United Nations
Framework Convention on
Climate Change

NAIIS Web Application

(Release version 2.0.0)

User Manual

(As of 28 April 2014)

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1 Introduction

The Non-Annex I Inventory software (NAIIS) web application is a web-based tool developed for use by Parties not included in Annex I to the Convention (non-Annex I Parties) to estimate and report their national greenhouse gas inventories (GHG inventories). As per Article 4, paragraph 1 (a), and Article 12, paragraph 1 (a) of the Convention, non-Annex I Parties are required to communicate to the Conference of the Parties a national inventory of anthropogenic emissions by sources and removals by sinks of all greenhouse gases (GHGs) not controlled by the Montreal Protocol, to the extent their capacities permit, following the guidelines contained in the annex to decision17/CP.8.

In order to assist non-Annex I Parties in estimating and reporting their GHG inventories as part of their national communications, the secretariat developed an Excel-based software which incorporated all the elements of a national GHG inventory prescribed by decision 17/CP.8. The software was based on the IPCC inventory software version 1.1, which used the Tier 1 methodologies for estimating GHG emissions and removals for all source categories included in the Revised 1996 IPCC Guidelines, and further complemented by the GPGs.[1]

Since its release in 2005, most non-Annex I Parties have been using that software for the development of their national GHG inventories. In December 2011, Parties requested the secretariat to upgrade the software and make it available to non-Annex I Parties by June 2013. Pursuant to that request, the secretariat converted the current Excel-based version of the software (v.1.3.2)[2] into a web-based application (NAIIS) which provides greater flexibility and security for maintaining data.

2 General information

The NAIIS is a web-based application designed to enable non-Annex I Parties estimate their national GHG inventories according to the UNFCCC guidelines and using the IPCC methodologies, and to report the results in their national communications and biennial update reports.

2.1 System overview

The NAIIS web application has the following functionalities:

1. User preference settings (not relevant in this release)
2. User management (only for the user roles NFP and PM)
3. Submission management
4. Data entry
5. Key category analysis
6. Reporting tables
7. Data Export/Import
8. Quality assurance control
   a. Completeness
   b. Consistency

The functionality '**User Preference settings**' is **not** fully implemented in this release. Please do not change the values under 'Application User Setting'.

The user preference settings will be used for defining the thresholds for the *year to year change* of the activity data **(AD),** emissions **(Emissions)** and implied emission factors **(IEF)**. The selection of the language will be available in the next release.

The NAIIS web application allows input of data through three different channels:

1. Manual input into the entry grids
2. Partial or full import of data from Excel
3. Bulk import of data from XML

The GHG emissions totals, by gas and by sector, are automatically calculated and saved based on the values entered for activity data (AD), emission factors and other relevant parameters. In addition, the software facilitates the

[1] Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories, 2000, and Good Practice Guidance for Land Use, Land-Use Change and Forestry, 2003.

[2] http://unfccc.int/files/national_reports/non-annex_i_natcom/training_material/methodological_documents/application/zip/unfccc_nai_is_132.zip

reporting of other category specific information, for example, the choice of the method for activity data and emission factors.

2.2 Pending NAIIS features

List of pending functionalities in NAIIS:
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1. Web services integration for help desk
2. Display of information in 5 remaining UN languages.

2.3 Contact

Requests for access to, inquiries on the use of the software, and comments on the design and functionalities of the application should be sent to the dedicated e-mail address **naiisapp@unfccc.int**.

3 Getting started

3.1 User Access, Roles and Privileges

The users of the application are the members of the national team(s) of non-Annex I Parties involved in the preparation of their national GHG inventories, and each user is assigned a role.

The table below explains the different levels of the access rights and corresponding explanation for each role. It is important to note that the roles are not necessarily identical to a person's title (e.g. National Focal Point) and that a person can take on several roles (which may be necessary for some countries).

There are three types of access rights (roles) to the NAIIS application:

Type of access rights for specific roles	Process to gain access rights
National Focal Point (NFP): Will be responsible for identifying the members of the team and is the only one who has the right to approve the submission of any GHG inventory. NFPs will have the option to create, edit, update or delete all of their country's GHG data entries, and grant access rights to the 'Project Manager' and 'Sectoral Experts' for their country if they choose.	Parties that have not already requested and **received access rights** can obtain them by having their National Focal Point contact: **naiisapp@unfccc.int** **(Note: Some Parties may have more than one individual acting as the NFP; however the system can accommodate only one account per Party).**
Project Manager (PM): Will have the right to enter/edit data in all sectors, as well as to generate an official submission to the UNFCCC, and grant access rights to the 'Sectoral Experts' for their country.	Entities will be provided these rights by their NFP. If a Party decides to grant access to a PM, their NFP will be able to create such user account on the NAIIS application.
Sectoral Experts (SE): Will have the right to enter/edit data in respective sector(s).	Experts will be provided these rights by their NFP and PM. If a Party decides to grant access to Sectoral Experts, the NFP will be able to create such user accounts and assign them in respective sector(s).

Access for the NFP will be provided by the secretariat, upon request; however, the accounts of the other users within the country shall only be created by the NFP.

3.2 How to access/ log out / create a GHG inventory

3.2.1 How to access the NAIIS application

Open any internet browser (i.e. Internet Explorer, Firefox, etc.) and type in the following URL http://unfccc.int/7627 on the browser's address bar. (figure 1 and figure 2)

Figure 1. Using Internet Explorer browser

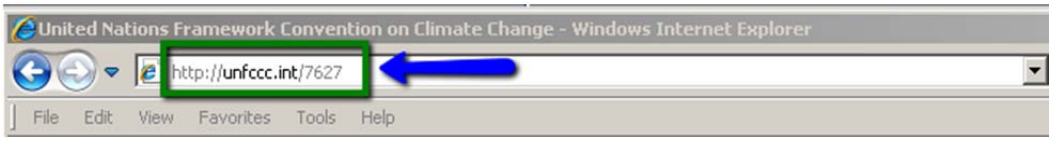
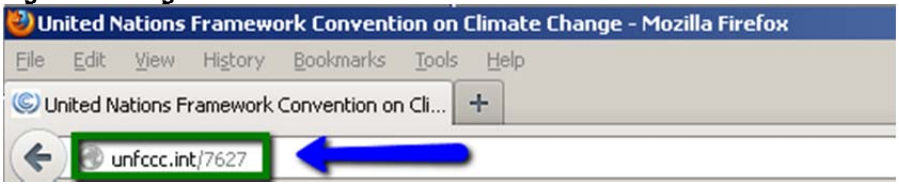


Figure 2. Using Firefox browser



Press the ‘Enter key’ and the non-Annex I Greenhouse Gas Inventories web page appears.

To access the NAIIS application, click on the image NAIIS Web Application, the right hand side of the screen. (figure 3, number 1) and the log-in page will be displayed. (figure 4)

Figure 3. UNFCCC non-Annex I Greenhouse Gas Inventories web page

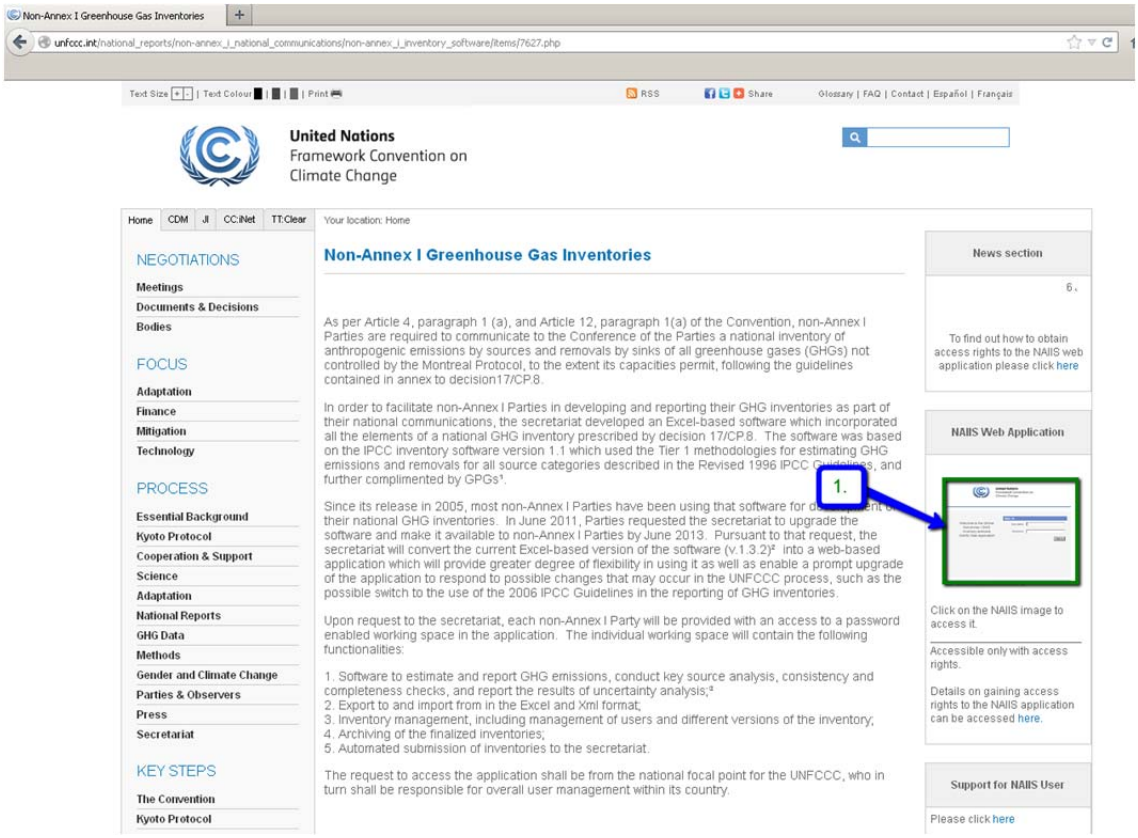


Figure 4. Log-in page of the NAIIS Web Application

To **log-in**, enter the username and password and click on the “Sign in” button.

3.2.2 Create, Start, Add new and View GHG inventory year

These functions allow the NFP and PM to create or edit a GHG inventory within the NAIIS software.

3.2.2.1 Create a new GHG inventory or Start a GHG inventory year

3.2.2.1.1 Create a new GHG inventory

Note: This step can **ONLY** be undertaken by the **NFP or PM** !

In order to create one or several GHG inventories, the following steps can be done by the NFP or PM:

- Log in as NFP or PM
- Hover the cursor on “Submission Management” menu and click on the “View Inventories Progress” button. (see Figure 5). Left click on the “+” sign will create a new GHG inventory (see Figure 6).

The new GHG Inventory name will be automatically generated by the NAIIS system, as follows:
<Name of the Non-Annex I Party>_<Year in 4 digits>_<version number>_ Inventory

For example: Paraguay_2013_1_Inventory or Bhutan_2014_2_Inventory

Figure 5. Create new GHG inventory screen

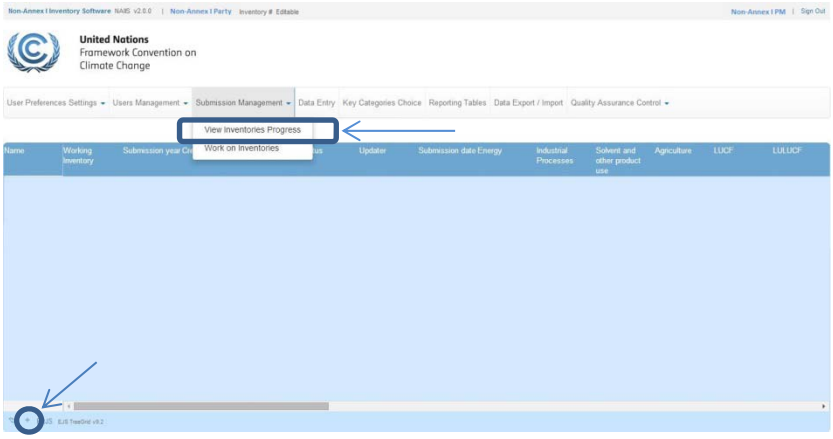
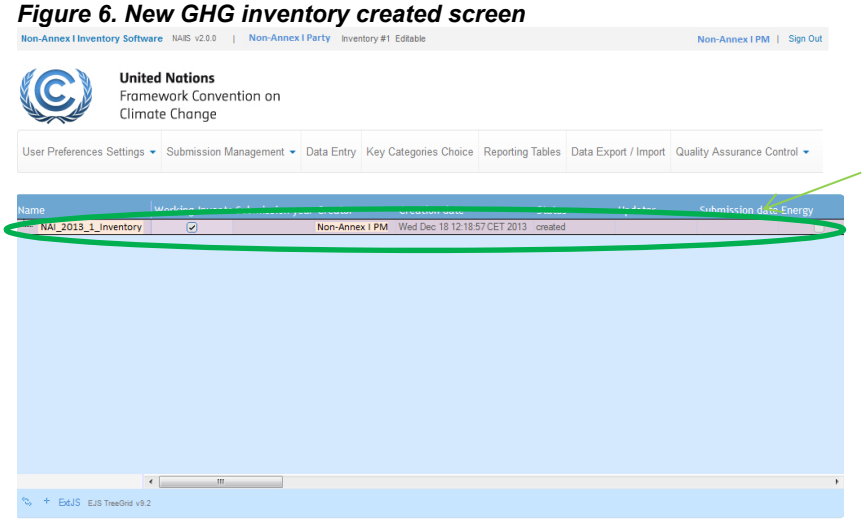


Figure 6. New GHG inventory created screen

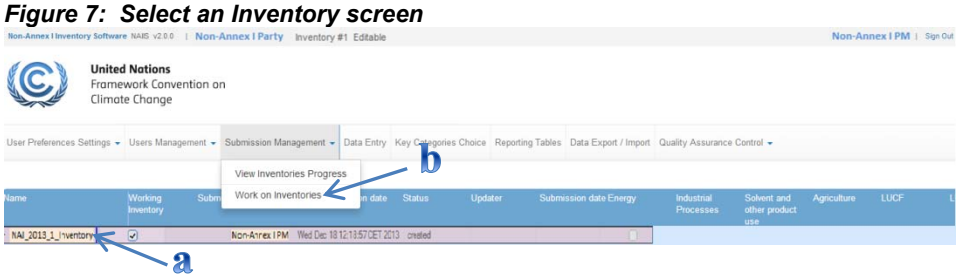


3.2.2.1.2 Start a GHG inventory

In order to START a GHG inventory, please follow the steps below:

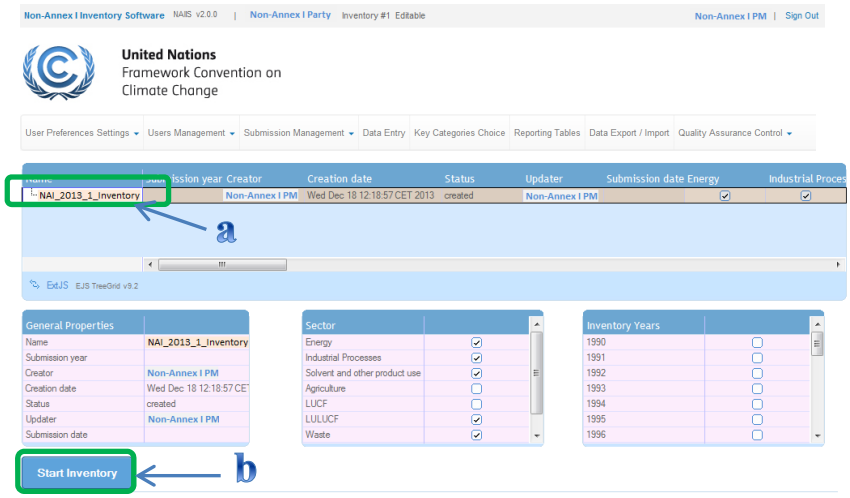
- Log in as PM.
- Hover the cursor on the “Submission Management” and click on the “View Inventories Progress” button.
- Click/select the appropriate GHG Inventory in Status = “created” (see figure 7a).
- Click on “Work on Inventories” under Submission Management (see figure 7b).

Figure 7: Select an Inventory screen



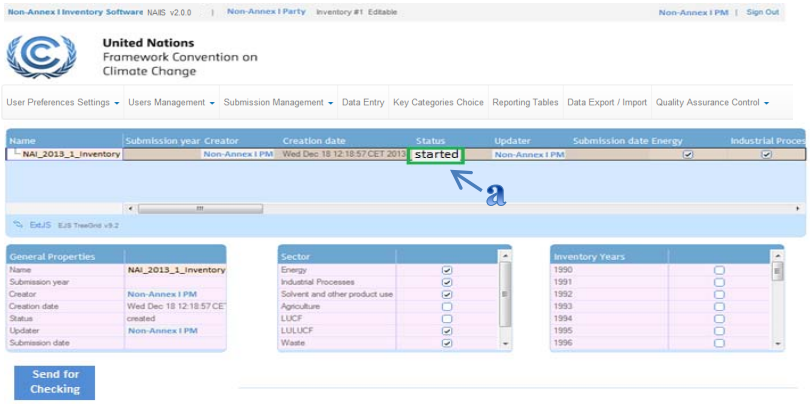
- Left click to select the appropriate Inventory (figure 8a).
- Press the “Start Inventory” button (figure 8b).

Figure 8: Start an Inventory screen



Once the “Start Inventory” button is pressed, the status of the selected Inventory change to “started” (see Figure 9).

