

## **AIR QUALITY**

### **Policy context**

The Government's and Devolved Administrations' policies on air quality are set out in the Air Quality Strategy for England, Wales, Scotland and Northern Ireland, published in January 2000 and the Addendum published February 2003

<http://www.defra.gov.uk/environment/airquality/index.htm>. The Strategy sets health-based standards for nine main air pollutants, and policy objectives for moving towards those standards over the medium to long term. The pollutants covered by the Strategy and Addendum are:

- Nitrogen Dioxide
- Fine particles
- Sulphur Dioxide
- Carbon Monoxide
- Lead
- Ozone
- Benzene
- 1,3 Butadiene
- Polycyclic Aromatic Hydrocarbons

Road transport and industry are the main sources of most of these pollutants – emissions from road transport, for example, are thought to account for 75% of total UK emissions of Carbon Monoxide, and 47% of total emissions of oxides of Nitrogen. In urban centres, the contribution from road transport is generally even higher. Domestic home heating in Northern Ireland is thought to be responsible for the majority of emissions of Sulphur Dioxide.

District councils are also required, under Article 11 of the Environment (NI) Order 2002, to review and assess their local air quality in order to identify pollution hotspots.

Where district councils anticipate that there are likely to be exceedences of any of the prescribed national objectives for different air pollutants, they are required to designate air quality management areas (AQMAs) and draw up action plans with other relevant authorities setting out what they intend to do to rectify the problem.

### **Existing guidance**

Assessing the impact of particular policies on air quality is a complex science.

Sophisticated modelling tools exist to forecast emissions from different sources – the Highways Agency's Design Manual for Roads and Bridges, for example, can be used to forecast the impact of new or existing road schemes on emissions of key pollutants from road transport.

Revised guidance was published in early 2003 to assist district councils with their reviews and assessments of air quality. The guidance is available via the Environment and Heritage website at [www.ehsni.gov.uk](http://www.ehsni.gov.uk) cover the following areas:

Policy guidance:

- *The Environment (NI) Order 2002, Local Air Quality Management Draft Policy Guidance LAQM PG NI (03)*

Technical guidance:

- *Local Air Quality Management Technical Guidance LAQM TG (03)*

Guidance on the Methodology for Multi-Modal Studies(GOMMMS) is available at <http://www.dtlr.gov.uk/itwp/mms/index.htm>. Calculations of the air quality benefits and disbenefits likely to be associated with any new road scheme, or any major road improvement, are a key part of GOMMMS.

***Matters to consider in appraisal***

In considering whether or not the potential air quality impacts of a particular policy need to be appraised, policy makers should ask themselves the following main questions, seeking advice from Environment and Heritage Service AEQ Division as appropriate.

- Will a particular policy mean that emissions of any one of the main pollutants will be increased? (examples might include new road schemes, new industrial or commercial development which will either result in emissions from the process itself or in greater traffic flows to and from the area, aviation policy, urban regeneration policies etc.)
- Will a particular policy mean that greater numbers of people might be affected by existing levels of air pollution in a particular area (examples might include policies aimed at encouraging greater use of city centre sites for residential or commercial developments)
- Will a particular policy have a particular bearing on areas of poor air quality, including the air quality management areas designated by local authorities? (examples might include policies for the siting of new airports or other major industrial developments).
- Will a particular policy have an impact on the Strategy's objectives for protecting vegetation and ecosystems, or on DOE's PSA target to maintain or improve the conservation condition of 95% of the features underlying the designation of internationally important wildlife sites and Areas of Special Scientific Interest by 2013?

Certain policies are likely to lead to a reduction in emissions of the key pollutants (eg policies to promote cycling and walking). Others are likely to have a beneficial effect if they transfer emissions away from a town centre or other polluted area (examples might include the construction of new bypasses). Detailed modelling of the likely air quality benefits might be appropriate in some cases.

## Quantification

Impacts on air quality are generally expressed in terms of either:

- The total volume change in emissions of a particular pollutant from a particular source (e.g. a 3% increase in NO<sub>x</sub> emissions from road transport); or
- The likely impact of this change on levels of ambient air quality in the affected area (eg ambient concentrations of NO<sub>2</sub> in the area likely to increase by 2µg/m<sup>3</sup>); or
- The total number of households likely to be affected by these changes (eg 1,500 houses likely to be exposed to greater concentrations of NO<sub>2</sub>).

In cases where such detailed modelling is not possible, a reasoned statement of whether or not a particular policy is likely to result in greater or lesser emissions of particular pollutants should be sufficient. Environment and Heritage Service **AEQ Division** tel, 02890 254758 can provide advice on how this might best be done. ( To be discussed with EPD)

The Intergovernmental Group on Cost and Benefits (contact Helen Dunn, Environmental Protection Economics Division, DEFRA, Tel: 020 7944 6384 or email: [helen.dunn@defra.gsi.gov.uk](mailto:helen.dunn@defra.gsi.gov.uk) ) are developing a methodology for quantifying and monetising, where appropriate, the health and environmental impacts of air quality changes. Guidance and advice can be found at <http://www.defra.gov.uk/environment/airquality/nags/ea/index.htm> and <http://www.defra.gov.uk/environment/airquality/igcb/index.htm>