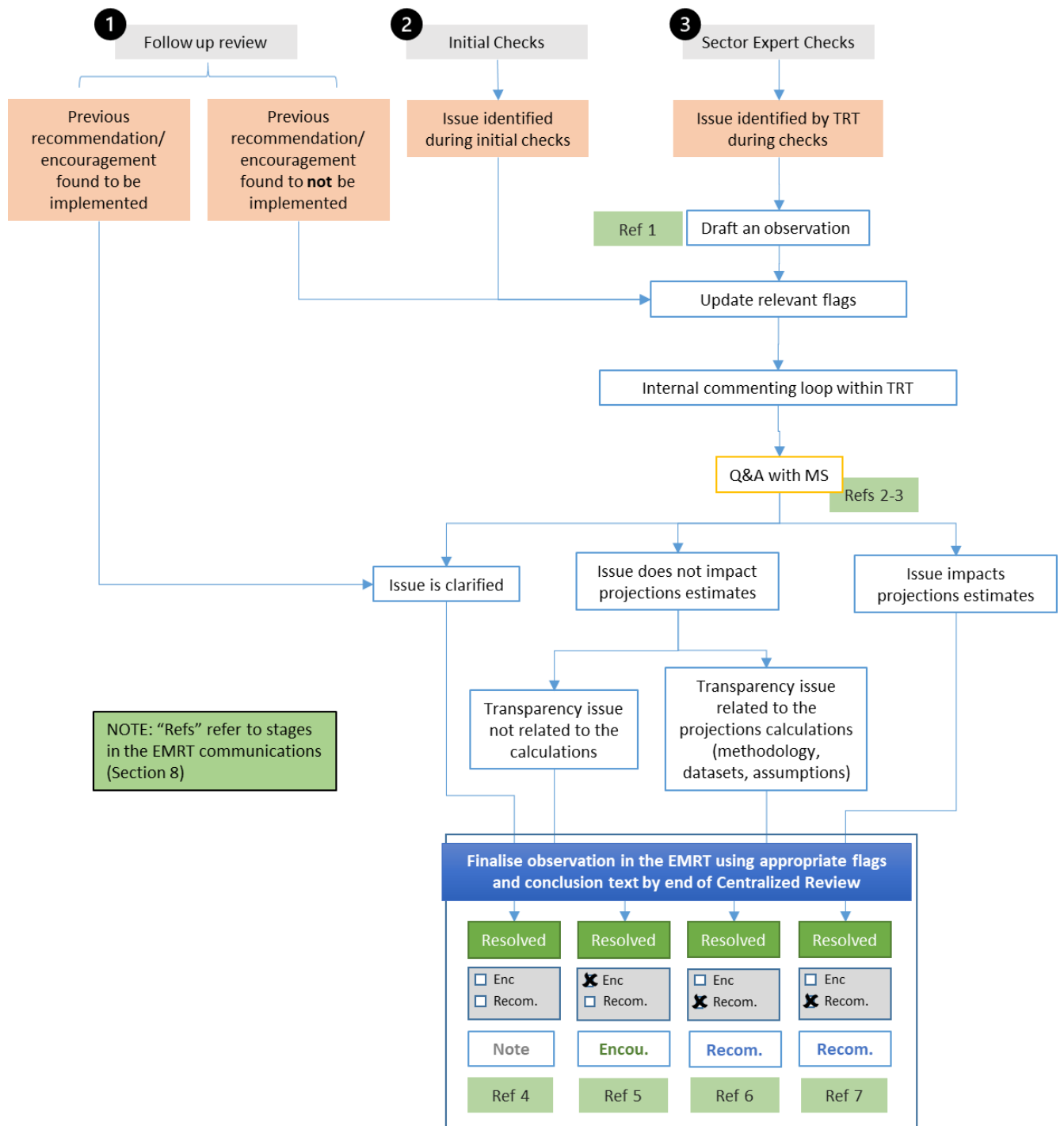
Results, recommendations and encouragements will be presented to the Commission following the Centralised Review.

Ahead of the Centralised Review, the Lead Reviewers, in cooperation with the Sector Experts, will be asked to provide to the Project Manager a list of issues they would like to raise. This list will use the MILE methodology:

- M – MUST: Essential goals that must be achieved during the Centralised Review for it to be a success. These should cover the highest priority issues that need agreement to complete the review.
- I – INTEND: Second priority issues. These could cover issues that are specific only to specific sectors or cross-cutting for Member States.
- L – LIKE: Third priority issues. These could cover less important issues which could potentially be resolved outside of the Centralised Review, by the Lead Reviewers working directly with sector experts and the project management team
- E – EXTRAS: Any additional things the Lead Reviewers and Sector Experts would like this meeting to achieve.

Based on that list, the Project Manager with support from the QA/QC Managers will prepare the agenda for the meeting, ensuring appropriate prioritisation of the issues as provided by the project team and identifying issues common for more than one Member State or sector. Having reviewed the priorities sent through by the review teams the Project Manager will establish to what extent it would be beneficial to involve Sector Experts in the discussions.

Figure 3-2 Decision Tree for the projections review



3.4 CHECKLISTS

The Checklists are available to the TRT on the SharePoint site (see section 9) and provide the Sector Experts, Lead Reviewers and QA/QC Manager with a standardised list of checks that need to be performed during the review. These lists have been developed to support the consistency, transparency and timeliness of the review. They also provide simple evidence of the checks that the TRT performed during the review. The progress of these checks will be monitored throughout the review.

The checklists are easy to update and are provided within an Excel spreadsheet. Users can copy and paste cell contents; drop-down menus are present for several columns; filters and sorting can be applied to columns.

