



**Strabane**  
District Council  
Comhairle Ceantair  
an tSratha Báin  
Stràbane Destrìck Council

# 2010 Air Quality Progress Report for Strabane District Council

In fulfillment of the Environment (Northern Ireland) Order  
2002 - Local Air Quality Management

Date April 2010

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# Executive Summary

The Air Quality Strategy for England, Scotland, Wales & Northern Ireland provides a framework for air quality control through air quality management and air quality standards. These and other air quality standards and their objectives have been enacted through the Air Quality Regulations (Northern Ireland) 2003 in Northern Ireland. The Environment (Northern Ireland) Order 2002 requires District Councils to undertake air quality reviews and assessments. In areas where the air quality objectives are not anticipated to be met by the specified dates, District Councils are required to establish Air Quality Management Areas as a means to improve air quality.

In previous rounds of the review and assessment process Strabane District Council declared 3 air quality management areas affecting Strabane, Newtownstewart and Castleterragh in relation to exceedences of the air quality objectives for particles (PM<sub>10</sub>). All three AQMA's remain in force and have been supplemented by the declaration of 3 overlying smoke control areas in order to control domestic emissions from solid fuel combustion.

This progress report provides an update as to the prevailing conditions within the Strabane District Council area and identifies any relevant changes to the air quality across the district. The conclusion of the report is that no detailed assessment is currently required for any pollutant prescribed for local authority control.

# Table of contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
1.1	Description of Local Authority Area	1
1.2	Purpose of Progress Report	1
1.3	Air Quality Objectives	2
1.4	Summary of Previous Review and Assessments	4
<b>2</b>	<b>New Monitoring Data</b>	<b>7</b>
2.1	Summary of Monitoring Undertaken	7
2.2	Comparison of Monitoring Results with Air Quality Objectives	8
<b>3</b>	<b>New Local Developments</b>	<b>11</b>
3.1	Road Traffic Sources	11
3.2	Other Transport Sources	11
3.3	Industrial Sources	11
3.4	Commercial and Domestic Sources	11
3.5	New Developments with Fugitive or Uncontrolled Sources	11
<b>4</b>	<b>Planning Applications</b>	<b>12</b>
<b>5</b>	<b>Implementation of Action Plans</b>	<b>13</b>
<b>6</b>	<b>Conclusions and Proposed Actions</b>	<b>16</b>
6.1	Conclusions from New Monitoring Data	16
6.2	Conclusions relating to New Local Developments	16
6.3	Proposed Actions	16
<b>7</b>	<b>References</b>	<b>17</b>

## Appendices

### Appendix 1 QA/QC Data

#### List of Tables

Table 1.1	Air Quality Objectives included in Regulations for the purpose of Local Air Quality Management in Northern Ireland.
Table 2.1	Details of Automatic Monitoring Sites
Table 2.2a	Results of PM <sub>10</sub> Automatic Monitoring: Comparison with Annual Mean Objective
Table 2.2b	Results of PM <sub>10</sub> Automatic Monitoring: Comparison with 24-hour Mean Objective
Table 2.3	Results of SO <sub>2</sub> Automatic Monitoring: Comparison with Objectives
Table 5.1	Action Plan Progress

#### List of Figures

Figure 1.1	Map of Strabane AQMA Boundary
Figure 1.2	Map of Castlederg AQMA Boundary
Figure 1.3	Map of Newtownstewart AQMA Boundary
Figure 2.1	Map of Springhill Park Automatic Monitoring Site



# 1 Introduction

## 1.1 Description of Local Authority Area

The Strabane District Council area comprises some 922 square kilometres of largely unspoilt countryside, and is situated in north-west County Tyrone, Northern Ireland on the border with County Donegal in the Republic of Ireland. The principal centres of population are shown in pictorial form below.



The district had a population of 38,248 (NI Census) in 2001, the largest proportion of which reside in the main population centres of Strabane town and smaller towns of Castlederg and Newtown Stewart. A number of small villages also exist within the district.

