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Experience of Parties with the test version of the reporting tools under the enhanced transparency framework

Technical paper by the secretariat

Summary

  This technical paper synthesizes information submitted by Parties on their experience with using the test version of the reporting tools under the enhanced transparency framework and challenges faced by developing country Parties in integrating the tools into their national inventory arrangements, including an assessment of the issues reported by Parties in relation to the tools, for consideration by the Subsidiary Body for Scientific and Technological Advice at its sixtieth session.

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Abbreviations and acronyms

BTR	biennial transparency report
CMA	Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
CRF	common reporting format
CRT	common reporting table
CTF	common tabular format
ETF	enhanced transparency framework under the Paris Agreement
GHG	greenhouse gas
JSON	JavaScript Object Notation
MPGs	modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement
NDC	nationally determined contribution
NO	not occurring

I. Introduction

A. Mandate

1. CMA 3 requested the secretariat to develop tools for the electronic reporting of the CRTs and CTFs under the ETF, taking into account the operationalization of the flexibility provisions referred to in paragraph 5 of decision 5/CMA.3, and to make available a test version of those ETF reporting tools by June 2023 with a view to the final version being completed by June 2024, subject to the timely availability of sufficient financial resources.[1]

2. CMA 3 invited Parties to submit information on their experience with the test version of the reporting tools, including with integrating the tools into their national inventory arrangements, and inputs on improving the tools.[2]

3. CMA 3 requested the secretariat to prepare a technical paper on the basis of the submissions, including an assessment of Parties' experience with the test version of the reporting tools and the challenges faced by developing country Parties in integrating the tools into their national inventory arrangements, for consideration by the Subsidiary Body for Scientific and Technological Advice at its sixtieth session.[3]

B. Background

4. The secretariat made a test version of the ETF reporting tools available to Parties in August 2023. The release comprised three distinct electronic reporting tools: the ETF GHG inventory reporting tool, for reporting information on anthropogenic emissions and removals of GHGs; the ETF progress reporting tool, for reporting information necessary for tracking progress in implementing and achieving NDCs; and the ETF support reporting tool, for reporting information on support provided, mobilized, needed and received related to finance, technology development and transfer, and capacity-building. The secretariat released an update to the test version in November 2023 and another in April 2024, in which the coverage of the CRTs and CTFs and scope of functionality of the reporting tools had been expanded.

5. The following principles guided the secretariat's development of the reporting tools:

(a) Facilitating the electronic reporting of information and data in accordance with the agreed CRTs and CTFs;

(b) Enabling detailed analysis, comparison and assessment of information and data with a view to contributing to the global stocktake and supporting the preparation of NDCs;

(c) Developing the three reporting tools within a unified framework, to the extent possible, to maintain consistency and coherence among them;

(d) Leveraging knowledge and experience from the development and use of the reporting tools within the existing measurement, reporting and verification framework under the Convention;

(e) Addressing the complexity of developing the reporting tools, including technical and financial aspects, by ensuring the availability of additional skills and expertise and the necessary coordination;

(f) Ensuring that the tools are secure, stable, high-performing, web-based but also usable offline, and user-friendly for all Parties;

(g) Supporting the application of the flexibility provided for in the MPGs[4] for those developing country Parties that need it in the light of their capacities, while ensuring

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[1] Decision 5/CMA.3, para. 8.
[2] Decision 5/CMA.3, para. 10.
[3] Decision 5/CMA.3, para. 11.
[4] Decision 18/CMA.1, annex.

interoperability and possibility of integration with Intergovernmental Panel on Climate Change software and national reporting systems.

C. Scope

6. A total of 11 submissions[5] had been received from five Parties[6] and on behalf of three groups of Parties[7] in response to the invitation referred to in paragraph 2 above as at 29 February 2024.

