Collect*ER*

Installation and user guide

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1. Introduction

1.1. Background

Collect*ER* (**Collect E**mission **R**egister) is a tool designed to help National Reference Centres on Air Emissions to collect the relevant air emission data in a national emission inventory for delivery to the European Commission and to international conventions.

Collect*ER* has been prepared by the European Topic Centre on Air Emissions (ETC/AE) as part of the work on CORINAIR (CORe INventory for AIR emissions) for the European Environment Agency. The new system is a complete revision of the previous software package CORINAIR94 that was made available by ETC/AE to NRCs in 1996.

The programme **Collect*ER*** includes the following main functions:
*   collects data (activity data of area and point sources, emission factors, emissions);
*   stores this data in an emission inventory (bottom up as well top down) following the national territorial split;
*   enables reporting of national air emissions (when used together with the **Report*ER*** tool, see its separate User Manual).

Collect*ER* is a Windows single user application written in C++ programming language running on PC under MS WINDOWS95 operating system. All data (1 year/1 country) is stored in one database file of the Microsoft Access type. It uses Data Access Objects (DAO). DAO is a programming interface (available through a set of DLL libraries) to access and manipulate database objects. DAO is part of Microsoft Office, but it can be installed separately.

Collect*ER* consists of one application file called "CollectER.exe" and at least one database file of the type ".mdb". It is assumed that, upon compiling an inventory for a next base year, most of the data for an earlier year is available. For the first year that **Collect*ER*** will be used, data will be imported from the last available year in the earlier system (CORINAIR dbf files). Next base years will make use of the previous year's data. The compilation of a new inventory then basically is updating an earlier dataset to the values for a new year.

Further explanation and backgrounds can be found in the following documents:
*   Tinus Pulles, Katarina Mareckova, Jozef Skakala, and Jan Svetlik, **Train*ER***, Compiling a National Emission Inventory using the **Collect*ER*** and **Report*ER*** software system, EEA Technical Report, 1999;
*   Tinus Pulles, Jozef Skakala, and Jan Svetlik, **Report*ER*** User Manual (version 1.0), EEA Technical Report 1999;
*   Simon Eggleston, Review of CORINAIR 90 – proposals for air emissions 1994; EEA Topic Report 6, 1996;
*   Jean-Pierre Fontelle and Jean-Pierre Chang, Recommendations for revised data system for air emission inventories; EEA Topic Report 12, 1996;
*   Simon Eggleston, Tinus Pulles, Redesigning the CORINAIR software; a proposed design; Final draft, April 1997.

The new **Collect*ER*** system is available at the ETC/AE's CIRCLE Interest Group, including the documentation needed to run the tools:
http://etc-ae.eionet.eu.int:8980/etc-circle/Public/IRCindex.pl

After inclusion of comments by NRCs and others the software will be made more widely available at the ETC/AE public Internet web site. For any general questions on the software the contact point is Tinus Pulles, email pulles@mep.tno.nl.

Help desk and other support is provided on behalf of the ETC/AE by Spirit Inc. (xspirit@savba.sk) in Bratislava to the participating countries upon request.

1.2.   Data types

Basically four types of data are stored in the database:
- root data, predefined and managed by centrally by EU or EEA:
    - √ pollutants
    - √ territorial units: NUTS (EUROSTAT)
    - √ activity definitions: SNAP (EEA in co-operation with UNECE / EMEP)
    - √ fuels (in **Collect*ER*** called "fuel groups")

    These data define the basic dimensions of the inventory and are based on international data delivery requirements and formats. The user is allowed to enter new pollutants and to specify specific fuels within the predefined fuel groups.
- input data to be collected
    - √ activity rates for any SNAP-fuel combination (area sources and point sources),
    - √ direct emissions for point sources
- output data to be calculated (emissions)

This document provides you with the technical information needed to start working with the **Collect*ER*** software tool. However, if you have a feeling to be insufficiently experienced with Windows95 types and tricks please pay attention to the chapter 3:
"How to control Collet*ER* Windows" first.

1.3.   Installation

1.3.1.   Required configuration

The required software and hardware configuration for **Collect*ER*** installation is a personal computer PC 486 or Pentium, 16 MB or more RAM, minimum 20 MB free disk space, colour monitor, graphic adapter – minimal resolution 800 x 600, mouse, MS WINDOWS 95, MS Office Professional.

Collect*ER* version 1.2 is distributed on 3 diskettes. This software is freely available to all National Reference Centres (NRCs) on Air Emissions of countries participating in the EEA work programmeme as well as to other clients.

1.3.2.   Set-up

Please read carefully the Read.me file before starting SETUP.EXE task from disk1. Set-up should be self-explanatory and trouble free. It is strongly recommended not to set-up **Collect*ER*** while running your MS Office Word or Excel. Please exit your Word and Excel before set-up. After set-up a reboot of MS Windows is recommended.

Installed files

The set-up will copy four main files in the destination directory:

- CollectER.exe   (*CollectER* programme)
- CollectER.hlp   (help file)
- ImportER.exe   (importing files from the COPERT programme export files

    √ Cop_act.dbf – element.activity x fuel cons.

    √ Cop_ef.dbf – element.activity x EF)

- Blank97.mdb   (all EU NUTS, SNAP94, Fuel, Pollutant, EF pre-loaded)

A fifth file will be needed when compiling an annual national inventory. The suggested name for this file is

- Countryname9x.mdb   (national database distributed extra out of setup)

Besides these files the MS-DAO jet engine 3.0 (normally available in MS Office) will be installed. This DAO consist of 8 DLL libraries copied to the Windows system directory.

A "CollectER.ini" file is created by **Collect*ER***. The first time the programmeme is run this file is not available. Only one line will be saved in this "ini" file. This line contains path and name of the last opened Database file (e.g. DBNAME=C:\CollectER\Data\Collect95.mdb).

1.3.3. Preloaded data

Collect*ER* set-up includes a "Blank97.mdb"database only. The national database pre-loaded with CORINAIR 90 (94) data is distributed separately. Please unzip this database file and copy it to the **Collect*ER*** directory.

Please be aware of the version of database file: don't try to use old Alpha version of **Collect*ER*** database with version 1.2. The structure of database has slightly changed. A version checking at DB open was implemented in **Collect*ER*** programme, which will refuse to open your old database.

1.3.4. Uninstall

An Uninstall is available. Use standard "add/remove programme" procedure in Windows Control Panel to uninstall **Collect*ER***.

1.4.   Running Collect*ER*

1.4.1. Start the programme

A **Collect*ER*** item in your Windows "Start/ Programme" menu (down left) will be available to start the programme. Starting **Collect*ER*** first time after setup no "ini" file will be available. Therefore CollectER asks for the data file to be opened.

1.4.2. Administrate NUTS and SNAP coding

This option on the main menu is not accessible for regular users. If you have found any limitations in NUTS or SNAP coding, please contact support and service.

It is known, the SNAP coding slightly changes from year to year. Because of minor changes between SNAP94 and 97 the Blank95 as well Blank97 CollectER database is available to start a new inventory.

2. Start using the CollectER programme

2.1. Overall procedure

The task of the **Collect*ER*** programme tool is to help the National Reference Centre collect all data needed for an emission inventory for a distinct year, the "**base year**" and country. Before data collection starts, the root data in the target database should be correct and complete. It is strongly recommended to follow the steps as written below:

Step 1: Choose the target database.
  √ *National Reference Centres*: if there is an "old" CORINAIR dbf files inventory available for your country, ask your **Collect*ER*** support service[1] to transform these files to the new **Collect*ER*** database structure. This data import is performed for one database for each country as part of the software development process. In later years the expert will have an earlier inventory in the **Collect*ER*** format available.
  √ *Other users:* use the Blank.mdb database from the **Collect*ER*** distribution as the target.

Step 2: Check the fixed root data in the target database and check:
  √ The Territorial units (NUTS),
  √ Pollutants,
  √ SNAP codes and
  √ Fuels

  using CollectER "root data" menu function. If any serious error is found in the root data, please consult your **Collect*ER*** support and services.

Step 3: Correct and complete the editable root data tables in the target database. The following root data need to be defined before the activity and emission data are collected:
  √ units and unit conversions
  √ default emission factors
  √ surrogate data definitions
  √ surrogate formulae
  √ surrogate data values
  √ user defined activities (SNAP code with "splits" and fuel combinations)
  √ point sources – definitions of the sources and their parts and stacks

Step 4: Start data collection. For the actual year inventory following data has to be collected:
  √ area sources: activity rates and emission factors
  √ point sources: activity rates and emission factors, or: direct emissions

  It is strongly recommended to use energy use (fuels) as the activity rate wherever possible (SNAP sectors 1, 2, 3, 7 and 8).

  Data for an earlier year (if available) can be used to help you to prepare the new inventory very effectively.

Step 5: Check the data consistency by starting the emission calculation function in the **Collect*ER*** "**Report**" menu. If problem occurs (e.g. missing or non-acceptable data), a message appears on the screen and in a log file.

2.2. Root data

The possibilities to modify the **Collect*ER*** root data are summarised in the table below.

ROOT DATA	delete	change	add	comment	in blank DB
Pollutant group	No	No	No	fixed	Yes
Pollutants	No	No	Yes	only unit and weighting factor can be changed	Yes
Territorial units (NUTS code)	No	No	No	name of TU and local code could be changed	Yes
Points sources (parts, stacks)	Yes	Yes	Yes	delete only if no activity rates defined	No
Split (of SNAP) default	No	No	No		Yes
Split (of SNAP) user	Yes	Yes	Yes		No
SNAP	No	No	No	add only split for a SNAP	Yes
Fuel group	Yes	Yes	Yes	delete only if no fuel exist	Yes
Fuels	Yes	Yes	Yes	delete only if no activity exist, change only quality characteristic	Yes
Units default	No	No	No		Yes
Units user defined	Yes	Yes	Yes		No
Conversion (between units)	Yes	Yes	Yes		No
Surrogate data types	Yes	Yes	Yes	delete only if no data defined and not used in a formula	Yes
Comments	Yes	Yes	Yes		No
Base activities (SNAP/Split/Fuel Group)	Yes	Yes	Yes	delete only if no EF defined	Yes
Default EF (for Base activity and pollutant)	Yes	Yes	Yes		Yes
Area activity (SNAP/Fuel/Split)	Yes	Yes	Yes		No
Allocation formula (for area activity)	Yes	Yes	Yes		No

2.2.1. *Pollutants*

The list of pollutants to be incorporated into the inventory of a certain base year has determined by EEA (ETC/AE) based on the most recent reporting requirements of UNFCCC (assisted by IPCC), UNECE/CLRTAP (assisted by EMEP), EU Monitoring Mechanism. At present the list of pollutants contains three groups of pollutants:

- Acidifying pollutants, ozone precursors, greenhouse gases (SO_2, NO_x, NH_3, CH_4, NMVOC, CO, CO_2, CH_4, N_2O, HFCs, PFCs and SF_6)
- Heavy metals (HM)
- Persistent organic pollutants (POP)

For every pollutant a medium, in which it is emitted, is stored. For most of the current uses this is air, but for future purposes like the Polluting Emissions Register under IPCC this can be water or soil/land. Also certain properties of the pollutant can be set, such as a weighting factor for greenhouse gases (global warming potential) and for acidifying pollutants.

The user can add pollutants to the list to enable broader use of the system.

2.2.2. Emissions generating activities

Activities that cause emissions are classified using the Selected Nomenclature for Air Pollution (SNAP). At present the 1997 version of SNAP is used (see the second edition of the joint EMEP/CORINAIR Atmospheric Emission Inventory Guidebook, draft available on: http://www.aeat.co.uk/netcen/airqual/TFEI/unece.htm; to be published in 1999 on the EEA internet web site http://www.eea.eu.int).

 This nomenclature has three levels:
- sectors – highest level (SNAP1) are 11 main sectors generating emissions of pollutants;
- subsectors – the intermediate level (76 items in SNAP97, SNAP2) reflects the structure of activities according to engineering and socio-economical aspects;
- the lowest level contains basic emission generating activities (SNAP3, 415 items in SNAP97) which can be related to distinct emission sources.

Each SNAP can be used with both area and point sources.

Further, if the expert needs a finer subdivision for certain activities, he can use the "splits" table which enables him or her to collect data for different varieties of such activities (comparable to "rubrics" in the earlier CORINAIR system). This table of splits will in **Collect*ER*** be loaded with a number of predefined values by importing "rubrics" data. The user is allowed to add his own splits of the SNAP codes.

To define an activity in full, either a fuel must be combined with it, or it should be explicitly indicated that no fuel is used. One specific activity can be used with several fuels for the same emitting source (area or point).

Every user defines his own list of activities by combining SNAP code and possibly split and fuel. This combination of SNAP, split and fuel is called area or point source "elementary activity" (split and fuel are optional).

To help the user, there is a set of about 7000 default emission factors available, obtained from the EMEP/CORINAIR Guidebook on Emission Inventories. These factors are available for some combinations of SNAPs and eventually splits and fuel groups (see below). Such combination of SNAP and eventually split and fuel group used in the default emission factors table is called "base or default activity" to distinguish it from the "elementary activity". The basic set of default emission factors will be delivered by the Topic Centre.

2.2.3. Fuels and fuel groups

A set of fuels is defined in NAPFUE (Nomenclature for Air Pollution of Fuels). This set is fixed to avoid discrepancies between countries. Since within many of these fuels different specifications will occur, each basic fuel type (group) can include more different specific fuels. To accommodate this, the user can modify existing fuels or add his own fuels with all their characteristics (S, C, ash contents, low heat value, etc. …).

Basic fuel types (groups) have an identifier, which has a length of three characters (NAPFUE). For each specific fuel an identifier should be created, by adding one character to the end of the group code, so the total length of the fuel identifier will be four characters.