- The Sector Experts Checklist provides all checks to be performed by the Sector Experts; it also includes the priority of the checks. Sector Experts should start with checks with high priority and then continue with medium priority checks. Sector Experts should continually update their progress using the “status” field.
- The Lead Reviewers Checklist provides all checks to be performed by the Lead Reviewers. Lead Reviewers should continually update their progress using the “status” field.
- The QA/QC Manager Checklist provides all checks to be performed by the QA/QC Manager.

3.5 REVIEW FINDINGS

3.5.1 Sector Experts

Based on the checks against the completeness, consistency and accuracy of the projections and following the decision tree shown in Figure 3-2 sector experts will develop the following types of recommendations:

1. **Recommendations** – the approach being used does not meet good practice requirements, and improvements are required to bring the approach in line with good practice. These are likely to be issues with emission projections which must be resolved prior to the next submission date and could impact on Member State projected compliance with emission reduction commitments.
2. **Encouragements** – the existing approach is broadly in line with good practice, but improvements could be made. Examples include improving the transparency by providing more comprehensive description of the methodology and/or underlying assumptions used in calculating the emission projections.

3.5.2 Lead reviewers

Lead reviewers will need to assess the recommendations and encouragements made by the sector experts and assess the overarching quality of the Member State’s projections submission. This will be done by evaluating the submission against the projections quality metrics and allocating one of the following ratings:

- Major improvements needed
- Minor improvements needed
- Good quality

Figure 3-3 presents an example of the quality evaluation framework for each quality element by pollutant as presented in the Member State review report. These scores will then be combined into an overarching quality score by quality element and presented in the horizontal review report (compiled at the end of the review process) for each Member State⁶.

⁶ The methodology for the risk assessment is described in the horizontal review report.

Figure 3-3 Example quality evaluation table of the WM and WAM projections submission

Pollutant	Transparency of reporting	Comparability of reporting	Completeness of reporting	Consistency of projections	Accuracy of Projections
SO ₂	Major improv.	Minor improv.	Good	Major improv.	Minor improv.
NO _x	Major improv.	Minor improv.	Good	Major improv.	Minor improv.
NM VOC	Major improv.	Minor improv.	Good	Major improv.	Minor improv.
NH ₃	Major improv.	Minor improv.	Good	Major improv.	Minor improv.
PM _{2.5}	Major improv.	Minor improv.	Good	Major improv.	Minor improv.

3.6 REVIEW REPORTS

The project team will produce a Projections Review Report for each Member State participating in the review. The report will communicate the outcomes of the review, listing the recommendations and encouragements resulting from the 2023 review, and an assessment of implementation of previous findings.

The templates for the review reports and examples of completed reports are available on the SharePoint site. The following inputs to the individual Member States projections review report are required from the TRT:

- Sector experts check the outputs from the EMRT-NECD and draft recommendations and conclusions for their sector
- Lead reviewers manage and coordinate the sector expert inputs; ensure consistency of approach; check and, where necessary, moderate recommendations; provide overall quality ratings, recommendations and conclusions.

All versions of the reports will be shared and archived on the SharePoint site.

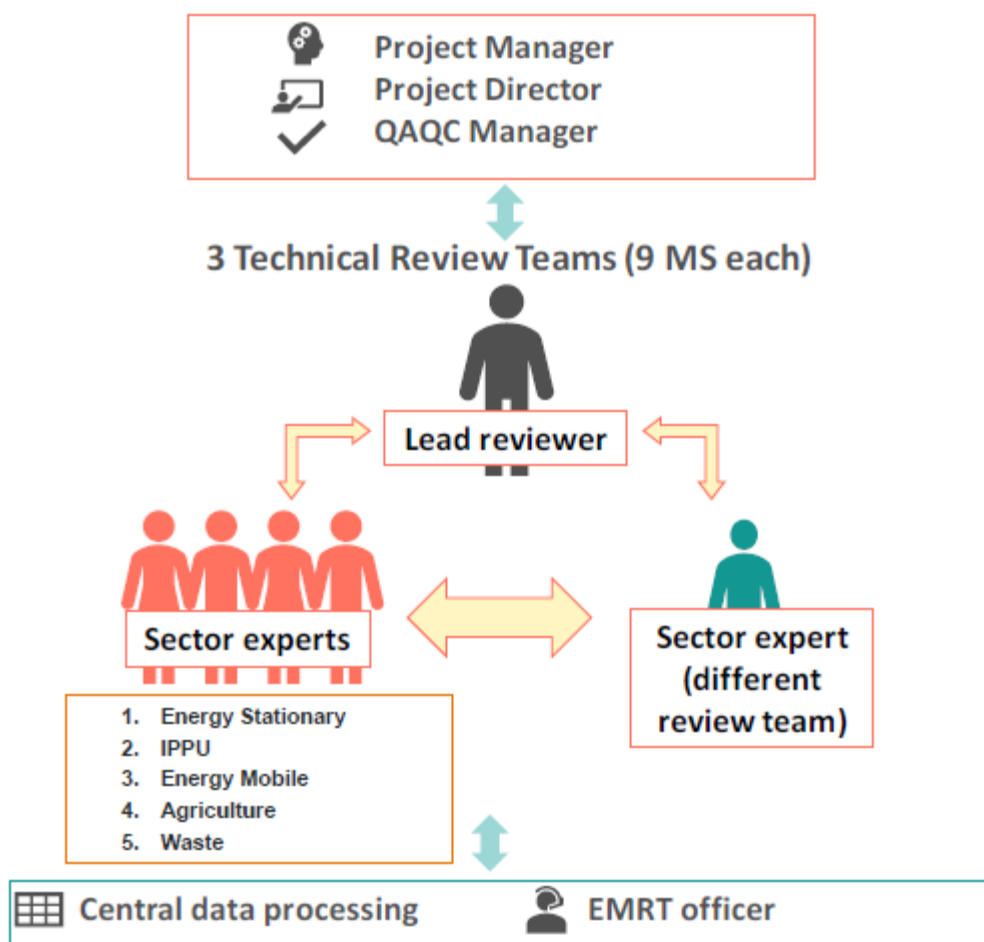
The draft Projections Review Reports will be sent to the Member States for comments by the EEA via the EIONET. The Lead Reviewers will update the draft Review Reports in response to these comments. In doing so, they may request support from Sector Experts. The final Review Reports will be sent to the Member States by the EEA via the EIONET.

