COPERT 4

Charis Kouridis
charis.k@emisia.com

Dimitris Gkatzoflias
dimitris.g@emisia.com

EMISIA S.A.
Thessaloniki
+30 2310 473374
www.emisia.com

Ankara, September 19-20, 2012

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European Environment Agency

Overview

- Installation

- 7 Steps + Export Data

- Time series in a single file

- Reports

- New Run Wizard

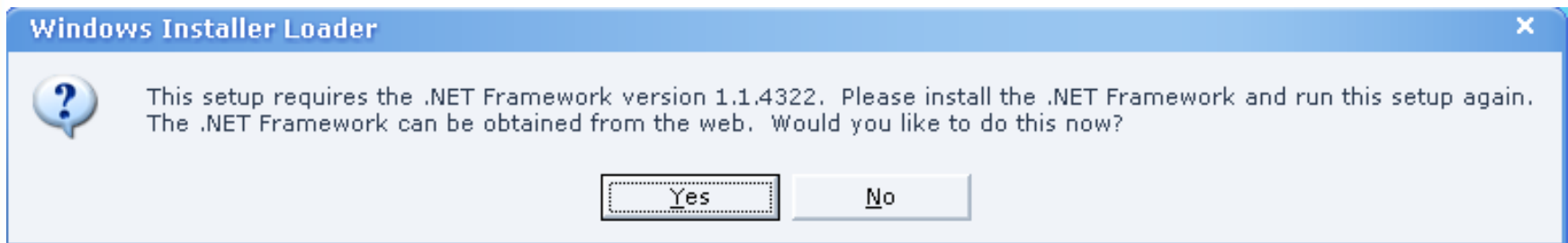# Installation

- Go to http://www.emisia.com/copert/Download.html

- Select the preferred language (En or Ru)

- Accept the license agreement and download the installation file

- Extract .zip file

- Double-click "setup.exe"

- Just follow the setup wizard and press "Close" when the installation is completed

Installation – Important Note

- Microsoft .NET Framework version 1.1 or later is required, in order COPERT 4 to run

- In case it is not already installed, a message appears:

Windows Installer Loader

This setup requires the .NET Framework version 1.1.4322. Please install the .NET Framework and run this setup again. The .NET Framework can be obtained from the web. Would you like to do this now?

Yes   No

- Solution:
  - Press "Yes"
  - Save "dotnetfix.exe" on disk
  - Double-click "dotnetfix.exe"
  - Follow the setup wizard
  - After the successful installation you can install COPERT 4

Getting Started

- After the installation a folder named 'COPERT 4' is created in the 'My Documents' folder

- In that folder a file named 'data.mdb' will be placed

- Important Note:
  - Do not use the Microsoft Access application to open and modify the '.mdb' files that are created by the COPERT 4 application, because they may not be able
    - to be opened and
    - processed

  by the COPERT 4 application

Step 1

- After you launch COPERT 4 application
  (Start > All Programs > COPERT 4)
  - Go to 'File' > 'Open' and
  - Select the 'data.mdb' file.
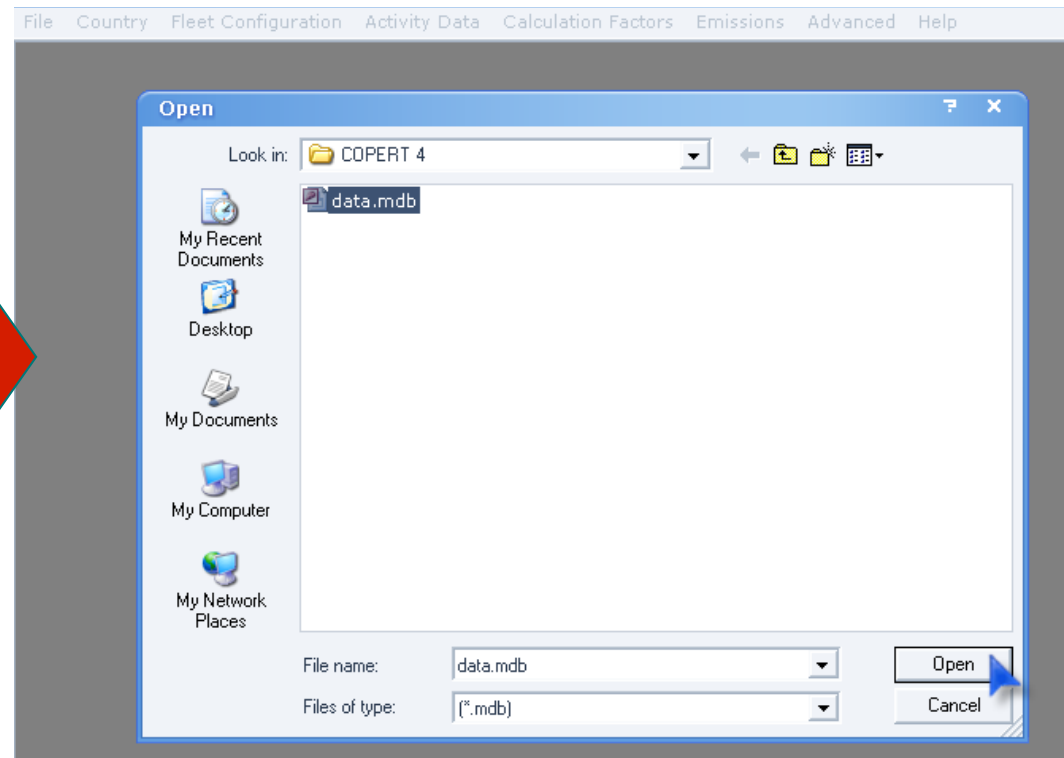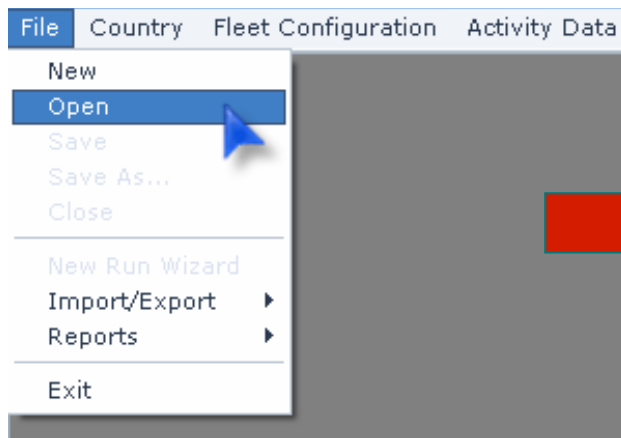
Step 1

- When you open a file a copy is created in the same folder of the opened file with an extension '.tmpX', where X is a number.