The system allows for combinations of SNAP (and split) with specific fuels only, so within each fuel group that is used in the inventory at least one fuel should be defined.

2.2.4. Territorial units

Countries participating within the EEA/ETC-AE CORINAIR programmeme are either
1. EU Member States: these countries are administratively divided into smaller territories at three levels deep. EUROSTAT manages this territorial nomenclature, making use of official nomenclatures as decided by the member states (NUTS, Nomenclature of Statistical Territorial Units). For these countries the list of territorial definitions as defined by EUROSTAT is used as the basis for territorial division within in **Collect*ER*.**
2. For non EU countries it is assumed that territorial split in NUTS style will be used.

NUTS has a hierarchical structure with 4 levels designated as NUTS0, NUTS1, NUTS2 and NUTS3. NUTS0 is the highest level (national level). Every higher level is "a parent" of a lower level. So, like the SNAP system NUTS is a hierarchical system.

2.3.   Sources of emissions

There are two main groups of emission generating sources: point sources and area sources. Most users will apply the point source format for the major pollution sources within the country, where individual plant data are available. Area sources in principle are statistical descriptions of many smaller sources within a certain territorial unit.

2.3.1. Point sources

Point Sources – mainly large emitters that can be attributed to a specific location – are defined by its
- geographical coordinates,
- emission generating activities,
- and other specific data.

Emitting activities might be of two types: combustion activities with fuels and fuel consumption as activity rates, or non-combustion activities without fuels or a combination of activities and fuels. Each point source has one or more parts and one or more stacks:

- Every part has one emission generating activity (SNAP code and split), if combustion is involved, combined with one or more fuels;
- The emissions are emitted through one or more stacks. For each part the apportionment of emissions over all stacks can be entered.

This mechanism allows for storing data on complex plants and companies. A point source is such a plant or company and all processes within the plant or company can be defined as "parts". Each of the processes in its turn can be connected to one or more stacks.

If the plant or company delivers measured emission data, these data can be stored in the database as "direct emissions" and used at calculation time.

2.3.2. Area sources

Area sources – all other stationary and mobile sources, that are too small and/or dispersed over larger areas – are defined as totals over a certain territory. Data for area sources are collected on various territorial levels according to the country's territorial split (NUTS). Area sources will always be described by an activity rate and emissions are calculated using emission factors.

2.3.3. Emission factors

An emission factor is a coefficient that relates emissions to activity rates. They therefore are expressed as an emission per unit of activity. Emission factors are often based on a sample of measurement data, on a mass balance (e.g. CO_2 and SO_2). In many cases they are averaged values derived to represent the typical range of technologies and/or fuels applied within as certain activity.

Each emission factor is defined by
- a pollutant
- an emitting activity (SNAP and fuel, if relevant)

Emission factors might originate from the table of default emission factors from the EMEP/CORINAIR Guidebook as available within the **Collect*ER*** database, or national or even local values might be entered by users.

The default emission factors provided by the European Environmental Agency and its Topic Centre are defined by
- pollutant
- emitting activity SNAP
- emitting activity split
- fuel type (group) – for combustion emission generating activities SNAP

Collect*ER* is equipped with a mechanism to copy these default emission factors to each relevant user defined SNAP – split and fuel combination.

Default emission factors can be used as a basis for the National Reference Centre to determine his own local emission factors for area sources or point sources. If no local emission factors were determined, the available default emission factors should be used. If there are no local or default emission factors available, a message will appear on the screen during emission calculation.

2.3.4. Activity rates

An activity rate is defined as information on the intensity of a human activity resulting in emissions. For each activity an activity rate unit should be selected. This is the unit in which the activity rate will be expressed. Note that this unit will for a certain activity be the same in the whole country.

In activities where combustion is involved, activity data should be expressed as total amount of fuel burned. For other sources different activity rate units can be used or defined. Annual activity rates for methane emissions from enteric fermentation can be expressed as the total number of animals by species.

The user has considerable freedom in selecting the activity rate units to make optimal use of available statistical information. However the user should use energy data for all combustion processes. If the user chooses to define new energy units, conversion factors should be entered in the appropriate table to enable comparison of results of the inventory with national energy statistics.

2.3.5. Direct emissions from point sources

For large point sources in various cases emissions have been measured. These measured values in **Collect*ER*** can be entered and connected to certain parts (i.e. activities or elementary activities) and to one or more stacks of the point source.

Since the base of all emissions in the inventory must be an activity, which in case of a point source is an attribute of a "part", a problem might arise for the user when emissions are measured at a stack, when more than one process ("part") is connected to this stack. In that case the expert has to estimate the distribution of the emission over the parts of the point source. This is necessary to enable later use where emission tables per SNAP or per fuel are needed.

Direct emissions are usually known for some pollutants only. The emissions of other pollutants then will be calculated using normal methodology, i.e. an activity rate multiplied by emission factors.

2.4. Auxiliary data

2.4.1. Surrogate data

Defining and entering surrogate data
Surrogate data are used to disaggregate activity rates for emitting activities, known at higher NUTS level to lower levels using surrogate relations. These data have to be entered by the National Reference Centre.

Two tables are needed for surrogate data.
1. The first is the table of surrogate data definitions, that contains
   √ surrogate data identifier and
   √ surrogate data name.
2. The second table contains the values of surrogate data.

All surrogate data are territory (NUTS) dependent, but are always defined at one NUTS level only. Surrogate data can be entered at NUTS1, NUTS2 or NUTS3 levels, as defined in the definitions table. Surrogate data for higher levels are created by summing lower levels. Lower levels than the ones defined can not be derived.

In a later stage of development of **Collect*ER*** surrogate data derived from for instance the REGIO database of EUROSTAT or other sources could be pre-loaded for those countries where these data are available.

Using surrogate data
If an activity rate value for area source is available on a higher level only, **Collect*ER*** offers a possibility to dissaggregate this activity rate value to lower levels. To do this, the user needs to define a socalled "surrogate relation". This relation is the mathematical expression of an assumed correlation between the activity rate and the values of one to three of the surrogate data types. The formula to calculate surrogate activity rate looks like this:

$$a_i = A \times \sum_j c_j \times \frac{s_{i,j}}{S_i}$$

where:

a_i is the estimated activity rate for NUTS region i

A   is the total activity rate at the next higher NUTS level

$C_{i,j}$ is a weight factor for surrogate statistic j to the total; $\sum_j c_j = 1$. In

Collect*ER* the maximum value of j is 3

$s_{i,j}$ is the surrogate statistic j for NUTS region i.

S_j is the total of surrogate statistic j for the next higher NUTS level region to which region i belongs

This algorithm allows for the introduction of a multivariate statistical relation between (expected) activity rate and maximum three independent surrogate data types or "proxies".

2.5. Input of emission data

2.5.1. Area sources

The user first has to define "elementary area activities". Elementary area activities are combinations of SNAP code (emission generating activity) which is obligatory and split and fuel, which are optional. Elementary activities are defined in the "**Root Data**" submenu "**Area activities and Emission factors**" option. The dialogue that is opened in this menu item also gives access to a dialogue where the emission factors should be defined.

If a new elementary activity is defined, **Collect*ER*** will search in the table of default emission factors and, if these are found, ask the user whether or not these default emission factors should be copied into this activity. If the users accept this, these values can be edited like all other emission factors.

Once an elementary activity has been defined, activity rates can be entered for this elementary activity using the "**Input values|Area sources**" menu item. To calculate emissions, also emission factors for the elementary activity have to be modified, added or entered in the case if no default emission factors were selected.

Note: It is allowed to use a subsector code for elementary activity creation too, i.e. elementary activity can be defined as a combination of subsector code and optional split and fuel code.

2.5.2. Point sources

Point sources are defined in the root data menu. Within this definition SNAP codes are connected to each part of the point source. Therefore, creating elementary activities for a point source only means to add a fuel to the SNAP or to use this SNAP without a fuel. This is done using the option "**Point Sources**" in main submenu "**Input values**".

If the user activates this option, the screen with a grid, containing a list of point sources appears. There is a button "**Point Sources Parts**" on this screen. After selecting one of the point sources and clicking this button a list of parts of the selected point source appears on the screen. The user can choose one part of the point source and after clicking the "**Activity rates**" button a list of elementary activities defined for the part of the source appears on the screen. Clicking the "**Add activity**" button allows the user to add an elementary activity, i.e. to add a split (if available) and a fuel to the SNAP, or use the SNAP without fuel (see check boxes "fuel" and "split"). If there are default emission factors available, the user will be asked whether or not to use these factors. The user is allowed to modify default values or add new ones.

2.6. Conversion from the previous CORINAIR system

2.6.1. The previous CORINAIR system

Many National Reference Centres have an emission inventory available for one or more earlier base years which in was prepared using the previous versions of the CORINAIR software. Two earlier versions of the CORINAIR software have been used: CORINAIR90 (used for the 1990 inventory, finalised by 1994/1995) and CORINAIR94 (distributed in 1996 by ETC/AE to NRCs), with the following differences:

- The main difference between inventories created using CORINAIR90 and CORINAIR94 is in SNAP codes: this nomenclature changed between the two inventories (SNAP90 and SNAP94).
- A second difference between CORINAIR90 and CORINAIR94 is the number of pollutants.
- A third difference between CORINAIR90 and CORINAIR94, which happened for some countries, is change in NUTS codes.

CORINAIR94 contains a conversion procedure, that allows the National Reference Centre to convert his CORINAIR90 type inventory into a CORINAIR94 type inventory. This procedure only accommodates for changes in the SNAP definitions (from SNAP90 to SNAP94). Please note that **Collect*ER*** makes use of the latest SNAP97 definitions (see below).

2.6.2. How to transfer a previous inventory

National Reference Centres could have available various sets of inventories, due to the changes mentioned above, some of them created using the CORINAIR90 and some using the CORINAIR94 software. Some countries used the CORINAIR94 software to compile inventories for 1995 and even 1996. A conversion of these databases into the new **Collect*ER*** system therefore is needed and can be achieved as follows:

Step 1: The National Reference Centre has to convert his CORINAIR90 inventory into a CORINAIR94 type inventory using the conversion procedure already included in the CORINAIR94 software. If the National Reference Centre has a more recent inventory available, this conversion does not need to take place.

Step 2: The procedures of transfer a CORINAIR94 format database (base year 1990 (converted), 1994, 1995 or 1996) into the **Collect*ER*** environment will be primarily performed by the ETC/AE (SPIRIT).

To do this, the National Reference Centre should send all CORINAIR94 dbf files (compressed, zipped) into one file to the ETC/AE supporting services (SPIRIT). SPIRIT will convert the inventory into the **Collect*ER*** format and SNAP97 definitions. The result of this action will be a ".mdb" MS-Access file, that contains data from the original CORINAIR type inventory but in the actual SNAP97 coding. After that the ".mdb" file will be sent to the National Reference Centre.

Step 3: Finally the National Reference Centre should check the conversion and perform manually some splits of the activity rates mainly in the sectors 10 and 11, that can not be done automatically by ETC/AE support services.

As part of the development of the new software tools for CORINAIR one conversion per participating country will be performed. If more inventories have to be converted, please contact ETC/AE and SPIRIT.

When a **Collect*ER*** type inventory becomes available, ETC/AE will take care of automatic conversion on databases when changes in SNAP codes or fuel definitions are being introduced for all those countries that use the **Collect*ER*** format and software tools.

3. How to control Collect*ER* Windows

3.1. Collect*ER* and Windows 95™

Collect*ER* is a standard Windows95 application using the regular Windows control functions (familiar to Windows users).

In addition some functions have been implemented, that will be of use for the user. Most of them will be illustrated in this chapter.

Basic abbreviations:
- mouse left button single clicking (further "mouse LBSC"): pointing with the mouse on the target item and single clicking on the left mouse button.
- similarly: "mouse RBSC" (right button single clicking) and
- "mouse LBDC" (left button double clicking).

3.2. Menu controls

The programme menu appears in the top bar of the main Window (see Figure 3-1 and Figure 4-1). Mouse LBSC on any menu item opens a sub-menu. Mouse LBSC on the sub-menu item opens an appropriate window. An alternative keyboard control (hold "Alt" key and press the character key, same as underlined character in the menu text) is available. Down arrow / Up arrow key could be used to move through the sub-menu and "Enter" key to activate the appropriate window.
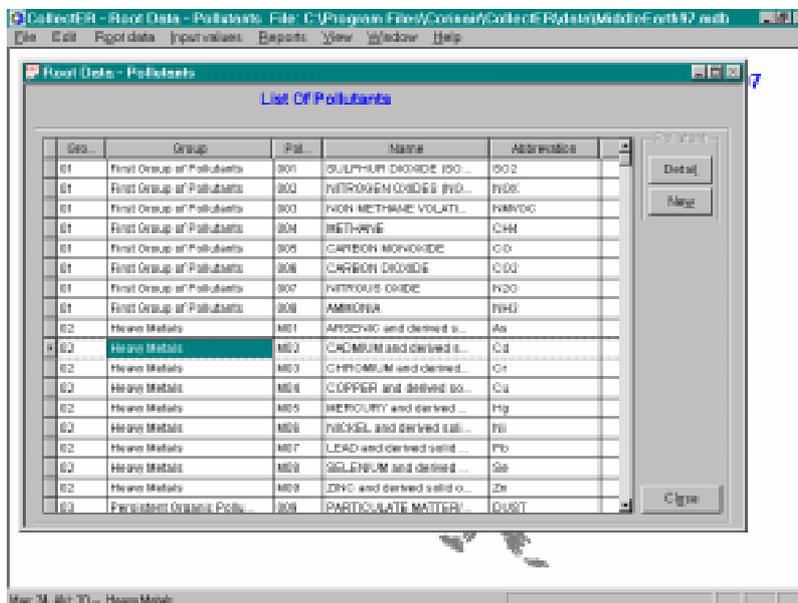

Figure 3-1   An example of a grid window within the programme's main window. The status bar is the bottom line of the window. It can be switched on and off, using the View menu item

3.3.   Buttons common to many windows

Many windows in **Collect*ER*** contain similar buttons. This section list these. A number of them will be discussed further in sections dealing with specific windows.

