

Updated NO_x from NO₂ Calculator

17 October 2017

Version 6.1 uses updated estimated regional concentrations and updated f-NO₂ values from NAEI 2015 projections that are consistent with the 2015 base year LAQM background maps and 2017 NO₂ Air Quality Plan. It also provides the capability to include user defined f-NO₂ values in both the NO_x to NO₂, and NO₂ to NO_x conversion calculations. It covers the years 2015 to 2030.

The f-NO₂ values for most specific vehicle types and Euro standards given in the 'Update of the Air Emissions Inventory Guidebook - Road Transport 2014 Update, Tables 5-2 to 5-4' (http://emisias.com/sites/default/files/files/COPERT4_v11_0.pdf) have been used. Values for Euro V, Euro VI and Euro III + DPF HGVs and buses have been derived from Carslaw et al 2016 'Have vehicle emissions of primary NO₂ peaked?' (Faraday Discuss., 2016, 189, 439). The factors for individual vehicle types have been weighted according to the contribution each vehicle type makes to total NO_x emissions from traffic in each of these area and road types to provide factors for overall UK traffic, urban traffic, non-urban traffic and traffic in London.

The background maps and the NO_x emission weightings on the f-NO₂ factors are derived from NAEI emission projections, as used in the baseline projections for the UK plan for tackling roadside nitrogen dioxide concentrations (<https://www.gov.uk/government/publications/air-quality-plan-for-nitrogen-dioxide-no2-in-uk-2017>). Fleet turnover has been estimated using information derived from DfT and London-specific information on the bus and taxi fleet provided by TfL, with the central London Ultra Low Emission Zone included from 2020. The NO_x emission factors are based on COPERT 5 (<http://emisias.com/products/copert/copert-5>). The baseline NO_x projections include the introduction of Euro standards up to Euro 6/VI, and include the expected impact of the two-stage introduction for diesel cars and LGVs of the new European Real-Driving Emission (RDE) regulations. Further details on the derivation of f-NO₂ factors in the NAEI are given in http://naei.beis.gov.uk/resources/Primary_NO2_Emission_Factors_for_Road_Vehicles_NAEI_Base_2017_v2.pdf.