7. In the submissions, Parties focused mainly on their experience with using the test version of the ETF reporting tools released in August and updated in November 2023, identifying issues and recommending improvements. They shared views that are applicable either to all three reporting tools collectively or to one tool specifically. Challenges that developing country Parties may face in integrating the tools into their national inventory arrangements were covered in one submission.

8. This technical paper synthesizes Parties' views as expressed in the submissions on the basis of their experience, and includes an assessment of the issues reported, in relation to the reporting tools.

II. Synthesis of information from the submissions

A. Experience and views related to the reporting tools under the enhanced transparency framework

9. Parties expressed appreciation for the secretariat's efforts in developing the ETF reporting tools, while recognizing that the test version released in August and updated in November 2023 did not encompass the full scope of the CRTs and CTFs and functionality of the tools.

1. General

10. Parties considered the performance of the test version of the ETF reporting tools to be very promising, on account of the tools being significantly faster and more responsive than the reporting tools within the existing measurement, reporting and verification framework under the Convention, such as CRF Reporter, as well as efficiently handling data exports and imports with both Excel and JSON files and generating reporting tables. Parties stressed that, as the development of the ETF reporting tools progresses, it will be essential to maintain this high level of performance, especially as the number of users and the intensity of use increase.

11. Parties appreciated the comprehensive technical documentation accompanying the tools, including information on the structure of the metadata, JSON data exchange standards accompanied by detailed documents, and tables featuring unique identifiers for inventory sectors.

12. Moreover, Parties noted the usefulness of the question and answer sessions organized by the secretariat in providing updates on the scope and functions of the tools and a forum for discussing technical issues.

13. Some Parties expressed concern about a potential delay in the delivery of a fully functional version of the ETF reporting tools beyond June 2024, which could hinder Parties in preparing their BTRs and submitting them by the December 2024 deadline. Adequate time must be allowed for Parties to review and comment on the final test version so that their inputs can be reflected in the final stage of the tools' development.

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[5] Available at https://www4.unfccc.int/sites/submissionsstaging/Pages/Home.aspx (in the search field, type "test version").

[6] Australia, Japan, Norway, Switzerland and United Kingdom of Great Britain and Northern Ireland.

[7] Arab Group; Argentina, Brazil and Uruguay; and European Union and its member States.

14.   In addition, Parties raised the following concerns about the functionality and features of the tools:

        (a)   So far only three users per Party have been given access to the test version, but it will be necessary to provide access to a broader range of national experts involved in reporting under the ETF to enable more comprehensive testing;

        (b)   The numbering of versions of the CRTs and CTFs on the landing page of the user interface and the selection of the version settings by the user were not explained clearly. Furthermore, the current design of the user interface could give the impression that all Parties may make use of the flexibility provided for in the MPGs, which in fact applies only to the developing country Parties that need it in the light of their capacities;

        (c)   Uncertainty as to whether versions and data have been saved automatically could lead to data being lost; therefore, data synchronization needs to be improved and users should be able to force synchronization, such as using a manual save option, to ensure data integrity and prevent data loss;

        (d)   Some improvements to the data entry grids are necessary, such as full visibility of the text in dropdown menus and custom items, and the ability to insert comments in data entry cells or custom footnotes across all data entry grids;

        (e)   In terms of navigation, it was not possible to reorder any created country-specific child nodes in the tools; the ability to do so would be a highly beneficial feature;

        (f)   Exporting and importing data with JSON files was possible for all data entry grids collectively only, whereas it should be possible to export and import data for sectors and subsectors and sections of the CRTs and CTFs separately with JSON files, as a JSON file that encompasses all sectors and CRTs and CTFs could be extremely large, making it challenging to debug if necessary;

        (g)   Issues were encountered in importing data through Excel to the tools, including the lack of proper notification of errors. It is essential that the tools accurately identify and report the cause of such errors to facilitate troubleshooting and resolution. For many developing country Parties that lack the technical capacity to create JSON files, the ability to import Excel files should be a fundamental feature of the tools. Clear guidance should be provided for users, such as on the need to maintain the original structure of the data entry grids in the exported Excel file;