4. ROLES AND RESPONSIBILITIES

Roles and responsibilities of the members of the TRT are described below. Figure 4-1 provides an overview of the review teams and internal interactions.

In 2023 there will be 3 technical review teams (TRT), each responsible for nine Member States. Each team will be headed by a lead reviewer who will oversee the work of the sector experts on the review of projections. Each team will include five sector experts for the review of projections covering the following NFR categories: Energy (stationary), Energy (mobile), IPPU, Agriculture and Waste. Each sector expert will have a counterpart from a different TRT reviewing the same sector who will provide guidance and feedback on issues raised, which also ensures consistency of approach across review teams.

Figure 4-1 Overview of roles for the projections review



4.1 MEMBER STATE REPRESENTATIVE

During the Preparatory phase, the Member State representative (i.e., the person or office assigned by the Member States as the first point of contact for the review team) will have an opportunity to review the Projections Review Guidelines.

During the review, the Member State representative will:

- Communicate with the TRT via the EMRT-NECD
- Where possible, attend teleconferences requested by the EEA (likely only in exceptional circumstances)

After the review, the Member State representative will have the opportunity to provide comments on the draft projections review report prior to its publication.

4.2 PROJECT MANAGER

During the Preparatory phase, the Project Manager will contribute to the Guidance document (this document), tools and checklists for the TRT.

During the Desk Review and Centralised Review, the Project Manager will:

- Monitor progress of review activity
- Communicate with the Commission, EEA, QA/QC manager, Lead Reviewers and Sector Experts to ensure that they all have the same understanding and act consistently.

Supported by the Quality Controller and the Lead Reviewers, the Project Manager will also:

- Ensure that the review is carried out consistently across all Member States (MS)
- Ensure that the review is performed according to the Projections Review Guidelines
- Ensure that the recommendations are consistent with the requirements of the NECD and 2019 EMEP/EEA Guidebook.

After the review, the Project Manager will coordinate preparation of the horizontal review report and review evaluation report.

4.3 QA/QC MANAGER

During the Preparatory phase, the QA/QC Manager will:

- Develop and quality check tools and checklists for the TRT
- Develop and contribute to the Guidance Document for the TRT (this document)
- Develop and contribute to the review report template.

During the Desk Review and Centralised Review, the QA/QC Manager will support the following activities to ensure consistency across all Member States and provide support to Lead Reviewers:

- Check consistency between the TRTs during the Projections review process
- Spot-check entries in the EMRT-NECD for each Sector Expert and Lead Reviewer
- Complete all the checks in the QA/QC Manager Checklist (see Section 3.4).

After the review, the QA/QC Manager will:

- Oversee the compilation of the draft and final review reports by the QA/QC team
- Check draft and final review reports

4.4 LEAD REVIEWERS

During the Preparatory phase, Lead Reviewers will check and comment on review tools and Guidance. Lead Reviewers will participate in the training webinars (see Chapter 7).

During the Desk Review and Centralised Review, Lead Reviewers will:

- Guide and monitor the progress of the review team
- Coordinate and quality check the queries to Member States and coordinate the inclusion of Member States' responses into the review reports
- Provide technical guidance to the team
- Plan and prioritise the work of the team
- Ensure that any recommendations are consistent with the 2019 EMEP/EEA Guidebook

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- Ensure consistency between the Projections review process and fair treatment between Member States that have used the updated Annex IV template and those which report using the Annex IV template (2014). See Section 2.1 for further details.
- Check and approve all recommendations
- Apply an overall risk rating to the projections, based on the recommendations of the sector experts (see Section 3.5.2)
- Keep the project manager and QA/QC Manager updated of any potential problems
- Ensure that the review is performed, and the review reports are prepared in accordance with the Projections Review Guidelines
- Complete all the checks in the Lead Reviewers Checklist (see Section 3.4).

After the review, Lead Reviewers will:

- Check draft and final review reports

4.5 SECTOR EXPERTS

During the Preparatory phase, Sector Experts will participate in the training webinars (see Chapter 7).

During the Desk Review and Centralised Review, Sector Experts will undertake their analysis in accordance with the checks listed below:

- Complete all the checks in the Sector Experts Checklist (see Section 3.4)
- Raise transparent and well-drafted questions for the Member States through the EMRT-NECD
- Provide recommendations and encouragements following the decision tree (Figure 3-2)
- Conduct sectoral assessment of additional Policies and Measures, where available, for their sector and
- Assess the implementation of previous recommendations and encouragements issued in the previous projections review.

