

# CRF Reporter Software

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## 6<sup>th</sup> Joint UNECE Task Force & EIONET Meeting on Emission Inventories and Projections

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# Background

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- **Decision 18/CP.8 – Reporting Guidelines**

Requested the secretariat to develop new software for reporting in the common reporting format in order to facilitate Parties' inventory submissions

- **Decision 13/CP.9 – LULUCF**

Tables of the common reporting format for the land use, land-use change and forestry categories adopted

- **SBSTA 20 (2004) – CRF Reporter**

Invited Parties to use the CRF Reporter to report inventory submissions due in 2005 and requested the secretariat to integrate the LULUCF CRF tables into the CRF Reporter by August 2005 to allow for reporting by Annex I Parties in 2006 using integrated software

# Why revised CRF software?

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- Previous spreadsheet format required significant resources to import, and verify data consistency, with numerous interactions with Parties
- Spreadsheet format was not very user friendly for Parties in terms of input and data management
- Furthermore, taking into account:
  - Increasing amount of data to be reported and management
  - Need to incorporate revisions of the CRF (CRF 2002, LULUCF 2003)
  - Strict timeline demands of the inventory review process
  - Complex nature of CRF and underlying data structure

... it would have become increasingly difficult to process and manage data in a timely, highly quality manner using previous procedures and spreadsheet-based software
- CRF Reporter should facilitate the data reporting and processing, and improve the overall quality of data and assessments

# CRF Reporter

## Features & Functionality

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- User friendly CRF category-based navigation tree
- Automatic aggregation and calculations
- Category level documentation – information for sectoral CRF documentation boxes
- Cell level comments – specific comments for input values
- Notation key handling
  - Standardization
  - Easy propagation
  - No aggregation errors
  - Request for explanation for IE and NE

# CRF Reporter

## Features & Functionality (II)

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- Chart window – graphical visualization of input values
- Integrated instructions and hints – assist user in following the reporting requirements
- Recalculation explanation panels/dialogs – provision of explanation at data entry level or final compilation level
- Handling of non-sectoral CRF table requirements, including associated documentation boxes
  - Key categories information for CRF Table 7
  - Recalculation information for CRF Table 8a
  - Methods information for CRF Table Summary 3
  - Completeness information for CRF Table 9
  - Trend information for CRF Table 10

# CRF Reporter

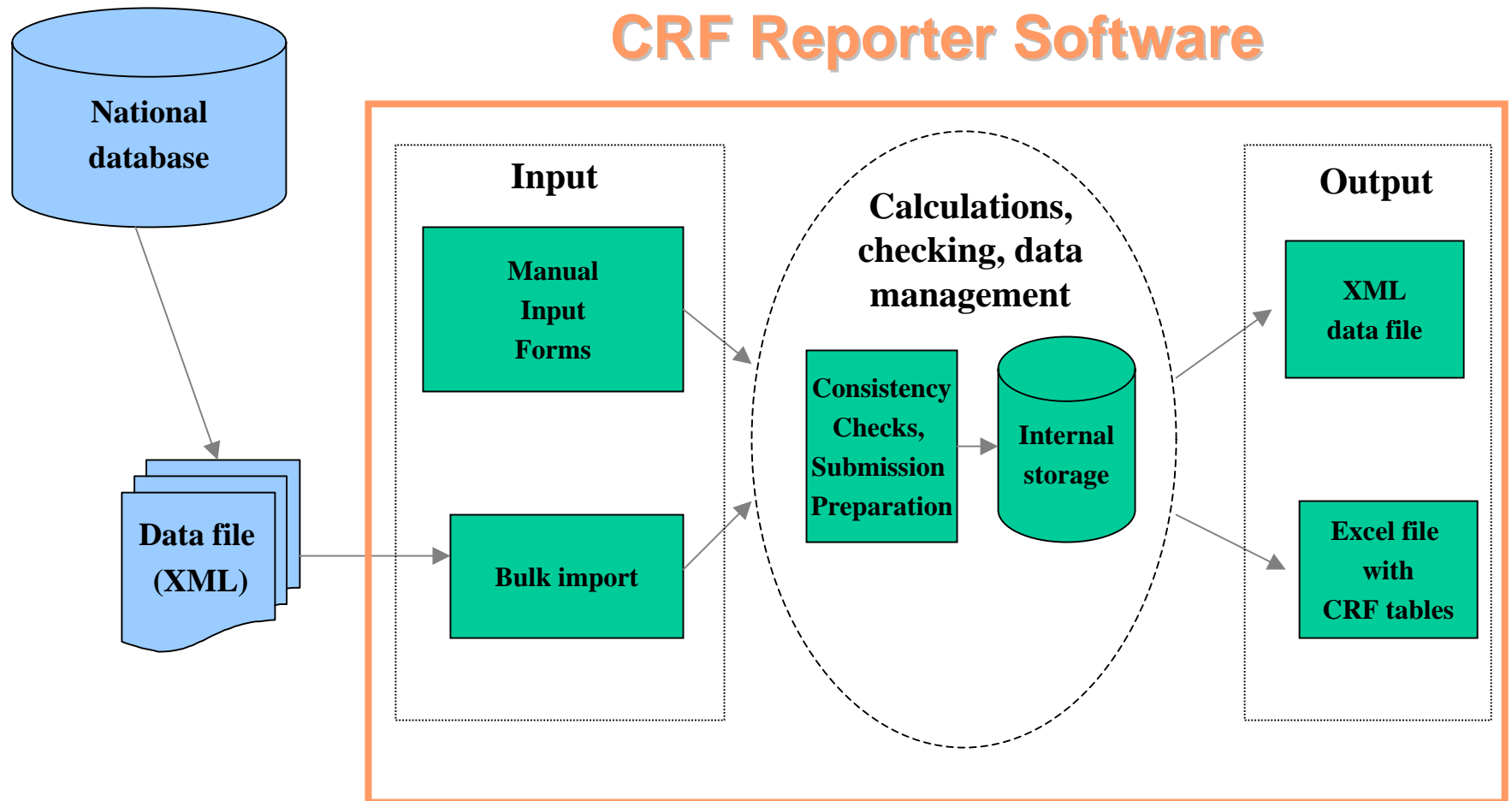
## Features & Functionality (III)