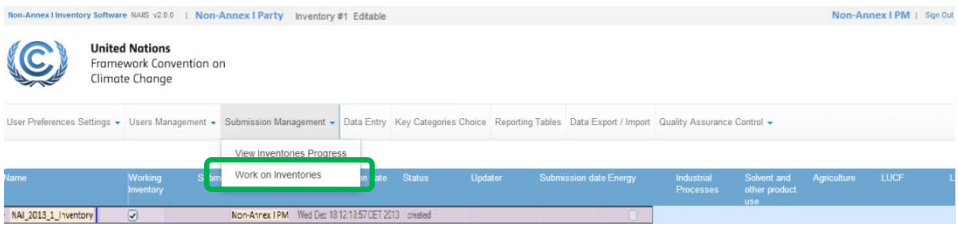
Figure 9: “Started” status of an Inventory



3.2.2.2 Add a new GHG inventory year or edit general properties/sectors (only NFP and PM's)

- Log in as NFP or PM.
- Click on "Work on Inventories" under Submission Management (figure 10).

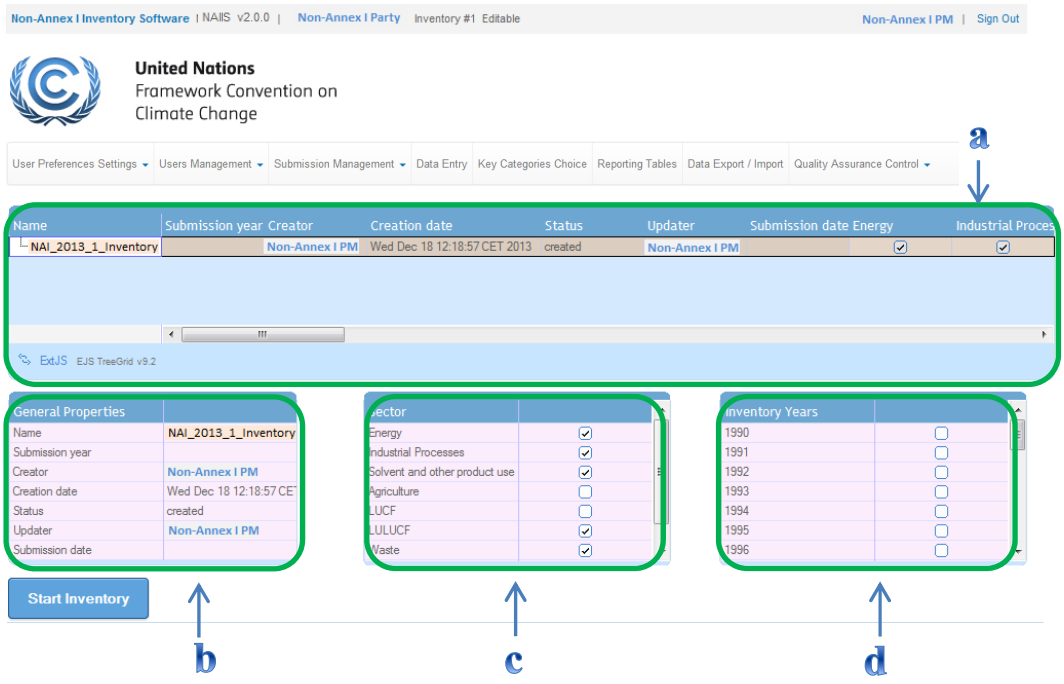
Figure 10: Sub menu "Work on Inventories"



Once "Work on Inventories" has been clicked, the initial screen will be displayed, which shows the following boxes (figure 11):

a. Existing Inventory (with all options)
b. General properties – include the name, submission year, creator, creation date, status, updater and submission date
c. Sectors
d. Inventory years

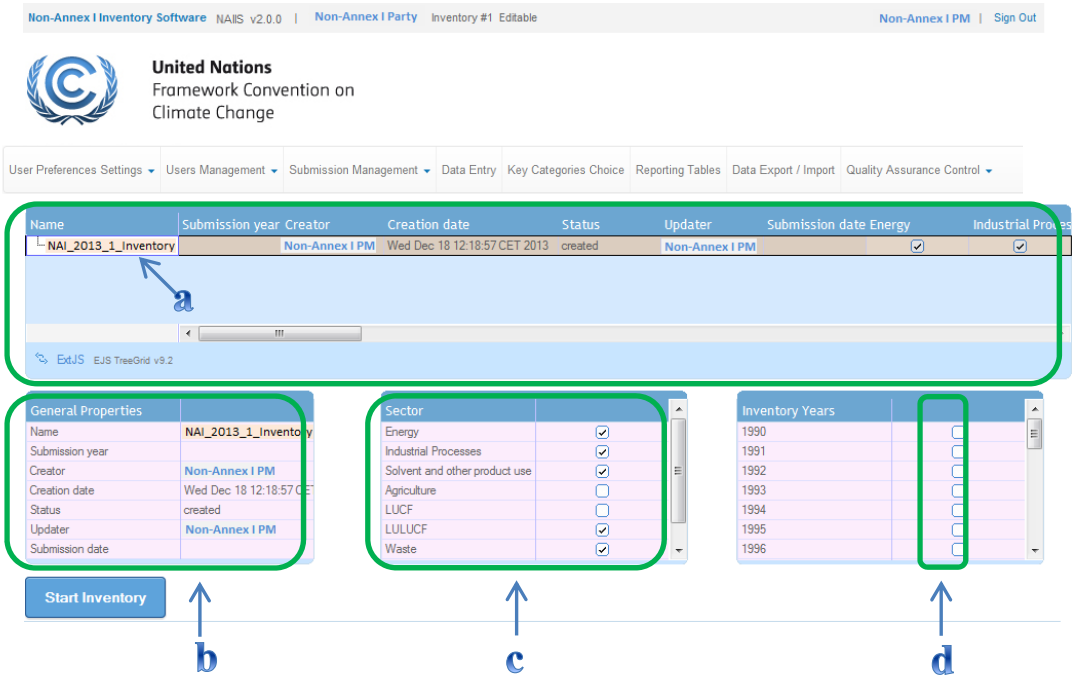
Figure 11. Initial screen of "Work on Inventories"



Follow the steps to add/remove an inventory year:

- Click on the inventory year (figure 12a).
- Select the inventory year under General properties (figure 12b).
- Select or deselect the appropriate Sectors (figure 12c).
- To **add** or **remove** an inventory year, select or deselect the relevant year under Inventory Years box (figure 12d).

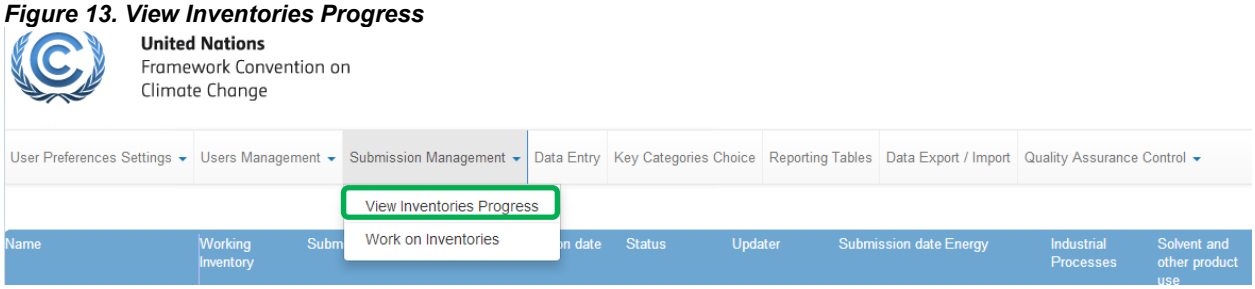
Figure 12. Screen of "Work on Inventories"



3.2.2.3 View Inventory Progress

- The NFP or PM should log into the system.
- Click on "View Inventories Progress" under Submission Management (figure 13).

Figure 13. View Inventories Progress



Click on "View Inventories Progress" button will display the initial screen with the following columns (figure 14a, 14b and 14c):

- **Name** - automatically given by the system, once created
- **Working Inventory** – active box shows the current working inventory
- **Submission year** – year when the submission process was initiated
- **Creator** – user who created the inventory
- **Creation date** – date when the inventory was created
- **Status** – created, started, check, submitted, approved, awaiting approval, awaiting rejection check
- **Updater** – user name who updated the inventory
- **Submission date** – date of submission
- **Sectors** – Energy, Industrial processes, Solvent and other product use, Agriculture, LUCF, LULUCF, Waste, Other
- **Inventory year**

Figure 14a. Example of Initial screen of View Inventories Progress

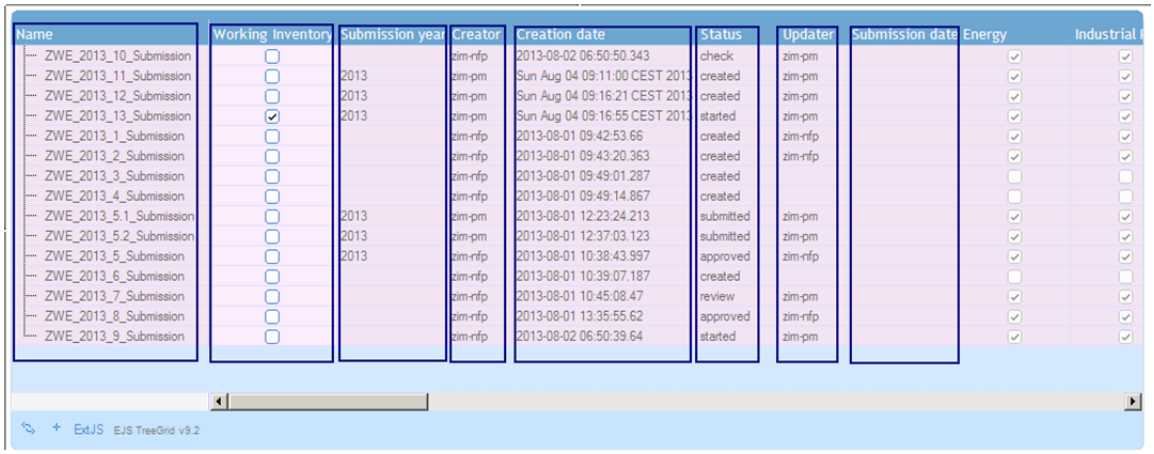


Figure 14b. Example of Initial screen of View Inventories Progress

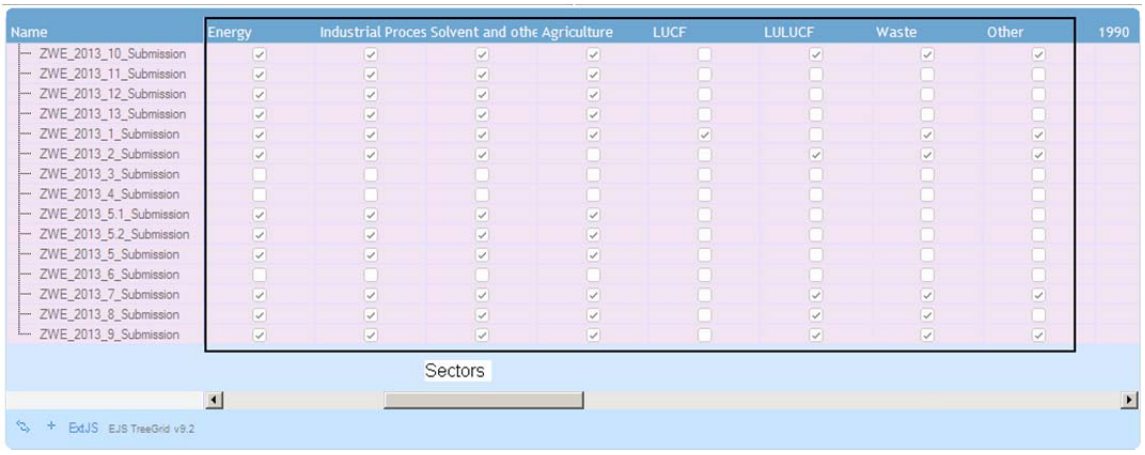
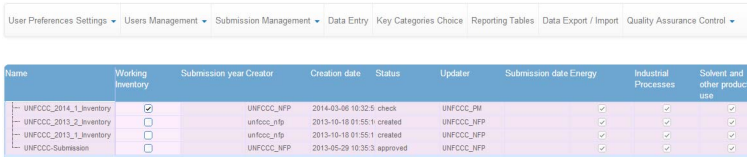


Figure 14c. Example of Initial screen of View Inventories Progress

3.2.3 Initial screen / menu tab of the NFP, PM and SE

Once the NFP, PM or SE logs-in, the initial screen with **multiple tabs** will be displayed which feature different functions. Click the name of the tab to enter.

Initial screen / menu tabs for NFP's and PM's:



Menu tabs for SE's

Note: Once a user logs in, the initial screen is the Submission Management screen of the non–Annex I Party.

3.2.4 How to log out

To **log out**, click on the link to "**Sign out**" located at the upper right corner of the page (Figure 15).

Figure 15. Sign out screen

When you have successfully logged-out of the system, the screen below (figure 16) will be displayed.

Figure 16. Sign out screen

Note that **after 20 minutes of inactivity**, the session is automatically timed out and a 'fatal error' message will be displayed (figure 17). In such cases, either click on "Sign out" and log in again, or click on any of the links to be redirected to the log in page.

Figure 17. Fatal error

3.3 User management

3.3.1 Add User

Note: This function is **ONLY** available for NFP's and PM's!

- Log in as NFP or PM.
- Hover the cursor on the "Users Management" tab and click on the "Users Administration" button (see figure 18); this opens the Users Administration screen (figure 19).

Figure 18. Users Administration

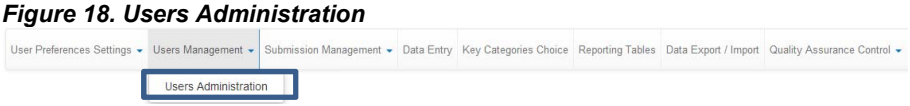
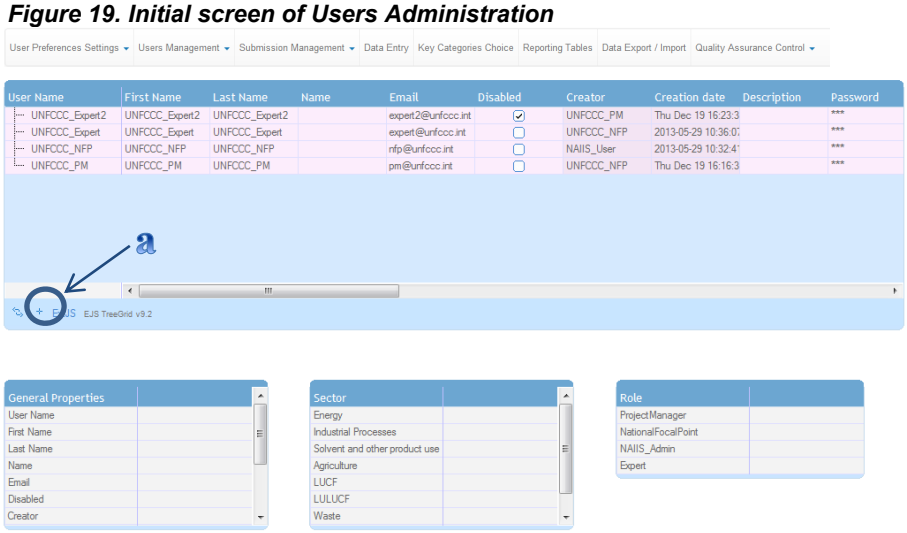


Figure 19. Initial screen of Users Administration



- Click the "+" sign (figure 19a) creates a new user (figure 20 new User).
- Double click on the cell of the newly created user name and enter a new user name (must be unique and contain at least 3 characters).
  Once done, press the enter key and the new user name will be saved in the respective table of the NAIIS database.

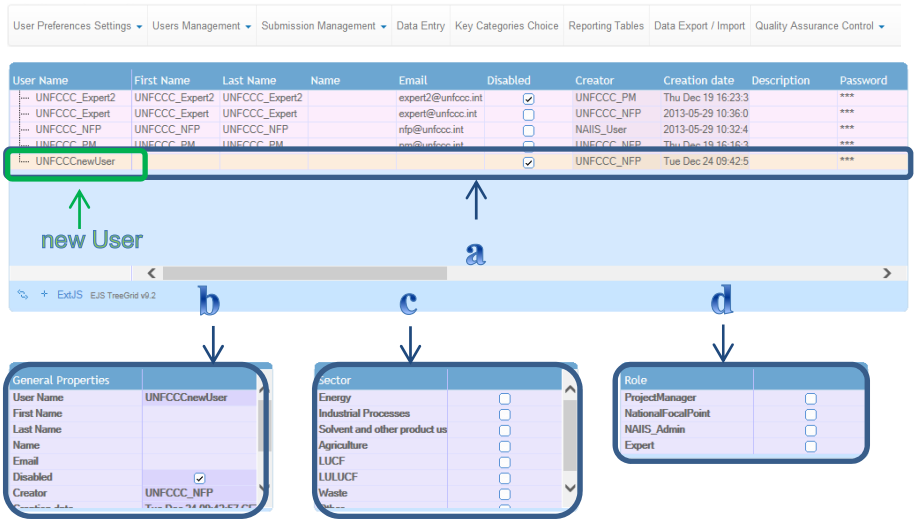
Note: New user name(s) will be generated by the system as default [Non-Annex I Party name] + "newUser" (e.g. UgandanewUser, PhilippinesnewUser, ArgentinanewUser).