        (h)   It was not possible to import several Excel files at once to the tools, with users having to wait for each file to be processed before another could be selected for import, which would be particularly time-consuming if uploading data in batches;

        (i)   Users should be able to view both previous and ongoing data imports, alongside links to the respective log files. In particular, if an import fails or was only partially successful, the log files should indicate the specific issues as well as which data were successfully imported, or which are missing. The error descriptions should be made clearer and more transparent by including additional metadata, such as the Excel sheet name and the column and row number of the cell with the error, to facilitate a better understanding of export and import issues;

        (j)   When opening generated reporting tables in Excel, some users received an error message indicating an issue with some content in the file without any further explanation. Furthermore, on the index sheet in Excel, the links to various reporting tables were not functioning properly.

15.   To improve the usability and transparency of the tools, Parties recommended:

        (a)   Incorporating into the final version a user management feature that enables timely allocation of a sufficient number of user roles;

        (b)   Making the user interface available in all six official United Nations languages;

        (c)   Including a list of definitions for all abbreviations used;

        (d)   Including tooltips on the function of each tab in the tools, such as versions, data entry, reporting tables and quality assurance/quality control;

(e)   Enabling deletion of versions of CRTs and CTFs, as well as the default version to be switched to a different version, without the need to create a new version;

(f)   Continuing the question and answer sessions organized by the secretariat to provide updates on major releases and discuss specific technical issues, thereby facilitating better user support and engagement;

(g)   Ensuring that the technical documentation for the tools is updated promptly following any major metadata updates or releases in order to maintain accuracy and relevance;

(h)   Providing a comprehensive manual to assist users in understanding and efficiently navigating the tools, made available in all six official United Nations languages to ensure broad accessibility and provision of support;

(i)   Conducting specific load testing at various levels of efficiency and intensity to ensure that the tools will perform reliably, especially at peak use times, such as when reporting deadlines are approaching, and to avoid issues occurring later when there is insufficient time to prepare or implement contingency measures;

(j)   Maintaining confidentiality within the tools to safeguard data and information related to national security and confidential business activities.

2.   Inventory reporting tool

16.   Parties appreciated the ability in the test version of the ETF GHG inventory reporting tool to predefine parameters for inventory version settings, which streamlines the inventory compilation process and saves time. They noted that they looked forward to this feature being integrated into the tool for the industrial processes and product use sector, accommodating the sector's complexity and extensive range of parameters.

17.   Parties also appreciated that an entire time series of data can be copied and pasted directly into the data entry grid of the reporting tool. The "Apply to Subsequent Years" function, which propagates the value from one cell across the entire time series, was considered very useful. It was noted that managing child nodes has been facilitated.

18.   Parties reported the following issues with the tool:

(a)   The data entry grids included some errors, such as in relation to missing or incorrect options in dropdown menus, omission of gases, order of gases, units of activity data, changes in category codes, handling of negative values, handling of documentation boxes, use of notation keys, and calculation and aggregation of values, and users encountered challenges in creating custom child nodes;

(b)   There was no option to delete an entire time series of data;

(c)   Exports from the tool encountered failures for certain inventory categories, such as 1.A.3 transport and 5.C incineration and open burning of waste, for which multiple country-specific custom nodes had been added;

(d)   The string identifiers in Excel worksheet cells varied depending on the originating node of the Excel export. Moreover, the order of added child nodes in the exported Excel file was reversed;

(e)   When exporting all data entry grids to a JSON file and subsequently importing the same file, numerous errors were detected in the log file, resulting in a partially successful import;

(f)   When importing data through an exported Excel file to the tool, the tool became unresponsive and no interaction with the tool during the import process was possible. Additionally, attempting to navigate away from the data entry tab while the import was in progress sometimes resulted in data loss, thus necessitating a reimport;

(g)   Although imported data initially appeared in the data entry grid within the web browser, the data disappeared after the browser was closed and reopened;

(h) In some instances, trying to generate and download the reporting tables for all years caused the tool to freeze and crash. Furthermore, using the updated test version from November, it was not possible to generate and download all the reporting tables as a single zip file for the entire time series;

(i) While generating and downloading the reporting tables for an individual year was possible, the tables did not fully reflect the data and information entered into the data entry grids. Additionally, the sheet entitled "Table 4(II)" in the reporting tables was blank.