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- Completeness and consistency checks integrated
- Input of contact and submission information (who, when, what)
- Management of submission history – information on previously submitted information
- Work flow assistance – import and export features to assist in a decentralized inventory working environment - sectoral experts can work independently, data can be bulk imported from national databases
- Generation of outputs/submissions – can produce Excel CRF sheets and official data exchange file (XML) for submission

# CRF Reporter Work Flow Overview

## CRF Reporter Software



# Use Statistics – Use by Parties

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- Initial version of software deployed in December 2004 to 41 Annex I Parties
- In 2005 had 11 active users (interacting via CRF helpdesk system (online or email))
- Four Annex I Parties reported their 2005 inventory submissions using new CRF Reporter software
  - New Zealand
  - Canada
  - Romania
  - Hungary
- One non-Annex I Party requested software



# Software Use in 2006

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In line with the decisions of the COP and conclusions of the SBSTA:

- All Annex I Parties should use the CRF Reporter (version 2) for reporting their inventories in 2006

This is crucial for a number of reasons:

- The substantive requirements of the revised CRF will be available in the new software, allowing Parties to meet their reporting commitments
- Reporting in multiple software (formats) will lead to some difficulties in comparability across Parties and in conducting consistent reviews across Parties
- The resource and technical burden on the secretariat to support the management and processing of data from multiple software will be significant

# Summary

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- Initial version of CRF Reporter was used by a limited number of Parties – 4 Parties (<10%) report using CRF Reporter software in 2005 (approx. 10 used/tested)
- Secretariat has implemented online user support system for Parties
- Informal technical meetings with Parties to facilitate process were held
- Parties were involved in testing
- Deployment of second version early September
- Hands-on user workshops to assist/prepare Parties/secretariat
- All Annex I Parties to report in 2006 using version 2 of the CRF Reporter

# User interface

1. Menu bar

The screenshot shows the UNFCCC CRF Reporter software interface. The title bar reads "UNFCCC CRF Reporter - default database: 'C:\Program Files\UNFCCC\CRF Reporter\Databas...". The menu bar includes "File", "Edit", "Submission", "Inventory", "Options", and "Help". The toolbar contains various icons for file operations and data management. The navigation tree on the left shows a hierarchy: Sectors/Totals > 1 Energy > 1.A Fuel Combustion > 1.AA Fuel Combustion - Se > 1.AA.1 Energy Industri > 1.AA.1.A Public El. The main data grid displays information for "1.AA.1.A Public Electricity and Heat Production" for the year 1990. The grid shows values for Fuel Consumption, Emissions (CO2 and CH4), and Recalculation explanation. A chart window at the bottom right shows a bar chart for "Public Electricity and Heat Production, Classification - Gaseous Fuels, Measure -" from 1980 to 2003, with a value of 158 for 1990.