Fill-in User Information

There are two options to fill in the information of a new user:

(a) by entering the data on the same row of the new user (figure 20a) or;
(b) by entering the data in the **General Properties**, **Sector** and **Role** boxes (figure 20b, 20c and 20d).

Figure 20. New user created screen



Fill in the following fields:

- First Name
- Last Name
- Name (optional)
- Email address
- Password (must have 1 capital letter, 1 numeric and 8 characters long)
- User Role
- Sectors
- Change password (tick the box prompts the user to change his/her password)

The functionality to change password is not fully implemented in this release. Please do **not** tick the "Change password" box under General Properties (See figure 20 b)!

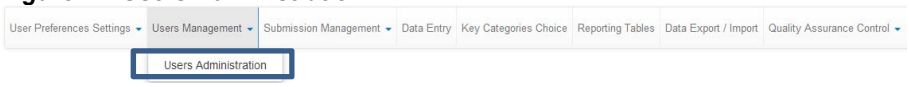
- Enable user (Proceed to section 3.3.2 Disable/Enable User).

3.3.2 Disable/Enable User

This function allows the NFP and PM to activate and/or de-activate users of their country.

- Log in as NFP or PM.
- Hover the cursor on the "Users Management" tab and click on the "Users Administration" button (see figure 21); this opens the Disable/Enable User screen (figure 22).

Figure 21. Users Administration



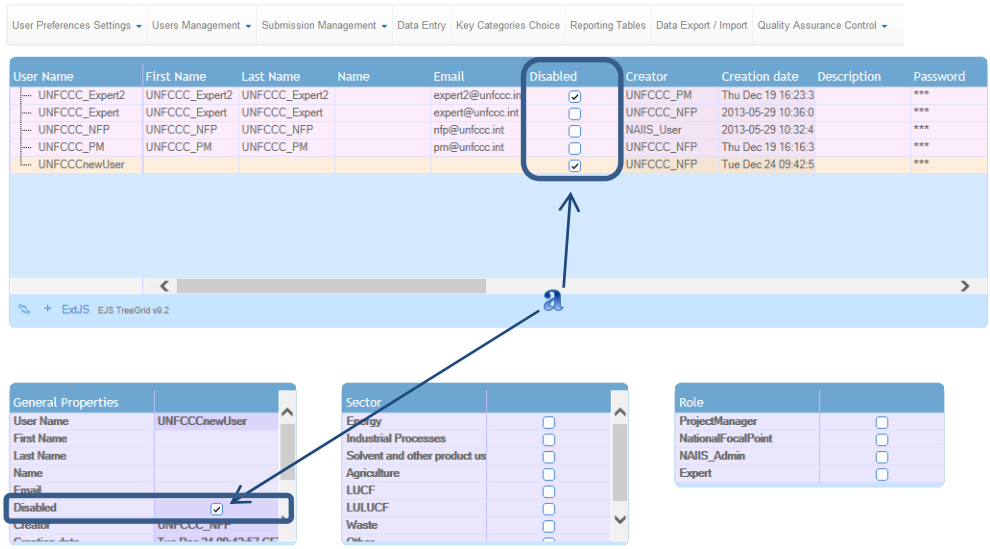
3.3.2.1 Enable User

On the Disable/Enable screen, search for the user whose account should be activated and un-tick the 'Disabled' box (figure 22a).

3.3.2.2 Disable User

On the Disable/Enable screen, search for the user whose account should be de-activated and tick the 'Disabled' box (figure 22a).

Figure 22. Disable/Enable User screen

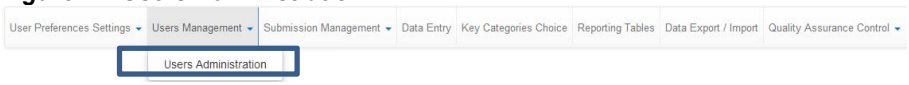


3.3.3 View User

This function enables NFP and PM to view all users of their country.

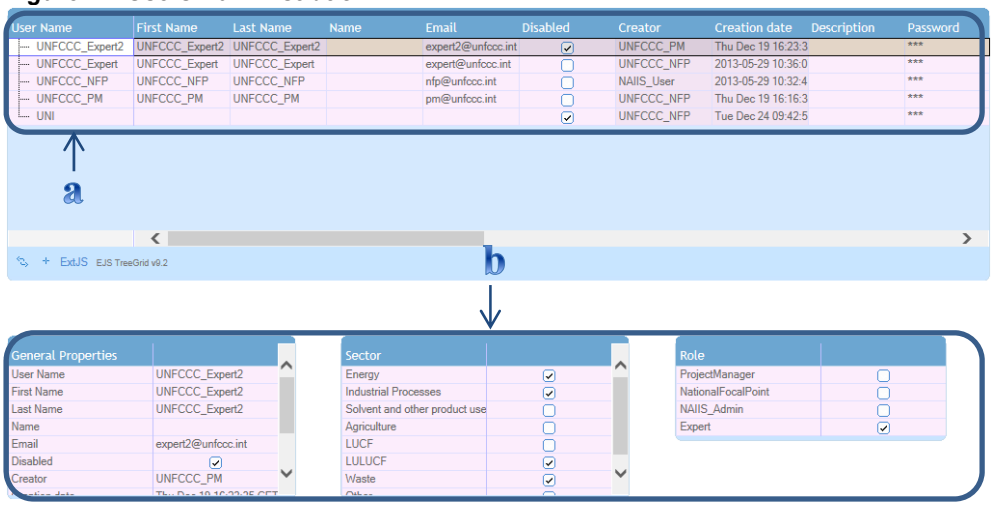
- Log in as NFP or PM.
- Hover the cursor on the “Users Management” tab and click on the “Users Administration” button (see figure 21); this opens the Users Administration screen (figure 22).

Figure 21. Users Administration



- Click on the row of the respective user to be viewed (figure 22a). All information of the selected user will be displayed on the **General Properties**, **Sector** and **Role** boxes (figure 22b).

Figure 22. Users Administration



4 Using the system

This section provides a description of the various functions of the system represented by each tab indicated in section 3.2.3 above.

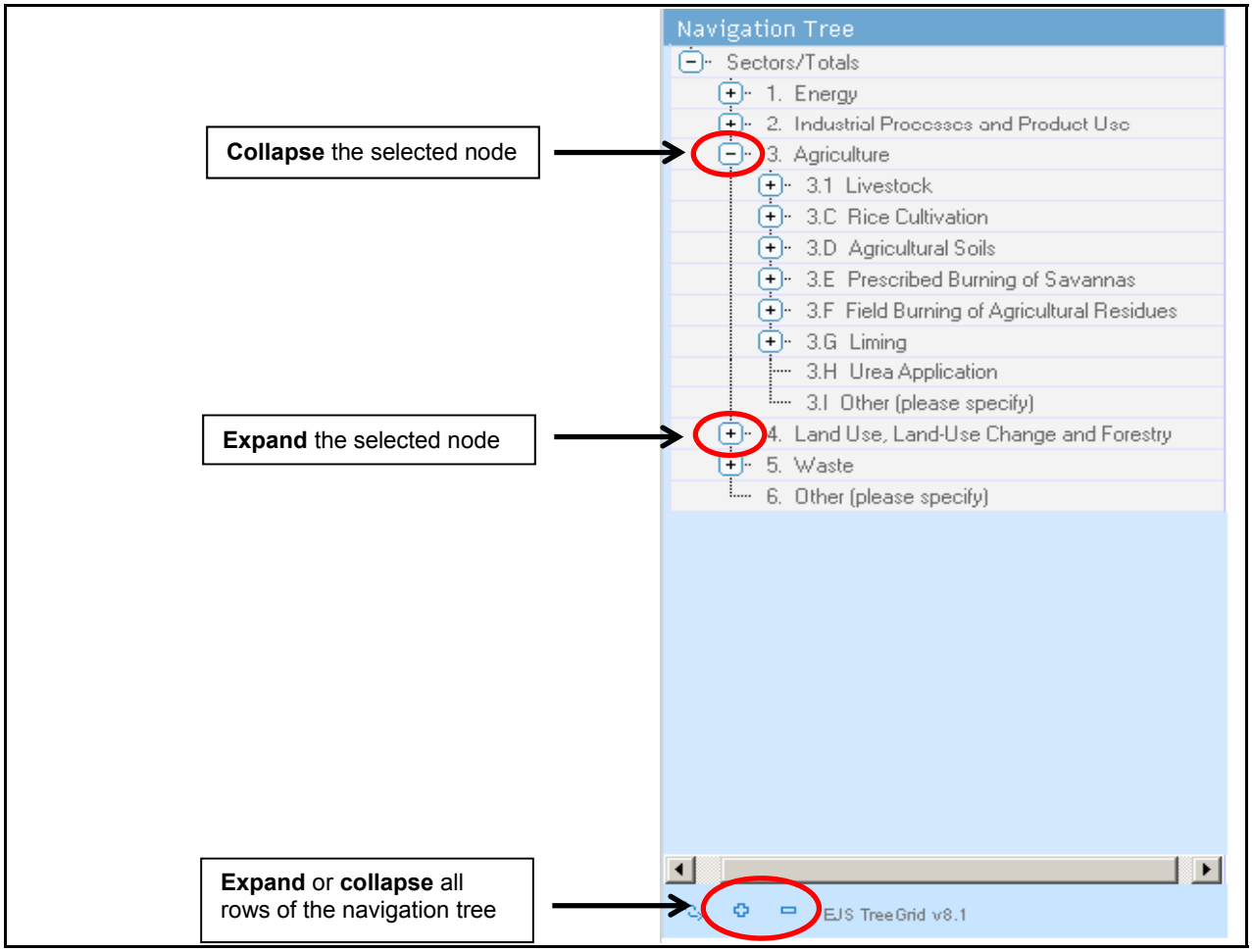
4.1 Data Entry

The data entry tab provides the function to **input data** into the system through the use of **grids**. To display the grid, a node has to be selected from the **navigation tree** (figure 23).

4.2 Navigation tree

To expand or collapse the tree, click on the ⊞ or ⊟ signs in front of the nodes, respectively. You can also expand or collapse the entire tree by clicking the plus and minus signs at the bottom of the tree.

Figure 23. Functions of the navigation tree



4.3 Grids

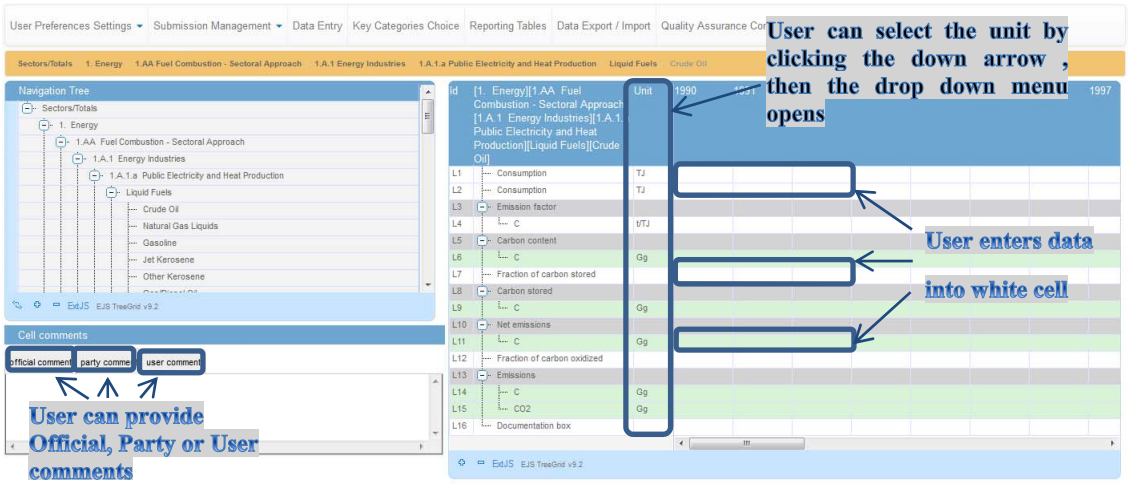
Each node on the navigation tree has a corresponding **grid**.

A grid includes elements required for reporting information such as activity data, other relevant information, and emissions/removals data.

The cells in the grid have different colors. **White** grid cells denote that the user can enter data, **green** cells mean that the data is automatically calculated by the NAIIS application, **light blue** cells signify that data are automatically copied from a different node (for example in 1.B.1.a.1.i), and **yellow** cells mean that a default value (for example, fraction of carbon stored in reference approach) is provided. Where the cell is **grey,** no input is necessary (figure 24).

In the energy sector, users are provided a dropdown list to select a unit in reporting the consumption and production of fuels. This is marked with .

Figure 24. Functions in a grid



4.4 Data input

Data can be **entered** into the **white** grid cells only. It is also possible to **copy** and **paste** data from one cell to another by using the shortcut keys '**Ctrl + c**' to copy and '**Ctrl + v**' to paste. **Each value entered is automatically saved**. When the data is entered, it is first shown in bold, and then changes to normal font indicating that the value has been saved. **Saving occurs immediately** (usually within 1 second), but in case the system becomes slower, **the user should wait until data are shown in regular font before exiting the grid**. Otherwise, the data entered will not be saved.

As mentioned in the previous section, default values are provided for some parameters (yellow cells in the grid). These values can be overwritten if the Party has more accurate data.

Note: Data that has been entered will be automatically saved.

4.5 Add/delete new nodes – user defined source categories

4.5.1 Add new nodes

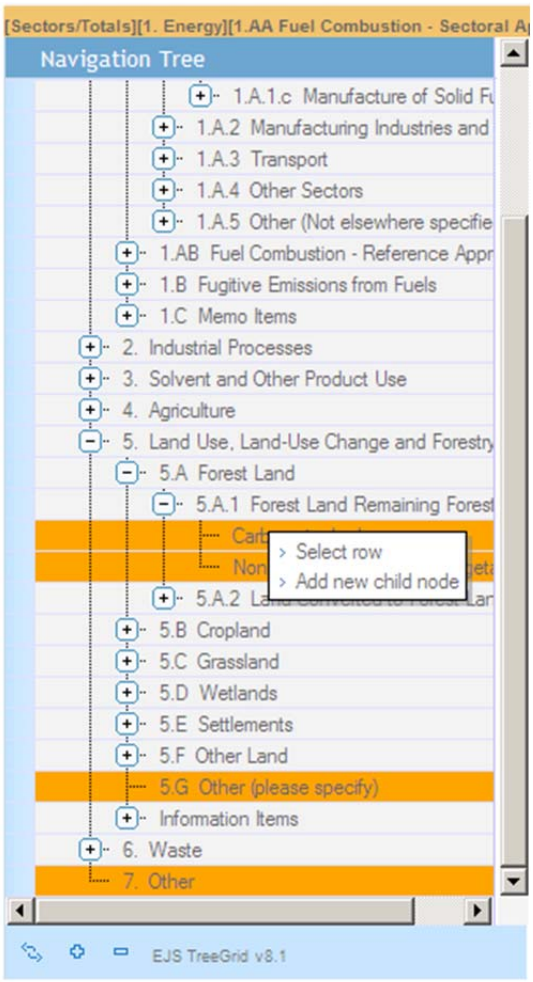
New nodes, for example, can be added to the navigation tree in order to add either a category, a fluorinated gas (F-gas), a fuel, a livestock type, or a subdivision in the LULUCF sector.

User-defined items can be added for:

- Categories indicated as "Other (please specify)"
- LULUCF subdivision
- User-defined fuels

To **add a new child node**, either a pre-defined or a user-defined item, click on the right mouse button on the parent node and select "**Add new child node**". For ease of use, the parent nodes, where a child node can be added, are highlighted in orange (figure 25).

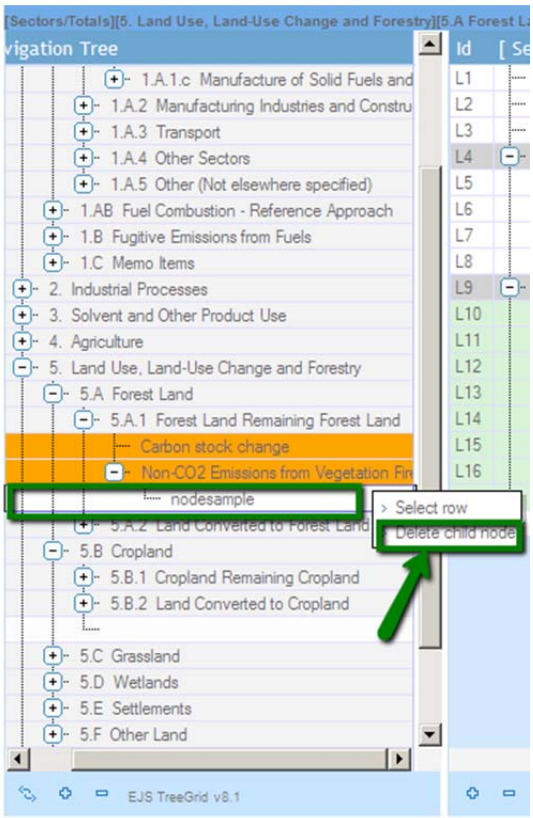
Figure 25. Add new child node



4.5.2 Delete nodes – user defined nodes

Only user-added nodes can be deleted. To **delete** a node, right-click on the node and select "**Delete child node**" (figure 26). When deleting user-defined nodes, **each of the child nodes has to be deleted first before deleting the parent node** that was added. If a user accidentally deletes the parent node before deleting child nodes, an error message is displayed, and the nodes will disappear from the tree. However, the nodes are not removed from the database, therefore the user has to click on the "**Reload grid**" icon ( ) located at the bottom of the navigation tree. After doing so, the child nodes will re-appear on the tree. It should be noted that any data entered in the grid corresponding to the user-added nodes are also deleted from the database once the nodes are removed.

