

Updated NO_x from NO₂ Calculator

25th June 2013

The new NO_x from NO₂ Calculator contains updated background map values and updated f-NO₂ factors.

The updated f-NO₂ factors use the same f-NO₂ values for specific vehicle types and Euro standards as those developed for the calculator in 2012 but are based on new vehicle fleet composition data used to weight them accordingly. The f-NO₂ values for specific vehicle types are taken from COPERT 4 v8.1, published in May 2011. COPERT is a software tool developed by the European Environment Agency and used widely to calculate emissions from road transport in Europe. The new fleet composition projections define the mix of vehicles in the fleet in future years (see below).

The background maps are based on all the assumptions underlying the latest (Base 2013) NO_x emission projections for road transport. The projections use new NO_x emission factor assumptions for Euro 5 and 6 diesel cars and LGVs based on COPERT 4v10.0 published in November 2012 (<http://www.emisia.com/copert/Copert4.html>). The new NO_x factors for Euro 5 and 6 diesel cars are higher than previously assumed in COPERT 4 v8. There are no changes to f-NO₂ values in COPERT 4 v10.

The new NAEI NO_x projections and background maps and the weightings applied to the values of f-NO₂ are also based on new assumptions affecting the fleet composition. The main changes to these assumptions are given below:

- Updated Road Transport Forecasts (RS 2013) for Great Britain (GB) from the Department for Transport (DfT)'s National Transport Model projected to 2030 (unpublished). The DfT figures are forecasts relative to 2003 vehicle km. For Northern Ireland (NI), traffic is assumed to grow at GB rates due to lack of useable traffic projections data for NI. For London, a new set of traffic flow projections provided by Transport for London (TfL, January 2013) are used, derived from TfL's strategic transport model for London.
- Updated assumptions on diesel car penetration rates provided by DfT. It is assumed that diesel cars account for 49.7% to 49.0% of total car sales between 2013 and 2016 and then decline to 41% in 2020 and 34% in 2035.
- Updated vehicle sales projections for cars and LGVs based on information provided by DfT (2013). These are used in conjunction with NAEI fleet turnover assumptions and DfT's Automatic Number Plate Recognition data to define the Euro standard composition of the fleet and the petrol/diesel car mix on different road types
- Specific information from TfL (2013) on the projected bus and taxi fleets in London has been used, taking account of current policies on hybrid buses and retrofit programmes. TfL's fleet composition data for LGVs and HGVs (which includes LEZ phases 1, 2, 3 and 4) have also been used.

The NO_x projections continue to assume the introduction of Euro standards up to Euro 6/VI and the same catalyst failure rates as in the previous version of the Calculator (March 2012).