Information type	Unit	1990	1991	19
Fuel Consumption	TJ	NA	NA	NA
<b>Emissions</b>				
CO2	Gg	NA	NA	NA
Method				
EF Used				
CH4	Gg	158.00	NA	NA
Method				
EF Used				

Recalculation due to changes in				Addition/...	Other cha...
Methods	Emission f...	Activity D...			

Public Electricity and Heat Production, Classification - Gaseous Fuels, Measure -

Year	Value
1980	158
1991	NA
1992	NA
1993	NA
1994	NA
1995	NA
1996	NA
1997	NA
1998	NA
1999	NA
2000	NA
2001	NA
2002	NA
2003	NA

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2. Toolbar

3. View bar

4. Navigation tree

5. Data grid

7. Documentation

6. Recalculation panel

9. Status bar

8. Chart window

# Navigation tree

UNFCCC CRF Reporter - default database: "D:\Program Files\U...

File Edit Submission Inventory Options Help

Sectors/Totals

- 1 Energy
- 2 Industrial Processes
- 3 Solvent and Other Product Use
  - 3.A Paint Application
  - 3.B Degreasing and Dry Cleaning
  - 3.C Chemical Products, Manufacture and Processing
  - 3.D Other
    - 3.D.1 Use of N2O for Anaesthesia
    - 3.D.2 Fire Extinguishers
    - 3.D.3 N2O from Aerosol Cans
    - 3.D.4 Other Use of N2O
    - 3.D.5 Other (please specify)
      - Printing Industry
      - Other non-specified
      - Steel Production
      - Aerosols
      - Domestic & Commercial
- 4 Agriculture
- 5 LULUCF
- 6 Waste
- 7 Other (please specify)

Cross-cutting information

- Trend Tables
- Recalculation
- Methods
- Key categories
- Information on additional greenhouse gases

View category data  
Select option  
Add Category  
Rename  
Delete



The node allows browsing of aggregated values of its child nodes



The node is intended for structuring of the navigation tree and does not have a separate input form, e.g. the node "1.A Fuel Combustion".  
Select any child node to browse or enter data.



The node allows browsing of aggregated values of its child nodes



The node is a special type of "other – please specify". In this node the user can add custom-specific child nodes required in GHG emission inventory submissions.

## Completeness status



Node incomplete. 0% of data in corresponding category and its sub-categories have been entered



Node partially complete. Data in corresponding category and its sub categories have been partially entered.



Node complete. 100% of data in corresponding category and its sub-categories have been entered

# Data grid

**Sectors/Totals**

Information type	Unit	1990	1991	1992	1993	1994	1995	1996	1997
<b>Emissions</b>									
CO2									
Net emissions/removals	Gg	239 006,93	145 842,42	149 078,34	152 739,25	159 084,93	164 117,90	168 094,64	174 399,6
CH4	Gg	2 426,34	2 513,39	2 644,59	2 731,30	2 835,38	2 943,94	3 068,00	3 082,5
N2O	Gg	155,03	151,63	155,17	157,76	171,58	174,07	182,17	177,0
<b>HFCs</b>									
Actual emissions	Gg CO2 e...	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	479,41	885,95	864,0
Method									
EF Used									
Potential emissions	Gg CO2 e...	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	4 700,39	1 463,54	1 784,6
Method									
EF Used									
HFC-23									
Actual emi...		NA,NO	NA,NO	NA,NO	NA,NO	NA,NO			
HFC-32									
Actual emi...		NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	0,00	0,00	0,0

**Combo boxes to select values from a list**

**By default the first year is the Party's base year**

**Data precision for data grid numeric cells and reports can be modified**

# Further Information

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General questions regarding CRF Reporter

Contact: Mr. James Grabert ([jgrabert@unfccc.int](mailto:jgrabert@unfccc.int))

For technical questions

Contact: **Helpdesk** [CRFHelpDesk.unfccc.int](mailto:CRFHelpDesk.unfccc.int)

Or if necessary by email at

[CRFSupport@unfccc.int](mailto:CRFSupport@unfccc.int)

# Toolbar – Menu structure(I)

## File

UNFCCC CRF Reporter - default database

File Edit Submission Inventory Options

- Use default database Ctrl+D
- Open database Ctrl+O
- Save Ctrl+S
- Save As without password...
- Export data Ctrl+E
- Import data Ctrl+I
- Restore database Ctrl+R
- Backup database Ctrl+B
- Exit