Strabane is situated approximately 14 miles from Derry/Londonderry and 90 miles from Belfast. The principal traffic routes within the district are the A5 (currently carrying approximately 14040 vehicles per day through Strabane which spans from Ballygawley to Derry/Londonderry via Newtown Stewart and is a main arterial route), and the A38 (currently carrying approximately 19130 vehicles per day which links Strabane with Co Donegal in the Republic of Ireland). Strabane is linked to the smaller towns of Castlederg by the B72, Donemana by the B49 and Plumbridge by the B526; these roads carrying substantially less vehicles per day than the other traffic routes.

## 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

Strabane District Council has now completed the second round of the review and assessment process. The findings of the review and assessment identified exceedences of the air quality objectives for particles (PM<sub>10</sub>) resulting from domestic emissions. Three air quality management areas affecting Strabane, Newtownstewart and Castlederg became effective on 30<sup>th</sup> June 2004 and an action plan was developed in order to identify measures to reduce ambient concentrations of particles and attempt to comply with the objectives for particles (PM<sub>10</sub>).

Strabane District Council has also completed updating and screening assessments in 2006 and 2009 which did not highlight any other areas of concern and that required a detailed assessment to be undertaken.

**Figure 1.1 Map of Strabane AQMA Boundary**

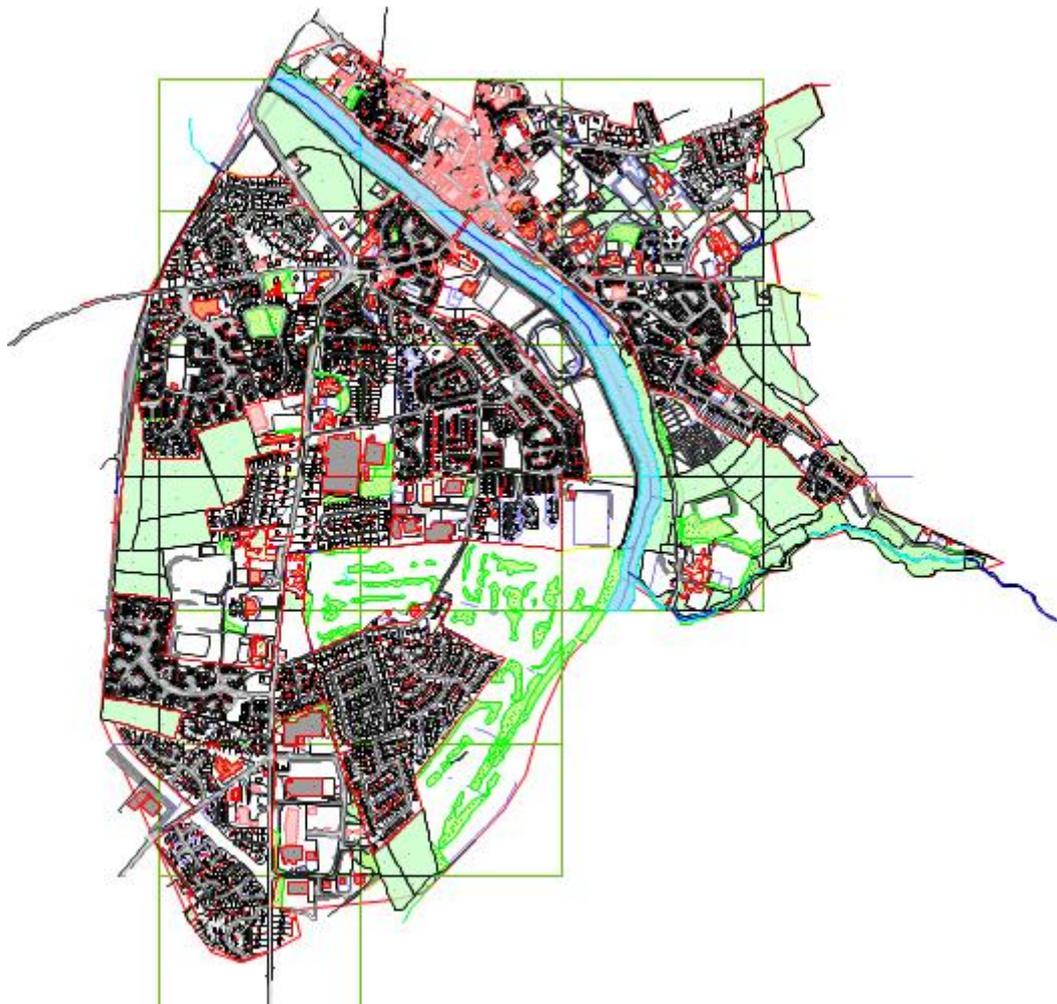


Figure 1.2 Map of Castlederg AQMA Boundary

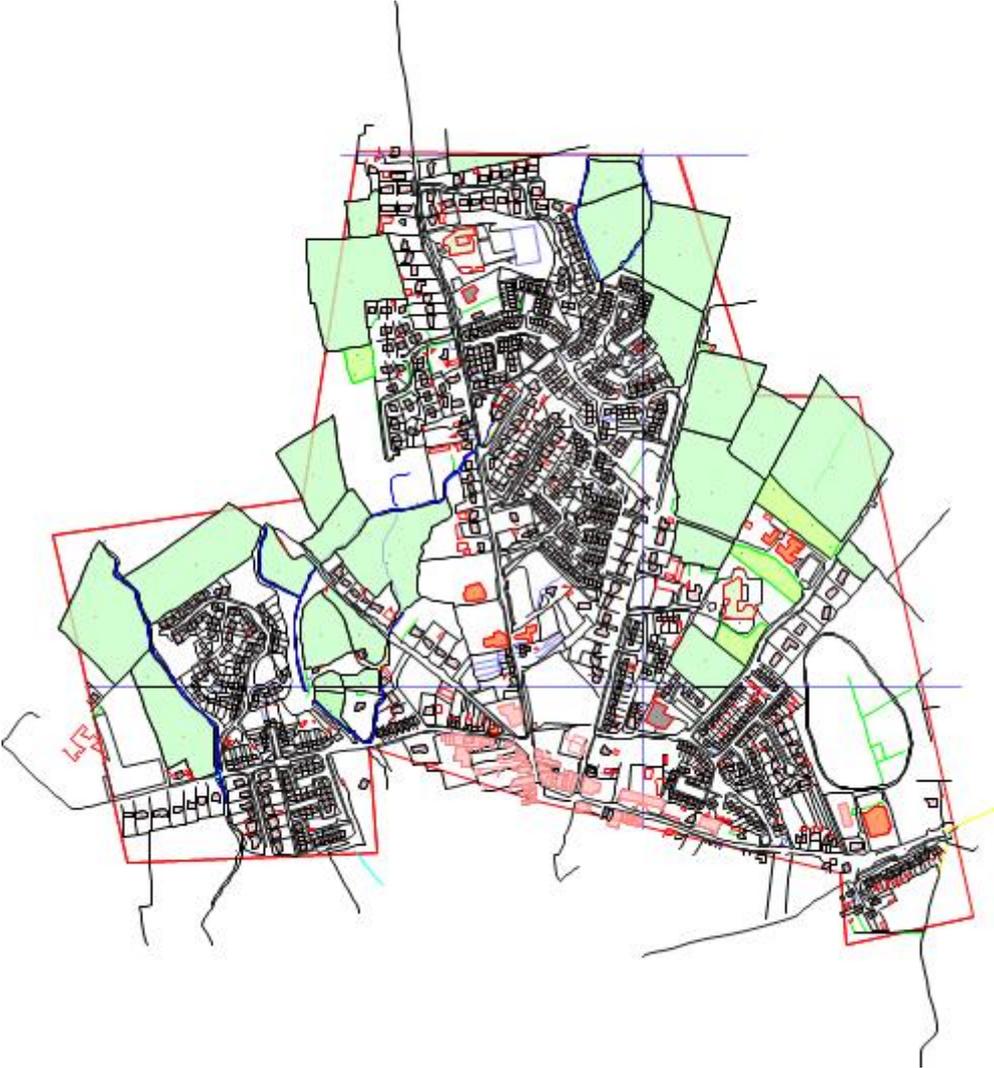
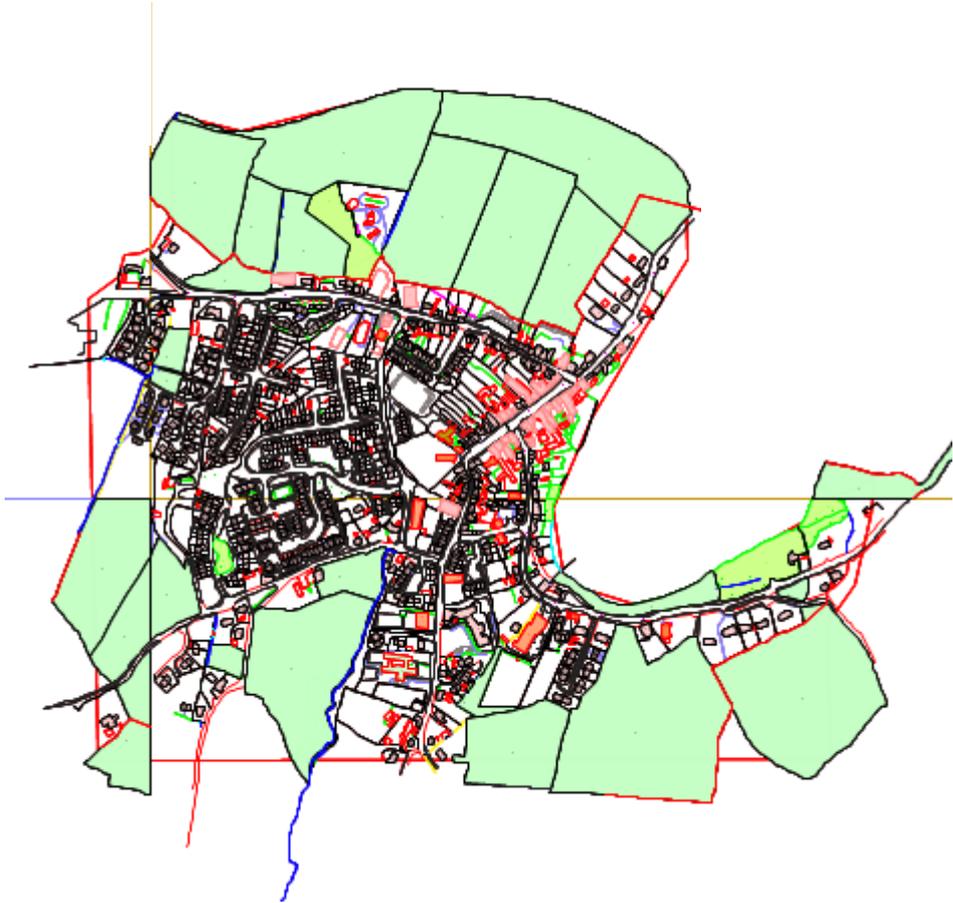


Figure 1.3 Map of Newtownstewart AQMA Boundary



## 2 New Monitoring Data

### 2.1 Summary of Monitoring Undertaken

#### 2.1.1 Automatic Monitoring Sites

Strabane District Council continues to operate a combined PM<sub>10</sub>/sulphur dioxide monitoring station at Springhill Park, Strabane as illustrated in Figure 2.1 below. The site is surrounded by housing (representing the worst case location) and has been in operation since April 2002. The PM<sub>10</sub> monitoring is carried out using a Met One BAM1020 and an API M100A fluorescent analyser is used to measure the sulphur dioxide concentrations. The site is subject to independent QA/QC audits by AEA Energy & Environment at 6 monthly intervals in order to provide confidence in the procedures adopted by Strabane District Council in managing the site and to enable the data ratification process to take place. Data management services are also provided by AEA Energy & Environment. The sulphur dioxide monitoring station is subject to calibration at 2-weekly intervals by staff from Strabane District Council with the results forwarded to AEA who carry out the data validation and ratification on behalf of Strabane District Council. The BAM monitor data is subject to the recommended correction factor of 0.83333 in order to provide gravimetric equivalent data.