Figure 26. Delete node



4.6 Backup of data files

To create a backup of your data, you can export the data files and save them as Excel files. Please use the Excel Export function (Section 7.1).

5 Key Category Analysis

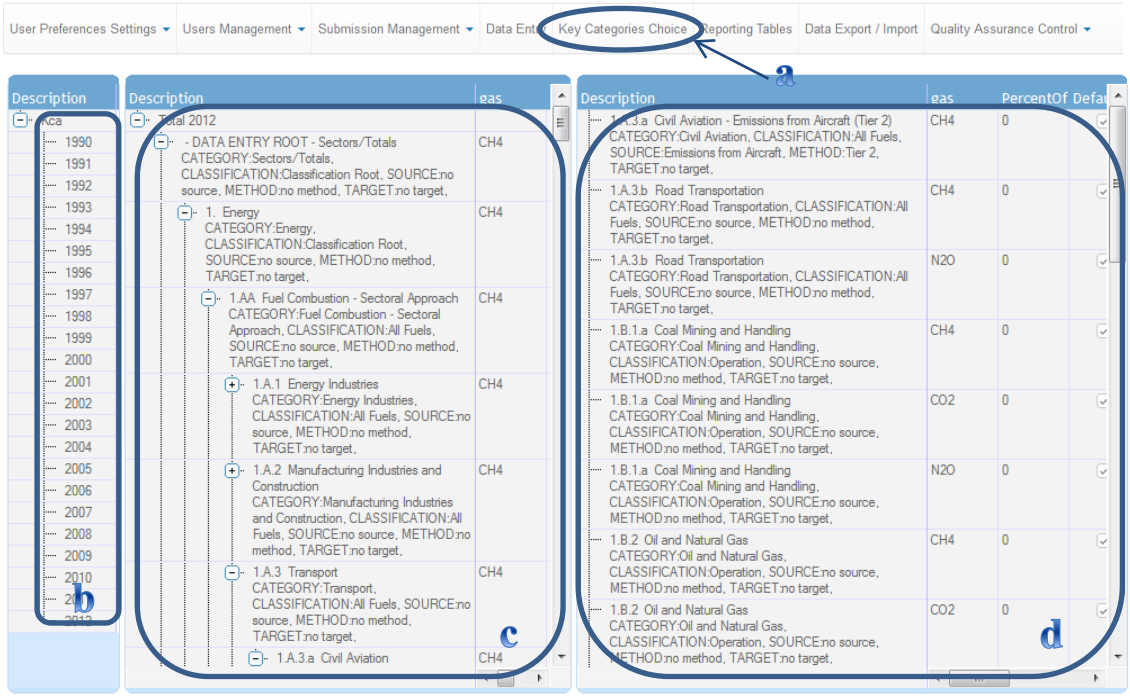
This functionality allows the user to identify and select one of the categories to be used for performing the Key Category Analysis (KCA). Upon selection of the category, the system will perform both **level assessment** and **trend assessment** for which the data are available. The corresponding results of the assessments are available in the reporting tables.

The selection of one or several categories is undertaken as follows. When pressing the 'Key Categories Choice' on the top main menu bar, on the left hand side, select the KCA Year to be used, the navigation tree displays all sector nodes with the following columns (figure 27):

- Description
- Gas
- Percent of Total
- Default List
- Top 95
- Important

The user will have the option to use the default list or customize it (see figure 27).

Figure 27. Key Categories Choice main screen



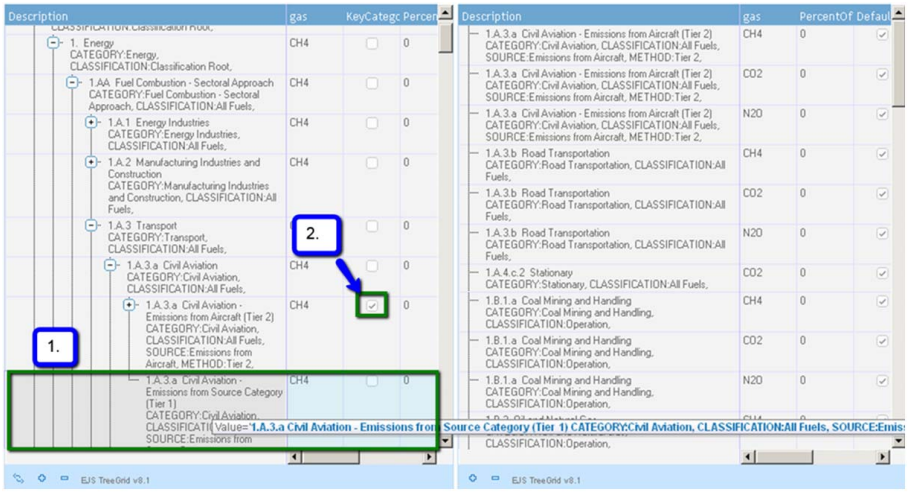
5.1 Using the default list

If the NFP, PM or SE decides to use the default list, they can proceed to the Reporting tables directly (Section 6 Reporting Tables).

5.2 Customizing the list

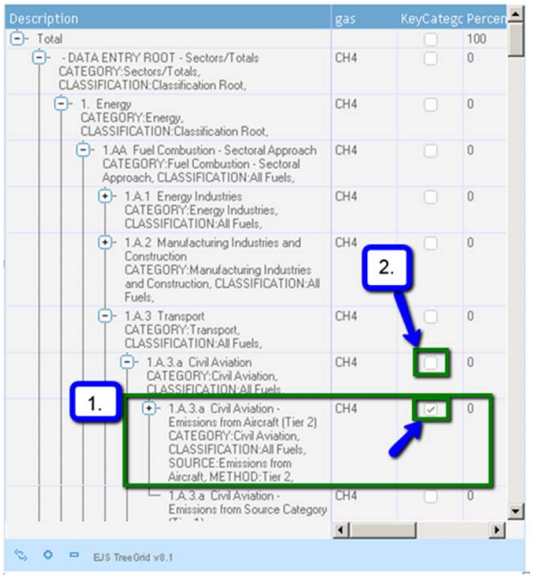
To add a key category, click on the specific node (see parent node, figure 28, number 2) or line (figure 28, number.1), then reload the list.

Figure 28. Key Categories Choice screen



Once the list has been reloaded or refreshed, as per example below, the node 1.A.3.a Civil aviation – Emissions from Aircraft has been selected (figure 29, number 1), and the parent node 1.A.3.a Civil Aviation has been unselected (figure 29, number 2).

Figure 29. Key Categories Choice screen



5.3 Delete subnodes

To delete subnodes, double click on the specific subnode or line (figure 30a), a pop-up window warning message opens (See figure 31).

Press the “Ok” button to delete the sub node or the “Cancel” button not to delete (see figure 31 a).

Figure 30. Key Categories screen – delete subnodes

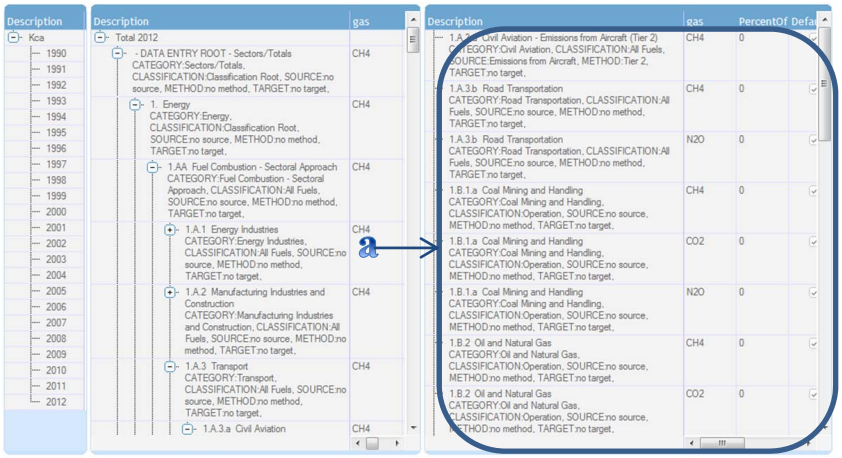
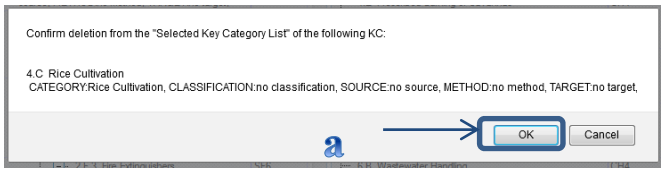


Figure 31. Key Categories – Delete confirmation screen

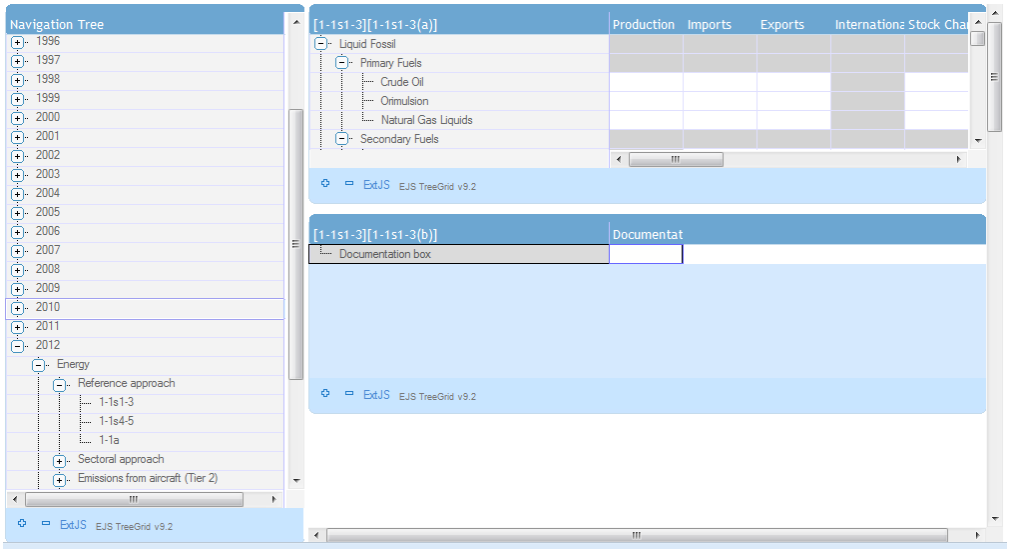


6 Reporting Tables

The Reporting Tables enable the user to view the data entered in the grids under the Data Entry section of the web application. Note, however, that the column headings are not always fully displayed in the tables because column widths are fixed. The full heading can be seen by scrolling the mouse over the column title.

The navigation tree here is organized **by year** (figure 32). It functions similarly as the navigation tree for data entry. Data in reporting tables cannot be modified; modifications to data should be done through the data entry grids.

Figure 32: Reporting tables organized by year



7 Data Export/Import

This function enables users to export data from the system in either Excel or XML format.

7.1 Excel Export – Data Entry

Click on the “Data Export / Import” tab and the navigation tree will appear on the left-hand side (figure 33).

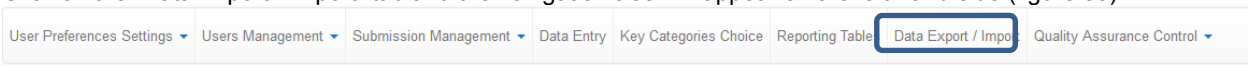
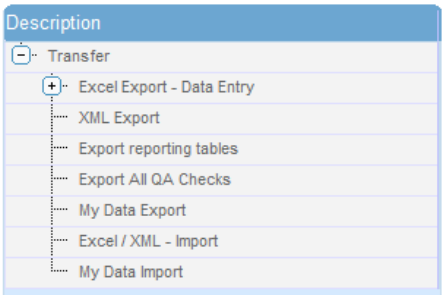


Figure 33: Data Export / Import initial navigation tree



There are **three options** available to export files:

1. **Export selected single grid** – only the data of the current selected grid will be exported (figure 34, d).
2. **Export selected sector / subsector**– all data of the current selected grid and the sub sectors will be exported. (figure 34, e).
3. **Export all data entry grids** – all data entry grids will be exported (figure 34, f).

Clicking on one of the Sector’s or sub sectors’ (figure 34, a) or c)) on the left-hand side navigation tree, three Export buttons will appear on the middle of the screen (figure 34, b).

Click on one of the “Export” button. The system will then generate an excel export file.
The file that has been exported can be seen under “My Data Export” (figure 35).

Figure 34: Excel export

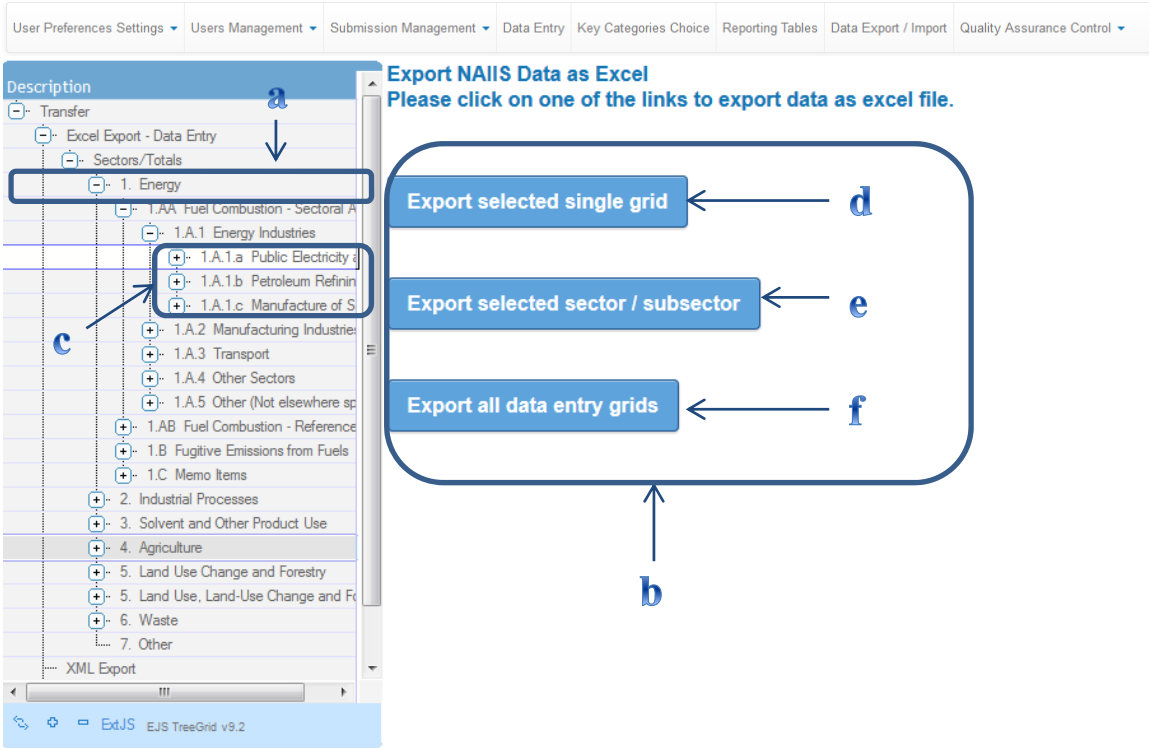
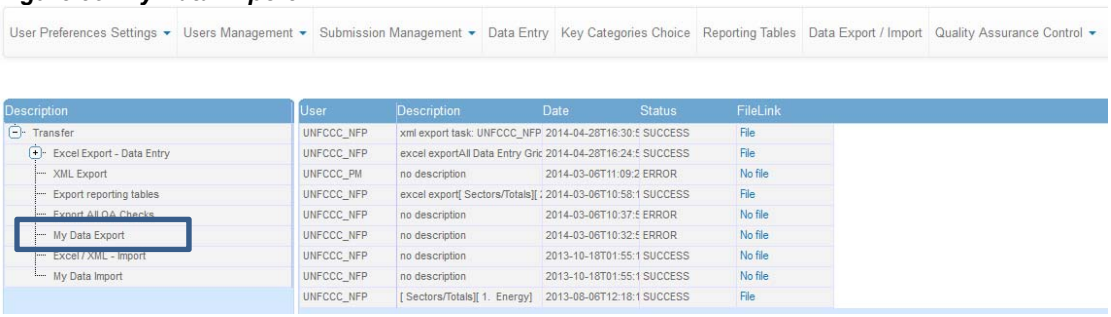
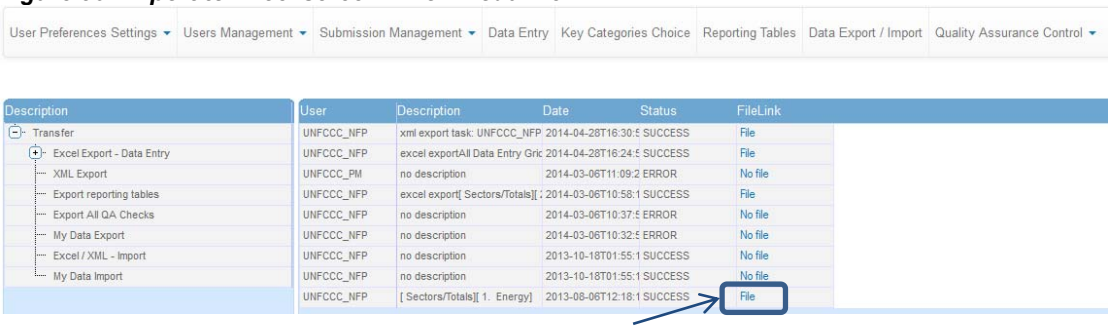


Figure 35: My Data Export



The user will be able to open or save the file by clicking on the FileLink "File" (figure 36).