1. Function buttons – perform common functions, e.g. "**Detail**", "**New**", "**Edit**", "**Close**", "**Delete**", "**Save**", "**Cancel**", "**Apply**". The function of these buttons is as usual in Windows95. The "**Edit**" button enables editing of the data in the Detail window, the "**Save**" button writes the edited data to the database, "**Cancel**" cancels the changes made if clicked before saving. "**Apply**" means applying the filter defined in the grid window (see below). Some special function buttons are defined in the **Collect*ER*** software tool. The function of these buttons is determined with the appropriate text in the caption of the button (e.g. "**Rates**"). The special buttons mostly display a new window.
2. Drop-down list boxes – Combo boxes – appear initially as rectangular boxes with the current selection marked by the selection cursor. When the user selects the arrow in the square box at the right side, a list of available choices appears. If there are more items than can fit in the box, scroll bars are provided.
3. Option Buttons – represents mutually exclusive options. The user can select only one option at a time.
4. Check Boxes -a check box next to an option button means you can select or clear the option. The user can select as many check box options as needed. When a check box is selected, it contains the sign that looks like "v".

3.4.   Grid windows

3.4.1.   *Main controls*

 "Grid windows" are those windows containing a grid, i.e. a list of more lines with the same type of information (e.g. the list of pollutants on the Figure 3-1).

Five columns are visible in this grid above (Group id, Group, Pollutant id, Name and Abbreviation are defined in the header of these columns). There is a scroll bar on the right side, which enables to scroll the list (as usual in Windows). The width of any column can be changed by dragging the column separation line in the column header.

A search function in the column can be used with a mouse LBSC on the column header. A small dialogue Window "Find" appears. The specific character string could be typed and the first item in the list (which matches the initial string) will be selected. Pressing "Alt" D key the next item will be selected.

If no such item exists in the list, the character string typed before will be removed from the dialogue Window "Find". Mouse LBDC on a column header will cause sorting of whole list according the values in this column.

The active or selected row in the grid is marked with a small arrow (É) in the first column of the grid. Clicking the button "**Detail**" opens the detail Window for the active item. Mouse LBDC on the row will result in the same action (i.e. open "Detail" window) in most cases.

Useful information (like Max:34 Act: 11) will be shown on the programme's main Window status bar while working with the grid. This informs about the number of records in this grid (Max) as well as about the serial number of the active record to be chosen (Act).

3.4.2. *Multilevel grid window*

These are windows of grid types displaying a list structured in more levels. Colour and indent of the text in the row specifies the level of the item within the structure. Actually there are two such multilevel data structures used in the **Collect*ER*** programme:

1. Territorial Units of four levels (NUTS0, NUTS1, NUTS2 and NUTS3) codes defining the four levels of available territorial splits; and
2. SNAP activity of three levels (Group, Subgroup and Activity) defining the splits of activity codes.

A typical multilevel grid window is given in Figure 3-2. It displays the Denmark TU split-levels NUT0 (blue), NUTS1 (red), NUTS2 (green), and NUTS3 (black). A "**View level**" checkbox area is available to define the view of this structure in the grid. You can specify by checking box "**TU lev x**" whether you want to see the list items on this level. To show the whole list structure, all of TU level check boxes as well checkbox "**All checked**" should be checked.

Opening the window for the first time, only the highest level (NUTS0 or SNAP sectors) is visible. Mouse LBDC on the row in the grid opens the next visible split-level. Second mouse LBDC on the same row will hide this split-level.

Figure 3-2   Multilevel grid

3.4.3. *Filters*

Some "grid windows" offer the possibility to set a filter using the control items on the left side above the grid. After definition of a filter the button "**Apply**" should be pressed to activate the filter. After that a filtered (reduced) list will be displayed in the grid.
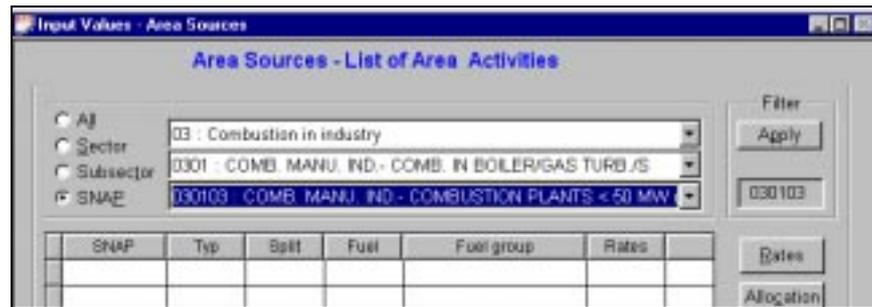
Figure 3-3   Filters on a grid

There is a special edit field below the button "**Apply**". If no filter is defined a direct value (like SNAP code) can be written in this field to define the filter. In this case an "**All**" option must be selected.

3.4.4. Editable fields in the grid window

Some of the "grid windows" contains editable fields. Columns with editable values are identified by a red-coloured header (like "1994", "Q.." and "C.." column in Figure 3-2). A mouse LBDC on the selected field enables editing the value. The "**Save**" push button must be pressed to save last changes made directly in the grid.

Note:
- In most windows "**Edit**" button must be pressed before direct editing of the values in the grid, but for example in the window "**Input Values|Area Sources|Activity Rates**" LBDC on the appropriate field in the grid is enough. In this case no "Edit" button is available.
- in grids with activity rates the old year values (like the column "1993" in Figure 3-2) could be simply copied to the new values (the column "1994" on the Figure 3-2) – in the case when the new year field is empty – by simply mouse LBDC on the field containing the old value.

3.4.5. Selection grid window

Some grid windows (like select pollutants window on the Figure 3-4) can be used to define a subset of items used in the parent (higher level) window. The user must select the items by mouse a mouse LBSC on the leftmost column of the grid. Selected lines are marked with a cross sign × in the leftmost column of the grid.

Select and **Unselect** buttons apply to all lines in the grid. The **Close** button will close the window and apply the selection.

Figure 3-4   Selection grid

3.5. Detail window

The "Detail" window contains all data of the active item in the parent window. Push Buttons are available in this window to control the data. Clicking a push button initialises an immediate action, such as carrying out or cancelling a command. There are two basic types of push buttons used in CollectER:
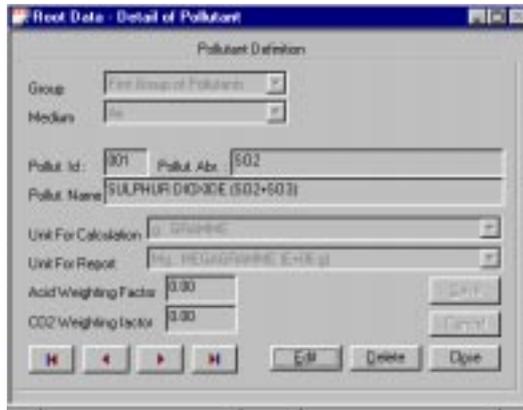
Figure 3-5   CollectER "Detail window" main controls

Navigation buttons – the button (bottom left on the picture above) has well known graphic arrow symbols and is used to move through the list in the "Detail" type of window without returning to the parent window containing the full list.

Function buttons – the button is placed in the lower right part of the window and performs familiar functions ("**Edit**", "**Close**", "**Cancel**",…)

4. Detailed description of Collect*ER*

4.1. Main screen – main menu

After starting the CollectER application the window with logo and the main menu appears on the screen.

Figure 4-1   Collect*ER*'s main programme window

The following main menu options are visible:

1. **File** – which enables manipulation of database file from various years as well as exiting the application;
2. **Root Data** – this menu option enables the user to view and in most cases also modify or add new items to so-called basic data lists as point sources, pollutants, default emission factors, elementary activities, etc.;
3. I**nput values** – enables the user to input collected data needed for creation of inventory, i.e. activity rates, fuel consumption, local emission factors, direct emissions, etc.;
4. **Reports** – performs the calculation of emissions according to user requirements and exports the calculated data to ".txt" type of files;
5. **View** – enables displaying/hiding the status bar as well as showing the list of sub-windows opened;
6. **Help** – gives user access to user manual and basic information about the programme.

4.2. Main menu: "File"

1. **New Database** – this option enables the user to create new database for the new year inventory. The user should enter the name of the database file and year of the inventory. Currently opened database is used as a base for a new database. All data are copied into new database but the activity rate values are copied into so-called "old" fields. At the inventory creation time the National Reference Centre may use this data. The user can copy single data or all data and then modify them according to the new data.

2. **Open Database** – opens working database. Database is represented as a single file. The name of the file was primary defined by National Reference Centre.
3. **Compact Database** – performs compacting of opened database to defragment the file and free disk space. If some values in the tables are deleted, your database can become fragmented and use disk space inefficiently. Compacting the database makes a copy of the database, rearranging the database file on disk.
4. **Refresh Old Values** – enables the user to refresh old data columns of the currently opened database. This option enables to maintain consistency between the current database and the database, used as a source for creating the current database.
5. **Exit** – exits the application.

Notice: The name of currently opened database file is displayed in the window title line.

4.3.   Main menu: "Edit"

This menu option is available only if any of the windows from the "Root Data", "Input Values" and "Reports" main menu option is active. This option contains standard Windows95 edit functions:

1. **Copy** – copies content of the area marked with mouse cursor into clipboard.
2. **Cut** – removes content of the area marked with mouse cursor.
3. **Paste** – pastes content of the clipboard into the area which is marked by mouse cursor.
4. **Undo** – cancels last action – recalls previous state.

4.4.   Main menu: "Root data":

4.4.1.   Base data

Pollutants
Pollutants – after clicking this submenu option a screen with a grid containing the list of pollutants appears. The user may view the list using normal MS WINDOWS 95 controls. The user may select specific pollutant by clicking on appropriate line in the list. Selected pollutant is marked with an arrow in leftmost column in the grid and by changing the background colour in selected line. After selecting a pollutant, the push button "**Detail**" is enabled. After clicking this button, the user will see the detailed description of the pollutant.
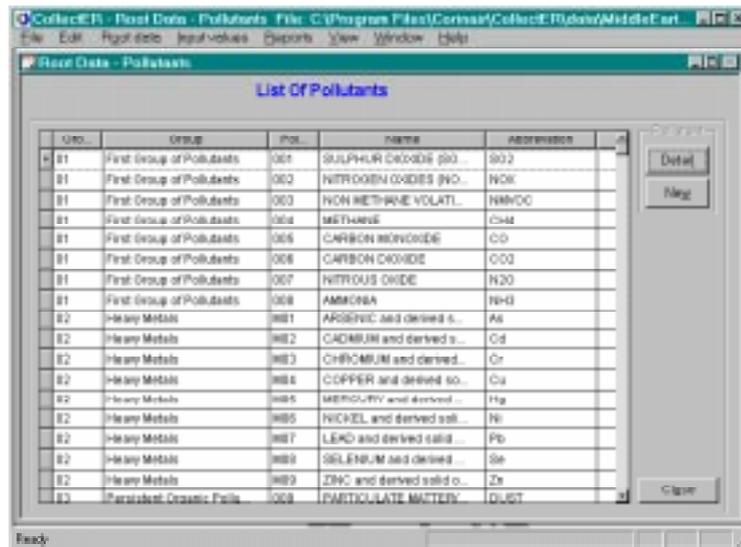
Figure 4-2   Root data – Pollutants dialogue window

The buttons available on the main screen are:

1. **Detail –** allows the user to display detailed information, concerning selected pollutant or change (correct) this information by opening a Detail dialogue. This window has the following options (buttons):
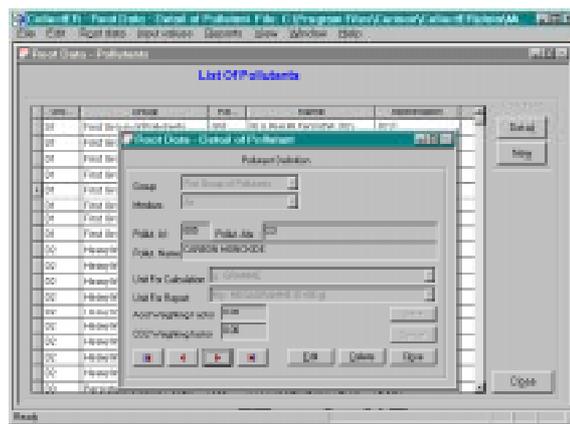
Figure 4-3   Pollutants Detail window

√ navigation buttons – allow the user to browse through the list of the pollutants without returning to the main screen;

√ **Edit –** allows user to change units and weighting factors for the selected pollutant. If other characteristics of the selected pollutants should be changed, the record must be first deleted and than entered as a new one;

√ **Delete –** enabled only in base mode. Allows user to delete selected pollutant (if this pollutant wasn't used in any other table);

√ **Save –** enabled only in "Edit" mode. Allows user to save the content edited fields;

√ **Cancel –** enabled only in "Edit" mode. Allows user to cancel already made editions;

√ **Close –** enabled only in base mode. Allows user to close this screen.

2. **New –** allows user to add new pollutant. There are two buttons on this screen:
3. **Save –** saves the entered data. After save of the data the screen should be closed.

4. **Close** – closes the screen. If data was entered without saving them, dialogue box with "Save the changes?" appears on the screen.