**Figure 2.1 Map of Springhill Park Automatic Monitoring Site**



**Table 2.1 Details of Automatic Monitoring Sites**

Site Name	Site Type	OS Grid Ref	Pollutants Monitored	In AQMA ?	Relevant Exposure?	Distance to kerb of nearest road	Worst-case Location ?
Springhill Park, Strabane	Urban background	2351 3972	PM10 SO <sub>2</sub>	Y	Yes (1m)	1m	Y

### **2.1.2 Non-Automatic Monitoring**

No non-automatic monitoring takes place within the Strabane District Council area.

## **2.2 Comparison of Monitoring Results with Air Quality Objectives**

### **2.2.1 Nitrogen Dioxide**

No nitrogen dioxide monitoring takes place within the Strabane District Council area.

### **2.2.2 PM<sub>10</sub>**

Tables 2.2a and 2.2b below provides a direct comparison of the monitoring results from the Springhill Park site with the relevant air quality objectives for PM<sub>10</sub> in 2009. The number of exceedences of the daily mean PM<sub>10</sub> objective was 7 and the annual mean was 22µg/m<sup>3</sup> indicative gravimetric equivalent. Both air quality objectives are therefore being achieved and there is no risk of the objectives being exceeded at present. The monitoring site is located within an AQMA and represents relevant public exposure locations for domestic and transport sources of particles due to its location within a built up residential area.

**Table 2.2a Results of PM<sub>10</sub> Automatic Monitoring: Comparison with Annual Mean Objective**

Location	Within AQMA?	Data Capture for full calendar year 2009 %	Annual mean concentrations (µg/m <sup>3</sup> )		
			2007	2008	2009
Springhill Park Strabane	Yes	92.5	17	17	22

**Table 2.2b Results of PM<sub>10</sub> Automatic Monitoring: Comparison with 24-hour Mean Objective**

Location	Within AQMA?	Data Capture 2009 %	Number of Exceedences of daily mean objective (50 µg/m <sup>3</sup> )		
			2007	2008	2009
Springhill Park Strabane	Yes	92.5	3	3	7

### 2.2.3 Sulphur Dioxide

Table 2.3 below provides a direct comparison of the monitoring results from the Springhill Park site with the relevant air quality objectives for sulphur dioxide in 2009. There were no exceedences of any of the air quality objectives for this pollutant since monitoring began in April 2002 and this continues to be the case. All air quality objectives for this pollutant are therefore being achieved and there is no risk of the objectives being exceeded at present. The monitoring site is located within an AQMA (in relation to PM<sub>10</sub>) and represents relevant public exposure locations for a range of sources of sulphur dioxide due to its siting within a built up residential area.

**Table 2.3 Results of SO<sub>2</sub> Automatic Monitoring: Comparison with Objectives**

Location	Within AQMA AQMA?	Data Capture 2009 %	Number of Exceedences of: (µg/m <sup>3</sup> )		
			15-minute Objective (266 µg/m <sup>3</sup> )	1-hour Objective (350 µg/m <sup>3</sup> )	24-hour Objective (125 µg/m <sup>3</sup> )
Springhill Park, Strabane	Yes	95.6	0	0	0

#### **2.2.4 Benzene**

No monitoring for benzene takes place within the Strabane District Council area.

#### **2.2.5 Other pollutants monitored**

No monitoring for other pollutants takes place within the Strabane District Council area.