4.6 SUPPORTING STAFF

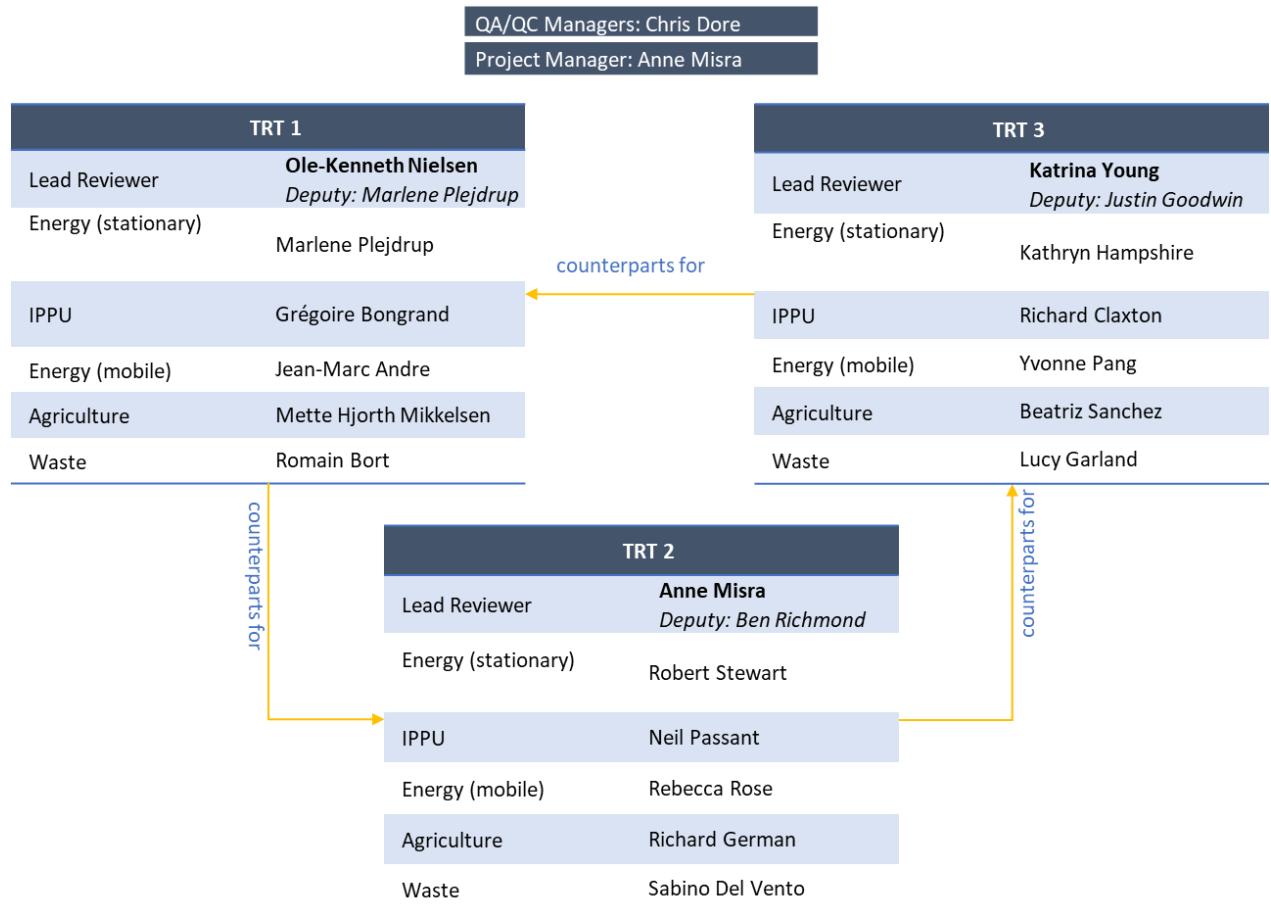
The Technical Review Teams will be supported by the following roles, with access provided via the Lead Reviewer and Project Manager in the first instance:

- **QA/QC team** – supports the QA/QC Manager, conducts initial data checks, monitors progress of the review and supports the TRT in the use of the EMRT-NECD, compiles the projections review reports.

4.7 REVIEW TEAM ALLOCATION

Error! Reference source not found. below provides details of the allocation of experts within the TRT. The allocation was made to exclude any conflict of interest and to keep each TRT within a single organisation to support efficient communication.

Figure 4-2 TRT for the projections review



5. QUALITY OBJECTIVES AND PROCEDURES

It is the responsibility of the review team to ensure that the following quality objectives are met and that the quality procedures are complied with during the review. The overall responsibility lies with the QA/QC Manager who will provide relevant guidance, training and tools to support these objectives and procedures.

The following **quality objectives** apply to the 2023 review of the emission projections:

- Ensure that the review is carried out consistently across Member States and the previous projections review cycle
- Ensure that data submitted in both the Annex IV template (2014) and the updated Annex IV template (2023) are reviewed consistently and result in quality assessments which are not influenced by the reporting format. Reviewers will not judge submissions presented in the more aggregated format to be of lower quality, and likewise will not judge a higher number of comments relating to more disaggregated reporting to be an indication of overall low quality.
- Ensure that questions to Member States are quality checked and consistent across Member States
- Ensure that the list of recommendations is quality checked and that recommendations are formulated in a clear, understandable and consistent manner across all Member States
- Ensure that the review is performed, and the review reports are prepared in line with this guideline document and the review report template
- Ensure that recommendations are consistent with the 2019 EMEP/EEA Guidebook
- Ensure that the timeline is kept
- Limit burden of Member States to the extent possible.