19. Parties recommended the following improvements to the tool:

(a) Not shading cells in the rows designated for data entry, similar to the formatting in CRF Reporter, to improve transparency and usability;

(b) Making it possible to export unique identifiers directly from the tool; such unique identifiers could take the form of a comprehensive list detailing various dimensions (CRT code, category, gas, fuel, etc.);

(c) Facilitating data imports at higher hierarchical levels, such as directly for category 1.A.1.a public electricity and heat production, without automatically creating subcategories from the dropdown list;

(d) Enabling manual saving of imported data to prevent data loss;

(e) Adding more terms to the abbreviations and acronyms sheet of the reporting tables.

3. Progress reporting tool

20. Parties appreciated the straightforward nature of the test version of the ETF progress reporting tool, which provides clarity on the version of the CTF that the user is working on.

21. Parties recommended improvements to address identified issues with the tool, especially with the data entry grids:

(a) Adjusting the column widths in the navigation tree and data entry grids to allow more content to be visible;

(b) Including buttons in the navigation tree to enable users to easily open and close all nodes and to reduce the size of the tree for a better display;

(c) Ensuring that the notation key "NO" and negative values can be used for reporting projections, including for the land use, land-use change and forestry sector;

(d) Enabling the addition of information in footnotes for specific sectors or gases;

(e) Including relevant units, also for progress indicators, and ensuring that values are correctly formatted to avoid data errors;

(f) Not displaying summed GHG emission reductions for policies and measures;

(g) Allowing the selection of a start year of implementation before 2020 for a policy or measure;

(h) Displaying the full text of the five options for additional information and including all national currencies in the "Select Currency" row;

(i) Allowing designation of specific years for which GHG emission reductions (achieved and expected) are reported, ideally as a column heading, and clarifying whether the reported projected emission savings should encompass an aggregated period or be specific to a single calendar year;

(j) Implementing a simpler approach to referencing, such as using a single row for "Description or Reference to the Relevant Section of the BTR", in order to streamline reporting in the data entry grid for table 3 (structured summary: methodologies and accounting approaches);

(k)   Removing the limitation on overriding the calculated numbers in the row for total GHG emissions (total with or without land use, land-use change and forestry) in the data entry grid for projections;

(l)   Ensuring that the reporting tables generated and downloaded from the tool reflect all of the information and data entered into the tool.

22.   Users are currently required to create a child node for each policy or measure in order to generate the corresponding data entry grid. Moreover, when exported to Excel, each grid appears on a separate Excel worksheet, which requires toggling between sheets to update data. This process could be time-consuming for multiple entries. Parties recommended providing an alternative method for simultaneously creating multiple data entry grids for users that prefer not to use JSON files for bulk data import into the tool.

23.   Parties appreciated the functionality of the export feature but recommended that the missing aspects from the exported Excel file be included, such as the most recent year reported in the Party's national inventory for projections; data entered into the grid for table 11; data entry grids related to NDC progress indicators; and dropdown menus for certain cells, including for instruments, sectors and gases. It was also recommended that row widths adjust automatically to accommodate and fully display all entered information.

24.   Similarly, Parties considered it important that the tool ensure that all data from the exported Excel file are successfully imported back; feature a more prominent button for easy access to the import function; does not change the order of policies and measures during the import process; and clarify the JSON file naming conventions.