Territorial units

Territorial units – after you click this menu item a screen appears containing a list of territorial units. This list is a multilevel grid (see section 3.4.2) and lower levels of the territorial units can be made visible by double clicking on one of the listed regions.

This list shows a basically read-only table provided by ETC/AE containing NUTS definitions of all countries. For countries which have no NUTS coding designated by EUROSTAT a similar regional coding should be defined. Since the territorial definitions are basic for application of the inventory, changes in the coding system and in the definitions itself should not occur too often. It is recommended also to adopt an official territorial definition system for those countries that do not have a territorial split defined by EUROSTAT yet.

The territorial unit record contains a local code field. This field allows the user to enter his own local codes of territorial units. The local codes serve for information purposes only. There is no possibility in this version to make selections or calculations using the local codes.
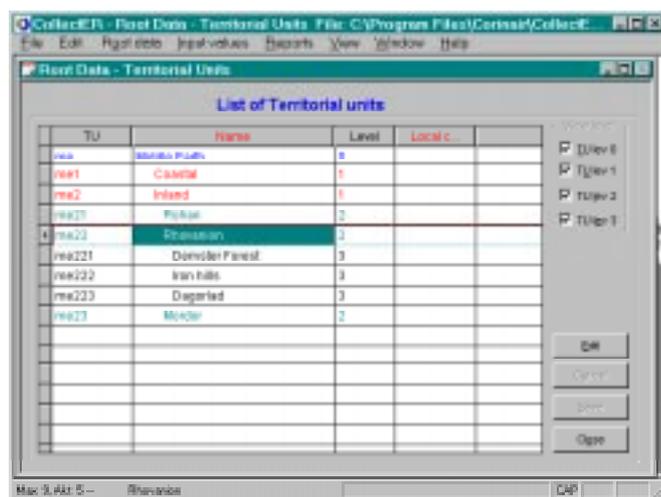
Figure 4-4   Root data – Territorial units dialogue window

The following buttons are available in the territorial units window:
1. On the upper right side of the screen a group of check boxes enable the user to select one or more levels for viewing.
2. **Edit** – enables the user to correct names of the selected territorial unit. This button brings the grid in edit mode. In this mode, double-clicking a name enables the user to edit the name string.
3. **Cancel** – cancels all changes in the name fields.
4. **Save** – saves the list with entered local codes.
5. **Close** – closes the "territorial division" screen.

SNAP

SNAP – after selecting this menu item a special window appears. The window contains a list of SNAP97 definitions. This list is a multilevel grid (see section 3.4.2) and lower levels of the territorial units can be made visible by double clicking on one of the listed regions.
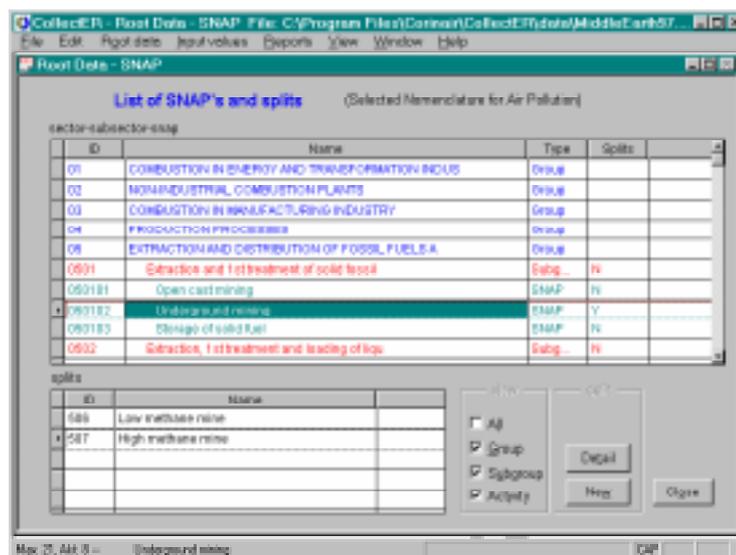
Figure 4-5   Root data – SNAP dialogue window

The rightmost column of the grid indicates whether or not splits are defined within the SNAP code. If within a SNAP one or more splits are defined, these will appear in the lower grid in the window.

The user can add a new split for the selected SNAP code by clicking the **New** button. This pops up a dialogue for adding new splits by selecting and subsequently clicking the **Save** button. After this the user closes screen pushing the **Close** button.

A split can be added at two levels: subsector and the lowest level SNAP3. When deleting a split, the database is checked whether or not the deleted split was used in some table. If so, this split cannot be deleted.

The user has the possibility to select the levels to be displayed with the aid of a set of check boxes.

Splits
Splits – this option allows the user to review the list of available splits, to display detailed information concerning a selected split or to add new split definitions.

There are two types of split in the current version of **Collect*ER***:
1. splits predefined by ETC/EEA that cannot be changed or deleted.
2. splits defined by the user. The user can change or delete such splits under certain conditions:
    √ only split descriptions can be changed, no change of split code is allowed and
    √ only splits, that are not used in the inventory can be deleted.

If the split is user defined. A "yes" is displayed in the rightmost column of the grid and in the detail screens (user defined yes/ no).
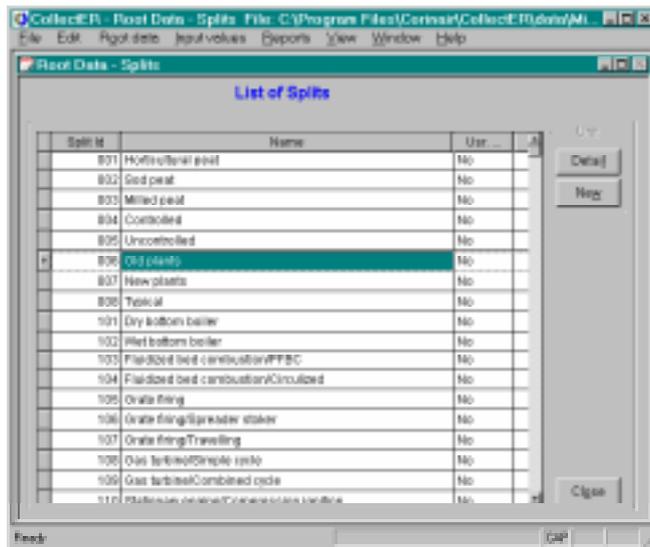
Figure 4-6   Root data – splits dialogue window

The window contains the following buttons:

1. **Detail**: opens a dialogue to view and, if needed edit or delete split definitions. Only user defined splits can be edited or deleted. Upon deletion of a user defined split, **Collect*ER*** checks the database whether or not the split is used. If so, it can not be deleted.

2. **New**: opens a dialogue to define new (user defined) splits. The function of the buttons on this dialogue are comparable to other screens. The user has to provide a unique three character split identifier and a name. A once defined split can only be deleted using the **Detail** button on the **Root data – Splits** window.

3. **Close** to close the window.

Fuels

Fuels – after selecting this menu item a screen containing two grids appears. In the upper grid a list of fuel groups is presented (NAPFUE in the CORINAIR terminology). After selecting a certain fuel group by clicking on the name field, the lower grid displays the list of fuels in this group, if any.
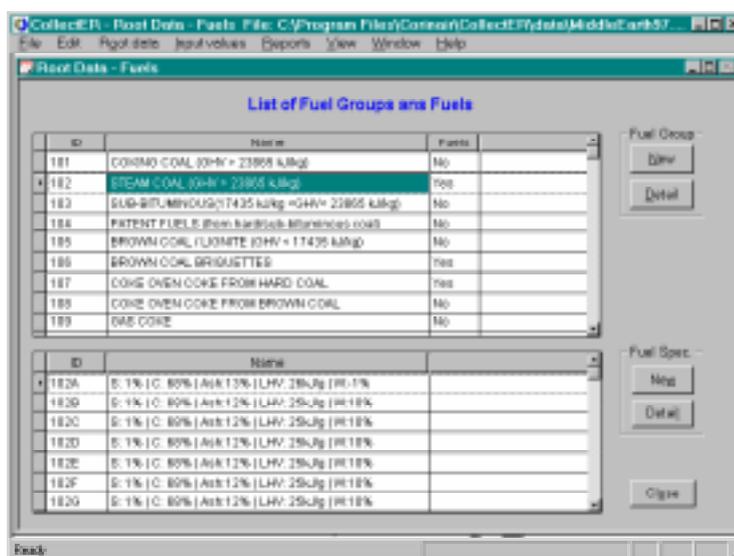
Figure 4-7   Root data – Fuels dialogue window

There are three sets of buttons on the **Root data – fuels** screen, some of them popping up dialogues that by now are familiar to the user:

1. Fuel groups:
   √ **Detail**: view and edit fuel group names and abbreviations
   √ **New**: define new fuel groups
2. Fuel specs.
   √ **Detail**: view and edit fuel names, abbreviations and properties
   √ **New**: define new fuels
3. **Close**: closes the window

Note: Some discussion is still being underway whether or not the user should be allowed to add new fuel groups. The present version allows the user to do so.

4.4.2. Auxiliary data

Conversions
Conversions – this screen allows the user to enter new units conversions or correct existing conversions. There are three buttons on the main screen:

1. **Detail** – allows the user to display detailed information, concerning selected units conversion or change (correct) this information. The **Detail** screen has following options (buttons):
   √ navigation buttons – allows the user to list the units conversions without return to the main screen.
   √ **Edit** – allows user to change the ratio for the selected conversion (see figure).
   √ **Delete** – enabled only in base mode. Allows user to delete selected conversion (if this conversion wasn't used in any other table).
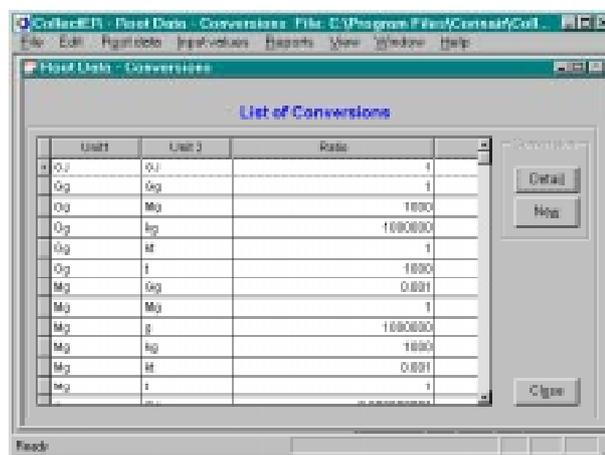
   √ **Save** – enabled only in "Edit" mode. Allows user to save edited ratio.
   √ **Cancel** – enabled only in "Edit" mode. Allows user to cancel edited ratio.
   √ **Close** – enabled only in base mode. Allows user to close this screen.
2. **New** – allows user to add new conversion. There are two buttons on this screen:
   √ **Save** – saves the entered data. After save of the data the screen should be closed.

Figure 4-8   Root data – Conversions detail dialogue window

√ **Close –** closes the screen. If data was entered without saving them, dialogue
box with "Save the changes?" appears on the screen.

3. **Close –** closes the main "units conversions" screen.

Units
Units – this screen allows the user to enter new units or correct existing units.
Similar to splits, units are divided in two groups, predefined by ETC/EEA and
user defined. Type of unit is marked with a flag in the grid and in the detail
screen. Only user defined units can be deleted or the user may change its
description. Units already used in the inventory cannot be deleted.
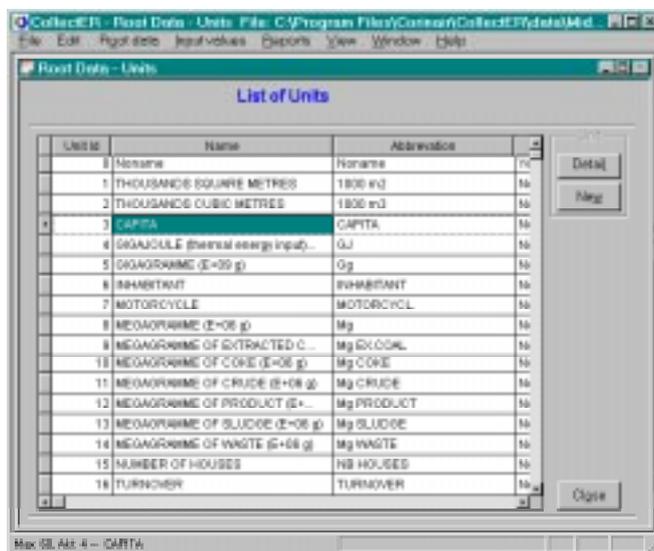
Figure 4-9   Root data – Units dialogue window

There are three buttons on the main screen:

1. **Detail –** allows the user to display detailed information on the selected unit or
change (correct) this information. The **Detail** screen has the following options
(buttons):
√ navigation buttons – allows the user to list the units without returning to the
main screen
√ **Edit –** allows user to change the name and abbreviation for the unit.

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√ **Delete** – enabled only in base mode. Allows user to delete selected unit (if the unit wasn't used in any other table).

√ **Save** – enabled only in "Edit" mode. Allows user to save edited data.

√ **Cancel** – enabled only in "Edit" mode. Allows user to cancel all edited data.

√ **Close** – enabled only in base mode. Allows user to close this screen.

2. **New** – allows user to add new unit. There are two buttons on this screen:

√ **Save** – saves the entered data. After save of the data the screen should be closed.

√ **Close** – closes the screen. If data was entered without saving them, dialogue box with "Save the changes?" appears on the screen.

3. **Close** – closes the main "units" screen.

Comments

Comments – After activating this option the user has the possibility to predefine comments. These comments can be used in some screens to describe some properties of database items more precisely. The screen contains grid containing list of already defined comments and three buttons, which are similar to buttons in the previous screen.

