

**Aberdeenshire**  
COUNCIL



# 2010 Air Quality Progress Report for **Aberdeenshire Council**

In fulfillment of Part IV of the Environment Act 1995  
Local Air Quality Management

July 2010

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## **Executive Summary**

A review of pollutant monitoring data and atmospheric emissions sources within Aberdeenshire Council area has been undertaken. The assessment compared the available monitoring data to national air quality standards in order to identify any existing exceedences of the standards.

The NO<sub>2</sub> concentrations measured by Aberdeenshire Council during 2009 were below the NAQS annual mean objective for NO<sub>2</sub> at all monitoring locations.

Aberdeenshire Council do not need to proceed to a Detailed Assessment for any pollutant at present.

Aberdeenshire Council will continue to monitor NO<sub>2</sub> concentrations at 8 sites across the local authority area and will continue to identify any new development that may have an impact on local air quality. In this regard Aberdeenshire Council intend to submit a further Progress Report in 2011.

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# 1 Introduction

## 1.1 Description of Local Authority Area

Aberdeenshire Council is located on the north-east coast of Scotland and surrounds Aberdeen City Council area. The Council area is bordered to the south by Angus and Perth and Kinross Councils and to the west by Moray and The Highland Councils. The northern and eastern borders of Aberdeenshire Council area are the Moray Firth and the North Sea coast.

The Council area is split into two distinct geographical types: the western part of the Council area is dominated by the glens of the Grampian mountain range and includes large areas of forest and moorland. The northern and eastern parts of the Council area are relatively flat with large expanses of agricultural land, coastal grassland and a greater density of urban centres.

As is the case for the majority of the UK there is a dominance of south-westerly winds, although there is a significant proportion of easterly winds and south-easterly winds indicating the influence of weather systems in the North Sea and Moray Firth. The mean temperature is approximately 8°C in the lowland areas but below 5°C in the upland areas to the south. The area has low to medium rainfall and hours of sunshine compared to the rest of the UK, however, there is a greater than average number of days when snow is lying (> 60 in upland areas and between 5 and 20 in coastal areas).

The population of the Aberdeenshire Council area is approximately 240,000 with largest urban populations residing in Peterhead, Fraserburgh, Inverurie, Stonehaven, Westhill and Ellon. A large proportion of the Aberdeenshire population is involved in the off-shore oil and gas industry. A significant proportion of the population are also involved in the traditional industries of farming, forestry and fishing with approximately one third of Scotland's agricultural produce originating in the region. The industrial and commercial areas are primarily located in the east of the Council area around Aberdeen, Stonehaven, Peterhead and Fraserburgh. A large section of the central region of Aberdeenshire is a commuter region for Aberdeen City with a significant proportion of the local population commuting in to Aberdeen City on a regular basis.

The rail network within Aberdeenshire comprises two mainline passenger and freight rail routes: one passing north-south through the Council area along the North Sea coastline from Dundee to Aberdeen; and the second linking Aberdeen to Inverness passing through Inverurie and Huntly.

The major roads passing through the Council area comprise:

- the A90 trunk road linking the coastal towns of Fraserburgh, Peterhead, Portlethen and Stonehaven to Aberdeen and providing the arterial route south to Dundee and Central and Southern Scotland; and
- the A96 trunk road which links Aberdeen to Elgin and Inverness.

There are also several harbours and ports located along the Aberdeenshire coast which are used by fishing boats, oil and gas industry support vessels and leisure craft. The two largest ports are Peterhead and Fraserburgh where there is a significant number of fishing, commercial and oil and gas shipping operations.

## 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 Scotland are set out in the Air Quality (Scotland) Regulations 2000 (Scottish SI 2000 No 97), the Air Quality (Scotland) (Amendment) Regulations 2002 (Scottish SI 2002 No 297), 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 Scotland.**

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene	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
1,3-Butadiene	2.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
Carbon monoxide	10.0 $\text{mg}/\text{m}^3$	Running 8-hour mean	31.12.2003
Lead	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
Nitrogen dioxide	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
Particles (PM <sub>10</sub> ) (gravimetric)	50 $\mu\text{g}/\text{m}^3$ , not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	50 $\mu\text{g}/\text{m}^3$ , not to be exceeded more than 7 times a year	24-hour mean	31.12.2010
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
	18 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2010
Sulphur dioxide	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

Aberdeenshire Council have undertaken regular reviews of air quality since the introduction of the LAQM process; a summary of reports undertaken since 2003 is provided in Table 1.2.