Figure 36: Export to Excel screen – Download file

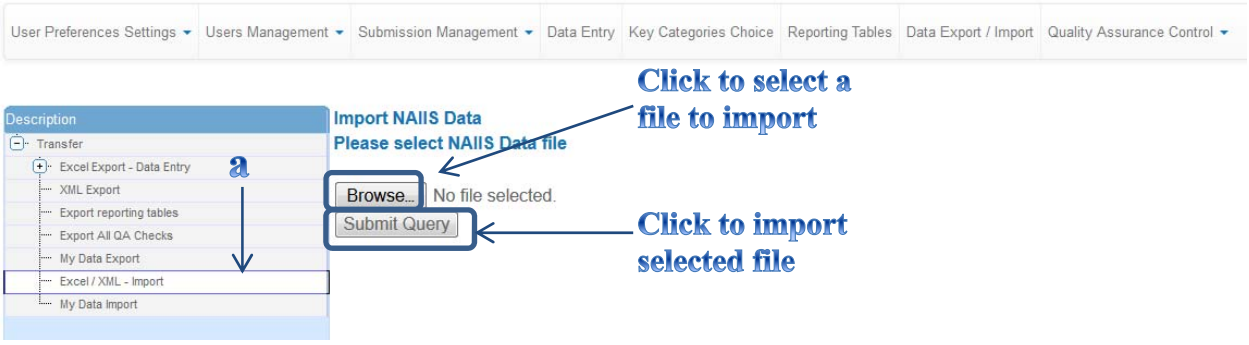


7.2 Excel/XML Data import

The data import tab allows the user to import data into the system with the use of an XML or Excel file.

To **import** data (figure 37, a), click on the "Browse…" button (or "Choose file" for Chrome users), select the file to be imported, and then click on the "Submit" button (figure 37). A message will be displayed to confirm successful completion of import (figure 38). If the type of the file selected for import is incorrect, an error message is displayed (only *.xml and *.xlsx files are allowed).

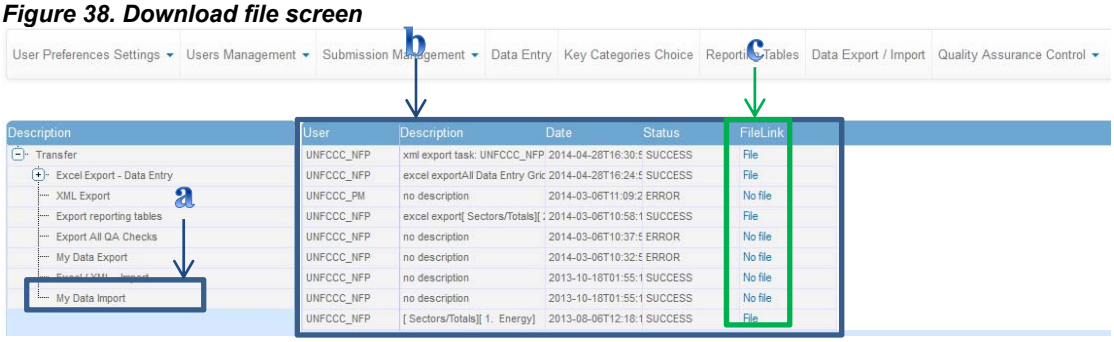
Figure 37. Data import



Pressing the "Submit Query" button will start the data import process.
On the left-hand side navigation tree, click on 'My Data Import' which opens a list of imported data.
The status of the import process can be seen under "My Data import" (figure 38, b).

Click on the "File" at column FileLink to open or save the file imported (figure 38, c).

Figure 38. Download file screen



7.3 Export reporting tables

This Export report tables function allows the user to export reporting tables in excel format.

Clicking on the “Export report tables” button triggers the system to generate an excel file (figure 39, c) and the following message appears on the screen:
‘*We have received your request for reporting tables export. Please be patient, this may take a few minutes. You can check progress of export in ‘My Data Export’* (figure 40, a).

Figure 39. Export reporting tables screen

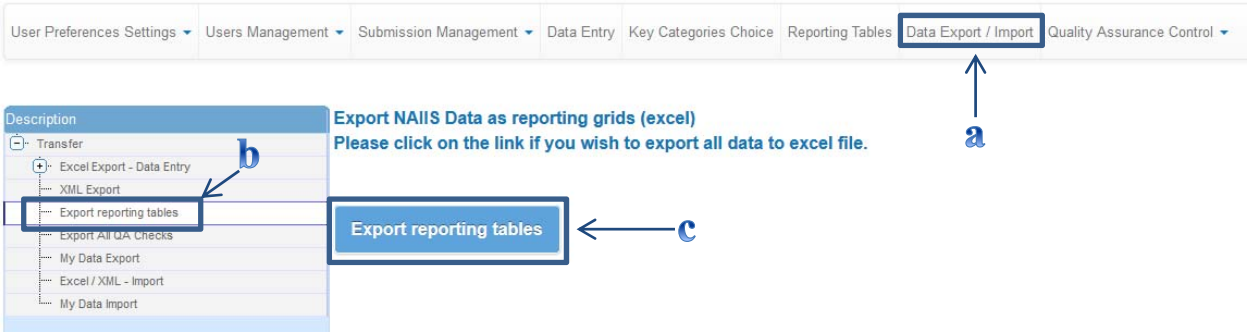
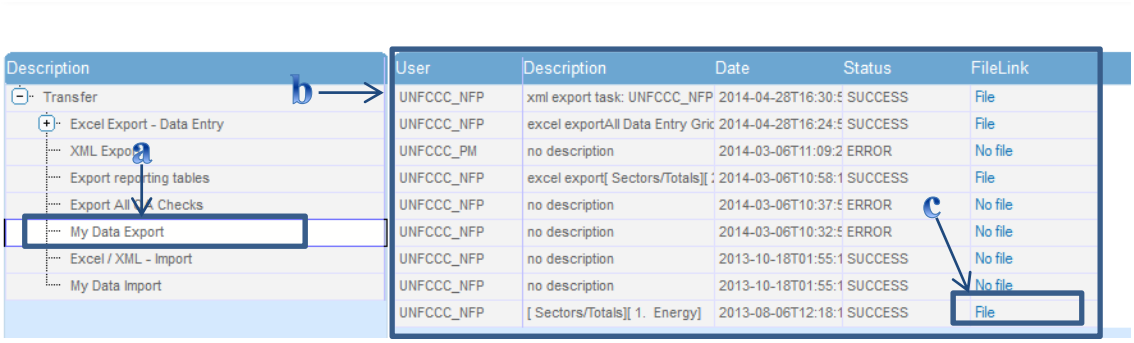


Figure 40. Export reporting tables screen

On the left-hand side navigation tree, click on ‘My Data Import’ which opens a list of imported data.
The status of the import process can be seen under “My Data import” (figure 41,b).

Click on the “File” at column FileLink (figure 41, c) to open or save the file exported.

Figure 41. My Data Export screen



7.4 XML Export

This XML export function allows the user to export files in XML format.

Clicking on the “XML Export – Data Entry” button triggers the system to generate an XML file (figure 42) and the following message appears on the screen:
‘*We have received your request for xml file export. Please be patient, this may take a few minutes. You can check progress of export in ‘My Data Export’* (figure 43, a).

Figure 42. Export/Import navigation bar – XML Export – Data Entry

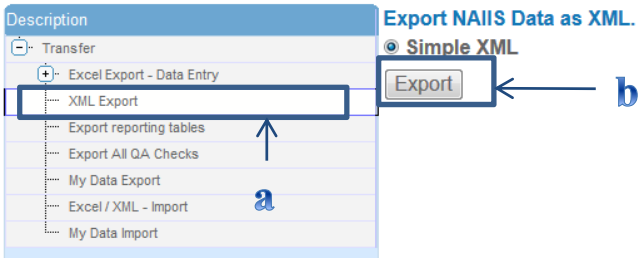
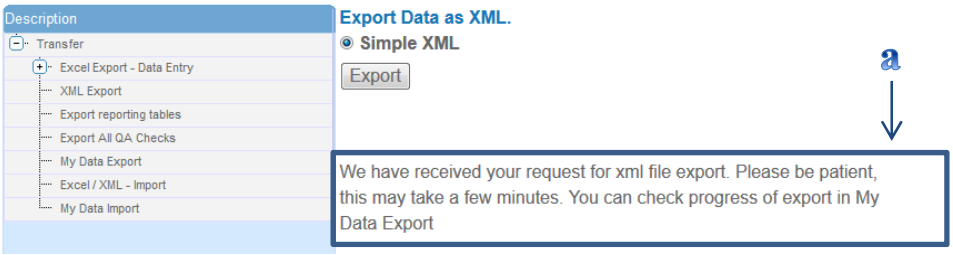
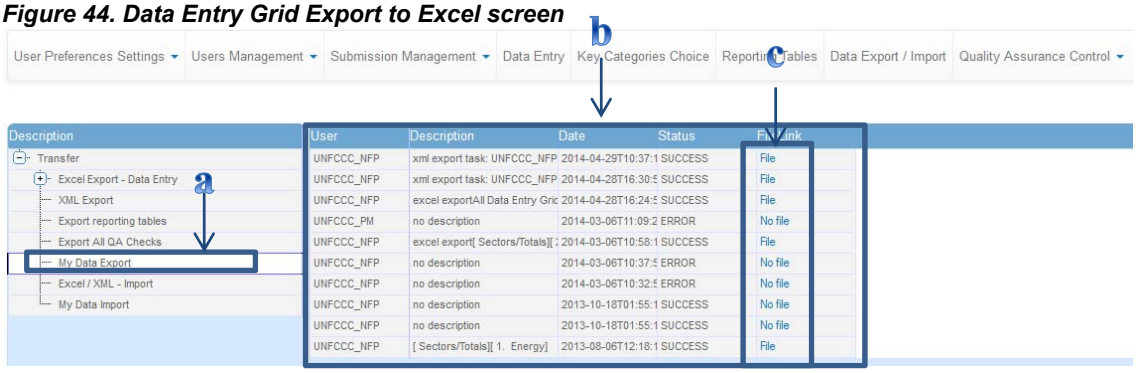


Figure 43. XML file export – message XML export file request



On the left-hand side navigation tree, click on ‘My Data Export’ (figure 44, a) which opens a list of export data (figure44, b). The user should be able to download the file by clicking on the “File” link (figure 44, c).

Figure 44. Data Entry Grid Export to Excel screen



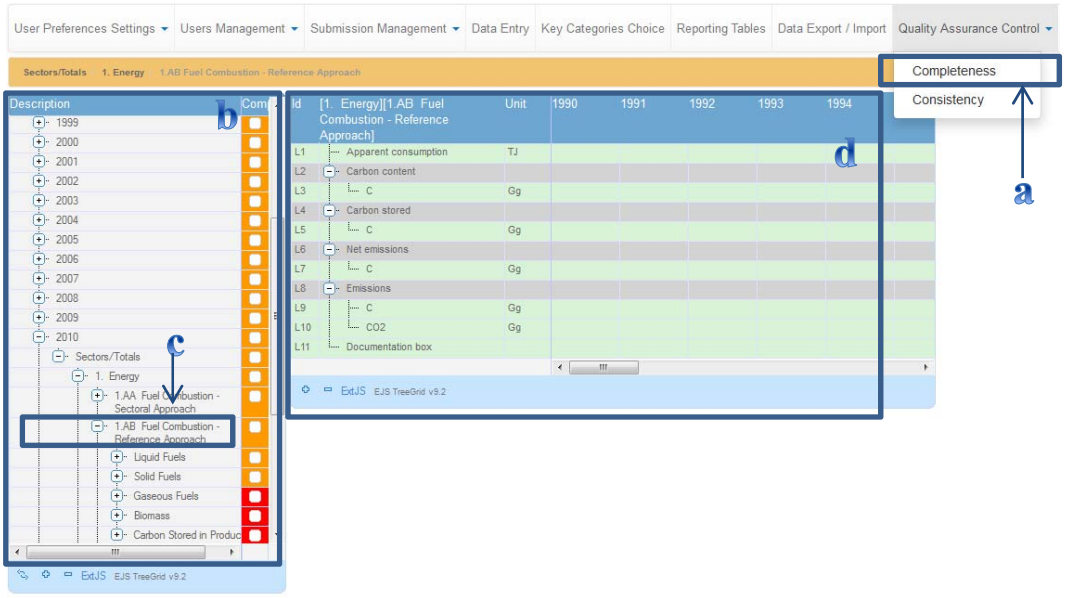
8 Completeness

This function allows the user to check whether all the grids of an inventory year have been completed.

Hover the cursor on the 'Quality Assurance Control' on the top main menu bar and click the 'Completeness' tab (figure 45, a), a navigation tree will be displayed on the left-hand side, sorted by inventory years and by sectors (including nodes and sub-nodes where relevant).

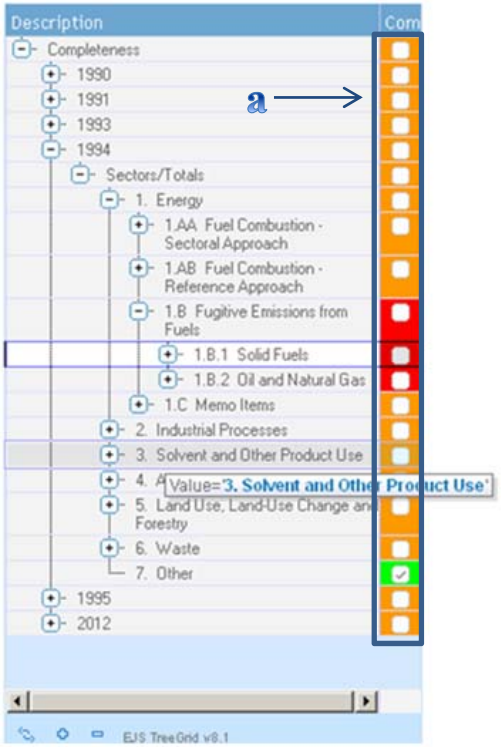
Clicking on the specific nodes of the tree (figure 45, b and c) opens on the right-hand side the data entry grid for that node (figure 45, d).

Figure 45 . Completeness screen



When all of the grids in a year or a sector are fully populated, the color of the checkbox under the column 'Complete' will be **green**. If only some of the grids are populated, the checkbox appears **orange**; if none of the grids are populated, it is highlighted **red** (figure 46).

Figure 46. Completeness screen – Example



9 Consistency

Consistency is the function enabling the user to recalculate all the values of a given year, i.e. when the formulas have changed.

Hover the cursor on the 'Quality Assurance Control' on the top main menu bar and click the 'Consistency' tab, the left-hand side navigation tree will display the inventory years in ascending order.

Clicking on the appropriate inventory year (figure 47, number c) displays the recalculated data on the right hand side (figure 47, d), if any.

Figure 47. Consistency initial screen

Press the corresponding year button to be checked (figure 48, number 1). However, please note that **the system is recalculating all the values for the selected year** and a pop-up window with the message "Loading data" appears in the middle of the screen (figure 49).

Figure 48. Consistency - example

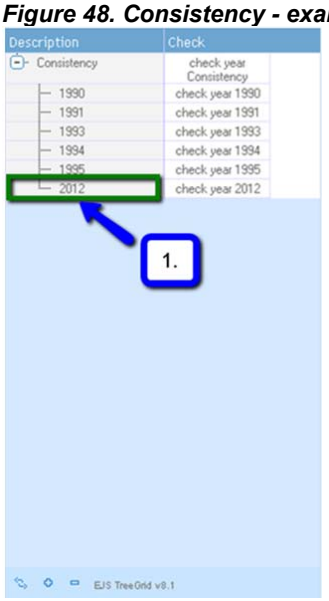
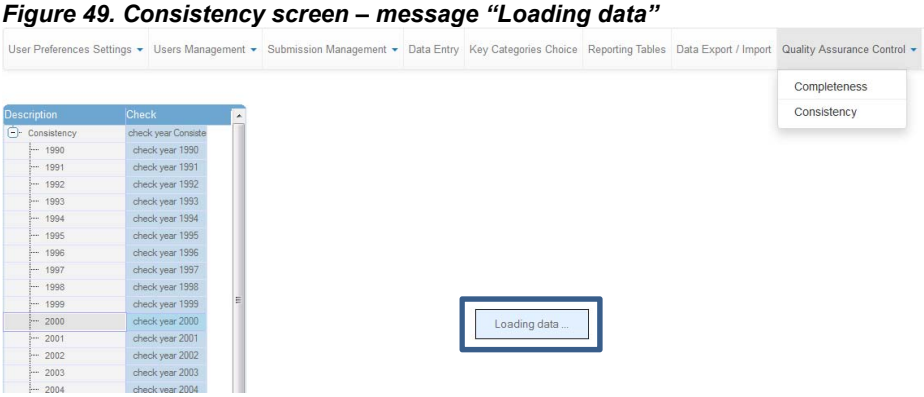


Figure 49. Consistency screen – message "Loading data"



If no data has changed after the recalculation, the message "No data found" will appear on the screen (figure 50), otherwise a list of calculated data sorted by order of calculation will be displayed on the right hand side box (figure 51).