4. **Detail** – allows the user to display detailed information, concerning selected comment or change (correct) this information. The Detail screen has following options (buttons):

√ navigation buttons – allow the user to list the comments without return to the main screen containing list of the comments.

√ **Edit** – allows user to change the properties of the selected comment.

√ **Save** – enabled only in "Edit" mode. Allows user to save edited comment.

√ **Cancel** – enabled only in "Edit" mode. Allows user to cancel already made editions.

√ **Close** – enabled only in base mode. Allows user to close this screen.

5. **New** – allows user to add new comment. There are two buttons on this screen:

√ **Save** – saves the entered data. After save of the data the screen should be closed.

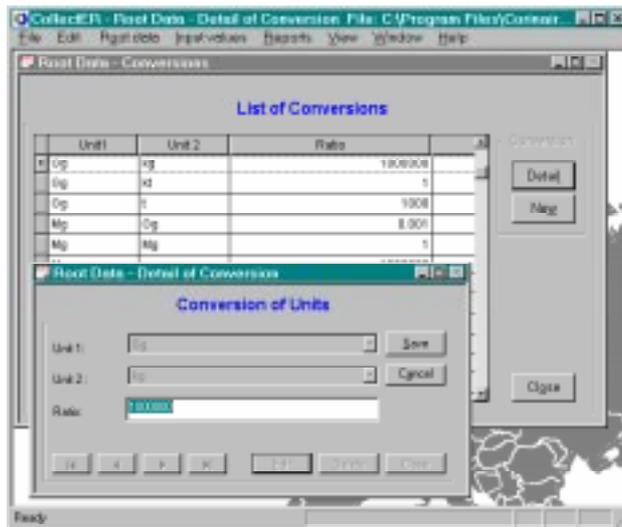√ **Close** – closes the screen. If data was entered without saving them, dialogue box with "Save the changes?" appears on the screen.

6. **Close** – closes the main "comment" screen.

4.4.2.1. Default activities and Emission Factors

This "Root Data" option enables user to view existing or define new default (base) activities (combinations of emitting activity – SNAP(obligatory), split (optional) and fuel group (optional)) for the actual inventory and view or define default emission factors. After its initialisation the screen with the empty grid appears on the screen. Above this grid there is an area with some control items, which allows the user to set a filter. Except "Close" button, there are another three buttons on this screen. Two of them "**Detail**" and "**New**" are grouped together and they enable the user to work with default (base) activities:

1. **Detail** – allows the user to display detailed information, concerning selected "default (base) activity" or change (correct) small part of this information (unit and comment). The "Detail" screen has following options (buttons):

√ navigation buttons – allow the user to list the "default (base) activities" without return to the main screen containing list of the "default (base) activities".

√ **Edit** – allows user to change the unit and comment for the default activity.

√ **Delete** – enabled only in base mode. Allows user to delete selected default (base) activity.

√ **Save** – enabled only in "Edit" mode. Allows user to save edited data.

√ **Cancel** – enabled only in "Edit" mode. Allows user to cancel all edited data.

√ **Close** – enabled only in base mode. Allows user to close this screen.

2. **New** – allows user to define and store new "default (base) activity". The screen for this option is more complicated. It contains two grids. Below every grid there is a small window in which the selected data is displayed.
3. When the screen appears the upper grid contains a multilevel SNAP list of activities (see section 3.4.2).

√ If the user wants to use a split, he must activate the check box below the activities grid. If splits have been defined for this SNAP, they will appear in the listbox next to the check box. The user then selects one of these splits. If no splits appear, the user needs first to define the splits with the considered SNAP (see section 0)

√ Next a unit has to be selected from the listbox.

√ If for the selected activity a fuel is used, the user must click the fuel group checkbox in the lower part of the window. In the lower grid a list of fuel groups is displayed.

√ The user selects the fuel group and the new default (base) activity can be saved using the button "**Save**".

√ **Save** saves the new default (base) activity in the database.

√ **Close** closes the **New** dialogue

4. **Emission factors** – allows the user to add, modify or delete default emission factors. The window, that appears after clicking this button has the following parts:

√ An information area in the upper part of the screen showing the definition of the active default (base) activity in the parent window.

√ A grid containing a list of the defined default emission factors. The user can modify or delete them as described below.

√ navigation buttons – allow the user to list the default (base) activities without returning to the main window

√ **Add EF** – enabled only in base mode. Allows the user to add new emission factor. After clicking this button a simple screen appears. This screen contains a grid with a list of all available pollutants. The user can

– select one or more emission factors (pollutants) by clicking in the leftmost fields of appropriate rows, using the left mouse button or
– select all pollutants using the **Select All** button or unselect all by means of **Unselect**.

Selected pollutants are marked with a cross × in the leftmost column.

– It is possible to cancel selection using the **Cancel** button.
– The **Close** button saves selected emission factors and closes this screen.

√ **Delete EF –** enabled only in base mode. Allows user to delete the selected default emission factor.

√ **Edit –** switches the dialogue to "Edit" mode and allows the user to change the value and unit of default emission factors. Double clicking at "Value" or "Unit(Emis)" field of any default emission factor allows string editing.

√ **Save –** enabled only in "Edit" mode saves the data.

√ **Cancel –** enabled only in "Edit" mode cancels all edits since the last **Save**.

√ **Close –** enabled only in base mode closes this dialogue.

4.4.3. Surrogate data

The third group of root (basic) data contains specific data needed to work defined entries in the inventory. The previous groups of root data contain data that are either common to all users or that are available to support the user in his or her task. This group defines

- area activities: for all activities the user want to store in his inventory as area sources, an "elementary activity" needs to be defined such that all over the country the same emission factor can be applied. The user therefore needs to construct such area activity definitions by combining a SNAP with a fuel, or by explicitly indicating that no fuel is used. If the user needs different varieties of such an elementary activity, the user can use the splits to separate these different varieties. The user also has to select the unit in which the activity rate for this specific elementary activity will be stored.

- point sources: if the user wants to store some emission as originating from a point source, these point sources needs to be defined, including their stacks and parts. The latter is meant to enable the inclusion of different SNAP and fuel combinations within one source, reflecting possible multiple processes run within a point source.

- allocation formulae: the user needs to define proxies to be used for estimating emissions al lower spatial levels than the ones he might have available and the algorithms using the proxies when disaggregating such data.

Surrogate Data Types

Surrogate Data Types- this screen allows the user to enter definition of new surrogate data type or correct already defined surrogate data type. There are three buttons on the main screen:
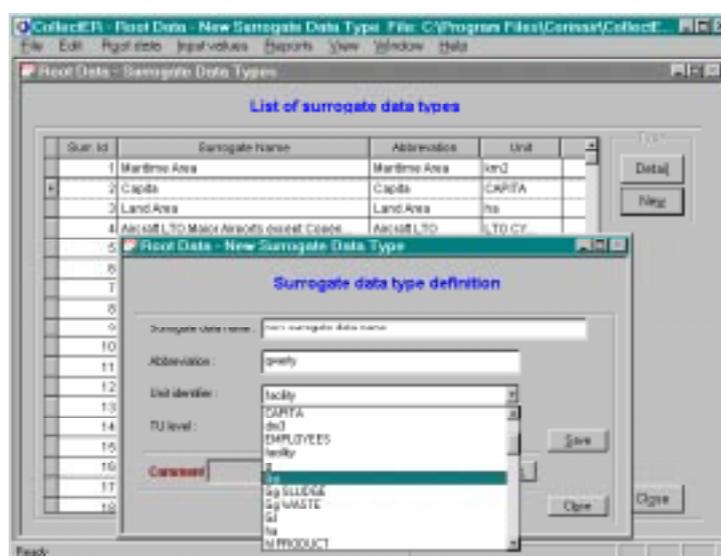
Figure 4-10 Root data – Surrogate data types "New" dialogue window

1. **Detail** – allows the user to display detailed information, concerning selected surrogate data type and change or correct this information. "Detail" screen has following options (buttons):
   - √ navigation buttons – allows the user to list the surrogate data types without return to the main screen containing list of the surrogate data types.
   - √ **Edit** – allows user to change the properties of the selected surrogate data type.
   - √ **Delete** – enabled only in base mode. Allows user to delete selected surrogate data type (if this data type wasn't used in any other table).
   - √ **Save** – enabled only in "Edit" mode. Allows user to save edited surrogate data type properties.
   - √ **Cancel** – enabled only in "Edit" mode. Allows user to cancel already made editions.
   - √ **Close** – enabled only in base mode. Allows user to close this screen.
2. **New** – allows user to add new surrogate data type. There are two buttons on this screen:
   - √ **Save** – saves the entered data. After save of the data the screen should be closed.
   - √ **Close** – closes the screen. If data was entered without saving them, dialogue box with "Save the changes?" appears on the screen.
3. **Close** – closes the main "surrogate data types" screen.

Surrogate Data
Surrogate data – enables entering of surrogate data for any of the surrogate data types defined. The menu item opens a dialogue window with a grid containing a list of surrogate data types and three buttons.
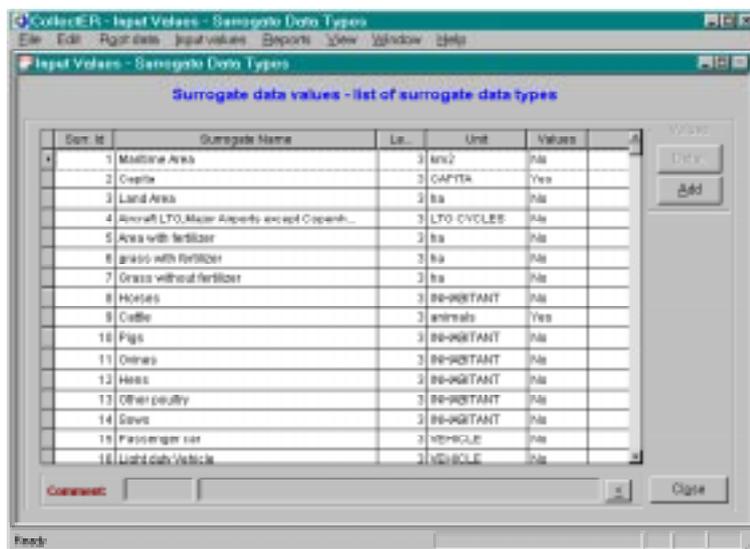
The data can be entered at the level of the territorial split that is chosen at the definition of the type (section 0) as indicated the third column of the grid. In the rightmost column of the grid there is a flag whether or not data for the surrogate data type already exists.

The user selects surrogate data type by clicking with left mouse button at the line in the list. If there is a "No" flag in the flag column, the user can use the **Insert** button to enter values for this surrogate data type. If there is a "Yes" flag in the flag column, the user can modify and/or add new surrogate data values using the

Detail button. In both cases similar screen with a grid containing the list of territorial units will be displayed.

Note: "Delete all" button in the Detail screen deletes all data of the selected surrogate data type.

Allocation formulae

Allocation formulae – ** this option enables the user to define an algorithm to use surrogate data in disaggregating activity rates to higher spatial resolution. Clicking this menu item opens a dialogue window with a filtered grid containing the available elementary activities. The rightmost column of the grid indicates whether or not an allocation formula has already been defined for each activity. This flag enables either the **Detail or the **New** buttons.

1. **Detail** – after clicking this button a dialogue window containing two parts appears on the desktop. In the upper part the properties of the elementary activity are given. The lower part defines the allocation formula. The screen has similar controls as described above:
    √ **navigation buttons –** allows the user to list the surrogate data types without return to the main screen containing list of the surrogate data types.
    √ **Edit –** switches to "Edit" mode and allows the user to change the allocation algorithm.
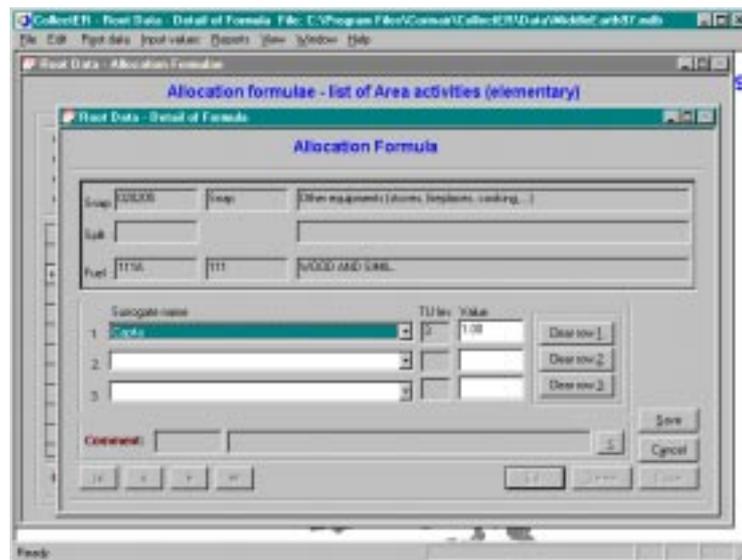
    √ **Delete –** enabled only in base mode: deletes selected surrogate data formula.
    √ **Save –** enabled only in "Edit" mode: saves edited surrogate formula.
    √ **Cancel –** enabled only in "Edit" mode; cancels all changes since the last **Save**.
    √ **Close –** enabled only in base mode; closes this screen.
2. **New –** allows user to add new allocation formula. The screen is similar to the screen described above. The combo boxes and input fields are directly accessible. There are two buttons on this screen:
3. **Save –** saves the entered data. Before data saving the sum of coefficients is checked. The sum of the coefficients must be "1". In any other case user will be returned to the screen to correct entered data. After successful check and save of the data the screen should be closed.
4. **Close –** closes the screen. If data was entered without saving them, a dialogue box with "Save the changes?" appears on the screen.