**Table 1.2 Details of Local Air Quality Reviews submitted by Aberdeenshire Council**

<b>Date Submitted</b>	<b>Review &amp; Assessment Task</b>	<b>Conclusions</b>
August 2003	Updating & Screening Assessment (2003) <sup>1</sup>	Monitoring of NO <sub>2</sub> was undertaken at 13 sites. All recorded concentrations were below the annual mean NAQS objective. The assessment concluded that no exceedences of the NAQS objectives were predicted and that there was no requirement for a detailed assessment of CO, benzene, 1, 3-butadiene, lead, NO <sub>2</sub> , SO <sub>2</sub> or PM <sub>10</sub>
April 2004	Progress Report (2004) <sup>2</sup>	Monitoring ceased at 4 sites. The remaining 9 sites were reported and NO <sub>2</sub> monitoring indicated that concentrations continued to be below the annual mean NAQS objective. No new emission sources were identified that would require a detailed assessment to be undertaken.
May 2005	Progress Report (2005) <sup>3</sup>	NO <sub>2</sub> monitoring at the 9 remaining sites indicated that concentrations remained below the annual mean NAQS objective. Dust deposition monitoring was included as a planning condition for Park Quarry in Drumoak. No new emission sources were identified that would require a detailed assessment to be undertaken.
June 2006	Updating & Screening Assessment (2006) <sup>4</sup>	Monitoring of NO <sub>2</sub> undertaken at 14 sites (5 new sites added). All recorded concentrations were below the annual mean NAQS objective. The assessment concluded that no exceedences of the NAQS objectives were predicted and that there was no requirement for a detailed assessment of CO, benzene, 1, 3-butadiene, lead, NO <sub>2</sub> , SO <sub>2</sub> or PM <sub>10</sub>
June 2007	Progress Report (2007) <sup>5</sup>	Monitoring of NO <sub>2</sub> undertaken at 14 sites. All recorded concentrations remained below the annual mean NAQS objective. No new emissions sources were identified that would require a detailed assessment to be undertaken.
August 2008	Progress Report (2008) <sup>6</sup>	Monitoring of NO <sub>2</sub> undertaken at 14 sites. All recorded concentrations remained below the annual mean NAQS objective. No new emissions sources were identified that would require a detailed assessment to be undertaken. Aberdeenshire Council published a local transport strategy in April 2007. The transport interchange in Peterhead opened in February 2008.
July 2009	Updating & Screening Assessment (2009) <sup>7</sup>	Monitoring of NO <sub>2</sub> undertaken at 14 sites. All recorded concentrations remained below the annual mean NAQS objective. No new emissions sources were identified that would require a detailed assessment to be undertaken. Several biomass sources were identified where further information is required to complete screening assessments.

## 2 New Monitoring Data

### 2.1 Summary of Monitoring Undertaken

#### 2.1.1 Automatic Monitoring Sites

Aberdeenshire Council do not operate any automatic analysers or monitors.

#### 2.1.2 Non-Automatic Monitoring

Aberdeenshire Council maintain a network of 14 NO<sub>2</sub> diffusion tube sites located across the council area. The monitoring sites represent public exposure and areas of high pollution concentrations at a variety of kerbside, roadside and urban background locations. No Air Quality Management Areas have been declared in Aberdeenshire.

As a result of the proposed actions from the Updating and Screening Assessment (2009)<sup>7</sup>, additional NO<sub>2</sub> monitoring sites were considered in the vicinity of the biomass plants at Aboyne and Banff Academies. However, in considering the location of the installations at both sites alongside other pollutant sources and relevant exposure, and following discussion with SEPA it was concluded that additional diffusion tube monitoring at both of these sites would not be of any great value. Consequently Aberdeenshire Council has decided not to proceed with additional diffusion tube monitoring at Aboyne and Banff Academies.