The following **quality procedures** will be in place to meet the quality objectives:

- Review Checklists available on the SharePoint site will be used to ensure that all reviews are undertaken in a consistent manner
- Each Sector Expert will review several Member States to allow contextualisation and effective benchmarking
- Sector Experts will interact with the lead reviewer and QA/QC Manager during the review using the EEA Emission Review Tool (EMRT-NECD) and direct communication where relevant, to ensure consistency with the 2019 review and to identify common or persistent issues across the sectors
- Lead Reviewers will oversee Sector Experts to ensure that common or interrelated issues are identified, communicated and discussed, and where possible resolved, and to ensure that review processes and procedures are followed
- Questions to Member States will be quality checked by Lead Reviewers through the EMRT-NECD to ensure consistency and relevance
- Draft and final review reports will be quality checked by Lead Reviewers to ensure consistency and compliance with review guidelines
- The QA/QC manager will quality check draft and final review reports to ensure accuracy, consistency and compliance with review guidelines

6. REVIEW SCHEDULE

The review will consist of the activities described in Section 2.1 and listed below. Table 6-1 provides the detailed schedule of the activities involved in the review of projections. The review consists of the following key stages:

1. **Training sessions** – appropriate training will be provided to the TRT via webinar session (see Chapter 7).
2. **Initial checks** – the QA/QC team will perform initial checks on the submissions and help inform the work of the Sector Experts
3. **Desk Review** – Sector Experts will undertake their review during the Desk Review and will communicate with the Member States representatives via the EMRT-NECD during this period
4. **Centralised review** – One day meeting for Sector Experts, Lead Reviewers, QA/QC manager and project manager. Following days for Lead reviewers to compile quality assessments.
5. **Review reports** – the project team will compile review reports to communicate the outcomes of the review, and Member States will have an opportunity to comment on these reports before publication

Table 6-1 Detailed schedule of the projections review

Review Phase	Dates - 2023
Preparatory Phase	
Training for reviewers	27/04
Initial Checks	10/04– 05/05
Desk reviews	08/05 - 02/06
Deadline for submitting projection questions to Member States	08/05 - 19/05
Deadline for Member State responses	26/05
Complete reviews and close any follow up questions	27/05 - 02/06
Centralised Review	
Centralised review: One day meeting for sector experts	05/06
Formulating conclusions and finalising observations in the EMRT	06/06- 09/06
Preparation of draft projections reports	03/07 – 31/08
EEA extracts input for draft review reports from the EMRT-NECD	03/07
Compilation and quality checking of draft projection reports	03/07 -11/08
Draft projections report submitted for comment (EC, EEA)	11/08
EC/ EEA respond with comments	22/08
Updates following 1st round of comments	22/08 -31/08
Draft projections reports submitted to MS for comment	01/09
Member State responds with comments	15/09
Updated reports sent for comments (EC)	29/09
Commented versions of updated reports returned to QC team	05/10
Final projections reports submitted to the EC	12/10
Finalised reports issued to MS by the EEA	13/10

7. TRAINING SESSIONS

Webinar-based training sessions will be available to the TRT. The webinars will be recorded so that they can be viewed again. The links to the recordings will be available on SharePoint.

The training sessions for the TRT will include:

- **Session for all members of the TRT:** to explain the approach and priorities of the 2023 review including timelines and responsibilities as outlined in the review guidelines, the use of checklists and supporting data review tools, improvements or changes to the EMRT-NECD, communication within TRT, the summary of findings from the initial checks, and the contributions to the assessment of both quality and compliance.
- **Session for new Sector Experts and new Lead Reviewers:** to explain the data they will be provided, initial checks that will be performed centrally, data review tools available to support review activities, QAQC procedures, detailed use of the EMRT-NECD, use of SharePoint, Projections Review Guidelines, report template, communication within TRT.

8. EMRT-NECD COMMUNICATIONS

The purpose of the EMRT-NECD is to streamline the procedure of recording review findings, communicating questions to Member States and replies to the review team.

The EMRT-NECD is available at <https://emrt-necd.eionet.europa.eu/>. Guidance documents and resources can be found at <https://EMRT-NECD-necd.eionet.europa.eu/help>. Any questions or comments regarding the tool should be sent to necd.review@eionet.europa.eu.

During the Review, the TRT will use the EMRT-NECD to capture the findings of the review and communicate with the Member States. Sector Experts will create transparent observations, ask Member States relevant questions relating to outstanding issues, and create transparent and concise conclusions and recommendations. Lead Reviewers will review all communications to support the Sector Experts in this process.

The following sections provide guidance on the structure of Sector Experts' communications for different situations. Each one has been given a reference, which is used in the Decision Tree (see Figure 3-2).

8.1 OPENING AN OBSERVATION

1. **Observations** should be written using clear and concise language.

Reference 1

For [category A], [fuel B, if relevant], and [pollutant a, b, c] for year[s] [x, y, z] the TRT noted that [in table x, cell x] [in the IIR, page x] [explain what the observation is].

8.2 ASKING A QUESTION

The dialogue between the TRT and the Member States within the EMRT-NECD will occur during the Question and Answer loop. The following sections provide guidance on the language that the TRT should use during this dialogue. Questions will be sent to Member States via the EMRT-NECD following authorisation by the Lead Reviewer.

Sector Experts will copy in a counterpart, where appropriate, so they can comment on their draft. But this is not always necessary if the question is very simple (the Lead Reviewer ensures that the four eyes principle is maintained). Files can be attached to questions for Member States to download and view. When asking a question, the TRT should clearly state the potential problem and should make sure that the text in the Question part of the tool is clear and concise. Any important points raised by the Member State in response to TRT questions that may, for example, have changed the views of the TRT should be clearly and concisely documented.

The following provides guidance on the structure of the question depending on the situation. It is good to repeat in the question the category, pollutant and fuel for transparency reasons. For example, Member States may extract the EMRT-NECD findings into Excel and distribute this to their team, so it is useful to have all this information in the “Question” field.

2. A question that is related to a **potentially significant over/under estimate in emissions in the base year or compliance year**.

Reference 2 – a potentially significant over/under estimate in emissions in the base year or compliance year

The TRT notes with reference to [clearly reference the tables/IIR pages/category/fuel/gas/years] that there may be an [over/under] estimate of emissions. [This was raised during the 2019 [and/or delete as appropriate] 2021 Projections review]. This [over/under] estimate may have a significant impact on total emissions for [year]. The TRT notes that this [over/under] estimate may be because [explain what the problem could be]. Please provide further justification for your current estimate [add in any data required] or provide a description of how this issue will be resolved in the next submission.