- This copy file is a hidden file. During the file process all the changes are stored to the copy file and not the original.

- When you close the file from the 'File' > 'Close' menu or you try to exit the application you will be asked if you want the changes to be stored to the opened file.
  - If you press 'Yes', the changes will be stored and the copy file will be deleted
  - If you choose 'No', the copy file will be deleted without storing the changes to the opened file.

Step 1

- In order to create a new run:
  - Go to 'File' > 'New'
  - Provide a name for the file (e.g. 'MyCountryName.mdb')
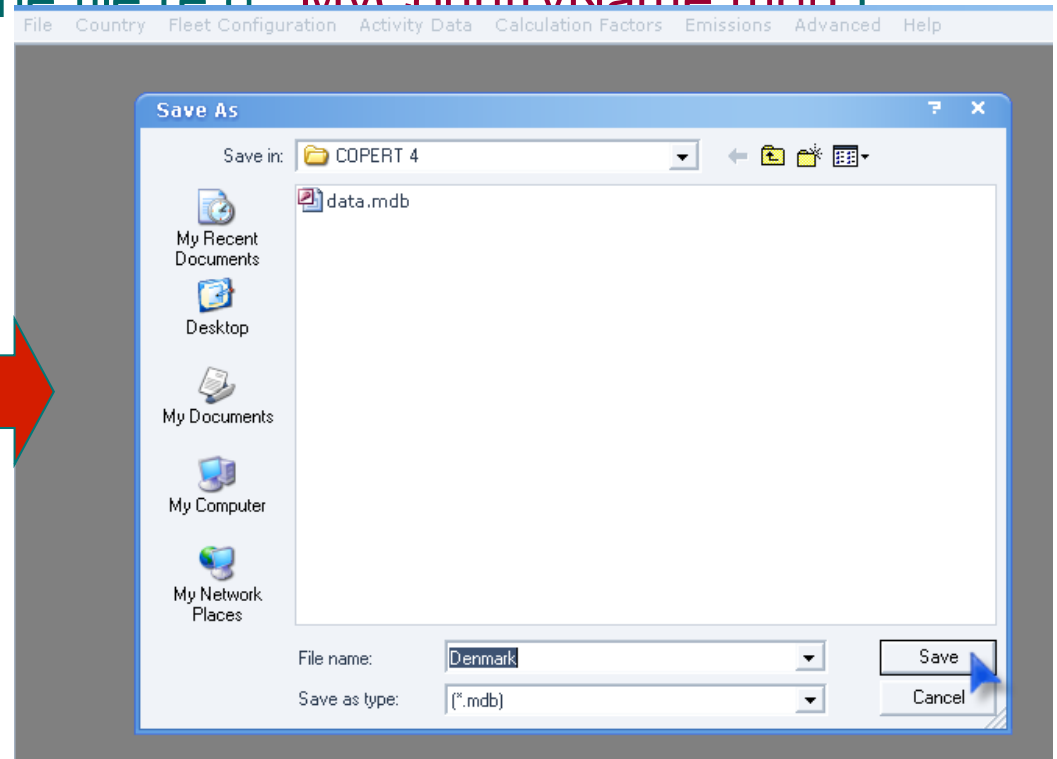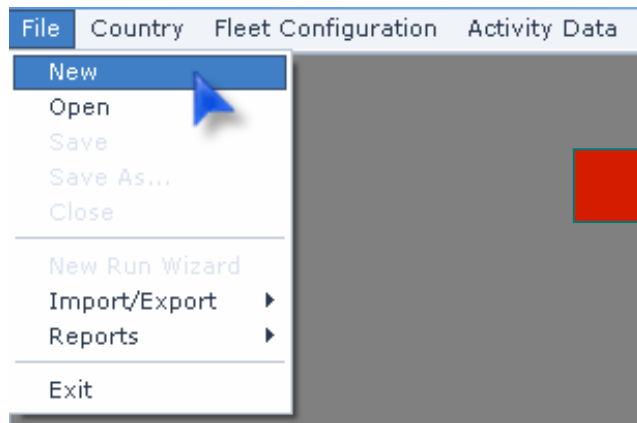
- Also do not forget to save frequently your changes (File > Save)
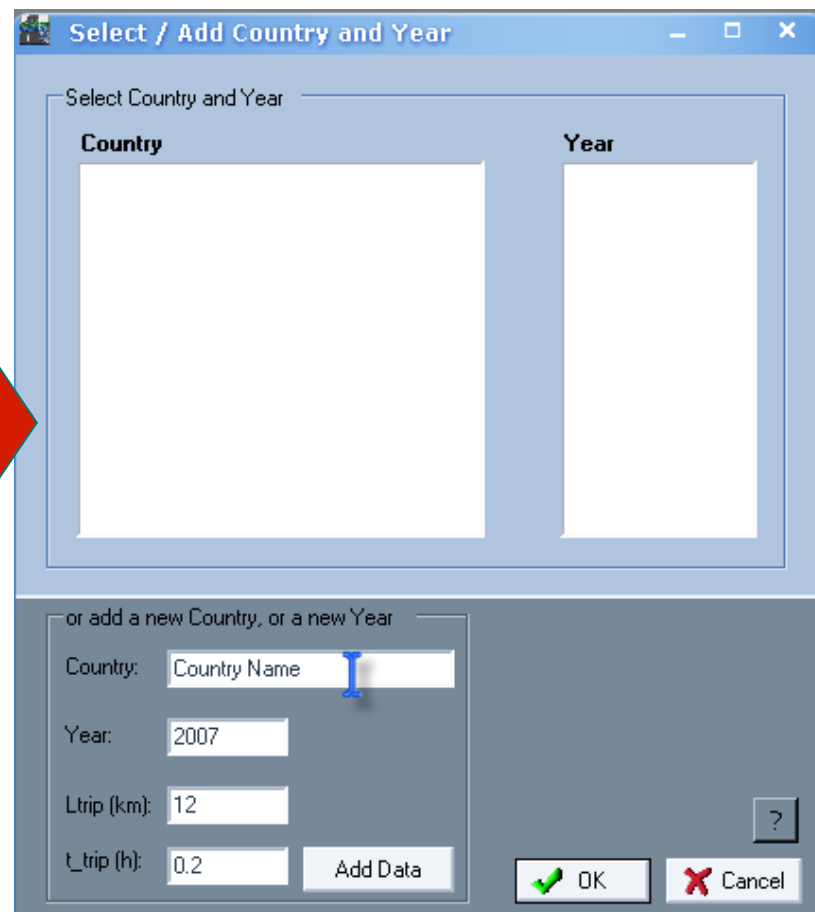
Step 1