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

Strabane 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**

### **3.1 Road Traffic Sources**

Strabane District Council confirms that there are no new or newly identified road traffic sources which may have an impact on air quality within the Local Authority area.

### **3.2 Other Transport Sources**

Strabane District Council confirms that there are no new or newly identified non-road traffic sources which may have an impact on air quality within the Local Authority area.

### **3.3 Industrial Sources**

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

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

Strabane District Council confirms that there are no new or newly identified commercial and domestic sources which may have an impact on air quality within the Local Authority area.

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

Strabane District Council confirms that there are no new or newly identified developments with fugitive or uncontrolled sources which may have an impact on air quality within the Local Authority area.

Strabane 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.

## **4 Planning Applications**

The Environmental Health Department of Strabane District Council dealt with 287 planning consultations in the period 01 April 2009 to 31 March 2010. The majority of such consultations related to single one-off dwellings as is commonplace in a rural district such as Strabane District Council. However there were a number of consultations in relation to larger housing developments, sand and gravel quarries and other commercial development. The Environmental Health Department continues to assess the potential impact of such developments on local air quality and makes recommendations to Planning Service accordingly, particularly where developments are within or adjoining existing Air Quality Management Areas. Recommendations are also made to the Industrial Pollution and Radiochemical Inspectorate in relation to existing or proposed industrial processes controlled under the Industrial Pollution Control (NI) Order 1997 or the Pollution Prevention and Control Regulations (NI) 2003.

## 5 Implementation of Action Plans

Strabane District Council continues to promote and implement the measures included in the air quality action plan agreed in 2005 as outlined in Table 5.1 below. All elements of the action plan are currently being progressed, particularly the implementation of smoke control areas as this is deemed necessary in reducing domestic emissions of PM<sub>10</sub>. The first smoke control area in Strabane came into operation on 30<sup>th</sup> April 2007. The remaining two smoke control areas became effective from 30 September 2007 in Castlederg and Newtownstewart. In addition two schemes have been implemented in conjunction with Northern Ireland Electricity which have replaced approximately 170 solid fuel appliances in owner-occupied and privately rented properties. A significant number of properties were also referred to the Warm Homes Scheme funded by the Department for Social Development. The NIHE heating conversion scheme is also substantially complete and it is estimated that there are approximately 80 further conversions required across the district and these are to be completed during 2010.

The Environmental Health Department continues to refer private households and private landlords to the NIHE housing grants section. New responsibilities for district councils contained in the Private Tenancies (NI) Order 2006 have facilitated access to such landlords thereby targeting eligible households more effectively. Whilst not initially contained in the air quality action plan, Big Lottery funding has been secured to implement the Western Homes Environmental Assessment Project (WHEAP) for a period of 5 years from November 2009. This project is targeted at vulnerable homes with persons aged 65 years and over and those with children under 5 years. The project includes assessment of a range of matters including fuel poverty and energy efficiency. The project is also a referral agency for the DSD Warm Homes Scheme and thereby provides continuity in improving the energy efficiency of such homes and reducing emissions of PM<sub>10</sub>. Strabane District Council has also engaged in an interagency working group on bonfires in order to reduce the number of such activities across the district. This will assist in the reduction of emissions of air pollutants from this source.

Table 5.1 below demonstrates the continuing nature and ongoing commitment of Strabane District Council to maintain and where possible improve air quality within the district with particular emphasis on domestic sources of particles. As demonstrated by the 2009 PM<sub>10</sub> monitoring data and that of previous years it would appear that the degree of effectiveness has been achieved for the air quality action plan as demonstrated by the annual mean PM<sub>10</sub> concentration and the small number of exceedences of the daily mean air quality objective in each of the last 4 years. A slight increase in the annual mean and daily objective exceedences was experienced in the 2009 calendar year and it remains to be seen whether this will be repeated in forthcoming years. It is considered that the air quality at Springhill Park represented the highest area of exceedence in previous rounds of review and assessment and this was the area selected for the continuous monitoring site. Other areas of the district were and are still considered to represent a lower risk of the air quality objectives being exceeded and it is submitted that the Springhill Park air quality monitoring site is representative. The air quality objectives for PM<sub>10</sub> are therefore expected to be achieved at all locations within the Strabane District Council area.