Figure 50. Consistency screen – message "No data found"

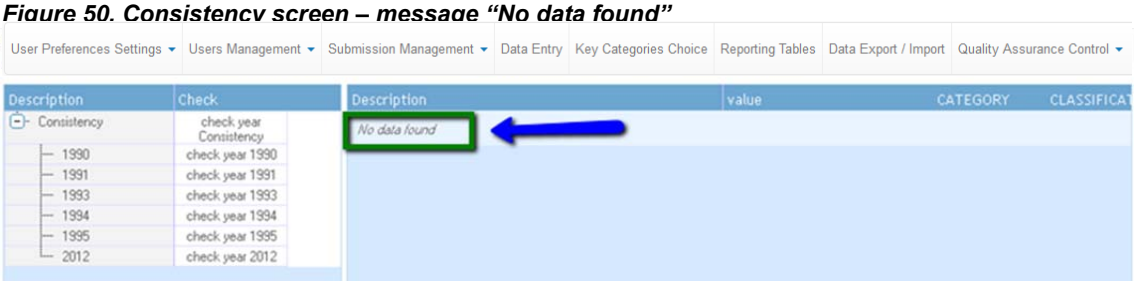
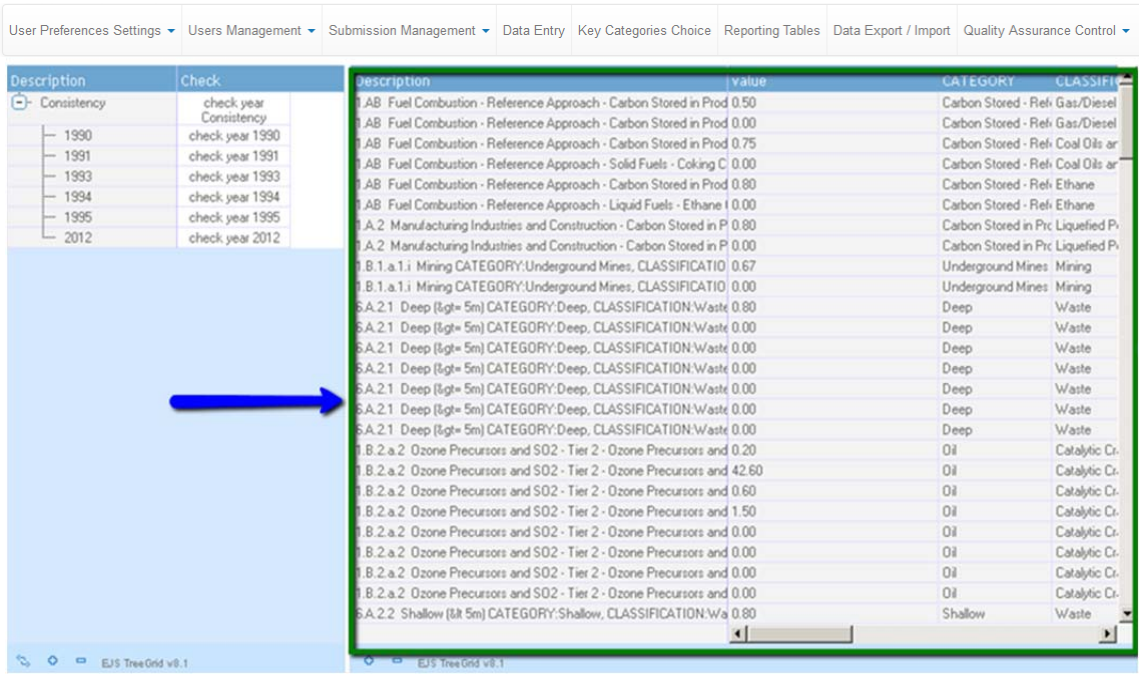


Figure 51. Consistency screen – list of calculated data

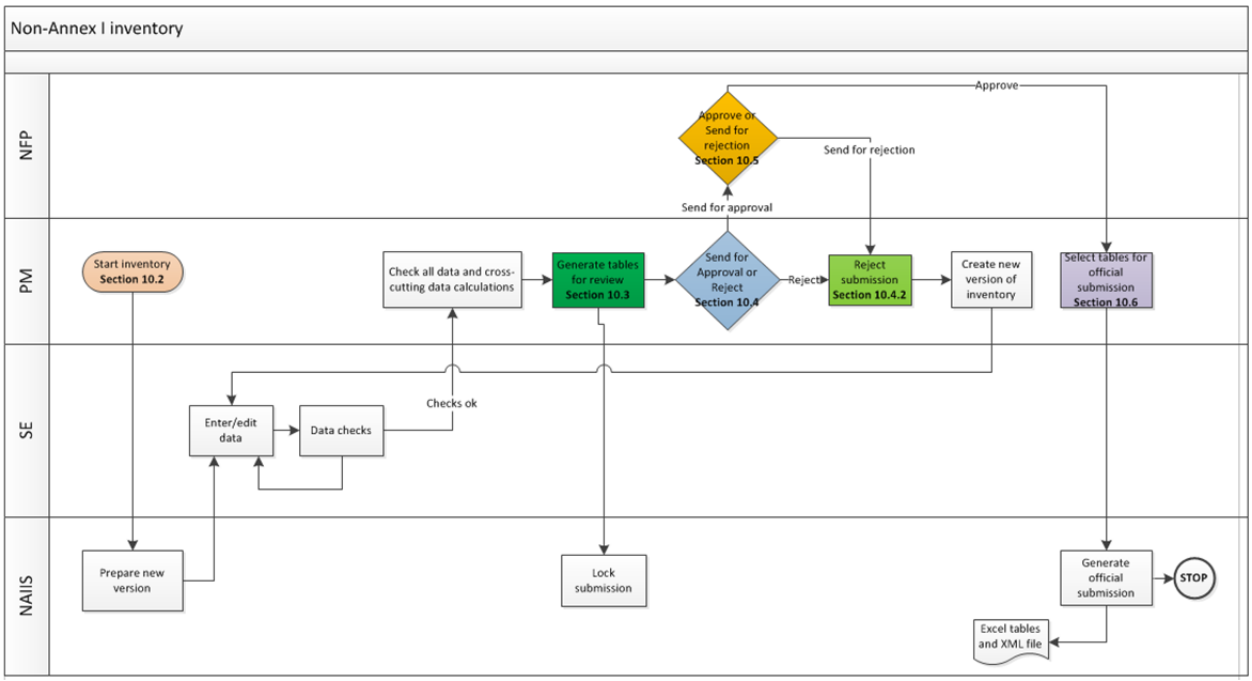


10 Submission management

10.1 Workflow

Creating and preparing an inventory, generating tables for checking by the NFP and approving and/or rejecting submission, follows a number of steps known collectively as a workflow. This chapter describes the workflow relating to the submission of the GHG inventory/(ies), which users should follow to create, prepare, and send GHG inventories for internal checking, and approval/rejection of the submission by the NFP, within the NAIIS web application (figure 52).

Figure 52: Non-Annex I Inventory Software workflow



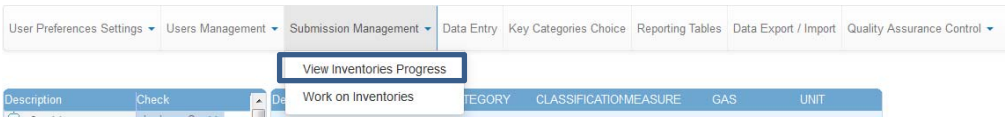
10.2 Start of inventory/submission (NFP or PM)

This procedure allows the NFP or PM to start a new (created) inventory. The existing data for the inventory year identified will be made available in the new inventory/submission.

These are the steps to start a new inventory:

1. Click on “View Inventories Progress” under sub menu “Submission Management” (figure 53).

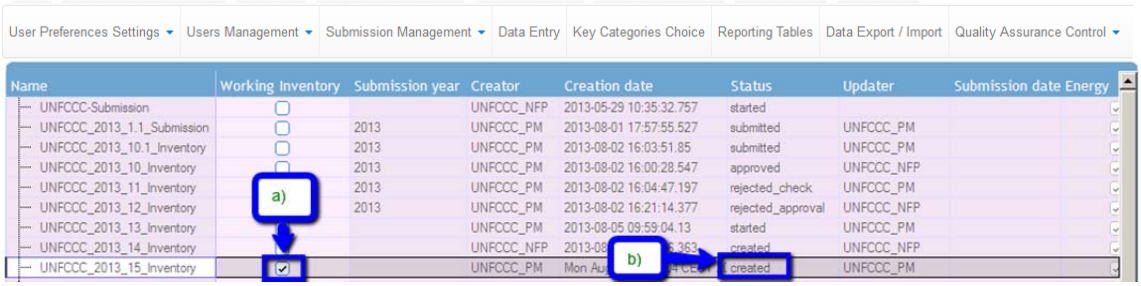
Figure 53. View Inventories Progress sub menu



2. The “View Inventories Progress” screen appears (figure 54).
3. Select the appropriate inventory by clicking the box under column “Working Inventory” (figure 54, a).

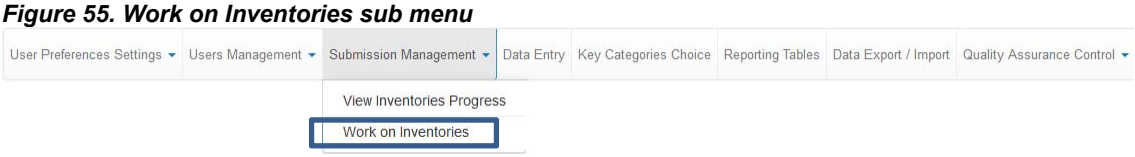
   *** Note: The selected appropriate inventory should be in status “created” (figure 54, b).

Figure 54. View Inventories Progress screen



4. Click on “Work on Inventories” under “Submission” (figure 55).

Figure 55. Work on Inventories sub menu



5. Click the appropriate Inventory year on “Work on Inventories” under “Submission” (figure 56, a).
6. Press the “Start Inventory” button to start the inventory (figure 56, b). Once pressed, the status changes to “started” (figure 57).

   *** Once the “Start Inventory” button has been pressed by the NFP or PM, a notification email will be sent to all SE’s with the information that a new inventory was created. SE’s and PM’s can start entering their data into the NAIIS software. More details on how to do the data entry please see section 4.1 above.

Figure 56. Work on Inventories screen

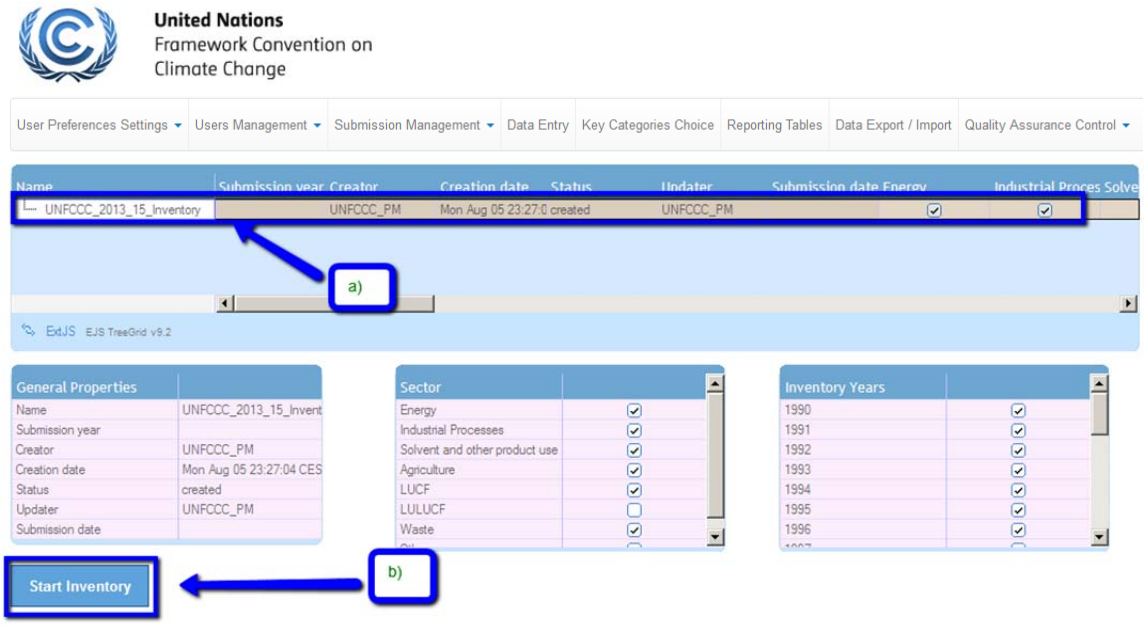
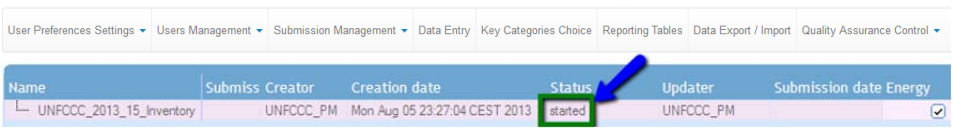


Figure 57. Work on Inventories screen – Status = Started



10.3 Send for checking (PM)

Once the SE's/or PM's have prepared the national GHG inventory, by entering data into the sectoral grids and the PM of the Party has checked the complete GHG inventory for consistency and correctness, the following steps allows the PM to send the inventory for checking:

1. Log in as PM.
2. Click on "View Inventories Progress" under sub menu "Submission Management".
3. The "View Inventories Progress" screen appears.
4. Select the appropriate inventory by clicking the Inventory name under column "Name" (figure 58, a).
5. Press the "Send for Checking by NFP" button to send it to the NFP for his review and approval (figure 58, b). *** Note: A notification email will be sent to the NFP email address, and the status changed to "check" (figure 59).

Figure 58. Work on Inventories screen – Status = Started

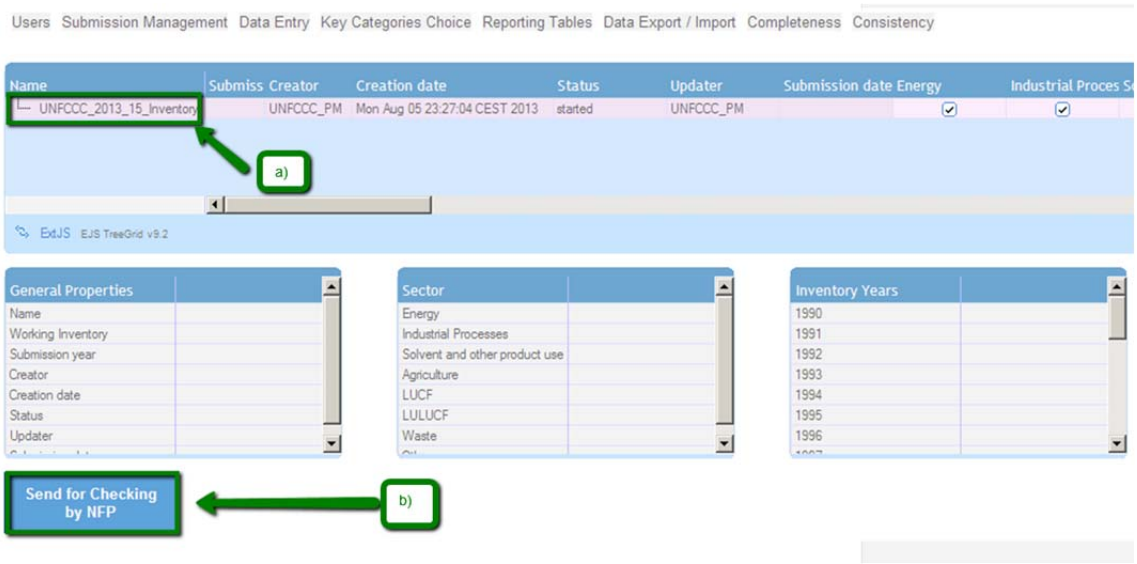
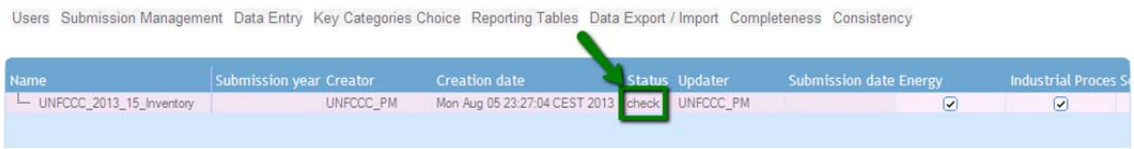


Figure 59. Work on Inventories screen – Status = check



10.4 Send for approval/rejection of an Inventory (PM)

This section describes on how the PM approves or rejects an inventory after being checked by the PM.