3. A question that is related to a **lack of transparency** that makes it impossible to judge if there is an error that may be above the threshold of significance.

Reference 3 – lack of transparency

The TRT notes with reference to [clearly reference the tables/IIR pages/category/fuel/gas/years] that there is a lack of transparency regarding [explain what the problem is]. [This was raised during the 2019 [and/or delete as appropriate] 2021 Projections review]. The TRT is unable to determine whether there is an under or overestimate in projected emissions. Please provide further clarification of [add what needs clarifying] by providing [add what information is needed].

8.3 CONCLUDING AN OBSERVATION

Conclusions and recommendations will be drafted in the EMRT-NECD “Conclusion” box. The Decision tree in Figure 3-2 presents the options for finalising observations in the EMRT-NECD. An observation will be closed by the Sector Expert and needs to be accepted by the Lead Reviewer. Following the Questions and Answers phase, there are four key outcomes to finalising an observation.

4. **Sector Expert or Member State clarifies issue** so that it is resolved, and it does not need to be included in the review report.

Reference 4 – Issue is resolved

The TRT clarified the issue [internally/with the Member State] and concluded that [brief explanation of conclusion reached and why the issue is resolved]. As such, this will not be added to the review report.

5. The issue is related to a **transparency issue not related to the projection’s calculations** (methods, datasets, assumptions) so requires an **encouragement** in the review report.

Reference 5 – Issue is clarified but is a transparency issue or other exceptional case and requires an encouragement

For [category/pollutant/years] the TRT noted that... [This was raised during the 2019 [and/or delete as appropriate] 2021 Projections review]. [In response to a question raised during the review, [Member State] explained that....] The TERT notes that this issue does not relate to an over or underestimate and encourages [Member State] to [include clear explanation of encouragement that should be included in review report].

6. The issue is related to a **transparency issue of the projection calculations** (methods, datasets, assumptions) so requires a **recommendation** in the review report.

Reference 6 – Issue is clarified but is a transparency issue which relates to projections calculations or other exceptional case and requires a recommendation

For [category/pollutant/years] the TRT noted that... [This was raised during the 2019 [and/or delete as appropriate] 2021 Projections review]. [In response to a question raised during the review, [Member State] explained that....] The TRT notes that this issue does not relate to an over or underestimate and recommends that [include clear explanation of recommendation that should be included in review report].

7. The issue significantly impacts the projections estimates.

Reference 7 – Issue is clarified but is an exceptional case and requires a recommendation

For [category/pollutant/years] the TRT noted that... [This was raised during the 2019 [and/or delete as appropriate] 2021 Projections review]. In response to a question raised during the review, [Member State] explained that.... The TRT notes that this issue relates to an over or underestimate and recommends that [include clear explanation of recommendation that should be included in review report].

9. SHAREPOINT AND TEAMS

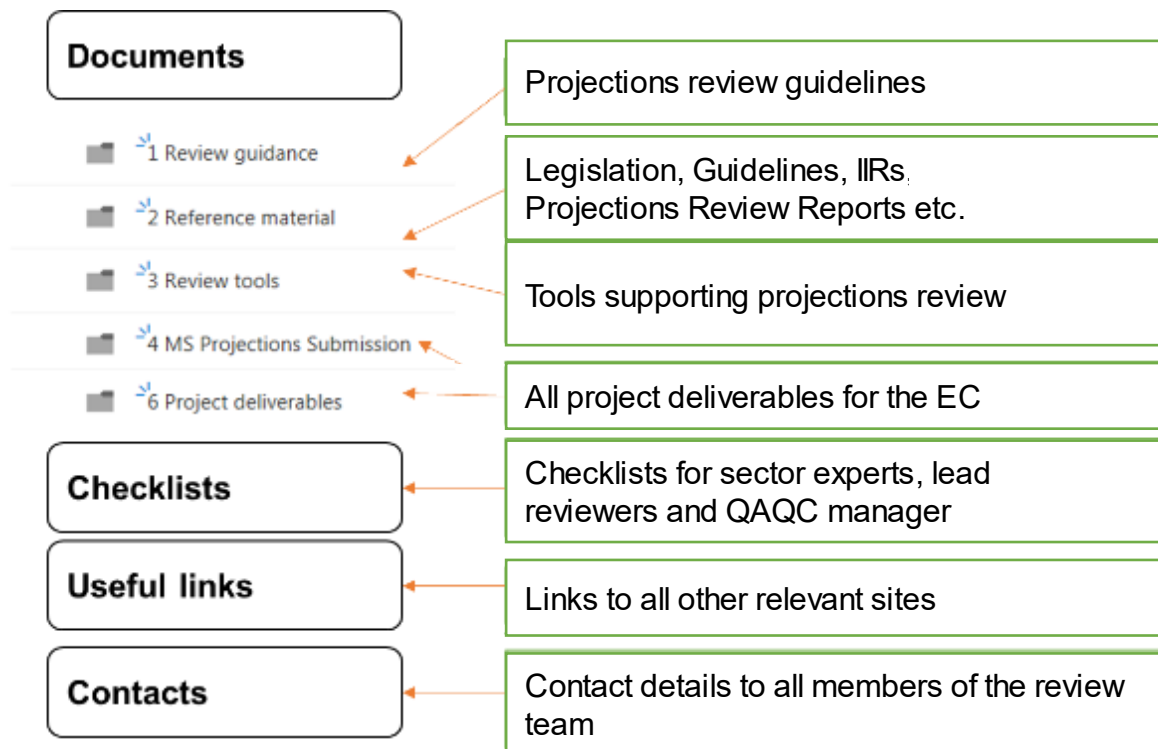
The SharePoint site contains all the information, reference material, tools and templates provided to the TRT to support the completion of the review. The associated Teams site will also be used to host meetings and chat within TRT and sector groupings. It will also be used for announcements and will host the discussion board.