**Table 5.1 Action Plan Progress**

No.	Measure	Focus	Lead authority	Planning phase	Implementation phase	Indicator	Target annual emission reduction in the AQMA	Progress to date	Progress in last 12 months	Estimated completion date	Comments relating to emission reductions
1	Implement smoke control areas: Strabane Newtown-stewart Castledearg	Domestic emissions	Strabane District Council	Complete	Complete/ongoing	Reduced coal burning	None	Air quality objectives achieved	Ongoing compliance monitoring & compliance maintained	Complete & ongoing monitoring	Substantial emissions reductions achieved
2	NIHE Conversion Schemes	Domestic emissions	NIHE	Complete	Ongoing	Reduced coal burning	None	Substantial majority of homes provide with OFCH	Additional homes provided with OFCH	2010	Substantial emissions reductions achieved
3	Warm Homes Scheme Promotion	Domestic emissions	Strabane District Council	Complete	Ongoing	Reduced solid fuel burning	None	Referrals made to Warm Homes	Continued referrals to Warm Homes. WHEAP project initiated	Ongoing referrals. WHEAP funded for 5 years	Complimentary Emissions reductions achieved
4	Energy Efficiency Promotion	Domestic emissions	Strabane District Council	Complete	Ongoing	Reduced emissions	None	2 NIE Energy Efficiency Schemes complete, routine referrals to EST Advice Line. WHEAP project initiated	WHEAP project initiated, Continued referrals to EST	Ongoing	

No.	Measure	Focus	Lead authority	Planning phase	Implementation phase	Indicator	Target annual emission reduction in the AQMA	Progress to date	Progress in last 12 months	Estimated completion date	Comments relating to emission reductions
5	Planning Controls	Domestic & commercial/ industrial emissions	Planning Service	Complete	Ongoing	Informatives placed on planning approvals	None	Ongoing	Comments made routinely on relevant planning applications. Raised at regional planning liaison meetings	Ongoing	Some developments constructed without solid fuel heating systems
6	Bonfire Guidance and Controls	Commercial emissions	Strabane District Council	Complete	Ongoing	Reduced detections of illegal burning	None	Ongoing	Reduced number of detections. Bonfire working group established with NIEA/NIHE/NIFRS & Strabane District Council	Ongoing	

## **6 Conclusions and Proposed Actions**

### **6.1 Conclusions from New Monitoring Data**

No exceedences of the air quality objectives have been identified, within and outside of existing AQMA's. New monitoring data has not identified any significant upward trends. No new monitoring has been undertaken that would identify any potential or actual exceedences at relevant locations outside existing AQMAs. All monitoring results within AQMA's are below the air quality objectives.

### **6.2 Conclusions relating to New Local Developments**

No new local developments will require more detailed consideration in the next Updating and Screening Assessment.

### **6.3 Proposed Actions**

It is proposed to submit a further progress report in 2011.

## 7 References

Strabane District Council Stage 1 Review and Assessment 2000

Strabane District Council Stage 2/3 Review and Assessment 2004

Strabane District Council Air Quality Action Plan 2005

Strabane District Council Updating and Screening Assessment 2006

Strabane District Council Updating and Screening Assessment 2009

# Appendices

## Appendix 1: QA:QC Data

### **PM Monitoring Adjustment**

PM10 monitoring data from the BAM is corrected to gravimetric equivalent using a factor of 0.83333 for Indicative Gravimetric Equivalence.

### **QA/QC of automatic monitoring**

AEA carry out independent QA/QC visits to the Springhill Park monitoring station at 6-monthly intervals. Strabane District Council carries out calibrations of the sulphur dioxide monitor at 2-weekly intervals.