Details of monitoring sites are presented in Table 2.1. Maps detailing the locations of the non-automatic monitoring sites are presented in Appendix B, Maps B.1-B.6 (p26-31).

**Table 2.1 Details of Non-Automatic Monitoring Sites**

Site Name	Site Type	OS Grid Ref	Pollutants Monitored	Relevant Exposure?	Distance to kerb of nearest road	Worst-case Location?
Inverurie 1	Kerbside	NJ774 215	NO <sub>2</sub>	Y (2m)	< 5m	Y
Inverurie 2	Roadside	NJ766 214	NO <sub>2</sub>	Y (5m)	< 2m	Y
Inverurie 3	Background	NJ775 210	NO <sub>2</sub>	Y (10m)	< 5m	N/A
Inverurie 4	Background	NJ777 212	NO <sub>2</sub>	Y (10m)	< 5m	N/A
Mintlaw 1	Kerbside	NK000 483	NO <sub>2</sub>	Y (2m)	< 5m	Y
Peterhead 1	Kerbside	NK135 460	NO <sub>2</sub>	Y (2m)	< 5m	Y
Peterhead 2	Kerbside	NK132 463	NO <sub>2</sub>	Y (2m)	< 5m	Y
Peterhead 3	Kerbside	NK127 467	NO <sub>2</sub>	Y (2m)	< 5m	Y
Peterhead 4	Kerbside	NK127 461	NO <sub>2</sub>	Y (2m)	< 5m	Y
Stonehaven 1	Kerbside	NO874 858	NO <sub>2</sub>	Y (2m)	< 5m	Y
Stonehaven 2	Background	NO862 855	NO <sub>2</sub>	Y (10m)	< 5m	N/A
Stonehaven 3	Background	NO862 865	NO <sub>2</sub>	Y (10m)	< 5m	N/A
Westhill 1	Background	NJ836 067	NO <sub>2</sub>	Y (10m)	< 5m	N/A
Westhill 2	Kerbside	NJ821 065	NO <sub>2</sub>	Y (2m)	< 5m	Y

## 2.2 Comparison of Monitoring Results with Air Quality Objectives

Comparison of measured NO<sub>2</sub> concentrations with relevant air quality standards are discussed in Section 2.2.1.

### 2.2.1 Nitrogen Dioxide – Diffusion Tube Monitoring Data

The NO<sub>2</sub> diffusion tube monitoring data for 2009 and previous years are presented in Table 2.2. There were no exceedences of the NO<sub>2</sub> annual mean objective recorded in Aberdeenshire Council area during 2009.

**Table 2.2 Results of Nitrogen Dioxide Diffusion Tubes**

Site ID	Location	Within AQMA?	Data Capture for 2009 %	Annual Mean Concentration adjusted for Bias (µg/m <sup>3</sup> )		
				2007	2008	2009
Inverurie 1	17 West High St	No	92	35.1	32.9	37.5
Inverurie 2	Gordon House, Blackhall Rd	No	92	12.0	9.5	11.4
Inverurie 3	20 St Andrews Gdns	No	92	13.3	11.4	13.4
Inverurie 4	6 Ury dale	No	92	12.0	10.3	11.4
Mintlaw 1	Mintlaw Square	No	83	21.0	16.1	18.9
Peterhead 1	60 Broad St	No	100	28.4	20.0	25.0
Peterhead 2	62 Queen St	No	100	32.0	25.4	29.0
Peterhead 3	1 Hay Crescent	No	100	24.1	21.1	23.7
Peterhead 4	58 Kirk St	No	92	26.1	21.4	24.7
Stonehaven 1	10 Allardice St	No	100	28.1	24.9	23.7
Stonehaven 2	6 St Bridget Cresc	No	100	12.8	10.7	11.0
Stonehaven 3	17 Hunter Drive	No	100	11.1	8.6	10.2
Westhill 1	2 Lawsondale Ave	No	92	15.1	12.4	15.5
Westhill 2	4 Elrick Cottages	No	92	21.5	16.6	18.4

The results presented in Table 2.2 indicate that with the exception of the monitoring site at Mintlaw, all sites recorded a data capture rate of higher than 90% during 2009. No exceedences of the NAQS annual mean objective for NO<sub>2</sub> were recorded during 2009.