The following section provides an outline of the SharePoint site structure and content, with some suggested tips for using SharePoint effectively. The exact structure may evolve during the project, so the information below may not be an exact reflection of its structure or content at future times. The QA/QC team is available throughout the review to answer any questions regarding the functionality of the site.

9.1 SHAREPOINT

The following diagram shows the left-hand side navigation bar for the SharePoint site. This summarises the contents of site. Alongside each menu item is a description of that area of the site.

Figure 9-1 Organisation of SharePoint site



9.2 TEAMS

A Microsoft team, connected to the SharePoint site, will be created for use by the TRT. Channels will be created, and access given to the relevant participants of the Projections review in the structure presented in Figure 9-3.

Figure 9-2 Structure of Microsoft teams channels for the NECD Projections review

General

- Channel for all participants of the Projections review.
- Announcements relevant for the whole team will be made here e.g. reminders of timelines

Energy Stationary

- Channel for specified experts.
- Space for sector specific cross cutting discussions (note: all discussion related to specific issues must be held within the EMRT for documentation purposes).

Energy -mobile

- Channel for specified experts.
- Space for sector specific cross cutting discussions (note: all discussion related to specific issues must be held within the EMRT for documentation purposes).

IPPU

- Channel for specified experts.
- Space for sector specific cross cutting discussions (note: all discussion related to specific issues must be held within the EMRT for documentation purposes)

Agriculture

- Channel for specified experts.
- Space for sector specific cross cutting discussions (note: all discussion related to specific issues must be held within the EMRT for documentation purposes).

Waste

- Channel for specified experts.
- Space for sector specific cross cutting discussions (note: all discussion related to specific issues must be held within the EMRT for documentation purposes).

Core Team

- Channel for discussions at the core/quality team level about arising issues
- Updates on progress of the review

Feedback and Improvements

- Feed of ideas for improvements to the process of the review, accessible by all review participants

Lead Reviewers

- Channel for LRs only to flag and discuss any arising cross cutting issues from within own teams

TRT 1-3

- One channel for each TRT group
- Space for LRs and SEs to communicate within their own TRT
- Space to discuss any particular MS issues which are relevant for multiple sectors
- Can be used to host TRT catch up meetings

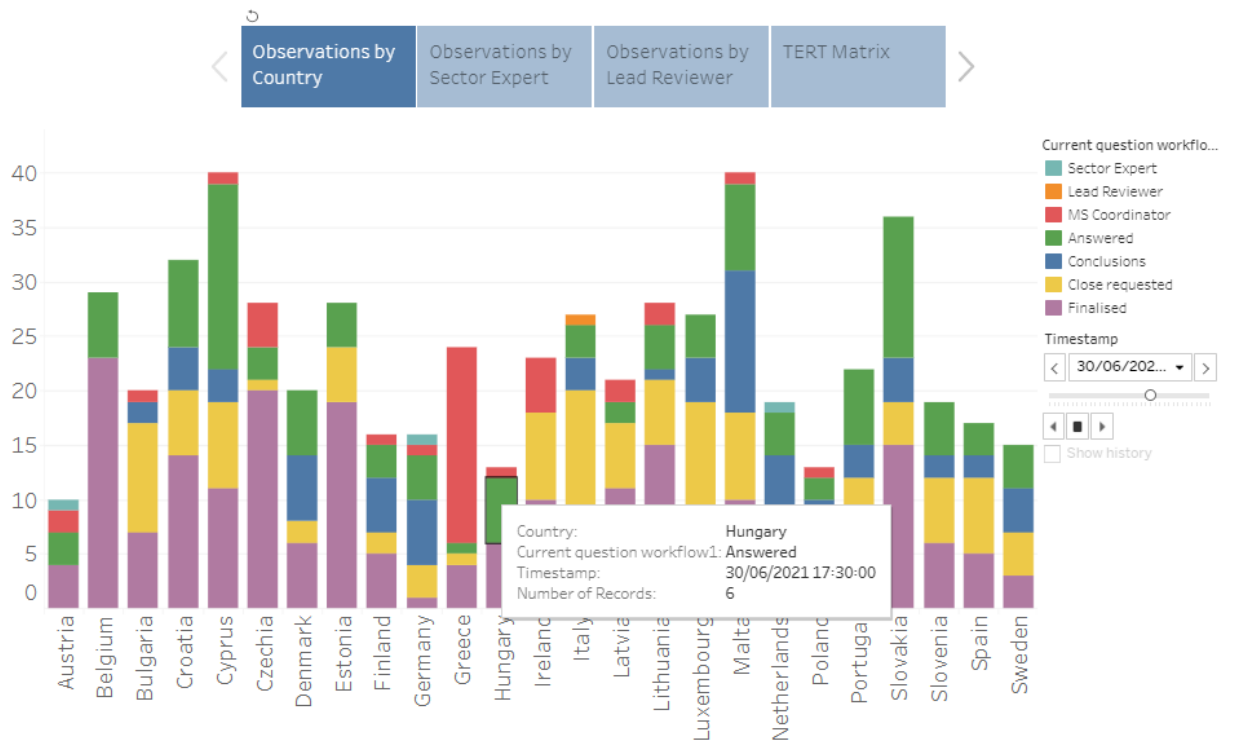
9.3 EMRT-NECD DATA VIEWER

The EMRT-NECD Data Viewer helps the TRT assess the progress of the review. It visualises summary information from the EMRT-NECD and is regularly updated by the QA/QC team throughout the review. Figure 9-3 gives an example visualisation from the data viewer created for previous review of 2021 projections. This is accessible via the SharePoint site.