4.5. Main menu: "Input values"

The main menu option "**Input values**" enables the user to enter all emission data, i.e. activity rates, direct emission and modify emission factors according to local conditions.

4.5.1. *Definitions*

Area activities and emission factors
Area activities – as mentioned above is an important option for the inventory. Selecting this menu item opens a dialogue window with, after applying the filter, a grid containing a list of already defined "elementary activities".
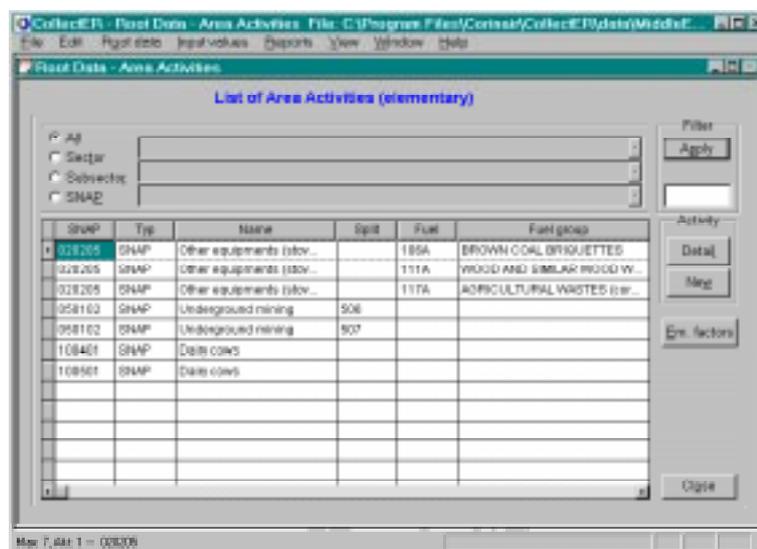
Figure 4-11 Root data- Area activities dialogue window

The following controls are available in this window:

1. **Detail –** allows the user to display detailed information, concerning selected "elementary activity" or change(correct) small part of this information (unit and comment). The "Detail" screen has following options (buttons):
    √ navigation buttons – allows the user to list the "elementary activities" without return to the main screen containing list of the "elementary activities".
    √ **Edit –** allows user to change the unit and comment for the elementary activity.
    √ **Delete –** enabled only in base mode. Allows user to delete selected elementary activity, however only in the case that this area activity wasn't already used in the inventory.
    √ **Save –** enabled only in "Edit" mode. Allows user to save edited data.
    √ **Cancel –** enabled only in "Edit" mode. Allows user to cancel all edited data.
    √ **Close –** enabled only in base mode. Allows user to close this screen.

2. **New –** allows user to define and store new "elementary activity". The screen for this option is more complicated. It contains two grids. Below every grid there is a small window in which the selected data is displayed. When the screen appears the upper grid contains a multilevel SNAP list of activities (see section 3.4.2).

√ If the user wants to use a split, he must activate the check box below the activities grid. If splits have been defined for this SNAP, they will appear in the list box next to the check box. The user then selects one of these splits. If no splits appear, the user needs first to define the splits with the considered SNAP (see section 0).

√ Next a unit has to be selected from the list box.

√ If for the selected activity a fuel is used, the user must click the fuel checkbox in the lower part of the window. In the lower grid a multilevel list of fuel groups is displayed.
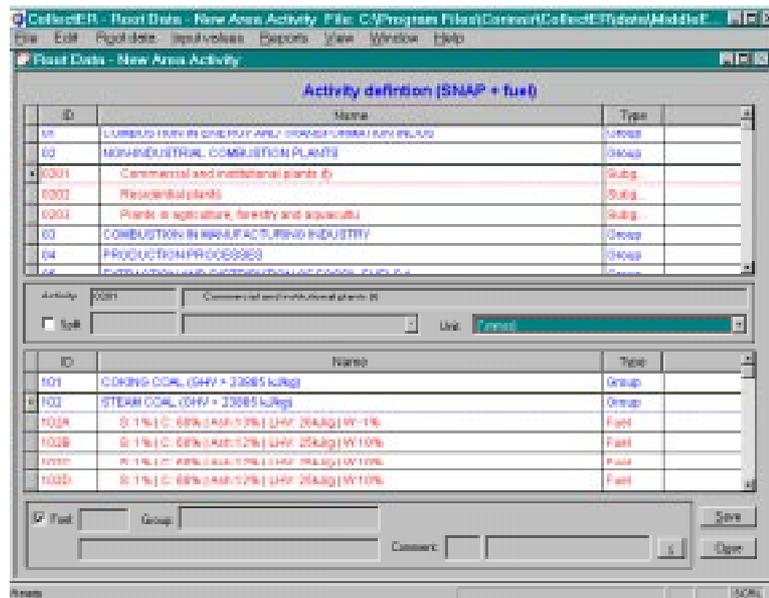
√ The user selects the fuel and the new elementary activity can be saved using the button "**Save**". Note that only fuels within a fuel group can be selected. If such a fuel is not available, it first has to be defined in the **Root data – Fuels** dialogue window (section 0)

√ **Save** saves the new elementary activity in the database. If default emission factors are available, **Collect*ER*** will ask the user whether these emission factors should be copied into the new elementary activity.

√ **Close** closes the **New** dialogue

3. **Emission factors –** allows the user to add, modify or delete emission factors. The window, that appears after clicking this button has the following parts:
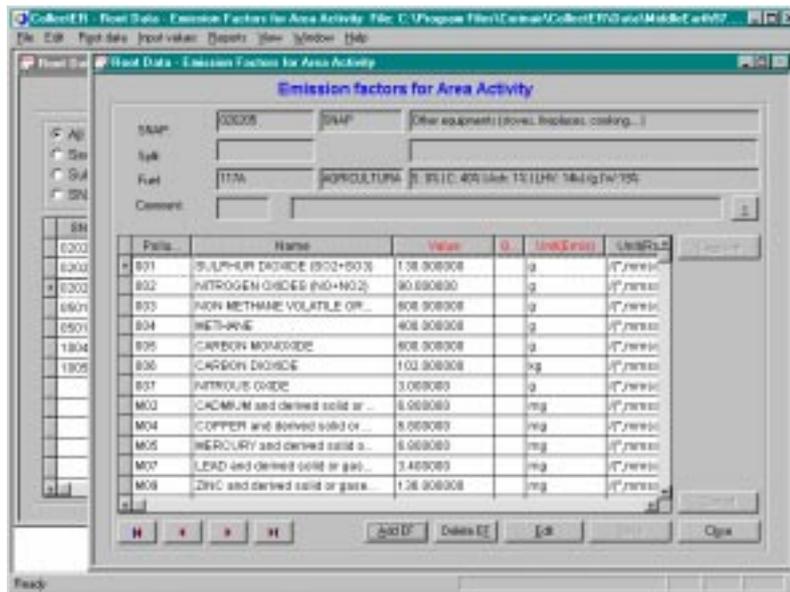
√ An information area in the upper part of the screen showing the definition of the active elementary activity in the parent window.

√ A grid containing a list of the defined emission factors. If the user has chosen to copy the default emission factors, these appear here. The user can modify or delete them as described below.

√ navigation buttons – allow the user to list the elementary activities without returning to the main window.

√ **Add EF** – enabled only in base mode. Allows the user to add new emission factor. After clicking this button a simple screen appears. This screen contains a grid with a list of all available pollutants. The user can

– select one or more emission factors (pollutants) by clicking in the leftmost fields of appropriate rows, using the left mouse button or
– select all pollutants using the **Select All** button or unselect all by means of **Unselect**.

Selected pollutants are marked with a cross × in the leftmost column.

– It is possible to cancel selection using the **Cancel** button.
– The **Close** button saves selected emission factors and closes this screen.

√ **Delete EF** – enabled only in base mode. Allows user to delete the selected emission factor.

√ **Edit** – switches the dialogue to "Edit" mode and allows the user to change the value and unit of emission factors. Double clicking at "Value" or "Unit(Emis)" field of any emission factor allows string editing.

√ **Save** – enabled only in "Edit" mode saves the data.

√ **Cancel** – enabled only in "Edit" mode cancels all edits since the last **Save**.

√ **Close** – enabled only in base mode closes this dialogue.

4. **Close** closes the Root data – area sources and emission factors dialogue window.

Point Sources
Point sources – after selection of this menu item the user has the possibility to view edit, add and delete point sources with their stacks and parts. The dialogue window contains three grids.
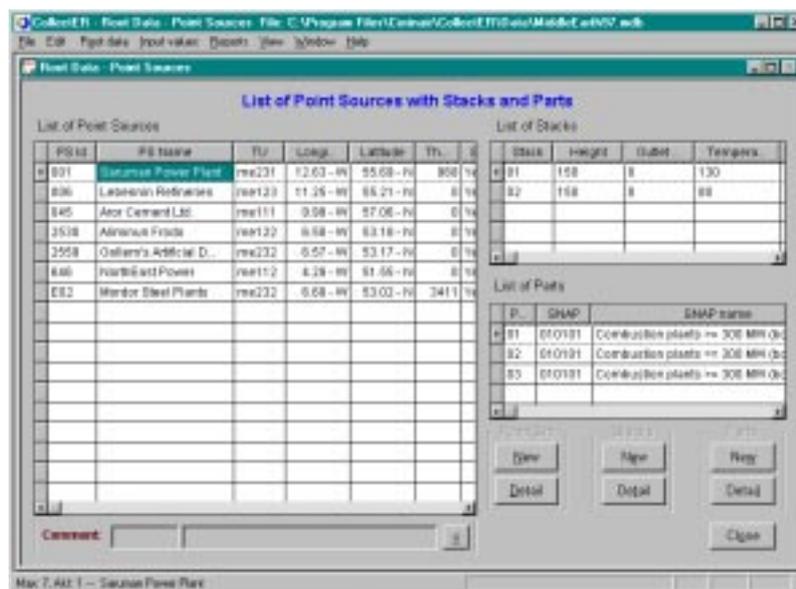
Figure 4-12 Root data – Point sources dialogue window

On the left side of the screen shows a grid of point sources. The user can select one of the point sources. Two grids on the right side of the window list:
- all stacks defined for the selected point source (above)
- all parts defined for the selected point source (below)

All grids supply the user with brief information only. The three groups of buttons each with a small header indicating the grid on which they are working:

1. Point source button group
   √ **Detail** – allows the user to display detailed information, concerning the selected point source or change (correct) its data. There are five push buttons, navigation buttons, four radio buttons and comment area on this screen.
      – **navigation buttons** – allow the user to list the units without return to the main screen containing list of the units
      – **Edit** – switches the dialogue into "Edit" mode to allow the user to change the name, geographical co-ordinates and some other data.
      – **Delete** – enabled only in base mode. Allows the user to delete the selected point source (if the point source is used in any other table, the system gives a warning).
      – **Save** – enabled only in "Edit" mode, to save edited data.
      – **Cancel** – enabled only in "Edit" mode, to cancel all edited data.
      – **Close** – enabled only in base mode, to close this screen.
   √ **New** – opens a dialogue to add a new point source:
      – the user has to select a unique identifier, can input name and has to indicate the location (NUTS3 area and co-ordinates) of the point source; **north** and **east** and can be changed using appropriate radio buttons.
      – **Save** – saves the entered data.
      – **Close** – closes the screen. If data was entered without saving them, a massage box indicating this appears on the screen.
      – **Comment area** – contains fields with comment code and comment text and one special button. This button opens small screen, which enables to create new comment or choose one of existing comments.

2. Stack button group
   √ **Detail** – allows the user to display detailed information on the selected stack or change (correct) some of its data.

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- **navigation buttons** – allow the user to list the stacks without return to the main screen containing list of the stacks
- **Edit** – allows user to change the stacks height, outlet area, gas temperature and flow rate.
- **Delete** – enabled only in base mode. Allows user to delete selected stack.
- **Save** – enabled only in "Edit" mode. Allows user to save edited data.
- **Cancel** – enabled only in "Edit" mode. Allows user to cancel all edited data.
- **Close** – enabled only in base mode. Allows user to close this screen.

√ **New** – allows user to add new stack. There are two buttons on this screen:
- **Save** – saves the entered data. After save of the data the screen should be closed.
- **Close** – closes the screen. If data was entered without saving them, dialogue box with "Save the changes?" appears on the screen.
- **Comment area** – contains fields with coded comment or comment text can be stored. The small button next to it opens a dialogue to create new comment or to select one of existing coded comments. This comment is at the stack level.

3. Part button group

√ **Detail** – allows the user to display detailed information on the selected part or change (correct) this data.

- **navigation buttons** – allow the user to list the parts without returning to the main window
- **Edit** – switches the dialogue to "Edit" mode and allows the user to change the comment for this part. If other properties have to be changed, the user has to delete the part and add a new one (with old identifier).
- **Delete** – enabled only in base mode, to delete the selected part.
- **Save** – enabled only in "Edit" mode: to save edited data.
- **Cancel** – enabled only in "Edit" mode: to cancel all edited data.
- **Close** – enabled only in base mode closes this screen.

√ **New** – allows the user to add a new part. To add new part of the point source, the user has to select the SNAP code for this activity and to enter a unique identifier for this part. There are two buttons on this screen:

- **Save** – saves the entered data.
- **Close** – closes the screen. If data was entered without saving them, a message box appears on the screen.
- **Comment area** – see above; comments at the part level

4. **Comment area** – see above; comments at the Point Source level
5. **Close** – closes the screen.