- The file that you process is showed at the top of the window.
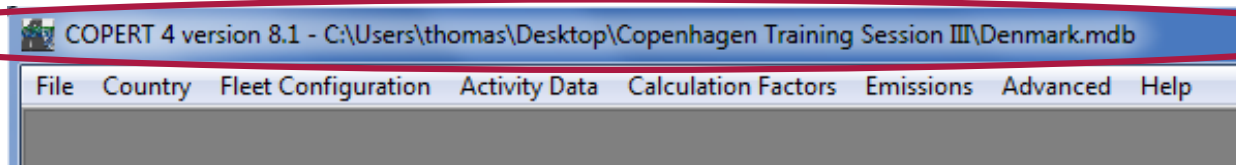
Step 2 – Select/Add Country and Year

- Since you open the file, try 'Country' > 'Select/Add' and from the appearing form you can either Select an existing country and year or Create a new country and year.
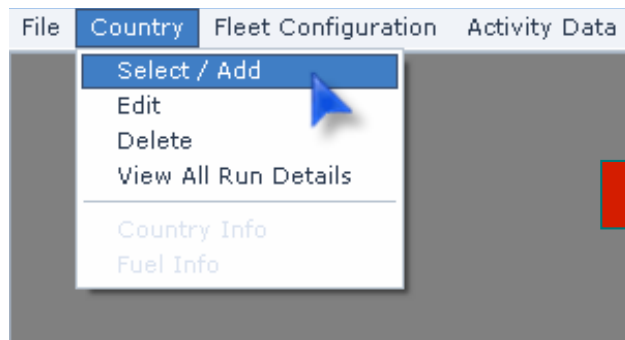
Step 2 – Select/Add Country and Year

- If you want to create a country, fill the textboxes 'Country', 'Year', 'Ltrip', 't_trip' and press 'Add Data'.

- Select the country and year and press OK. You can see the selected country and year on the Run Details table.

- If you don't want the changes to be applied press Cancel.

Important Note

- When you open one form and then you try to open another one, the second will not be available for changes but you can only view the data of the form.

- That happens because we want to have consistency of the data. So when you finish with the changes of one form close the form (by pressing OK the changes will be applied, by pressing Cancel they will be discarded) and then open another one for further changes.

- However when you have an open form you can open others to view or compare other data.

Step 3 – Country Info

- From the 'Country' > 'Country Info' form you can fill the temperatures, RVP, humidity and Beta data of the selected country and year.

- Beta data can also be calculated by pressing the 'Calculate Beta' button.

- You can have either different data for every year of each country or the same. When you fill the data and press 'OK' you will be asked if you want the changes you made to be applied to all the years of the selected country or not.

Step 4 – Fuel Info

- From the 'Country' > 'Fuel Info' form you can provide data for the Fuel specifications and the Statistical Annual Fuel Consumption to be used in the calculations.

- 7 fuel types are included, specifically: Leaded and Unleaded Gasoline, Diesel, Light Petroleum Gas (LPG), Compressed Natural Gas, Biodiesel and Bioethanol.

- Several values for heavy metal content and H:C ratio are proposed. However, those values can be changed if more accurate figures are available.

- Also these data can be different for every year and country.

Step 5 – Fleet Configuration

- The next step is to configure your fleet. You can do that from the 'Fleet Configuration' > 'Add/Delete Vehicles' form.

- A list of the available vehicle categories will appear. You can select the desired vehicles by checking the checkboxes in the 'Select' column. After you make the selections press 'OK'.
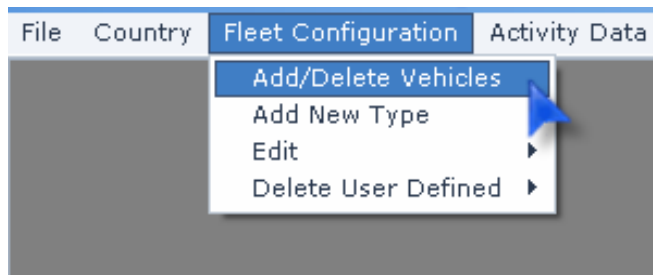
Step 5 – Fleet Configuration

- The next time you open the 'Add/Delete Vehicles' form, the vehicles of your fleet will be checked. If you want to delete a vehicle category from your fleet just uncheck the 'Select' checkbox.

- Each year of every country has a different fleet configuration. However you can apply a configuration of one year to others of the same country by checking the years in the list: 'Apply this fleet configuration to the following years' that appears on the top right corner of the form.

Step 6 – a) Direct Input Data

- Then you have to fill all the Activity Data (Fleet, Circulation and Evaporation Data). There are three ways to do that.

- The first way is directly through the forms 'Input Fleet Data', 'Input Circulation Data' and 'Input Evaporation Data' forms that are under the 'Activity Data' menu.

- You open each form; fill the desired values for every vehicle category

Step 6 – b) Import Data from Microsoft Excel

- The second way is through an Excel file. Open the 'File' > 'Import/Export' > 'Create Import Format Excel File' form.
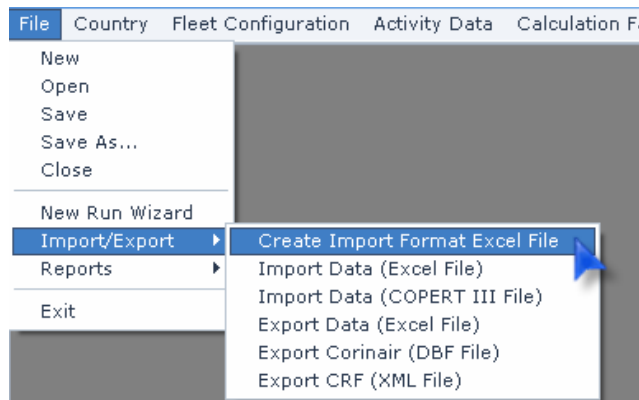
Step 6 – b) Import Data from Microsoft Excel

- Select the years of the country that you want to fill the data ('Years as columns' list).

- Then select w

Step 6 – b) Import Data from Microsoft Excel

- Finally select the vehicle categories of which the data will be filled by checking the checkboxes in the 'Select' column.

- The vehicles that are displayed are only those of the fleet configuration of each year of every country you did before and not all the COPERT's vehicle categories.