4.   Support reporting tool

25.   Parties reported the following issues with the test version of the ETF support reporting tool:

(a)   A child node has to be created in order to access a data entry grid for each support entry. Consequently, for multiple support entries, data entry grids have to be created and populated one at a time and each support entry appears as a separate worksheet in the exported Excel file, requiring users to toggle between data entry grids in the tool and Excel sheets to update and enter data for multiple support entries;

(b)   The automatic currency conversion based on exchange rates specified in the version settings failed to function correctly within the data entry grids;

(c)   The function to replicate data entry cells for subsequent years failed to operate correctly;

(d)   It was not possible to select more than one type of support for the support entry;

(e)   It was not possible to copy and paste input into the "Additional information – Description" data entry cell;

(f)   The lack of descriptive headings for exported sheets and tables meant it was difficult to determine which sheet corresponded to specific parent nodes;

(g)   The dropdown lists that are available in the data entry grids within the reporting tool did not appear in the exported Excel file and so users needed to remember such dropdown lists when updating data in the exported Excel file;

(h)   The reporting tables generated and downloaded from the tool contained errors, including missing data and information, and editorial and formatting errors.

26.   Parties recommended the following improvements to the tool:

(a)   Providing an alternative solution to facilitate the creation of data entry grids for multiple support entries and enabling users to update data efficiently through Excel imports. This would be beneficial for users who prefer not to use JSON files for bulk data import into the tool;

(b)   Providing an explanation of the option to "Report information on support provided and mobilized";

(c)   Eliminating the need to provide additional information, such as descriptions, BTR sections and pages, when responding with "No" during the version settings;

(d)   Aligning the labels for parent nodes and data entry cells with the agreed CTFs;

(e)   Improving the user interface for adding support entries for projects, programmes, activities and other by adding clear instructions and labels;

(f)   Clearly explaining the notation keys that can be used in the data entry grids;

(g)   Providing clear instructions in the data entry grids for reporting information related to financial support that also contributes to technology development and transfer and/or capacity-building objectives;

(h)   Facilitating automatic transfer of data in data entry grids if financial support also contributes to technology development and transfer and/or capacity-building objectives.

5.   Integrating the reporting tools into national inventory arrangements

27.   Parties indicated that financial and technical resources in addition to the funds and technical support already provided for the preparation of BTRs will be required to ensure that developing country Parties can effectively use the ETF reporting tools and integrate them into their national inventory arrangements.

28.   Moreover, it will be necessary to build the capacity of national technical teams to enable efficient use of the tools and their integration into national inventory arrangements. Hands-on training sessions should be conducted throughout 2024, engaging a wide range of experts to facilitate broader participation and knowledge-sharing.

B.   Assessment of the issues reported in relation to the reporting tools under the enhanced transparency framework

29.   Most of the issues reported by Parties in relation to the test version of the ETF reporting tools relate to the GHG inventory reporting tool; figure 1 shows the distribution of the issues reported. Figure 2 presents the distribution of the identified issues across aspects of the reporting tools. The majority of the issues identified are associated with the data entry grids.