4.5.2. *Data entry*

Area Sources

Area sources – this option enables the user to enter activity rates for area sources of emissions. After clicking this menu item, a window with an empty grid is displayed. On top of this grid filter controls are available as described in section 3.4.3. The filter must be activated to select a working list of elementary activities. The rightmost column of this grid contains a "Rates" flag signalling whether or not rates for this activity were already entered.
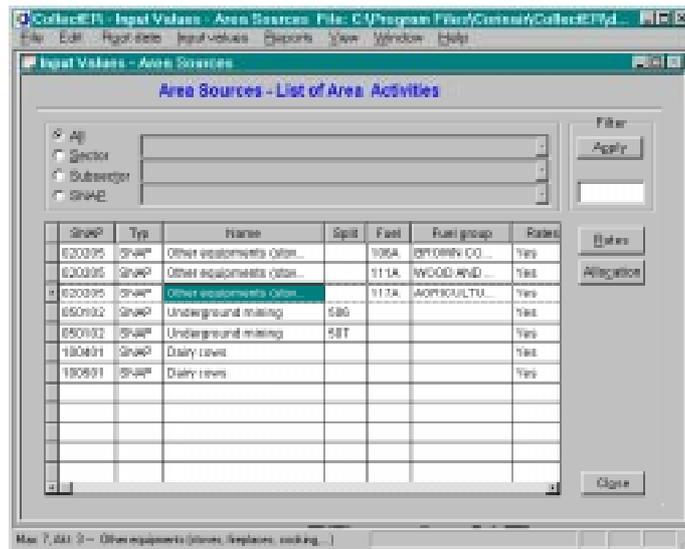
Figure 4-13 Input values – Area Sources dialogue windows.

1. **Allocation –** calculates activity rates of area sources to the lowest possible level, using allocation formulas as defined.
2. **Rates –** After clicking this button a screen with a grid, information section, set of check boxes and push buttons will be displayed:

In the information section, identification data of the active elementary activity are displayed. The multilevel grid contains the territorial units of the country. The level can also be controlled using the check boxes in upper right corner of this screen.

There are two columns on the rightmost side of the grid contain flags:

- The left column tells the user if the value in the actual activity rate column was inserted ("Ins") either by entering the value or copying the old value or calculated ("Calc") using a surrogate formula for "top-down" calculation or by summation using "bottom-up" calculation.
- The right column tells the user whether local emission factors have been defined.

Double clicking on the field in the column containing actual value (red header) of activity rate opens this field for entering or editing data.

Double click on the field containing old value (black header) of activity rate copies the old value into new value field when the new field is empty.

The following groups of buttons are available:

√ group wise manipulation of activity rates

– **Select** – opens a dialogue that enables the user to select a set of NUTS, which can be used to clear, copy or multiply the activity rate value by constant. Selecting rows in the grid cal also be done by clicking on the leftmost column of select buttons.

– **All** – radio button, which signals that all rates (rows) should be affected by one of the **Clear**, **Copy** and **Compute** buttons

– **Selected** – radio button, which signals that only selected rates (rows) should be affected by one of the **Clear**, **Copy** and **Compute**

– **Copy** – copies all values of activity rate from old value field into new activity rate field for the selected territorial units

– **Compute** – opens a dialogue to enter a multiplication factor to apply to the activity rates of selected territorial units.

√ aggregation and disaggregation:

– **Calculate down** – calculates activity rates at all lower level using surrogate formulas. If there are values at lower level in some field available and no values in other fields, existing values will be first subtracted from the higher level value and than the actual "surrogate" activity rates will be calculated.

– **Calculate up** – calculates activity rates at higher levels (if there are no values) summing activity rates at the lower level.

√ **Em. factors** – this option allows the user to change or add local emission factors at various level of the territorial split. Clicking this button opens a window with a grid. If the elementary activity already has any local emission factors, they will be displayed. If the elementary activity has no local emission factors, the grid will be empty. The following buttons are available:

– **navigation buttons** – allow the user to list the elementary activities and its emission factors lists without return to the main screen containing list of the emission factors for selected elementary activity.

– **Add EF** – allows the user to add emission factors similarly as being described under **Surrogate data types** in section 4.4.3.

– **Delete EF** – allows the user to delete local emission factors.

– **Edit** – allows user to change the selected emission factors. Double clicking the "value" field opens this field for editing.

– **Save** – enabled only in "Edit" mode. Allows user to save edited emission factors.

– **Cancel** – enabled only in "Edit" mode. Allows user to cancel all already performed changes.

– **Close** – enabled only in base mode. Allows user to close this screen.

√ **All. formula** – enables the user to review the allocation formula. If the user wishes modify the formula he should use the **Allocation formula** option of the **Root Data** menu item.

√ **Save** – saves edited data.

√ **Close** – closes actual screen.

3. **Close** – closes dialogue window.

Point Sources

Point sources – this option enables the user to enter data on emissions by point sources – activity rates, direct emissions, emission factors. Clicking this menu item

opens a window with a grid containing a list of defined point sources. The user can select an active point source by clicking on any field in a row.

There are two buttons on this screen. The first one is an obvious "**Close**" button, the second one opens a new window: **Point sources parts s**howing a list of parts of the active point source, selected in previous screen and a set of push buttons.

The buttons may be divided into three groups:
1) **navigation buttons –** allow the user to list the point sources without return to the main screen containing list of the point sources.
2) second group – standard control buttons
   √   **Close –** enabled only in base mode. Allows user to close this screen.
3) Third group – special functions
   √   **Emissions (SNAP) –** enables the user to enter direct measured emissions. After clicking this button a screen containing information on the part and a grid with a list of already entered emissions appears. Most of the buttons in this dialogue are of the same type as in previous windows, but there are a few special buttons:

– **Add Pollutant** – after clicking this button a screen with a grid containing a list of available pollutants appears. The user can select or unselect pollutants using the **Select** and **Unselect** buttons or clicking in the leftmost column. Selected rows are marked with a cross sign. Selected pollutants are added to the parent window list by clicking the **Save** button.
– **Edit** to enter or update emission values and units. This is done by double clicking the appropriate field in the grid. Old values are available only for pollutants already used in previous year.
– **Delete Pollutant** – after clicking this button selected pollutant will be removed from the list. Pollutant is selected if after clicking on the row the background color in this row was changed.
– The user may save edited or entered values using the "**Save**" button or
– cancel or changes using the "**Cancel**" button.
√   **Activity rates –** enables the user to enter activity rates for elementary activities connected to selected part of point source. After activating this option, the screen containing information part (window), the grid with a list of already selected elementary activities and control push buttons is displayed.

- **navigation buttons** – allow the user to list the parts of point sources without returning to the main screen containing list of the point sources parts.
- **Edit** – allows user to perform changes in the activity rates field.
- **Save** – enabled only in "Edit" mode. Allows user to save edited rates.
- **Cancel** – enabled only in "Edit" mode. Allows user to cancel all already performed changes.
- **Close** – enabled only in base mode. Allows user to close this screen.
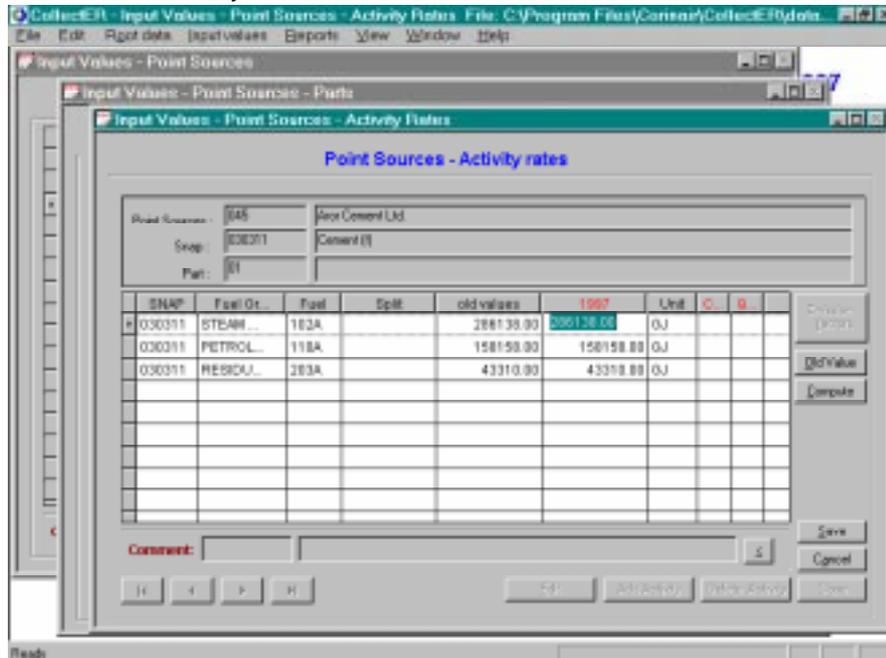
- **Add activity** – this option enables the user to add new elementary activity (defined by SNAP code and eventually split and fuel). Activities are added similar to adding pollutant in the direct emissions window.
- **Delete activity** – elementary activity for selected part of selected point sources can be deleted using this button.
- **Emission factors** – enables the user to modify emission factors. After activating this option, a window containing the usual sections, i.e. detailed information, a grid containing the emission factors and buttons appears. Most of the buttons are analogous as those used in other screens but there are also two special buttons allowing for adding and/or deleting emission factors, analogous as described under **Surrogate data types** in section 4.4.3.

4) **Stacks –** the point source can have one or more stacks. Emissions produced by parts within the point source go through these stacks. Any combination of parts and stacks is allowed. The user should decide, how many percent of the emissions produced by each part goes through each of the stacks. After selection of a part and clicking the **Stacks** button a screen with a grid, containing list of the stacks actual for this part appears.
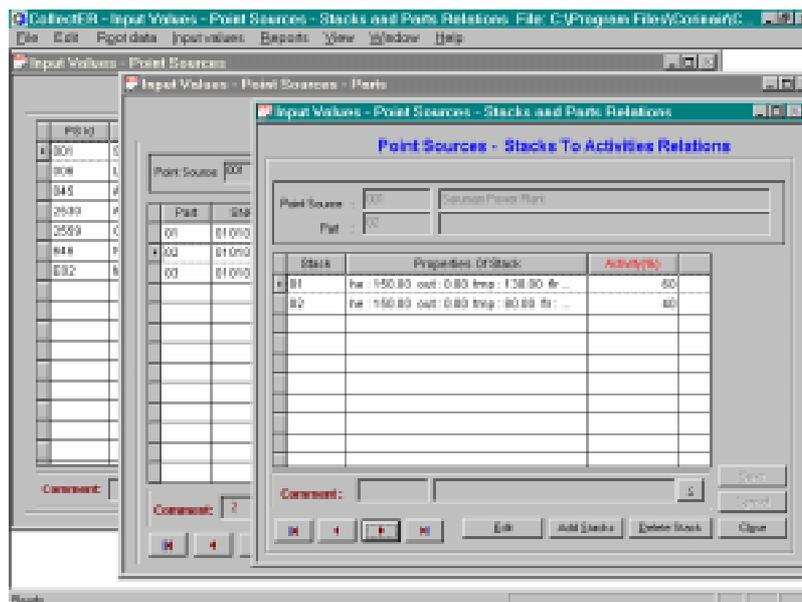
If there are no stacks or the user wishes to add a new stack he should activate the **Add Stacks** button which displays a list of available stacks. The percentage of the activity of the part that passes through each of the stacks has to be entered. At the "Save" time the total sum of "Activity" percentage is checked. The sum of values must be 100.

4.6.   Main menu: "Reports"

This menu item gives access to a limited range of possibilities to report the data. Reports per SNAP and per NUTS for all pollutants can be produced on the screen and exported as delimited text files.

Before a report is produced, the emissions need to be calculated and the user has to click the appropriate button. The user now should be quite familiar with the purpose of each of the buttons on the windows and producing the reports should not give rise to problems.

It is stressed here that more elaborate reporting functionality has been incorporated in **Report*ER*** and will be done in future possibly in other special software tools (see the **Train*ER*** document). The reporting facilities within **Collect*ER*** are meant to help the user during the compilation of the inventory.

4.7.   Main menu: "View"

There is only one option "Status bar" available. If activated the status bar showing the actual status of application will be displayed on the bottom of the screen.

4.8.   Main menu: "Window"

This option is active only if a window from the main menu options "Root Data", "Input Values" or "Reports" is active. The submenu of this main menu option contains standard Windows95 items:
1. Cascade – cascades opened windows.
2. Tile – tiles the windows on the screen.
3. Arrange Icons – rearranges icons on the screen.

List of active windows – in the second part of this menu option a list of active windows is displayed.

4.9.   Main menu: "Help"

- "Index" – displays the content of the help file.
- "About" CollectER – basic information about this programme.

5. Glossary

Base or default activity is a combination of SNAP and and fuel groups. Base activities are used to define default emission factors, which are the same for all fuels of one fuel group.

Elementary activity is a combination of SNAP and fuel. Elementary activities are used at the time of the input of activity rates for area and point sources. Elementary activities for area sources should be defined in the "Area activities" option of the "Root Data" menu before they are used in "Area sources" option of the "Input" menu.

Elementary activities for point sources are defined in the "Point sources" option of the "Input" menu by adding an activity for the particular part of the source.

Default emission factors is a set of emission factors for base activities (combinations of SNAPs and eventually splits and fuel groups¡). These factors should help the user to determine his own factors and also to check the validity of his own factors. Basic sets of default emission factors developed in the past for CORINAIR90/94 will be included in the CollectER database.

Base mode – is working mode in the "**Detail**" type of screen. In this mode is "**Edit**" button not active.