The data viewer has many useful features some of which are listed below:

- Each tab has a different view of the EMRT-NECD data providing a different summary for the EMRT-NECD;
- Click on the bars in the graphs to find out more information via pop-up windows;
- Click on the graphs and in some cases a clickable URL for the observation will be provided.

Figure 9-3 Screenshot of NECD Projections review statistics viewer



10. REVIEW TOOLS AND DATASETS

Supporting review tools, datasets and documentation will be available to the TRT during the review in the Documents section of the SharePoint site. Table 10-1 provides a description of the review tools that will be made available to the TRT.

Table 10-1 List of checking tools and material available to support the TRT

Item	Relevant sectors	Description and guidance for Sector Experts and Lead Reviewers
Contained within Projections Review Tool Spreadsheet		
Compliance viewer	All sectors	<p>Includes a calculation of the projected compliance for each Member State using the appropriate reported data for:</p> <ul style="list-style-type: none"> • 2025, against the 2020-2029 emission reduction commitment • 2030, against the 2030 emission reduction commitment • the 2025 linear trajectory criterion for. <p>Also includes a summary of any recalculations of the historic inventory if the projections are not based on the most recent version of the historic emissions inventory. This will support the assessment of the extent to which future projections submissions may be recalculated. This is reported in section 2.2 of the review report.</p> <p>Check whether the Member State is compliant.</p>
Time series viewer	All sectors	<p>Includes the time series trend (as a chart and a table) for a selected Member State for historical and projected emissions. This includes both WM and WaM projections. For the historical inventory both the inventory on which the projections are based and, if different, the latest historic inventory submission are plotted.</p> <p>Displays how similar the trend is to the average for other Member States.</p> <p>Check whether the reported growth/reduction seems feasible considering historical trends. Check whether growth/reduction is an outlier compared to other Member States and, if so, that this can be justified.</p>
Normalised data viewer	All sectors	<p>Includes historical and projected emissions for all Member States normalised by appropriate indicators.</p> <p>Check whether the trends for the Member State are internally consistent and appropriate. Check the comparability of the trends to other Member States and that outliers are justified.</p>
Notation key viewer	All sectors	<p>Tabulates historical and projected emissions estimates for a selected Member State, with colour coding of notation keys, missing data and zeros.</p> <p>Check that the use of notation keys and reporting of emissions by category is consistent between the historical inventory and projected data, and within the projected data.</p>
Activity data viewer	All sectors	<p>Displays activity data reported in Annex IV B of the projections template for a selected Member State, as well as comparable data reported in the National Energy and Climate Plan (NECP)</p>

Item	Relevant sectors	Description and guidance for Sector Experts and Lead Reviewers
		Check whether emissions projections (referring to time series viewer) are consistent with projected activity data, and check for consistency of activity data reported in Annex IV B and the NECP
PaMs Viewer	All sectors	<p><i>Also includes a comparison of the WaM projections against the WM projection scenario minus the projected impact of PaMs.</i></p> <p>Check the plausibility of PaMs impacts, and check coherence between reported PaMs and the WaM projection scenario.</p>
Contribution Viewer	All sectors	<p><i>Table with formatting to highlight the sectors contributing the most to national totals in the historical and projected data.</i></p> <p>Contextual data provided to facilitate prioritising checks and questions / recommendations.</p>
Linear trajectory assessment	All sectors	<p>Includes a linear trajectory assessment for the projections of each pollutant and country.</p> <p>Check whether the Member State reported reduction 2020-2030 meet linear trajectory requirement (i.e. meet 2025 interim targets) and, if not, check this is explained and justified.</p>
Submission completeness summary	All sectors	<p><i>Includes a list of all reporting requirements and an assessment of the completeness of reporting for each Member State.</i></p> <p>Check whether the Member State has reported all required information in the required format.</p>
Recalculation viewer	All sectors	<p><i>Includes the time series trend (as a chart and a table) for a selected Member State for projected emissions submitted in 2019 and in 2021.</i></p> <p>Check whether there have been any significant recalculations between the inventory projections submitted in 2021 and 2023 to support the check on the implementation of recommendations and encouragements from 2021. Also check for no recalculations, which suggests that neither the base year of the inventory or the projections have been updated.</p> <p>Recalculations between the version of the historic inventory on which projections are based and the latest submission are covered in the time series viewer.</p>
Separate materials		
MS projections submissions	All sectors	<p><i>Includes all projections submissions relevant to the review.</i></p> <p>Use these spreadsheets as the basis for your assessment.</p>
MS inventory submissions	All sectors	<p><i>Includes all historical inventory NFR and IIR submissions relevant to the review.</i></p> <p>Use these documents to help inform your assessment.</p>
Previous recommendations	All sectors	<p><i>Includes recommendations made by the projections review carried out by the European Commission since 2017.</i></p> <p>Use these recommendations to help inform your analysis and to consider previous clarifications provided by the Member State.</p>

Item	Relevant sectors	Description and guidance for Sector Experts and Lead Reviewers
Baseline inventory list	All sectors	<i>A simple list which states which version of the historical inventory is used as the basis for projections by each Member State.</i>
Key categories	All sectors	<p><i>Includes all level key categories based on the most recent inventory submitted under the NECD.</i></p> <p>Use this list, where available, to help prioritise your assessment by focussing on key categories. Check whether the projections for key categories are based on Tier 1 or Tier 2 methods.</p>
PaMs submitted via the EEA-PaM tool (where available)	All sectors	<p><i>Where available, includes PaMs submitted by Member States via the EEA-PaM tool. May provide information on the PaMs included in the WAM scenario.</i></p> <p>Use this to understand assumptions and changes between WM and WAM scenarios (where available).</p>



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