- If a vehicle category exists in a fleet configuration of a specific year then the cell of that year in the form's table will be checked, otherwise this column will not be checked.
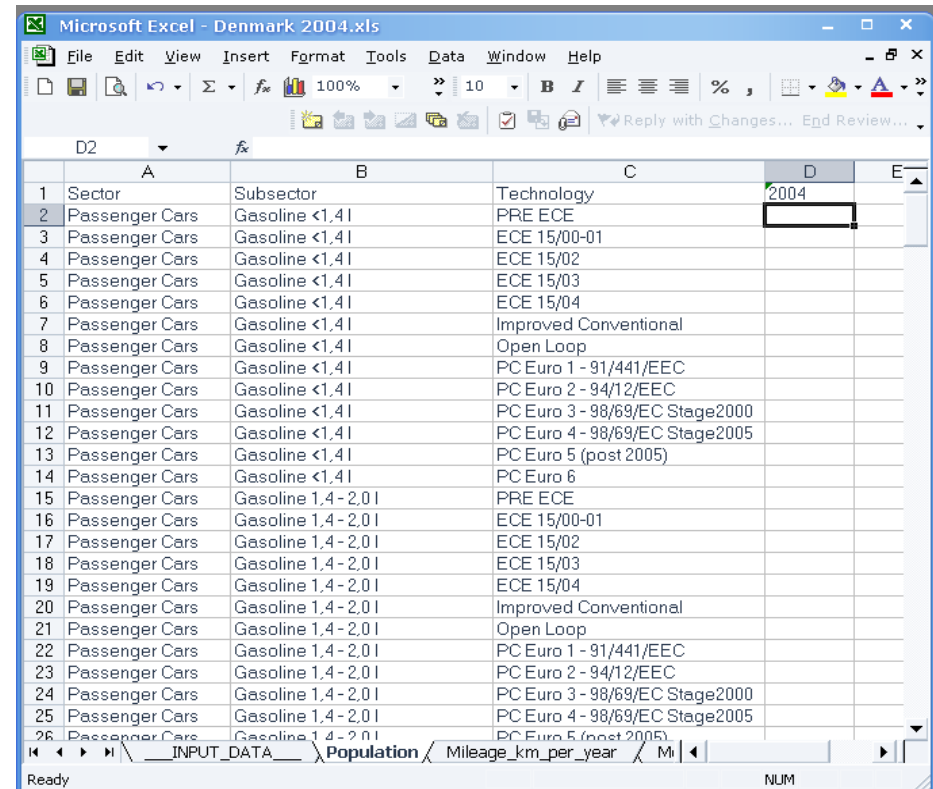
Select	Sector	Subsector	Technology	2004
☑	Passenger Cars	Gasoline <1,4 l	PRE ECE	☑
☑	Passenger Cars	Gasoline <1,4 l	ECE 15/00-01	☑
☑	Passenger Cars	Gasoline <1,4 l	ECE 15/02	☑
☐	Passenger Cars	Gasoline <1,4 l	ECE 15/03	☑
☐	Passenger Cars	Gasoline <1,4 l	ECE 15/04	☑
☐	Passenger Cars	Gasoline <1,4 l	Improved Conventional	☑

- After you made your selections press 'Create File' and you will be asked the name and where the Excel file will be stored. To close this form press 'Close'.

Step 6 – b) Import Data from Microsoft Excel

- Open the Excel file you have just created with the Microsoft Excel application.

- Every selected data type is a different sheet in the Excel file.

- Every selected vehicle category is a row.
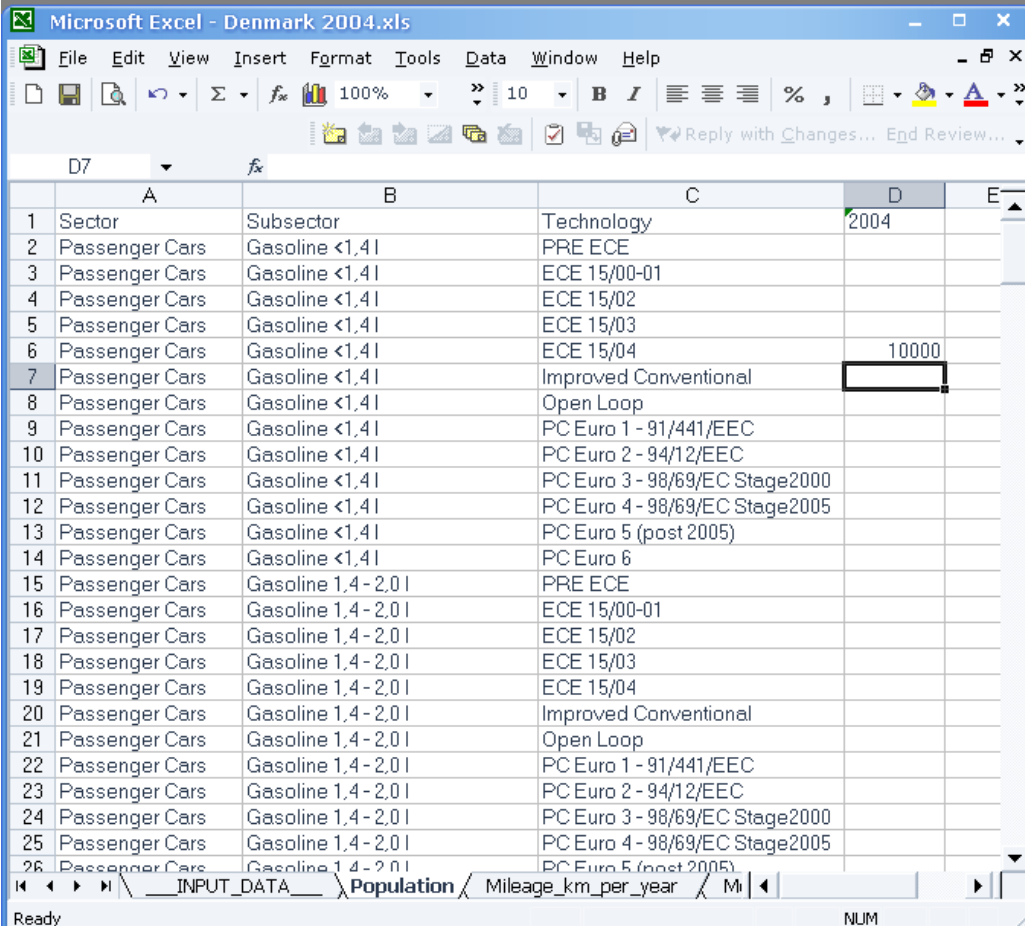
- Every selected year is a column.

Step 6 – b) Import Data from Microsoft Excel

- You have to fill the cells in the year's columns with the values you want.

