



What's New in EMIT 3.0?

January 2010

USERS OF ADMS-Urban should note that EMIT 3.0 must be used with ADMS-Urban 3.0.

USERS OF ADMS-Roads should note that EMIT 3.0 must be used with ADMS-Roads 3.0.

This document describes the new features added to EMIT and other model changes, since the release of EMIT 2.3 in March 2008.

Before installing EMIT 3.0

The **EURO Feb 2002** road traffic emission factor dataset has been removed from EMIT 3.0, as it is now out of date. If one or more of the groups in your EMIT 2.3 database uses this dataset, they must be changed to use alternative datasets prior to upgrading from EMIT 2.3 to EMIT 3.0. Full details of how to do this are given in Section 2.2 of the User Guide, a copy of which is included on the installation CD in *.pdf* format.

New Features

1. Three new detailed road traffic emission factor datasets have been added that are consistent with the factors compiled by TRL and published by DfT at the end of June 2009 (<http://www.dft.gov.uk/pgr/roads/environment/emissions/>). These new datasets are called **EURO 2009 Urban**, **EURO 2009 Rural** and **EURO 2009 Mway**, and they are suitable for modelling urban, rural and motorway driving conditions respectively. These datasets include the effects of vehicle mileage and new fuels. They include factors for:
 - The regulated pollutants NO_x, VOC and CO;
 - PM₁₀, which are set equal to the factors for the regulated pollutant, PM;
 - PM_{2.5}, which are taken to be 95% of the PM₁₀ factors;
 - CO₂;
 - SO₂, which are calculated from the regulated values of fuel consumption from vehicles; and
 - The unregulated pollutants Benzene, 1,3 Butadiene, NO₂, Methane, N₂O, Benzo[a]Pyrene, and Ammonia.

Recent fleet data from AEA have been used to compile new route types that may be used with the new emission factors. The route types include fleet predictions for London, and outside London, up to the year 2025.

Please refer to Appendix A of the User Guide for more details.

2. A new emission factor dataset extracted from the most recent version of Defra's Emission factor Toolkit (version 4.2.2) has been included: EFT v4.2. This dataset includes factors for pollutants CO₂, NO_x, PM₁₀, PM_{2.5} and VOC. Factors are given for heavy and light vehicles separately, and there is also an urban, rural and motorway road type categorisation. In addition, there are different factors and route types for London and outside London, up to the year 2025.

Please refer to Appendix A of the User Guide for more details.

3. PM_{2.5} emission factors have now been included in most datasets in order to allow users to create emissions inventories incorporating this particle fraction.
4. For the new EURO 2009 Urban, EURO 2009 Rural and EURO 2009 Mway road traffic emission factor datasets, a new feature of EMIT allows users to edit the proportion of NO_x that is NO₂. This feature has been developed by CERC because, with the new emission factors published by DfT and mentioned in 1. above, the NO₂ emission factors are defined as a proportion of the NO_x factors. For some vehicle categories, for example diesel Euro 5 and 6 light vehicles, a range of proportions is given. However, in order to perform emission calculations, EMIT requires a fixed value. User-editable NO₂ proportions allow users to consider various emission scenarios and/or incorporate more accurate data when they become available.

Please refer to Section 4.3.2 and Table A.17 of the User Guide for more details.

5. For the new EURO 2009 Urban, EURO 2009 Rural and EURO 2009 Mway road traffic emission factor datasets, EMIT has been developed to allow users to edit the base (non-year dependent) emission factors that are held in the database. This is a useful development for the more advanced EMIT user that allows, for example:
 - The percentage of PM₁₀ that is PM_{2.5} to be changed.
 - The reduction in emissions due to the addition of particle traps and other vehicle technologies to be altered.
 - The modification of SO₂ emissions for vehicles, which may be of interest if there is uncertainty regarding the sulphur content of the fuel.
6. EMIT is now supported on Windows XP, Windows Vista and Windows 7. Please refer to Section 2.1 of the User Guide for details.

Minor Changes

7. The EMIT Import Wizard can now import data from shape files with file names longer than eight characters.
8. The road traffic emission factor dataset EURO Feb 2002 is now out of date and has been removed. If you are still using this emission factor dataset for one of your road traffic groups, please refer to Section 2.2.1 of the User Guide for steps to follow to allow your database to be upgraded successfully.

9. The CO₂ electricity emission factors in the UKGHG99 Electricity emission factor dataset have been corrected. In previous versions of EMIT, these factors were incorrectly given as Carbon emissions, rather than CO₂ emissions.
10. A problem with the EMIT Import Wizard has been fixed. Previously, not all of the sources in some shape files were imported, despite the Import Wizard reporting that all sources had been imported successfully. The shape files in question were ones that had been edited to remove vertices from some sources.