10.4.1 Send for approval of an Inventory

1. Log in as PM.
2. Click on “View Inventories Progress” under sub menu “Submission Management”.
3. The “View Inventories Progress” screen appears.
4. Select the appropriate inventory by clicking the Inventory name under column “Name” (figure 60, a).
5. Press the “Send for Approval” button to send it to NFP for his/her review and approval of the inventory (figure 60, b).

   *** Note: A notification email will be sent to the PM, once the “Send for Approval” has been pressed. And the status changed to “Awaiting_approval” (figure 61).

Figure 60. Work on Inventories screen – Send for Approval - Status = check

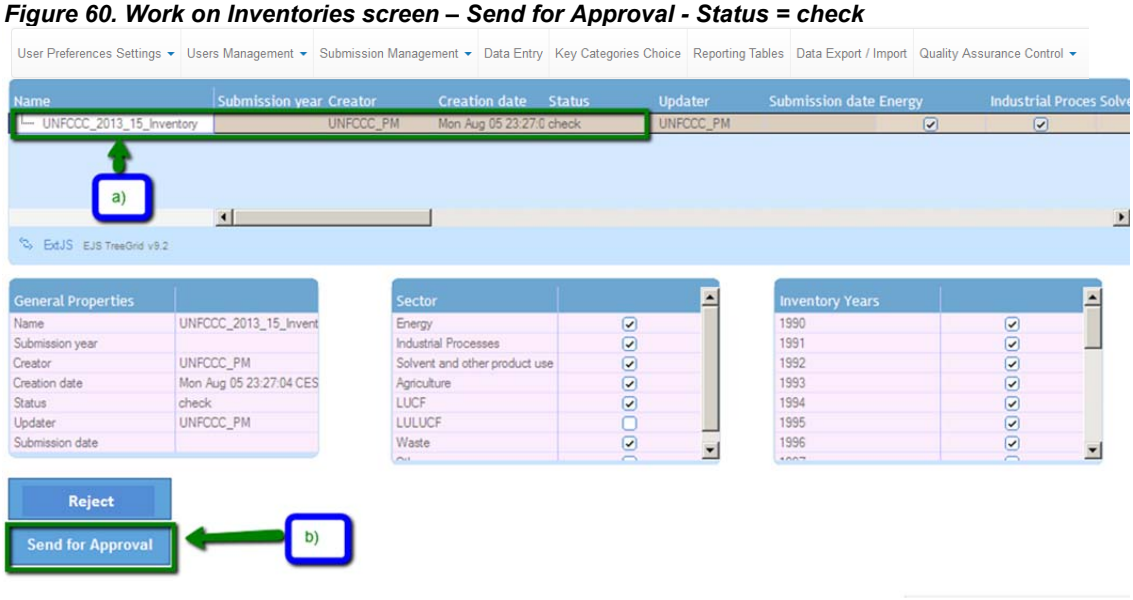
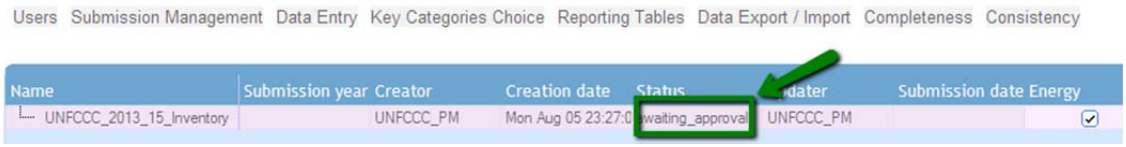


Figure 61. Work on Inventories screen – Status = awaiting_approval



10.4.2 Rejection of an Inventory

1. Log in as PM.
2. Click on “View Inventories Progress” under sub menu “Submission Management”.
3. The “View Inventories Progress” screen appears.
4. Select the appropriate inventory by clicking the Inventory name under column “Name” (figure 62, a).
5. Press the “Reject” button (figure 62, b).

   *** Note: A notification email will be sent to the PM, once the “Reject” button has been pressed. And the status changed to “Awaiting_rejection_check” (figure 63).

Figure 62. Work on Inventories screen –Reject - Status = check

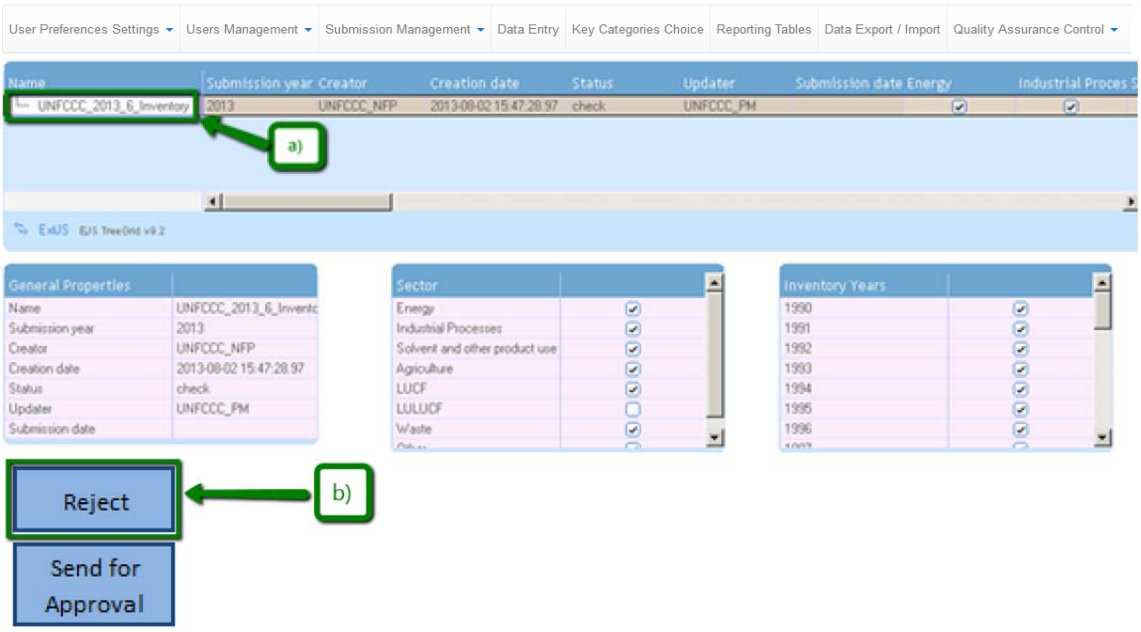
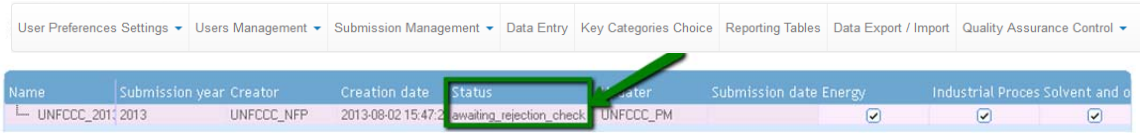


Figure 63. Work on Inventories screen – Propose Rejection - Status = awaiting_rejection_check



10.5 Approval or Rejection of an inventory (NFP)

This section describes how the NFP approves or rejects an inventory after being sent for approval by the PM (See section 10.4).

10.5.1 Approval of an inventory

1. Log in as NFP.
2. Click on “View Inventories Progress” under sub menu “Submission Management”.
3. The “View Inventories Progress” screen appears.
4. Select the appropriate inventory by clicking the Inventory name under column “Name” (figure 64).
5. Press the “Approve” button (figure 64, b).

   Once the “Approve” button was pressed, the status of the selected inventory changes to “approved” (figure 65, b).

   *** Note: A notification email will be sent to the PM that the inventory has been approved. Therefore, the PM may proceed to selecting the tables for preparing the official submission (See section 10.6).

Figure 64. Work on Inventories screen – Approve an inventory - Status = awaiting_approval

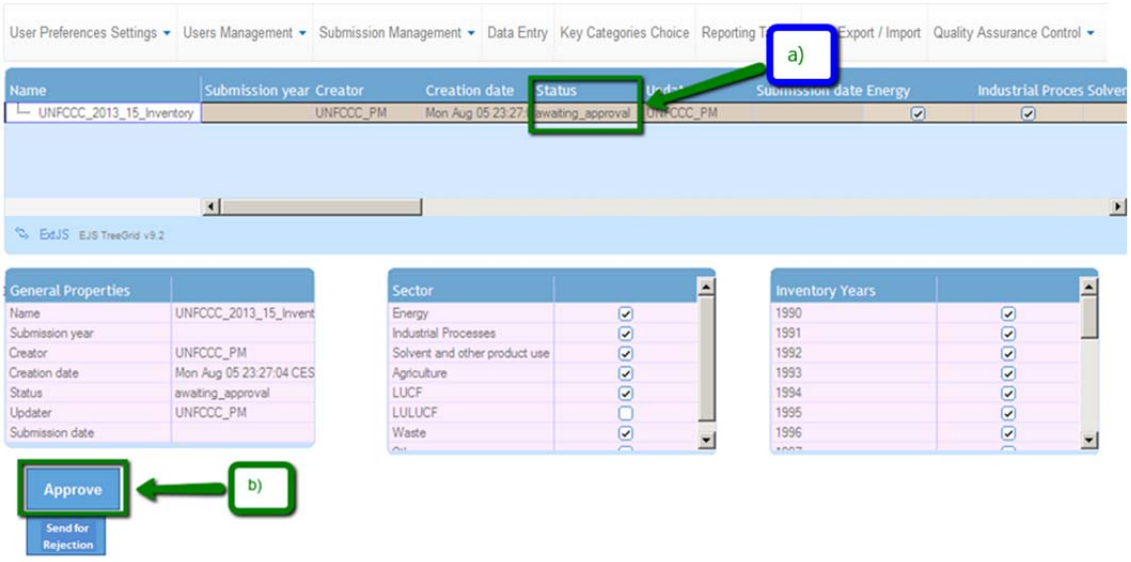
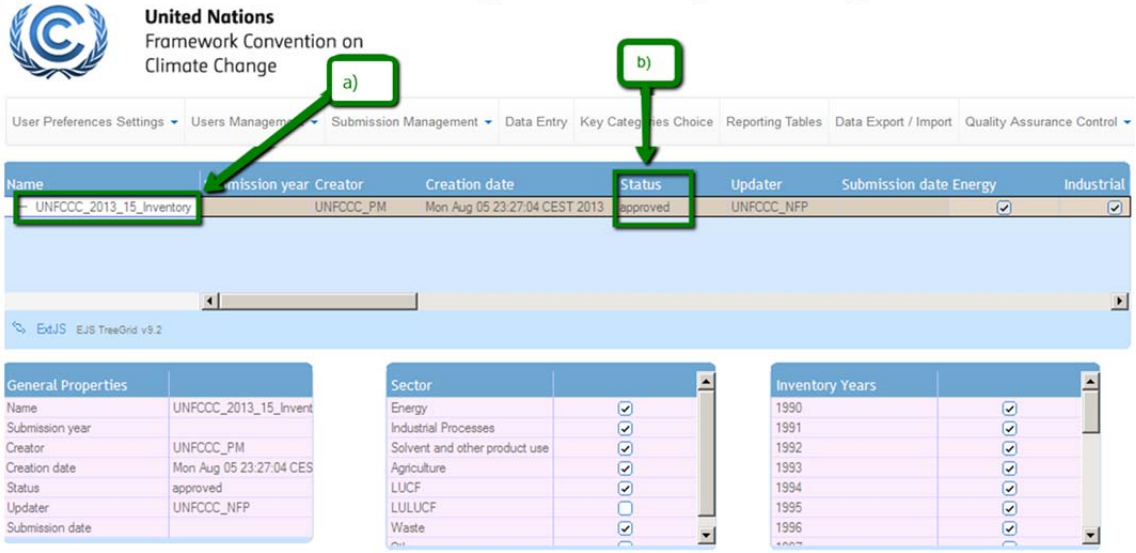


Figure 65. Work on Inventories screen – Approve an inventory - Status = approved



10.5.2 Rejection of an inventory

1. Log in as NFP.
2. Click on “View Inventories Progress” under sub menu “Submission Management”.
3. The “View Inventories Progress” screen appears.
4. Select the appropriate inventory by clicking the Inventory name under column “Name” (figure 66).
5. Press the “Send for Rejection” button (figure 66, b).

   Once the “Send for Rejection” button was pressed, the status of the selected inventory changes to “awaiting_rejection” (figure 67, a).

   *** Note: A notification email will be sent to the PM that the inventory has been rejected. Therefore, the PM will be able to reject the submission. Proceed to section 10.4.2.

Figure 66. Work on Inventories screen – Rejection of an inventory - Status = awaiting_approval

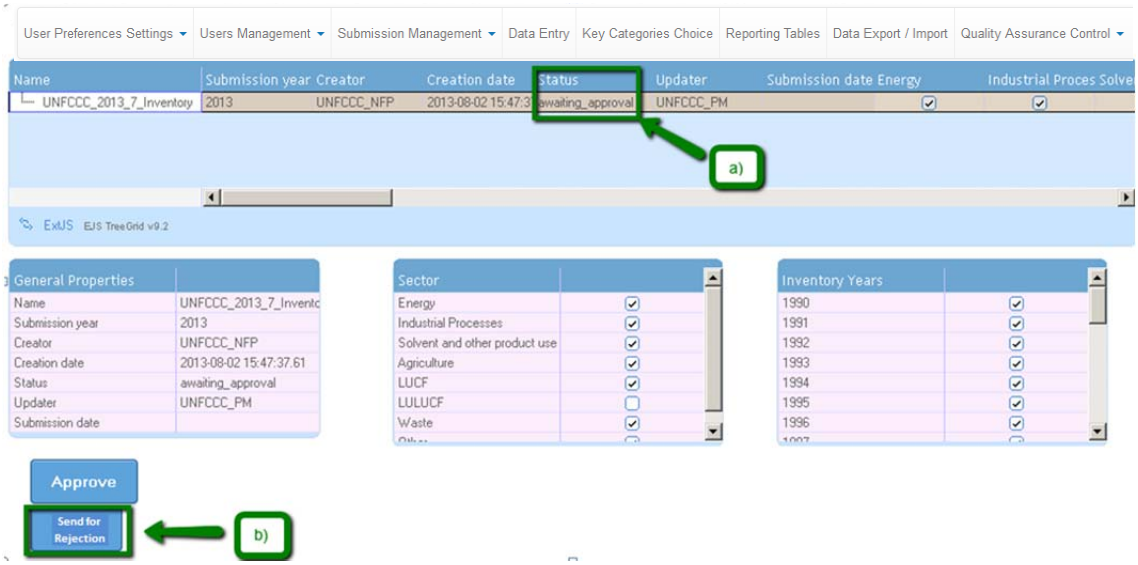
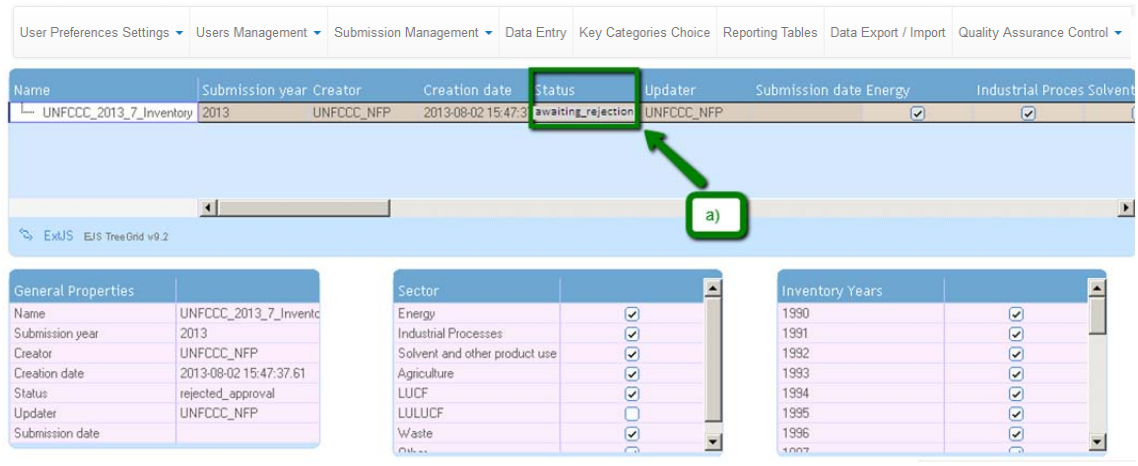


Figure 67. Work on Inventories screen – Rejection of an inventory - Status = rejected_approval



10.6 Submit inventory (PM)

This section describes on how the PM submits the inventory by selecting tables for the general submission after being approved by the NFP (See section 10.5).

10.6.1 Submit select tables for preparing the general submission

1. Log in as PM.
2. Click on “View Inventories Progress” under sub menu “Submission Management”.
3. The “View Inventories Progress” screen appears.
4. Select the appropriate inventory by clicking the box under column “Working inventory” (figure 68, a).
   *** Note: The selected inventory year to be submitted should be in status “approved” (figure 68, b).
5. Click on “Work on Inventories” under Submission Management (figure 68, c).
   This opens the Submit Inventory initial screen (figure 69).

6. Click the inventory year to be submitted (figure 69, a).
7. Press the “Generate Official Submission” button (figure 69, c).