- For example if you want the Mileage for the year '2004' of a vehicle category to be 10000 km, you go to the 'Mileage_km' sheet, then to the row of the vehicle category and to the column '2004' and you write the number 10000.

- You can leave a cell blank if you want a value of the database data not to be changed.

Step 6 – b) Import Data from Microsoft Excel

- Note:

  If a vehicle category does not exist in a fleet configuration of a specific year then the cell of the Excel file will have the value 'not exists'. You should not change that value.

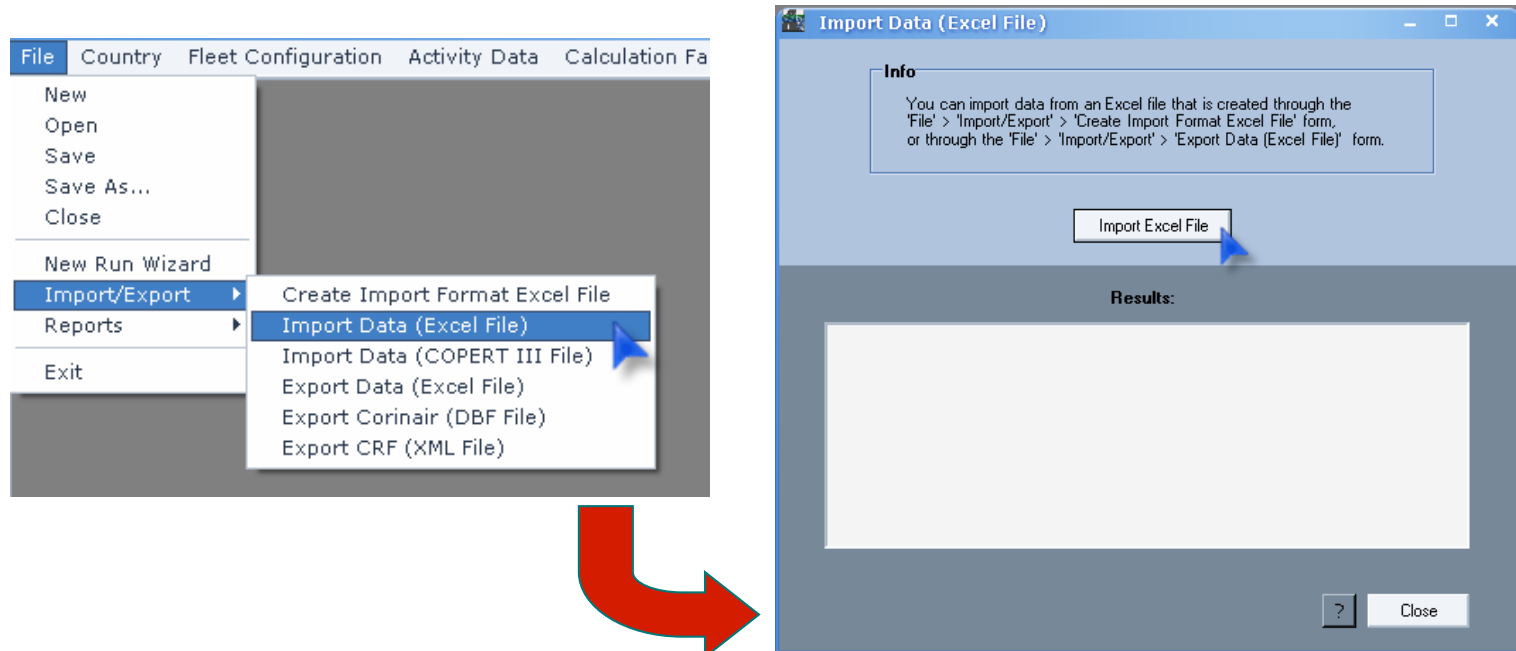- After you fill the desired values save and close the Excel file.

Step 6 – b) Import Data from Microsoft Excel

- At this point you have to import the Excel file you have just created.

- So open the 'File' > 'Import/Export' > 'Import Data (Excel File)' form.

- Press 'Import Excel File' and you will be asked to point to the Excel file you have just created.
- In the 'Results' text area you will be informed about what the application found in the Excel file.
- After you successfully imported the data press 'Close'.

Step 6 – c) Import Data from COPERT III

- The third way is to import the Activity Data from a COPERT III '.mdb' Access Database file.

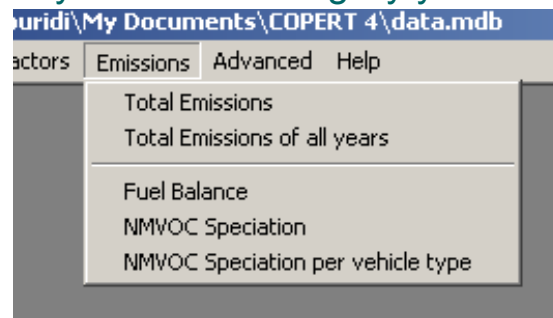- Open the 'File' > 'Import/Export' > 'Import Data (COPERT III)' form.
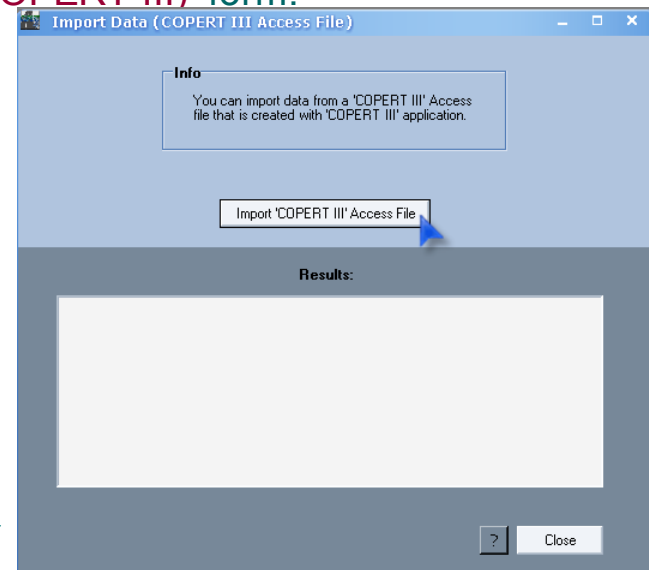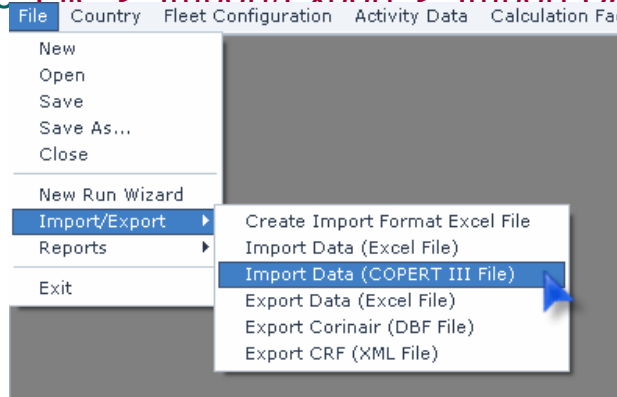
- Press 'Import COPERT III Access File' and point to the file.

