

# Fermanagh District Council



## Air Quality Progress Report 2011

Environment (Northern Ireland) Order 2002  
Local Air Quality Management

October 2011



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# Executive Summary

The Local Air Quality Management process requires District Councils to review and assess a range of air pollutants against the objectives set out within the Government's Air Quality Strategy. To date, Fermanagh District Council's Review and Assessment process has indicated that the relevant air quality objectives would be achieved.

There have been no significant changes to any pollution sources in the Fermanagh District Council area and no additional sources of pollution have been identified since the 2010 Progress Report, which concluded that the relevant air quality objectives would be met. Hence no risk of exceedence of an Air Quality Objective has been identified in this Report.

Therefore the Council's proposed action at this time, following completion of this report, is to compile and submit an Updating and Screening Assessment in 2012.

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# 1 Introduction

## 1.1 Description of Local Authority Area

Fermanagh District Council, with an area of 1876 km<sup>2</sup> and population of approximately 62000\*, accounts for 13% of land mass of Northern Ireland. It is bordered by Donegal, Monaghan, Cavan and Leitrim councils in Eire, and by Dungannon, Omagh and Strabane councils in Northern Ireland.

The District is predominantly rural in character and has one of the lowest population densities in the United Kingdom. It is bisected by the River Erne system which flows from south-east to north-west along the length of Fermanagh. Approximately 20% of Fermanagh is covered with lakes and waterways.

Enniskillen, the largest town in Fermanagh, occupies a strategic position at one of the four crossing points of Lough Erne, where the Upper Lough is a narrow river channel before widening out into the expanse of Lower Lough Erne.

Agriculture and tourism are the main industries, with some manufacturing, timber milling, food processing and several large quarries.

\* NI Statistics and Research Agency Estimate for 2008

## 1.2 Purpose of Progress Report

Progress Reports are required in the intervening years between the three-yearly Updating and Screening Assessment reports. Their purpose is to maintain continuity in the Local Air Quality Management process.

They are not intended to be as detailed as Updating and Screening Assessment Reports, or to require as much effort. However, if the Progress Report identifies the risk of exceedence of an Air Quality Objective, the Local Authority (LA) should undertake a Detailed Assessment immediately, and not wait until the next round of Review and Assessment.

## 1.3 Air Quality Objectives

The air quality objectives applicable to LAQM in **Northern Ireland** are set out in the Air Quality Regulations (Northern Ireland) 2003, Statutory Rules of Northern Ireland 2003, no. 342, and are shown in Table 1.1. This table shows the objectives in units of microgrammes per cubic metre  $\mu\text{g}/\text{m}^3$  (milligrammes per cubic metre,  $\text{mg}/\text{m}^3$  for carbon monoxide) with the number of exceedences in each year that are permitted (where applicable).

**Table 1.1 Air Quality Objectives included in Regulations for the purpose of Local Air Quality Management in Northern Ireland.**

<b>Pollutant</b>	<b>Concentration</b>	<b>Measured as</b>	<b>Date to be achieved by</b>
<b>Benzene</b>	16.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
	3.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2010
<b>1,3-Butadiene</b>	2.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
<b>Carbon monoxide</b>	10.0 $\text{mg}/\text{m}^3$	Running 8-hour mean	31.12.2003
<b>Lead</b>	0.5 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
	0.25 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2008
<b>Nitrogen dioxide</b>	200 $\mu\text{g}/\text{m}^3$ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2005
<b>Particles (PM<sub>10</sub>) (gravimetric)</b>	50 $\mu\text{g}/\text{m}^3$ , not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
<b>Sulphur dioxide</b>	350 $\mu\text{g}/\text{m}^3$ , not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 $\mu\text{g}/\text{m}^3$ , not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 $\mu\text{g}/\text{m}^3$ , not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

## 1.4 Summary of Previous Review and Assessments

### Stage One Review

The Stage One report for Fermanagh District Council, an initial screening of industrial, transport and any other sources of pollution that could have a significant impact within the council area, was completed in August 2001. It concluded that no further investigation or action needed to be undertaken for the following pollutants:

- Benzene
- 1,3-Butadiene
- Lead
- Carbon Monoxide

However, the Stage One screening indicated that air quality objectives were at risk of being exceeded for three of the strategy pollutants, namely:

- Nitrogen Dioxide
- Sulphur Dioxide
- Particulate Matter (PM<sub>10</sub>)

Accordingly, Fermanagh District Council was required to proceed to a Stage Two/Three Review of these pollutants.