Figure 1
Number of issues reported by Parties in relation to the test version of the reporting tools under the enhanced transparency framework
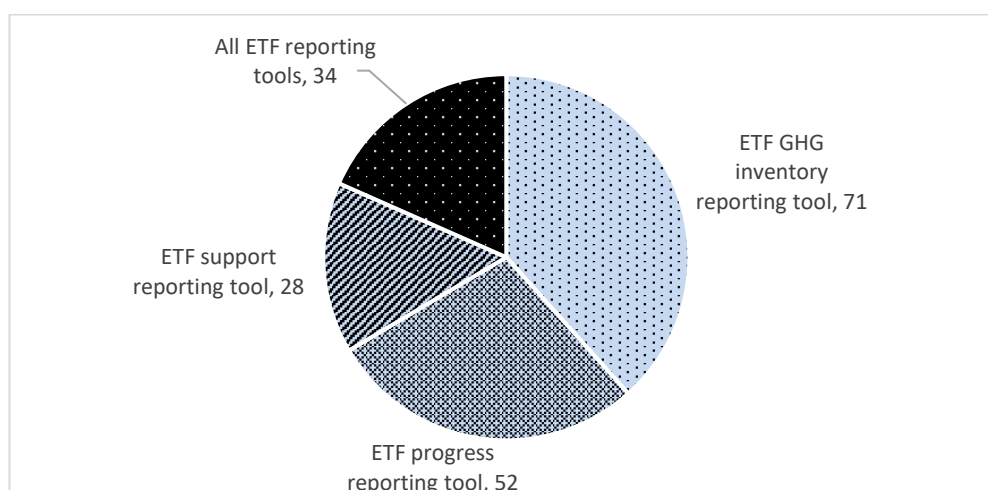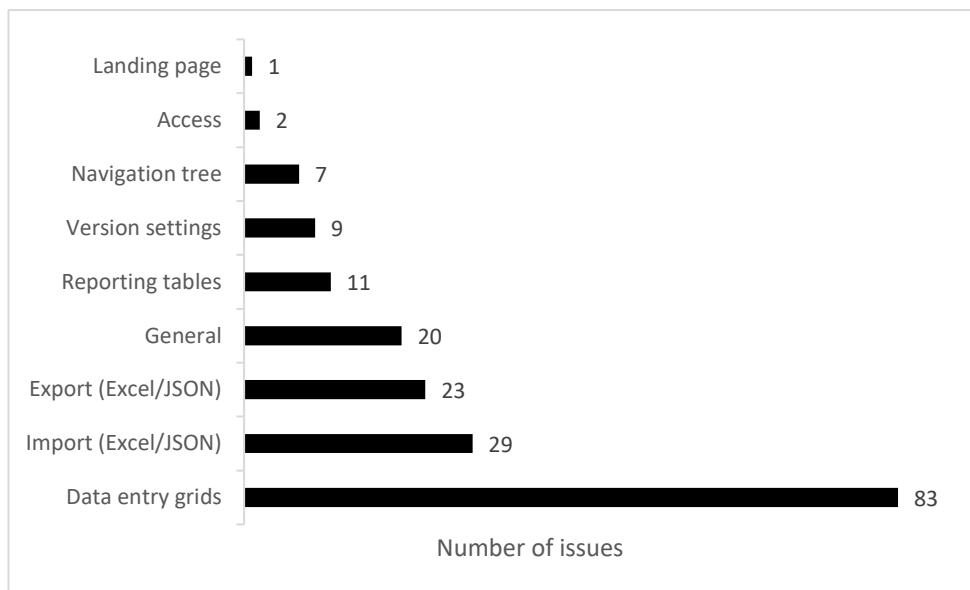
Figure 2
Number of issues reported by Parties across aspects of the test version of the reporting tools under the enhanced transparency framework

Note: "General" refers to technical documentation and support, the user manual and other issues not covered by the other aspects of the reporting tools.

30.   As shown in figure 3, which presents the distribution of the issues reported by Parties by category of issue, the number of identified issues relating to functionality is almost double the number of issues for the other categories taken together. The key issues in terms of functionality relate to the data entry grids, exporting and importing data, generating reporting tables and version settings.