- Again in the 'Results' text area you will be informed about what the application found in the file you have just pointed to.

- Press the 'Close' button and view the data you imported in the forms under the 'Activity Data' menu.

Step 7 – Emissions

- Then next step is to calculate all the emissions.
- Open the 'Emissions' > 'Total Emissions' form and press each button of the 'Recalculate' box for every Emission category you want (Hot, Cold, or Evaporation).

- You can calculate all the emissions and emission factors without having to open all the corresponding forms with the 'All Emissions (including all factors)' button. (When using this button, be careful to have the desired Fuel Effect year on the run details table)

Final Step – Export Data to Microsoft Excel

- The final step is to export all the emissions.
- Open the 'File > Import/Export > Create Import Format Excel File' form.

- This form works the same way the 'Create Import Format Excel File' form does.
- Select the 'Input' and 'Results' Data that you want to export and press 'Export File'.

Time series in a single file

- Since you have calculated one year of a Country you can go on with the next year.
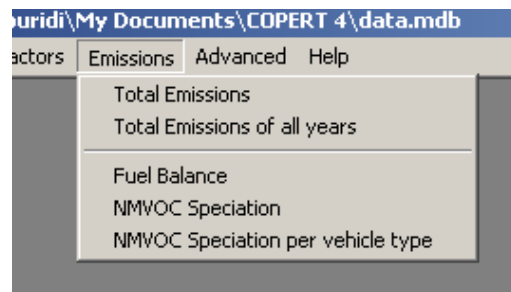- Just follow the previous steps.
- First 'Select/Add Country and Year'.

- Then configure the fleet of this year, input Activity data, calculate Emission Factors and Emissions as it was shown before.

Time series in a single file

- You can view the results through-out the years from the 'Total Emissions of all Years' form
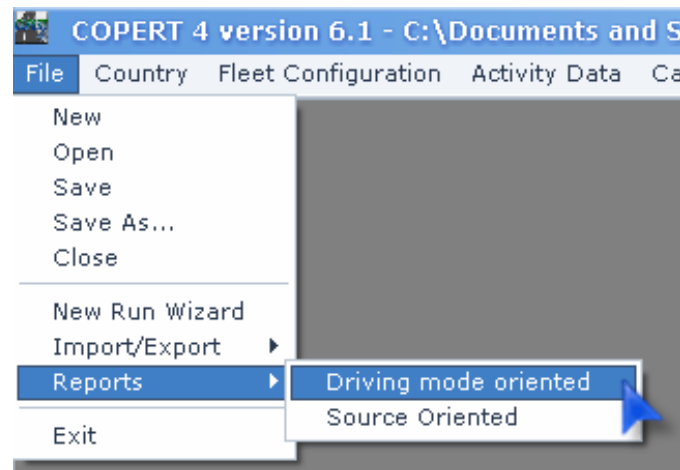- Go to 'Emissions > 'Total Emissions of all Years' form.

Reports

- After calculating the emissions of the desired country and years, one can view auto-generated reports of the selected country's emissions results.

- The available options are: 'Driving Mode Oriented' and 'Source Oriented'.

- With the 'Driving Mode Oriented' form the user can view, save and print reports with the emissions results of the selected country, oriented by driving mode (Urban, Rural, and Highway).

- With the 'Source Oriented' form the user can view, save and print reports with the emissions results of the selected country, oriented by source (Hot, Cold start, Evaporation).

- The results are grouped by pollutant and the user can view all the years' results of the
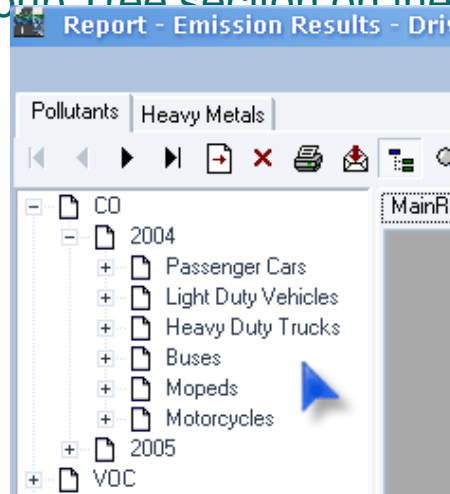
Reports

Reports

- The user can navigate through the results, with the arrows on top of the form,
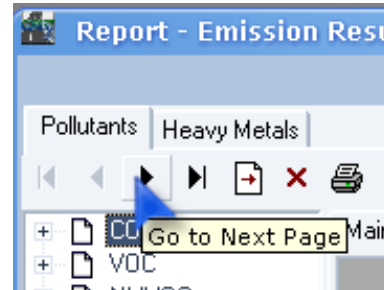
- or directly through the Group Tree section on the left side of the form.

Reports

- One can view the pages of a specific pollutant by double clicking on the shadowed box with the pollutant's name and a new tab will be created