6. Structure of Collect*ER* tables

Table Name	Attribute Names	Keys	Definition	Description
unidef	units definition table			
	uni_id	(PK) (IE1)	Integer	unit code
	uni_name		Text(50)	unit name
	uni_abbr		Text(15)	abbrev. of unit name
	usr_def		Text(1)	definition flag (user/EEA)
convert	units conversion table			
	uni_id1	(PK)	Integer	first unit code
	uni_id2	(PK)	Integer	second unit code
	ratio		Text(25)	conversion factor
comment	defines comments used during inventory			
	Codcom	(PK)	Text(5)	comment code
	Textcom		Text(250)	text of the comment
	fl_stand		Text(1)	standard comment flag (y/n)
strings	internally used table, which defines every inventory (year, database version)			
	Name	(PK)	Text(2)	
	Texts		Text(50)	
fuel_grp	fuel groups definition table			
	fuel_gr_id	(PK)	Text(3)	fuel group code
	fuel_gr_name		Text(50)	fuel group name
	fuel_gr_abbr		Text(15)	fuel group name abbr.
	fuel_form		Text(2)	form of fuel (solid/liquid/gas.)
fuels	table of fuels and their properties			
	fuel_id	(PK) (AK1)	Text(4)	fuel code
	fuel_gr_id	(FK)	Text(3)	fuel group code
	fuel_ref		Text(1)	reference basis(0/1)
	fuel_saf		Text(1)	S% ash free (not used)
	fuel_scont		Integer	sulphur content (%)
	fuel_ccont		Integer	carbon content (%)
	fuel_ashcont		Integer	ash content (%)
	fuel_lhv		Integer	low heat value (GJ/Mg)
	fuel_water		Integer	water content (%)
	comment		Text(5)	comment code
Note: only "fuel_ref" field is used for reference basis with following values: 0– fuel as delivered, 1 – dry /ash free				
nuts0	territorial unit code table for level 0			
	nuts0_id	(PK) (AK1)	Text(2)	NUTS code
	nuts0_name		Text(50)	territorial unit name
	local_code		Text(15)	user defined code
nuts1	territorial unit code table for level 1			
	nuts1_id	(PK) (IE3)	Text(3)	NUTS code
	nuts0_id	(FK) (IE1,IE2)	Text(2)	parent territorial unit
	nuts1_name		Text(50)	territorial unit name
	local_code		Text(15)	user defined code
nuts2	territorial unit code table for level 2			
	nuts2_id	(PK) (IE3)	Text(4)	NUTS code
	nuts1_id	(FK) (IE1,IE2)	Text(3)	parent territorial unit
	nuts2_name		Text(50)	territorial unit name
	local_code		Text(15)	user defined code
nuts3	territorial unit code table for level 3			
	nuts3_id	(PK) (IE3)	Text(5)	NUTS code
	nuts2_id	(FK) (IE1,IE2)	Text(4)	parent territorial unit
	nuts3_name		Text(50)	territorial unit name
	local_code		Text(15)	user defined code

Table Name	Attribute Names	Keys	Definition	Description
snap	SNAP definition table			
	snap_id	(PK) (AK1)	Text(6)	SNAP code
	snapsg_id	(FK) (IE1,IE2)	Text(4)	subsector code
	snap_name		Text(50)	SNAP name
	uni_id		Integer	unit code
snapsbgr	SNAP subsector definition table			
	snapsg_id	(PK) (AK1)	Text(4)	SNAP subsector code
	snap_gr_id	(FK) (IE1,IE2)	Text(2)	SNAP sector code
	snapsg_name		Text(50)	SNAP subsector name
snap_grp	SNAP sector definition table			
	snap_gr_id	(PK) (AK1)	Text(2)	economical sector code
	snap_gr_name		Text(50)	sector name
split	this table defines splits, which enable user to split the SNAP codes to get more detieled definition of activities			
	spl_id	(PK)	Text(3)	split identifier code
	spl_name		Text(50)	name of the split
	usr_def		Text(1)	definition flag (user/EEA)
snap_spl	table, which defines splits of the SNAPs (or subsectros), as used in the inventory			
	spl_id	(PK) (FK)	Text(3)	split code
	snap_id	(PK) (FK)	Text(6)	SNAP (or subsector)
media	definition of media in which pollutant can be emitted			
	med_id	(PK) (AK1)	Text(2)	media code
	med_name		Text(50)	media name
pol_grp	pollutant group definition table			
	pol_grp_id	(PK) (AK1)	Text(2)	pollutant group code
	pol_grp_name		Text(50)	pollutant group name
pollutants	pollutants definition table			
	pol_id	(PK) (AK1)	Text(3)	pollutant code
	pol_grp_id	(FK) (IE4, IE5)	Text(2)	pollutant group code
	med_id	(IE1,IE2)	Text(2)	medium code
	pol_name		Text(50)	pollutant name
	pol_abbr		Text(15)	abrreviation of poll.name
	pol_uni_ca		Text(3)	unit code for calculations
	pol_uni_re		Text(3)	unit code for reports
	pol_Aeq (IE3)		Double	acid weighting factor
	pol_Ceq		Double	CO2 weighting factor
surrdef	definition of surrogate data types			
	surr_id	(PK) (IE1)	Integer	surrogate data type code
	surr_name		Text(50)	surrogate data name
	surr_abbr		Text(15)	abbr. of surr. data name
	uni_id (IE2)		Integer	unit code
	comment		Text(5)	comment code
	lev_nuts		Integer	territorial unit code
surrdata	values of surrogate data			
	nuts_id	(PK) (IE1)	Text(5)	territorial unit code
	surr_id	(PK) (FK) (IE2)	Integer	surrogate data code
	surr_val		DOUBLE	surrogate data value
	comment		Text(5)	comment code
surrform	definition of allocation formulae			
	fuel_id	(PK) (FK)	Text(4)	fuel code
	spl_id	(PK) (FK)	Text(3)	split code
	snap_id	(PK) (FK)	Text(6)	SNAP (or subsector)
	lev_snap		Integer	level of the SNAP
	surr_id1 (IE1)		Integer	surrogate data code 1
	surr_id2		Integer	surrogate data code 2
	surr_id3		Integer	surrogate data code 3
	surfco_val1		Double	surrogate coefficient 1
	surfco_val2		Double	surrogate coefficient 2
	surfco_val3		Double	surrogate coefficient 3
	comment		Text(5)	comment code

Table Name	Attribute Names	Keys	Definition	Description
Act_stack	defines relations between stacks and parts of point sources			
	lps_id	(PK) (FK)	Text(4)	point source identifier
	lpsst_id	(PK) (FK)	Text(2)	stack identifier code
	part_id	(PK) (FK)	Text(3)	identifier of PS part
	perc		Integer	emission ration
	comment		Text(5)	comment code
act_area	area (elementary) activity definition table			
	fuel_id	(PK) (FK)	Text(4)	fuel code
	spl_id	(PK) (FK)	Text(3)	split code
	snap_id	(PK) (FK)	Text(6)	SNAP (or subsector)
	lev_snap		Integer	level of the SNAP
	uni_id		Integer	unit code
	uni_id_old		Integer	code of old unit
	comment		Text(5)	comment code
actdef	base activity definition table (SNAP|sector, split, fuel group)			
	spl_id	(PK) (FK)	Text(3)	split code
	snap_id	(PK) (FK)	Text(6)	SNAP (or subsector)
	fuel_gr_id	(PK) (FK)	Text(3)	fuel group code
	lev_snap		Integer	level of the SNAP
	uni_id		Integer	unit code
	comment		Text(5)	comment code
emfa_defa	this tabel is used for storing emission factors as defined in the guidebook			
	pol_id	(PK) (FK) (IE3)	Text(3)	pollutant code
	spl_id	(PK) (FK)	Text(3)	split code
	snap_id	(PK) (FK)	Text(6)	SNAP or subsector)
	fuel_gr_id	(PK) (FK)	Text(3)	fuel group code
	lev_snap		Integer	level of the SNAP
	emfa_val		Double	default EF value
	emfa_qual		Text(1)	default EF qual.
	uni_id		Integer	unit code
as_rates	activity rates of area sources			
	fuel_id	(PK) (FK)	Text(4)	fuel code
	nuts_id	(PK)	Text(5)	territorial unit code
	spl_id	(PK) (FK)	Text(3)	split code
	snap_id	(PK) (FK)	Text(6)	SNAP (or subsector)
	lev_snap		Integer	level of the SNAP
	asrat_val		DOUBLE	activity rate
	asrat_typd		Text(1)	
	asrat_conf		Text(1)	confidentiality flag
	asrat_qual		Text(1)	data quality flag
	lev_nuts		Integer	territorial unit level
	comment		Text(5)	comment code
as_ratold	activity rates of area sources from the year, which was used as a base for actual year			
	spl_id	(PK)	Text(3)	split code
	snap_id	(PK)	Text(6)	SNAP or subsector)
	fuel_id	(PK)	Text(4)	fuel code
	nuts_id	(PK)	Text(5)	territorial unit code
	lev_snap		Integer	level of the SNAP
	lev_nuts		Integer	territorial unit level
	asrat_val		DOUBLE	activity rate (old value!)
	asrat_typd		Text(1)	
	asrat_conf		Text(1)	confidentiality flag
	asrat_qual		Text(1)	data quality flag
emfa_as	local emission factors for area sources			
	spl_id	(PK) (FK)	Text(3)	split code
	fuel_id	(PK) (FK)	Text(4)	fuel code
	nuts_id	(PK) (FK)	Text(5)	territorial unit code
	pol_id	(PK) (FK)	Text(3)	pollutant code
	snap_id	(PK) (FK)	Text(6)	SNAP or subsector)
	lev_snap		Integer	level of the SNAP
	lev_nuts		Integer	territorial unit level
	emfa_val		Double	value of emission factor
	emfa_qual		Text(1)	quality of emission factor

Table Name	Attribute Names	Keys	Definition	Description
emfa_asz	common emission factors for area sources (from area activity definition)			
	fuel_id	(PK) (FK)	Text(4)	fuel code
	pol_id	(PK) (FK)	Text(3)	pollutant code
	spl_id	(PK) (FK)	Text(3)	split code
	snap_id	(PK) (FK)	Text(6)	SNAP or subsector)
	lev_snap		Integer	level of the SNAP
	emfa_val		Double	value of emission factor
	emfa_qual		Text(1)	quality of emission factor
	comment		Text(5)	comment code
	uni_id		Integer	unit code
emfa_lps	emission factors for point sources			
	fuel_id	(PK) (FK)	Text(4)	fuel code
	fuel_gr_id	(PK) (FK)	Text(3)	fuel group code
	spl_id	(PK) (FK)	Text(3)	split code
	snap_id	(PK) (FK)	Text(6)	SNAP (or subsector)
	part_id	(PK) (FK)	Text(3)	part of point source code
	lps_id	(PK) (FK)	Text(4)	point source code
	pol_id	(PK) (FK)	Text(3)	pollutant code
	lev_snap		Integer	level of the SNAP
	emfa_val		Double	value of emission factor
	emfa_qual		Text(1)	quality of emission factor
	uni_id		Integer	unit code
	comment		Text(5)	comment code
lps_act_emis	direct emissions from point sources			
	pol_id	(PK) (FK) (IE3)	Text(3)	pollutant code
	part_id	(PK) (FK)	Text(3)	part of point source code
	lps_id	(PK) (FK)	Text(4)	point source code
	uni_id		Integer	unit code
	em_val		Double	emission
	em_qual		Text(1)	emission value quality
	em_conf		Text(1)	emission confidentiality
	em_old		Double	old value of the emission
	uni_id_old		Integer	old emission unit
	em_qual_old		Text(1)	old emission quality
	em_conf_old		Text(1)	old emission confident.
	comment		Text(5)	comment code
lps_def	point source definition table			
	lps_id	(PK) (IE1)	Text(4)	point source code
	lps_ctc		Long Integer	corr. thermal capacity
	nuts3_id		Text(5)	territorial unit code
	lps_name		Text(50)	point source name
	lps_lg		DOUBLE	longitude
	lps_lg_c		Text(1)	cardinal point (W or E)
	lps_lt		DOUBLE	latitude
	lps_lt_c		Text(1)	cardinal point (N or S)
	comment		Text(5)	comment code
lps_parts	parts of point sources definition table			
	part_id	(PK)	Text(3)	point source part code
	lps_id	(PK) (FK)	Text(4)	point source code
	snap_id		Text(6)	SNAP (or subector) code
	lev_snap		Integer	level of the SNAP
	comment		Text(5)	comment code

Table Name	Attribute Names	Keys	Definition	Description
lps_rates	activity rates of point sources			
	snap_id	(PK) (FK) (IE3)	Text(6)	level of the SNAP
	spl_id	(PK) (FK)	Text(3)	split code
	part_id	(PK) (FK)	Text(3)	point source part code
	lps_id	(PK) (FK)	Text(4)	point source code
	fuel_id	(PK) (FK)	Text(4)	fuel code
	fuel_gr_id	(PK) (FK)	Text(3)	fuel group code
	lev_snap		Integer	level of the SNAP
	lpsrat_old		Double	old activity rate
	lpsrat_conf_old		Text(1)	old confidentiality
	lpsrat_qual_old		Text(1)	old data quality
	lpsrat_val		Double	actual activity rate
	lpsrat_conf		Text(1)	actual confidentiality
	lpsrat_qual		Text(1)	actual data quality
	uni_id		Integer	unit code
	uni_id_old		Integer	old unit code
	comment		Text(5)	comment code
lps_stack	stacks definition table (for point sources)			
	lps_id	(PK) (FK) (IE1)	Text(4)	point source code
	lpsst_id	(PK) (IE2)	Text(2)	stack code
	lpsst_he		Double	height of the stack
	lpsst_out		Double	stack outlet area
	lpsst_tmp		Double	comb. gas temperature
	lpsst_flr		Double	combustion gas flowrate
	comment		Text(5)	comment code

PK – primary key
FK – foreign key

VERZIA 15.5.1998