Figure 3
Number of issues, by category, reported by Parties in relation to the test version of the reporting tools under the enhanced transparency framework
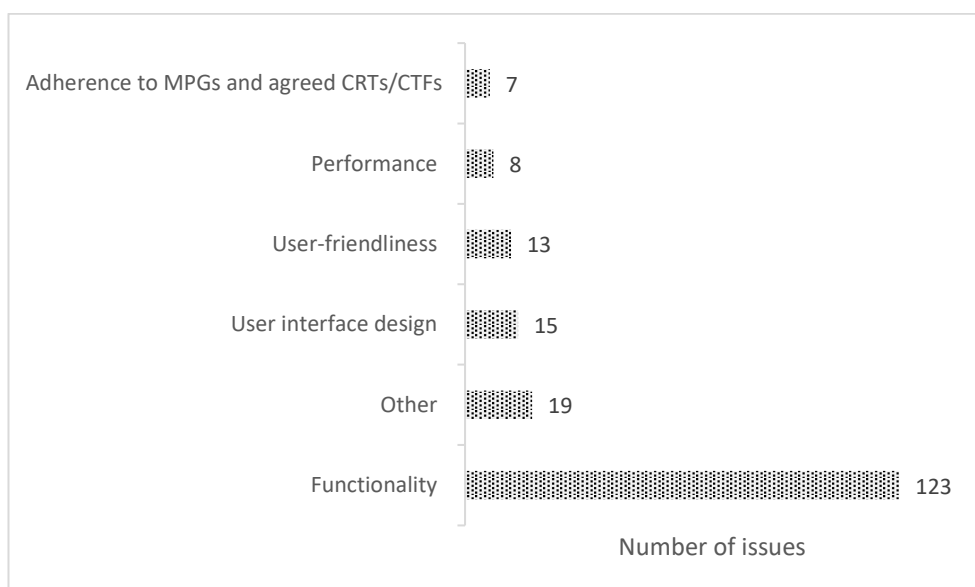
31.   In assessing the issues reported by Parties, they were categorized according to the action necessary to address them. For most of the issues, the necessary action was deemed to be implementable and has already been included within the scope of the planned development of the reporting tools; for example, covering the full scope of the CRTs and CTFs; improving the user interface; completing the process to select version settings; finalizing the implementation of the data entry grids, export and import of Excel and JSON files and

generation of reporting tables; and making available technical documentation and user manuals. For some of the issues, no further action is required as they are not within the framework of the development of the reporting tools and/or are not reproducible issues. Figure 4 presents the number of issues reported by Parties in relation to the action needed to address them. Figure 5 presents the status of the action required to address the reported issues: for 65 of the issues, action has yet to be further analysed, planned and implemented as it is subject to the availability of financial resources and technical solutions.

Figure 4
Number of issues reported by Parties in relation to the test version of the reporting tools under the enhanced transparency framework, by action required to address the issue
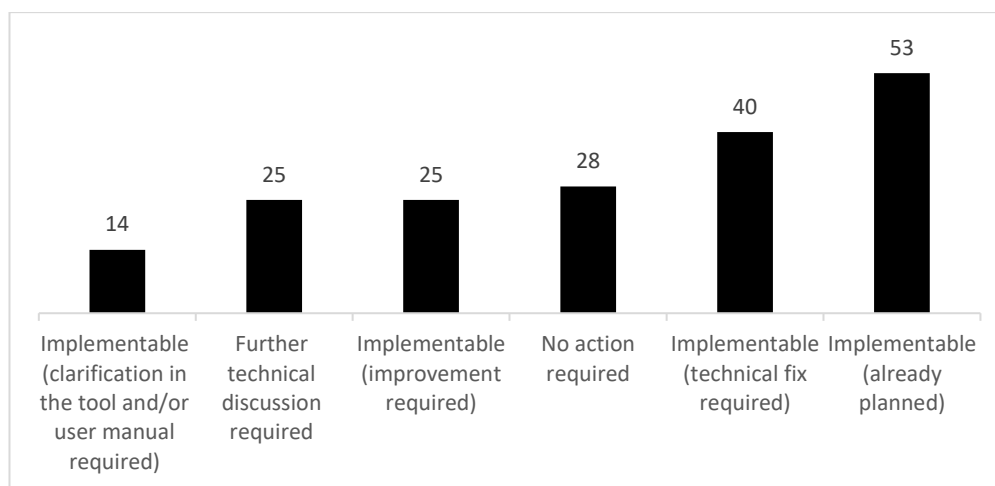

Figure 5
Number of issues reported by Parties in relation to the test version of the reporting tools under the enhanced transparency framework, by status of the action required to address the issue