Reports

- One can export the pages of the tab (pdf, xls, doc or rtf format) that are viewed by clicking on the "envelope" icon.
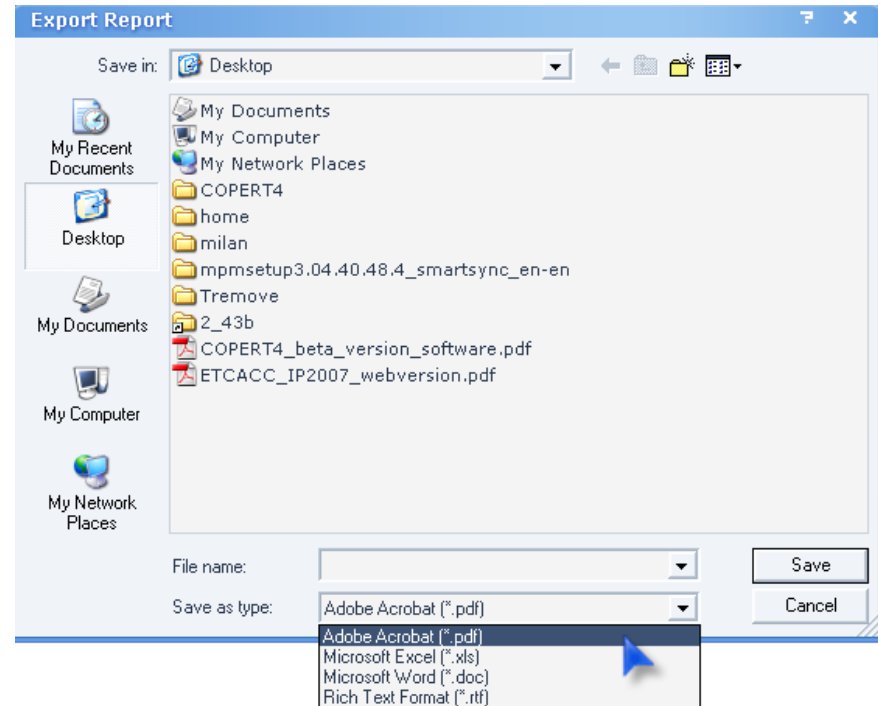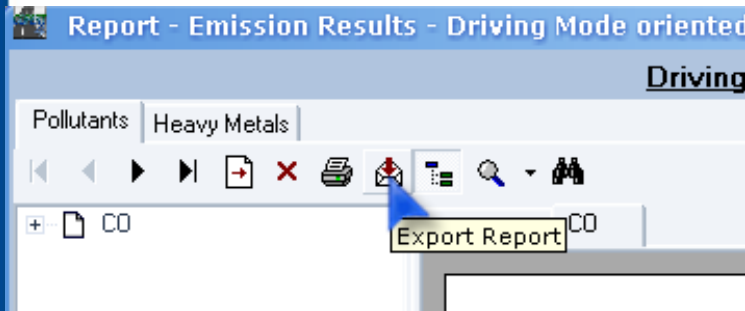
If someone wants to view specific years, select the desired years from the list-box on the right of the form and press 'Refresh Report' .

Reports – Important Note

- If you have a problem with the export process to Excel file format:

  – go to http://www.emisia.com/copert/Download.html

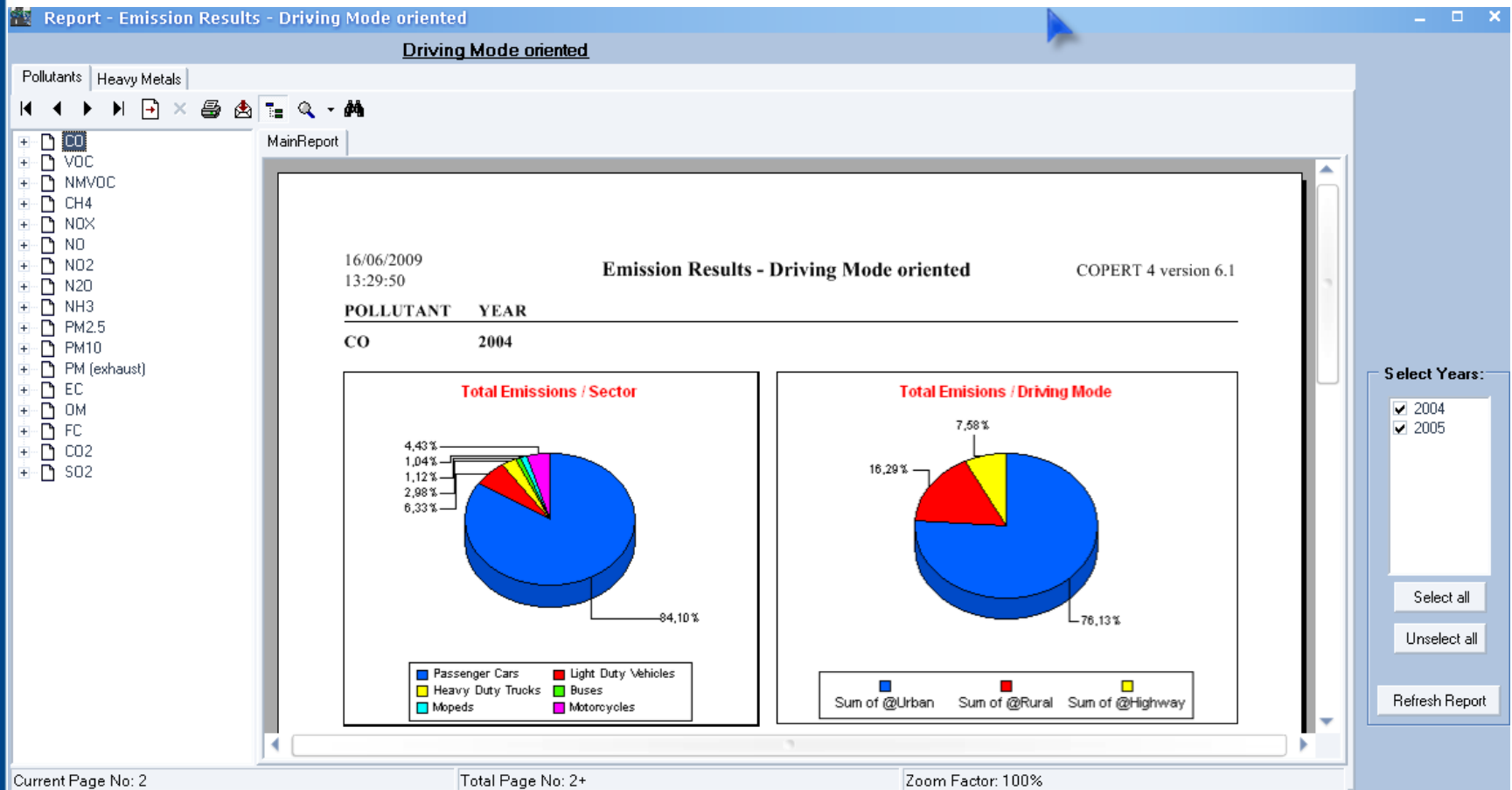- Download the software patch and save the "patch.zip" file on disk