### Stage Two/Three Review

This was a more detailed assessment of all the pollutants identified as significant locally in the first stage. It included computer modelling of sources and made reference to locally monitored air quality data.

The conclusions of the second/third stage were:

#### Nitrogen Dioxide (NO<sub>2</sub>) (Second Stage):

The assessment of NO<sub>2</sub> emissions from road traffic was largely based upon the application of the Design Manual for Roads and Bridges (DMRB) and some diffusion tube monitoring data that was available.

The results of both the diffusion tube survey and the DMRB modelling showed that it is unlikely that either the annual mean or hourly NO<sub>2</sub> objective will be exceeded in Fermanagh DC area at relevant receptor locations.

It was therefore not necessary to undertake a Third Stage Review and Assessment for NO<sub>2</sub>.

#### Sulphur Dioxide (SO<sub>2</sub>) (Second and Third Stage):

In the absence of any reliable local monitoring, Fermanagh District Council was required to proceed directly to a Third Stage Review and Assessment in respect of SO<sub>2</sub> from domestic fuel combustion for the 1km x 1km grid square identified in Stage One.

The results of the assessment, using ADMS computer modelling, suggested that there was unlikely to be an exceedance of the SO<sub>2</sub> objectives in the modelled area.

#### Particulates (PM<sub>10</sub>) (Second and Third Stage):

The results of DMRB modelling confirmed that there would be no likelihood of predicted exceedances of the PM<sub>10</sub> objective from traffic sources.

Based on findings elsewhere it was not considered necessary to proceed to a Stage Three Review and Assessment for PM<sub>10</sub> in respect of industrial type sources, controlled or uncontrolled.

In relation to domestic solid fuel use, in the absence of any reliable local monitoring data, it again was necessary to proceed to a Third Stage Review and Assessment for this source. This also involved detailed modelling of domestic fuel emissions using ADMS version 3.1, using new fuel usage data, as well as more locally accurate PM<sub>10</sub> monitoring data from neighbouring Omagh District Council.

The modelling suggested that an exceedance of the PM<sub>10</sub> objective was unlikely.

The conclusion of the first round of the Review and Assessment process was that it is not necessary to declare an Air Quality Management area within the Fermanagh District Council area.

The process then continued with the following reports being compiled and submitted as required under the LAQM procedures:

- Progress Report 2005
- Updating and Screening Assessment Report 2006
- Progress Report 2007
- Progress Report 2008
- Updating and Screening Assessment Report 2009
- Progress Report 2010

These reports concluded that the relevant air quality objectives would be met and that there was no requirement for Fermanagh District Council to declare any Air Quality Management Areas or carry out further Detailed Assessments.

This 2011 Progress Report is being provided in line with DETR technical guidance to ensure that the air quality in the Fermanagh District Council area is assessed on an annual basis.

## 2 New Monitoring Data

### 2.1 Summary of Monitoring Undertaken

#### 2.1.1 Automatic Monitoring Sites

There are no Automatic Monitoring Sites in the Fermanagh District Council area.

#### 2.1.2 Non-Automatic Monitoring

The conclusions of previous Review and Assessments were that no exceedences of the air quality objectives were likely. As there has been no significant alterations to existing infrastructure, no new diffusion tube monitoring has been carried out since the last Progress Report of 2010.

## 2.2 Comparison of Monitoring Results with Air Quality Objectives

### 2.2.1 Nitrogen Dioxide

#### Diffusion Tube Monitoring Data

As stated above, no new diffusion tube monitoring results are available since the last Progress Report of 2010, but Table 2.1 indicates that exceedences are not likely.