Cross-cutting information

- Trend Tables
- Recalculation
- Methods
- Key categories
- Information on additional greenhouse

## Edit

UNFCCC CRF Reporter - default database: "D

File Edit Submission Inventory Options Help

- Copy Cell Range Ctrl+C
- Paste Cell Range Ctrl+V
- Delete Cell Range
- Reset Ctrl+Z

- 3 Solvent and Other Product Use
- 4 Agriculture
- 5 LULUCF
- 6 Waste
- 7 Other (please specify)
- Cross-cutting information
  - Trend Tables
  - Recalculation
  - Methods
  - Key categories
  - Information on additional greenhouse gases

## Submission

UNFCCC CRF Reporter - default database: "D:\Progra

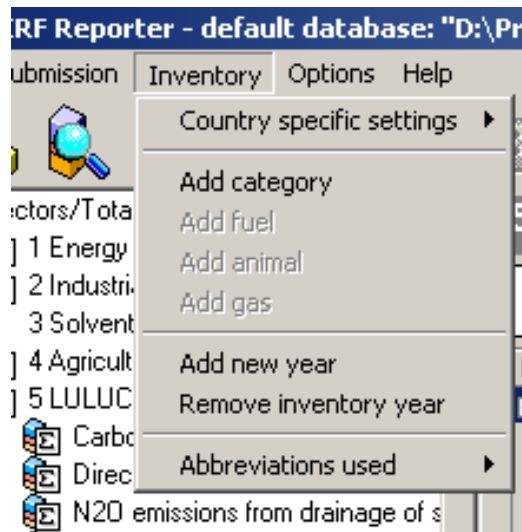
File Edit Submission Inventory Options Help

- Consistency checks in time series Ctrl+N
- Recalculation checks Ctrl+L
- Completeness checks Ctrl+M
- Generate CRF tables Ctrl+G
- Generate party profile
- Start new submission
- View Submissions history
- Current submission information
- Prepare official submission Ctrl+P
- Recalculate all variables
- Recalculate All Node Status
- Recalculation
- Methods
- Key categories
- Information on additional greenhouse gases

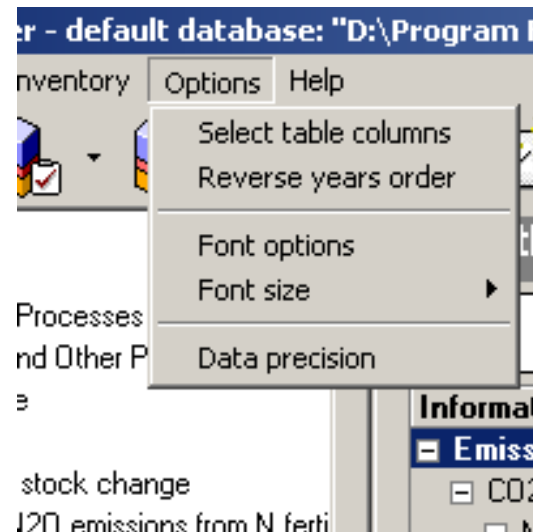
1.0

# Toolbar – Menu structure(II)

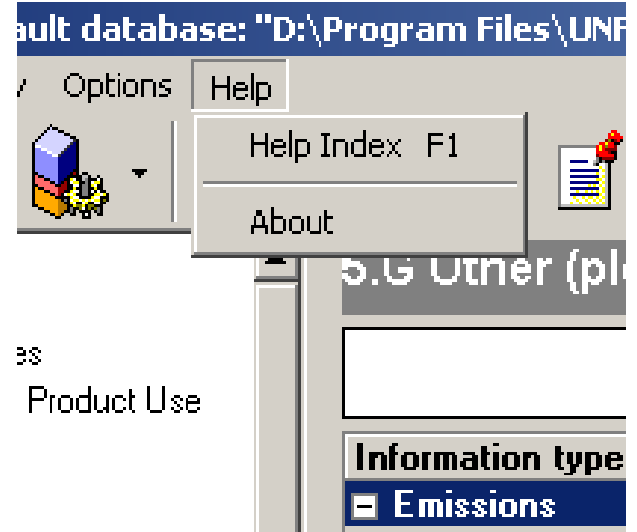
## Inventory



## Options



## Help





# Toolbar - Icons

## Submission data



Import data

Export data

View Submissions history

Check submission

Prepare submission

## Basic Functionalities



Add category

Add

Add inventory year

Add comment

Font size

Reverse years order

Select table columns

Copy cell range

Paste cell range

## Help