- Extract .zip file

- Close COPERT 4 application

- Double-click the ".exe" file

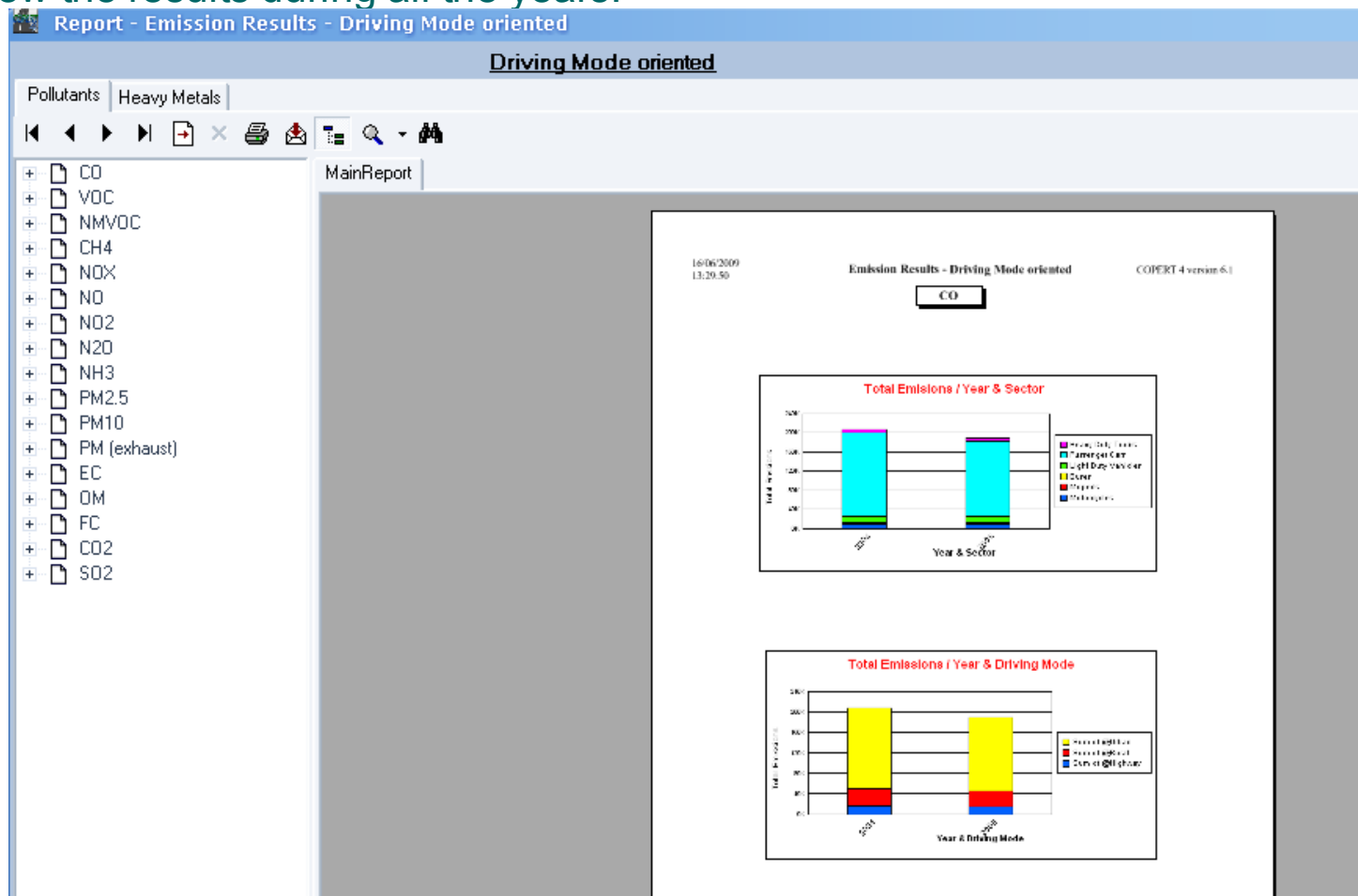- Just follow the setup wizard and press "Finish" when the installation is completed

Reports

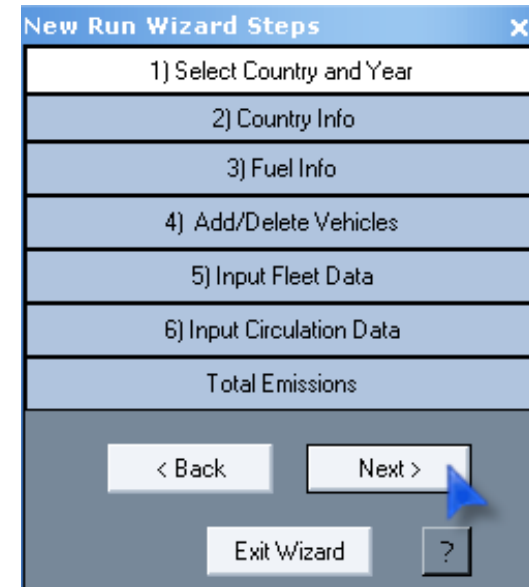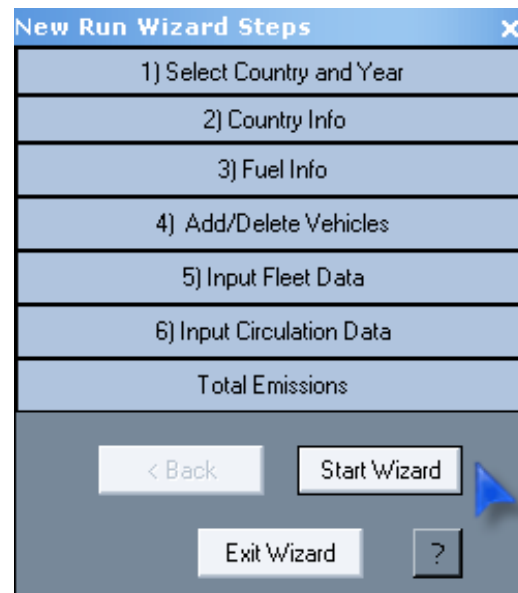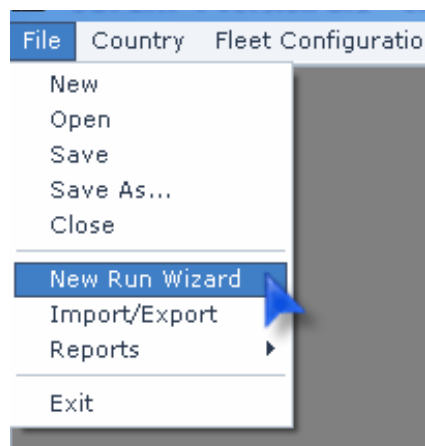- After each year two pie-charts follow, concerning the year's results.

Reports

- After all the years for each pollutant, there are two bar-charts where the user can view the results during all the years.

New Run Wizard

- After creating or opening a file, one can use a wizard, which performs the basic steps in order to calculate a complete run.

- Just press 'Start Wizard' and follow the instructions.

Questions ?