For information the table below shows the previous NO<sub>2</sub> Diffusion Tube results for 2004 – 2006

**Table 2.1 Results of Nitrogen Dioxide Diffusion Tubes**

Site ID	Location	Within AQMA?	Annual mean concentrations (µg/m <sup>3</sup> ) Adjusted for bias		
			2004	2005	2006
FDC1	Townhall Enniskillen	No	11.9	22.4	20.9
FDC2	Belmore St Enniskillen	No	18.2	29.8	26.9
FDC3	Tempo Rd Enniskillen	No	4.2	7.4	6.5
FDC4	Rossole Rd Enniskillen	No	5.4	8.3	8.9

Lab used: Eurofins

Bias adjustment factor: 0.79 (Co-location study)

Nitrogen Dioxide AQ Objective: 40 µg/m<sup>3</sup> (annual mean)

### **2.2.2 PM10**

Fermanagh District Council does not currently monitor PM<sub>10</sub>.

### **2.2.3 Sulphur Dioxide**

Fermanagh District Council does not currently monitor SO<sub>2</sub>.

### **2.2.4 Benzene**

Fermanagh District Council does not currently monitor Benzene.

### **2.2.5 Other pollutants monitored**

Fermanagh District Council does not currently any other pollutants.

## **Summary of Compliance with AQS Objectives**

Fermanagh District Council has examined the results from monitoring in the district. Concentrations are all below the objectives, therefore there is no need to proceed to a Detailed Assessment.

## **3 New Local Developments**

Fermanagh District Council confirms that there are no new or newly identified local developments which may have an impact on air quality within the Local Authority area.

Construction for a new acute hospital on the Irvinestown Road outside Enniskillen is currently at an advanced stage with a projected opening date of June 2012. An air quality assessment undertaken for this development demonstrated that air quality objectives would not be breached.

### **3.1 Road Traffic Sources**

Construction is also currently under way on the new Cherrymount Link road in Enniskillen which will connect the Irvinestown Road with the Tempo Road. Again an air quality assessment for this project did not indicate any breach of air quality objectives. Indeed the benefit of this road will be a reduction in the traffic flows through the town centre area and a consequent improvement in air quality there. Another proposal is the Enniskillen Southern Bypass, but this is only at an early stage of deciding on a preferred route corridor. Again an air quality assessment for this scheme will be included in the overall Environmental Impact Statement for the project.

### **3.2 Other transport Sources**

There are no new or newly identified other transport sources that need to be considered.

### **3.3 Industrial Sources**

There are no new or newly identified industrial sources that would have an impact on air quality. There is, however, a proposed additional Combined Heat and Power plant to be installed at Balcas Timber Ltd, Laragh, Enniskillen, plus a new wood dryer and pellet plant. This will supplement the existing CHP and Pellet plant and emissions will be controlled by conditions in the PPC Permit issued by NIEA. Consequently this development is not expected to have any significant impact on air quality.

### **3.4 Commercial and Domestic Sources**

There are no new or newly identified commercial or domestic sources that would impact on air quality, other than the above mentioned hospital, which has been assessed.

### **3.5 New Developments with Fugitive or Uncontrolled Sources**

There are no new or newly identified developments with fugitive or uncontrolled sources that would have an impact on air quality.

## **4 Planning Applications**

There have been no Planning Applications approved in Fermanagh District Council area since the last Progress Report which would adversely impact on air quality.

## **5 Conclusions and Proposed Actions**

### **5.1 Conclusions from New Monitoring Data**

There has been no new monitoring carried out since the last Progress Report.

### **5.2 Conclusions from New Local Developments**

No new local developments have been identified which would adversely impact on air quality and therefore it is not necessary to proceed to a Detailed Assessment.

### **5.3 Proposed Actions**

This Progress Report has not identified the risk of exceedence of any Air Quality Objective and therefore the proposed action is to carry out and submit an Updating and Screening assessment in 2012.