Figure 68. View Inventories Progress screen – select inventory for the preparation for the general submission

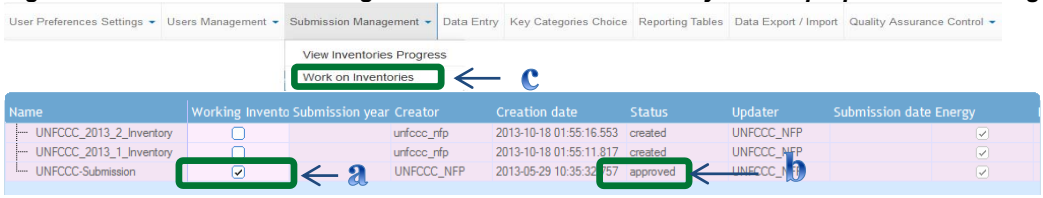
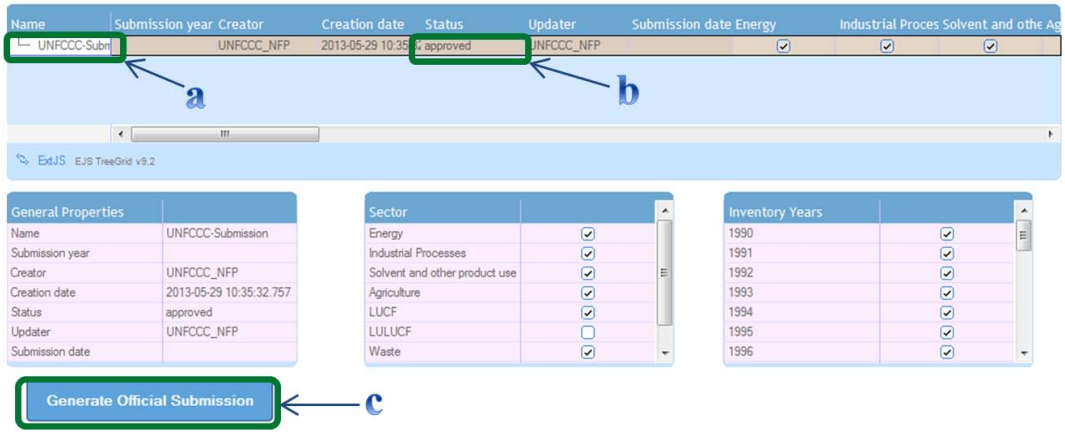


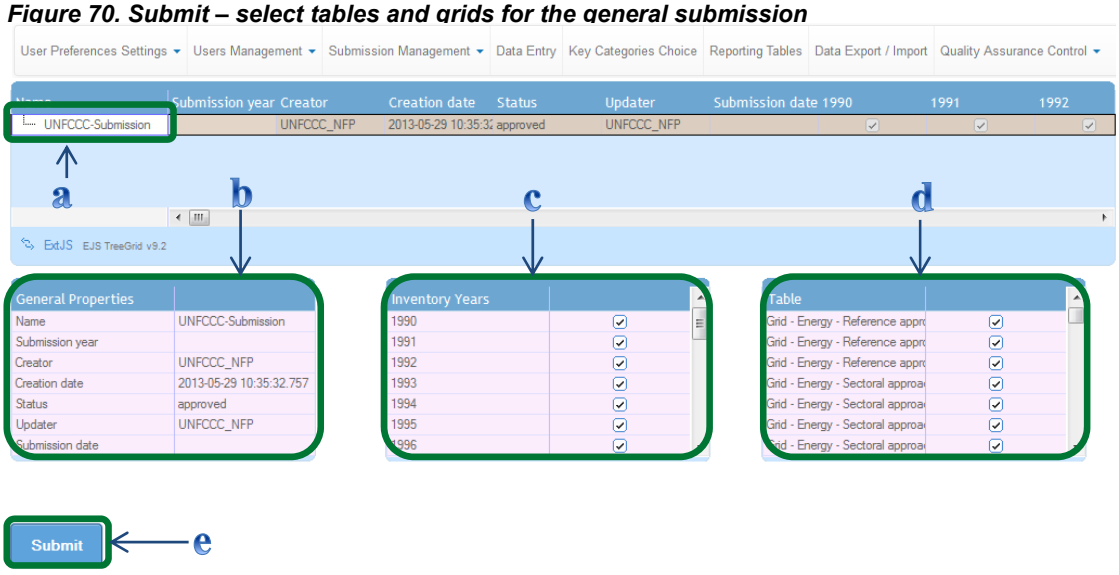
Figure 69. Submit select tables for the preparation for the general submission



Once the “Generate Official Submission” button has been pressed the “Submit Inventory” initial screen for selecting the tables appears (figure 70).

8. Select or deselect by clicking the appropriate year(s) under “Inventory Years” box (figure 70, c) or the sector grids under the “Table” box (figure 70, d) to generate the official submission.
9. Press the “Submit” button (figure 70, e). An official submission will be generated in the NAIIS system.

Figure 70. Submit – select tables and grids for the general submission



Release notes for NAIIS web application version 2.0.0

1.	Bugs fixed	As all stabilization release, the majority of issues addressed in NAIIS v2.0.0 release were bugs
2.	Comments Functionality Improvements	Completed all activities required to fulfill the requirements for the Comments Functionality. In particular: - cell, line, node comments on data entry grid - cell comments on reporting tables - import/export official comments - comments on reporting tables - improved comments UI
3.	User Created Categories Improvements	Asynchronous support for user categories deletion operation
4.	User Management Improvements	The Administration page for creating NFPs for external Parties is now fully functional.

Glossary of terms and abbreviations

AD – Activity Data
AWMS – Animal Waste Management System
BOD – Biochemical Oxygen Demand
C – Carbon
C_2F_6 – Hexafluoroethane
CF_4 – Tetrafluoromethane
CH_4 – Methane
CO – Carbon Monoxide
CO_2 – Carbon dioxide
COD – Chemical Oxygen Demand
dm – dry matter
Gg – Gigagram
ha – hectare
HFC – Hydrofluorocarbon
hl – hectolitre
k – kilo
kg – kilogram
kha – kilo hectare
kt – kilotonne
LTO – Landing/Take Off
LUCF – Land-Use Change and Forestry
LULUCF – Land Use, Land-Use Change and Forestry
m^3 – cubic meter
MCF – Methane Correction Factor
Mg – Megagram
Mha – Megahectare
MSW – Municipal Solid Waste
N – Nitrogen
N_2O – Nitrous Oxide
NFP – National Focal Point
NH_3 – Ammonia
NMVOC – Non-Methane Volatile Organic Compound
NO_X – Nitrogen Dioxide
PFC – Perfluorocarbon
RA - Reference Approach
SE – Sectoral Expert
SF_6 – Sulphur Hexafluoride
SO_2 – Sulphur Dioxide
SWDS – Solid Waste Disposal Site
t – tonne
Tg – Teragram
TJ – Terajoules
XML – Extensible Markup Language
year t – inventory year

Annex 1: Non-Annex I (NAI) Parties

1	Afghanistan	AFG
2	Albania	ALB
3	Algeria	DZA
4	Andorra	AND
5	Angola	AGO
6	Antigua and Barbuda	ATG
7	Argentina	ARG
8	Armenia	ARM
9	Azerbaijan	AZE
10	Bahamas	BHS
11	Bahrain	BHR
12	Bangladesh	BGD
13	Barbados	BRB
14	Belize	BLZ
15	Benin	BEN
16	Bhutan	BTN
17	Bolivia	BOL
18	Bosnia and Herzegovina	BIH
19	Botswana	BWA
20	Brazil	BRA
21	Brunei Darussalam	BRN
22	Burkina Faso	BFA
23	Burundi	BDI
24	Cambodia	KHM
25	Cameroon	CMR
26	Cape Verde	CPV
27	Central African Republic	CAF
28	Chad	TCD
29	Chile	CHL
30	China	CHN
31	Colombia	COL
32	Comoros	COM
33	Congo	COG
34	Cook Islands	COK
35	Costa Rica	CRI
36	Cote d'Ivoire	CIV
37	Cuba	CUB
38	Democratic People's Republic of Korea	PRK
39	Democratic Republic of the Congo	COD
40	Djibouti	DJI
41	Dominica	DMA
42	Dominican Republic	DOM
43	Ecuador	ECU
44	Egypt	EGY
45	El Salvador	SLV
46	Equatorial Guinea	GNQ
47	Eritrea	ERI
48	Ethiopia	ETH
49	Fiji	FJI
50	Gabon	GAB
51	Gambia	GMB
52	Georgia	GEO
53	Ghana	GHA
54	Grenada	GRD
55	Guatemala	GTM
56	Guinea	GIN
57	Guinea-Bissau	GNB
58	Guyana	GUY
59	Haiti	HTI
60	Honduras	HND
61	India	IND
62	Indonesia	IDN
63	Iran (Islamic Republic of)	IRN
64	Iraq	IRQ
65	Israel	ISR
66	Jamaica	JAM
67	Jordan	JOR
68	Kazakhstan	KAZ
69	Kenya	KEN
70	Kiribati	KIR
71	Kuwait	KWT
72	Kyrgyzstan	KGZ
73	Lao People's Democratic Republic	LAO
74	Lebanon	LBN
75	Lesotho	LSO
76	Libya	LBY
77	Liberia	LBR
78	Madagascar	MDG
79	Malawi	MWI
80	Malaysia	MYS
81	Maldives	MDV
82	Mali	MLI
83	Marshall Islands	MHL

84	Mauritania	MRT
85	Mauritius	MUS
86	Mexico	MEX
87	Micronesia (Federated States of)	FSM
88	Mongolia	MNG
89	Montenegro	MNE
90	Morocco	MAR
91	Mozambique	MOZ
92	Myanmar	MMR
93	Namibia	NAM
94	Nauru	NRU
95	Nepal	NPL
96	Nicaragua	NIC
97	Niger	NER
98	Nigeria	NGA
99	Niue	NIU
100	Oman	OMN
101	Pakistan	PAK
102	Palau	PLW
103	Panama	PAN
104	Papua New Guinea	PNG
105	Paraguay	PRY
106	Peru	PER
107	Philippines	PHL
108	Qatar	QAT
109	Republic of Korea	KOR
110	Republic of Moldova	MDA
111	Rwanda	RWA
112	Saint Kitts and Nevis	KNA
113	Saint Lucia	LCA
114	Saint Vincent and the Grenadines	VCT
115	Samoa	WSM
116	San Marino	SMR
117	Sao Tome and Principe	STP
118	Saudi Arabia	SAU
119	Senegal	SEN
120	Serbia	SRB
121	Seychelles	SYC
122	Sierra Leone	SLE
123	Singapore	SGP
124	Solomon Islands	SLB
125	Somalia	SOM
126	South Africa	ZAF
127	South Sudan	SSD
128	Sri Lanka	LKA
129	Sudan	SDN
130	Suriname	SUR
131	Swaziland	SWZ
132	Syrian Arab Republic	SYR
133	Tajikistan	TJK
134	Thailand	THA
135	The former Yugoslav Republic of Macedonia	MKD
136	Timor-Leste	TLS
137	Togo	TGO
138	Tonga	TON
139	Trinidad and Tobago	TTO
140	Tunisia	TUN
141	Turkmenistan	TKM
142	Tuvalu	TUV
143	Uganda	UGA
144	United Arab Emirates	ARE
145	United Republic of Tanzania	TZA
146	Uruguay	URY
147	Uzbekistan	UZB
148	Vanuatu	VUT
149	Venezuela	VEN
150	Viet Nam	VNM
151	Yemen	YEM
152	Zambia	ZMB
153	Zimbabwe	ZWE

Annex 2: Fuel categories

Liquid Fuels (Crude oil and petroleum products)
Crude oil
Orimulsion
Natural gas liquids
Gasoline
Motor Gasoline
Aviation Gasoline
Jet Gasoline
Jet kerosene
Other kerosene
Shale oil
Gas/Diesel oil
Residual fuel oil
Liquefied petroleum gas
Ethane
Naphtha
Bitumen
Lubricants
Petroleum coke
Refinery Feedstock
Other oil
Refinery gas
Paraffin waxes
White spirit
Heavy fuel - low
Heavy fuel - medium
Heavy fuel - high
Light fuel oil/diesel - low
Light fuel oil/diesel - medium
Light fuel oil/diesel - high
Diesel (road)
Gasoline (road)

Solid Fuels (Coal and coal products)
Anthracite
Coking coal
Other bituminous coal
Sub-bituminous coal
Other sub-bituminous coal
Lignite/brown coal
Oil shale
Peat
Coke
Coke oven coke
Gas coke
Patent fuel
Coke
Coke oven coke
Gas coke
BKB/Patent Fuel
Patent Fuel
Brown coal briquettes
Gas works gas
Coke oven gas
Blast furnace gas
Other gases and mixtures from coal-derived carbon
Coal - low
Coal - medium
Coal - high

Gaseous Fuels
Natural gas

Other Fuels
Municipal solid waste
Industrial waste
Fuel mixtures (fossil and biomass)
Waste gas
Other wastes
Hydrogen

Biomass
Solid
Wood/Wood waste
Agricultural waste
Charcoal
Other solid biomass

Liquid
Bio-alcohol
Sulphur lies (Black liquor)
Sewage sludge
Other liquid biomass

Gas
Landfill gas
Sludge gas (sewage gas)
Other biogas

Annex 3: Global Warming Potentials (GWPs)

Greenhouse gas	Chemical formula	1995 IPCC GWP
Carbon dioxide	CO_2	1
Methane	CH_4	21
Nitrous oxide	N_2O	310
HFC-23	CHF_3	11,700
HFC-32	CH_2F_2	650
HFC-41	CH_3F	150
HFC-43-10mee	$C_5H_2F_{10}$	1,300
HFC-125	C_2HF_5	2,800
HFC-134	$C_2H_2F_4$	1,000
HFC-134a	CH_2FCF_3	1,300
HFC-152a	$C_2H_4F_2$	140
HFC-143	$C_2H_3F_3$	300
HFC-143a	CF_3CH_3	3,800
HFC-227ea	C_3HF_7	2,900
HFC-236fa	$C_3H_2F_6$	6,300
HFC-254ca	$C_3H_3F_5$	560
Perfluoromethane	CF_4	6,500
Perfluroethane	C_2F_6	9,200
Perfluoropropape	C_3F_8	7,000
Perfluorobutane	C_2F_{10}	7,000
Perfluorocyclobutane	$c\text{-}c_4F_8$	8,700
Perfluoropentane	C_5F_{12}	7,500
Perfluorohexane	C_6F_{14}	7,400
Sulphur hexafluoride	SF_6	23,900

Source: Climate Change 1995, The Science of Climate Change: Summary for Policymakers and Technical Summary of the Working Group I Report, page 22.

Annex 4: Default values

1. Fraction of carbon stored for reference approach

Bitumen – 1
Coal oils and tars (from coking coal – 0.75
Ethane – 0.8
Gas/Diesel oil – 0.5
LPG – 0.8
Lubricants – 0.5
Naphtha – 0.8
Natural gas – 0.33

2. Conversion factors

a. CH_4 volume → CH_4 Gg = 0.67

b. *Conversion factors for energy*

From	To	Multiply by
J	TJ	10^{-12}
KJ	TJ	10^{-9}
MJ	TJ	10^{-6}
GJ	TJ	10^{-3}
TJ	TJ	1
cal	TJ	4.1868×10^{-12}
kcal	TJ	4.1868×10^{-9}
Mcal	TJ	4.1868×10^{-6}
Gcal	TJ	4.1868×10^{-3}
Tcal	TJ	4.1868
kWh	TJ	3.6×10^{-6}
MWh	TJ	3.6×10^{-3}
GWh	TJ	3.6
Btu	TJ	1.0551×10^{-9}
kBtu	TJ	1.0551×10^{-6}
MBtu	TJ	1.0551×10^{-3}
GBtu	TJ	1.0551
toe	TJ	41.868×10^{-3}
ktoe	TJ	41.868
Mtoe	TJ	4.1868×10^{4}
TJ	J	10^{12}
TJ	KJ	10^{9}
TJ	MJ	10^{6}
TJ	GJ	10^{3}
TJ	cal	238.8×10^{9}
TJ	kcal	238.8×10^{6}
TJ	Mcal	238.8×10^{3}
TJ	Gcal	238.8
TJ	Tcal	238.8×10^{-3}
TJ	kWh	277.8×10^{3}
TJ	MWh	277.8
TJ	GWh	277.8×10^{-3}
TJ	Btu	947.8×10^{6}
TJ	kBtu	947.8×10^{3}
TJ	MBtu	947.8
TJ	GBtu	947.8×10^{-3}
TJ	toe	23.88
TJ	ktoe	23.88 x x 10^{-3}
TJ	Mtoe	23.88×10^{-6}

3. Emission factors

a. *Ozone precursors and SO_2 from oil refining –* ***Crude oil throughput***

NOx = 0.06
CO = 0.09
NMVOC = 0.62
SO_2 = 0.93

b. *Ozone precursors and SO2 from oil refining –* ***Catalytic cracker throughput***

NOx = 0.2
CO = 42.6
NMVOC = 0.6
SO_2 = 1.5

c. *NMVOC emissions from storage and handling –* ***Crude oil throughput***

Secondary seals = 0.2
Primary seals = 0.7
Fixed Roof = 4.9

d. *SO_2 from Sulphur Recovery Plants* – **139 kg/t**

4. CKD correction factor = 1.02

5. Methane Correction Factor (MCF)

Managed — 1.0
Unmanaged – deep (>= 5m) — 0.8
Unmanaged – shallow (< 5m) — 0.4
Methane Correction Factor — 0.6

6. Inventory time period *(for Cropland remaining Cropland – Carbon stock change – Mineral soils)* = **20 years**