Department for Environment, Food and Rural Affairs

Update to the Air Quality Plan to meet the Annual Mean NO_2 Limit Value in the Northern Ireland Zone, UK (UK0043)

Summary

Updated evidence showing the impact of current and planned measures set out in the existing Air Quality Plan for the Northern Ireland Zone (UK0043) show that the earliest date for attainment of compliance with the annual mean limit value for nitrogen dioxide (NO_2) is expected to be 1st January 2014. We would like the Commission to consider this updated evidence, confirm that the condition in Commission Decision C(2012)4155 has been met and that the compliance date for this zone is postponed from January 2010 to January 2014.

In the limited time available before January 2014, it is not feasible to accelerate the already established timetable for introduction and delivery of measures to achieve compliance any earlier.

Introduction

In September 2011, the UK Government submitted to the European Commission an Air Quality Plan for the Northern Ireland zone (UK0043) setting out the measures in place or being planned to deliver compliance with the annual mean limit value for NO_2 (40µg/m^3). A case for postponement of the compliance deadline to 2015 was made, in accordance with Article 22 of the Ambient Air Quality Directive (2008/50/EC). The Plan projected that, as a result of current and planned measures, NO_2 concentrations would reduce from 43µg/m^3 in 2010 to 26µg/m^3 by 2015 therefore achieving compliance with the annual limit value.

In June 2012, Commission Decision C(2012)4155[1] was published, which set out the Commission's conclusions on the UK Air Quality Plans that were submitted in September 2011. The Decision considered with respect to the Northern Ireland Plan that:

The United Kingdom authorities have provided projections stating that compliance will be reached after 2010 but before 2015. Relevant measures have already been taken in those zones and continue to apply but no additional measures are planned. Projections based on EMEP show that the anthropogenic regional background concentrations are decreasing by approximately 0.8µg/m^3 per year. It is therefore

[1] http://ec.europa.eu/environment/air/quality/legislation/pdf/uk2_no2_en.pdf.

possible that compliance with the annual limit could be achieved as of 1 January 2014. In order to ensure that compliance is achieved by that date and given the obligation to ensure the exceedence period is kept as short as possible, the Commission finds that the United Kingdom authorities should ensure a more intensive implementation of the measures already in place as well as the adoption and implementation of additional suitable measures.

The Decision therefore concluded with respect to the Northern Ireland Plan that:

No objections are raised to the postponement of the deadline for attaining the annual limit value for NO_2 provided that the Air Quality Plan is adjusted with a view to ensuring that compliance with the annual limit value for NO2 is achieved by 1 January 2014. The adjusted Plan shall be notified to the Commission as soon as possible, taking into account the timescale necessary to carry out the national procedures to amend the plan or adopt the short term action plan without undue delay.

This update responds to Commission Decision C(2012)4155 following a review by UK authorities of the latest compliance evidence, using more recent NO_2 concentration data and projections than those included in the Plan submitted in September 2011.

Review of the latest compliance evidence

The modelling and projections that were used to underpin the Northern Ireland Air Quality Plan submitted in September 2011 have been significantly updated in 2012 and now show a more realistic assessment of future NO_2 concentrations.

As foreshadowed in the UK Overview Document submitted in September 2011, the UK authorities have incorporated the latest COPERT vehicle emission factors (version 4.8) and updated fleet data based on ANPR (Automatic Number Plate Recognition) technology into the latest projections. Both of these changes are an improvement on the previous projections, notably the COPERT emission factors as they are based on real world emissions.

The overall (UK) impact of the new emission factors and updated fleet data is that the new projections generally predict concentrations decreasing more slowly into the future than the previous projections. However, the impact varies between locations according to the fleet mix on the individual road. In the Northern Ireland zone, the fleet mix on the road link with the maximum concentration means that a steeper decline in NO_2 is now predicted. However, because the 2010 base year concentration was higher than in 2008, the earliest projected compliance date is 2014.

A further change is in the base year used. For the September 2011 Plan, 2008 was used as the baseline year. For the latest projections, UK authorities used 2010 concentration data as the baseline. We do now know that NO_X emissions in 2010 were significantly

influenced by extreme cold weather spells at the start and end of the year and that in 2011, emissions returned to the overall trend.

In the Northern Ireland zone, this updated evidence shows that compliance will be achieved by January 2014. Recent NO_2 concentration data, including for 2011 and the new baseline projections to 2014 are shown in Table 1.

Table 1: Annual mean NO_2 model results for the Northern Ireland Zone and baseline projections to 2014.

	Assessment Data					Baseline Projections
	2007	2008	2009	2010	2011	2014
Road length Exceeding (km)	24.2	15.3	22.6	19.8	3.0	0.0
Background area exceeding (km2)	0.0	0.0	0.0	0.0	0.0	0.0
Maximum modelled concentration (µg/m^3)	50	49	53	54	49	38

a. The location of the maximum modelled concentration for 2010 is road link A1, location 115481, 483781.
b. The data for 2010 are not those from the 2010 compliance assessment as the emissions factors have been updated after this was reported and the results recalculated.

The European Commission will be aware that the UK uses modelling as well as monitoring in its annual compliance assessment. The UK authorities note the Commission conclusion that compliance could be achieved earlier than 2015, based on EMEP projections that show that the anthropogenic regional background concentrations are decreasing by approximately 0.8µg/m^3 per year. In this zone, regional background concentrations represent a very small component of the roadside NO_2 concentrations recorded and are not considered a good indicator of likely trends in concentrations at roadside, which is where exceedences are reported. Furthermore, results from the UK's Pollution Climate Mapping (PCM) model (using the more recent emission factors) suggest that the reduction in regional background concentrations is likely to be much smaller than suggested by the EMEP projections and of the order of 0.1-0.2µg/m^3 per year. This is supported by the UK's

own regional background monitoring data which shows a UK average 0.3µg/m^3 reduction per year.

Review of Measures Implementation

It is important to note that measures in the Plan for the Northern Ireland Zone that are driving progress towards compliance relate to the outcomes from medium to long term strategic plans for transport and regional development.[2345]

In particular, many of the measures are based on strategies which aim to encourage modal shift in transport. Measures such as developing park & ride schemes, intelligent transport systems, implementation of bus corridors, rapid transport networks, cycling and walking initiatives cannot realistically be intensified in the short time remaining prior to 2014. That process would, for example, require engagement with stakeholders as well as Impact Assessments on the effects of measure intensification on Small and Medium Enterprises; planning approval is another consideration in further implementation of some of these transport measures.

Whilst efforts continue to accelerate progress towards compliance, the possibility of making significant adjustments to the measures already in the Plan is limited.

It should also be noted that local authority action plans have a role to play in improving local air quality though small scale measures are very difficult to quantify and include in the new projections.

Conclusion

The new, updated evidence presented here shows that compliance in the Northern Ireland Zone is expected by 1st January 2014 and that this is the earliest possible compliance date. As such, we look forward to confirmation from the European Commission that the condition in their Decision has been met and the compliance date for the Northern Ireland zone is postponed until 1 January 2014.

November 2012

[2] Regional Development Strategy for Northern Ireland, RDS 2035, (Feb 2012).
[3] Regional Transportation Strategy for Northern Ireland 2002-2012, (July 2002).
[4] Ensuring a Sustainable Transport Future – A New Approach to Regional Transportation 2015-, (March 2012).
[5] Regional Strategic Transport Network Transport Plan 2015 (March 2005).