The highest recorded annual mean concentration was recorded in the centre of Inverurie. This is a kerbside location on the busy B9170 close to the junction with the B9001. The road is the main shopping street in Inverurie and used for through traffic.

Trend data of annual mean NO<sub>2</sub> concentration measured at diffusion tube monitoring sites, over the period 2005-9 is presented in Appendix C, Figure C.1 (p34).

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

Aberdeenshire Council do not carry out any monitoring in respect of PM<sub>10</sub>.

### 2.2.3 Sulphur Dioxide

Aberdeenshire Council do not carry out any monitoring in respect of Sulphur Dioxide.

### 2.2.4 Benzene

Aberdeenshire Council do not carry out any monitoring in respect of Benzene.

## 2.2.5 Other pollutants monitored

A summary of air quality complaints and enquiries received by Aberdeenshire Council in 2009 is summarised in Table 2.3.

**Table 2.3 Number of Air Quality related Complaints and Enquiries in 2009**

	<b>Category</b>	<b>Number</b>
<b>Smoke</b>	Domestic Bonfires	33
	Industrial/Commercial	13
	Industrial Chimney	0
	Domestic Chimney	5
	Dark Smoke	2
	Stubble Burning	0
	<b>Total</b>	<b>53</b>
<b>Grit/Dust</b>	Chimney	0
	DIY Activity	1
	Smuts/Deposits	7
	Unknown/Other	2
	<b>Total</b>	<b>10</b>
<b>Odour/Fumes</b>	Industrial/Commercial	33
	Domestic	19
	Agricultural Spreading	5
	Agricultural Housing	3
	Agricultural Dung Heaps	3
	Agricultural Source Unknown	0
	Unknown/Other	16
	<b>Total</b>	<b>79</b>

These issues are transient in nature and have no overall effect on local air quality.

## 2.2.6 Summary of Compliance with AQS Objectives

Aberdeenshire Council has examined the results from monitoring in the local authority area. 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

No new road traffic sources or areas of significantly changed traffic flow have been identified since the last Updating and Screening Assessment.

#### 3.2 Other Transport Sources

No new transport sources have been identified since the last Updating and Screening Assessment.

#### 3.3 Industrial Sources

Information on substantially changed industrial processes and new industrial processes in the Aberdeenshire Council area was requested from the Scottish Environment Protection Agency (SEPA) and is detailed in Table 3.1 and in Table 3.2.

**Table 3.1 Substantially Changed Industrial Processes**

Type of Change	Details
Changes to Part A or B Processes that will result in a positive or negative effect on local air quality	Scottish and Southern Energy, Peterhead Power Station. New boilers and upgrading of existing boiler with reduction in NO <sub>x</sub> emissions expected.
	International Paper, Inverurie. Changes to boiler use.
	Stirlinghill Quarry, Boddam. Changes to fuel and burner to reduce odour and emissions.
	Scot Proteins Ltd, Kintore Improved plant brought into operation after a period of closure.
	Davidson of Rora, Peterhead. Restart of smelter operation.
Part A or B Processes that have ceased to operate	International Paper, Inverurie: cessation of paper making.
	BP Miller Gas Reception Facility, Peterhead
	SCOMI Oil Tools, Peterhead: cessation of oil recovery process
	Spring Garden Filling Station, Oldmeldrum
	Watermill Aggregates, Fraserburgh: cessation of cement process
	Ennstone Thistle, Elrick: cessation of concrete block manufacture
	Tor-na-Coille Filling Station, Banchory: cessation of petrol vapour recovery
	Braemar Filling Station, Braemar: cessation of petrol vapour recovery
	Ballater Laundry, Ballater: cessation of dry cleaning
	Ashgrove Services, Huntly: cessation of petrol vapour recovery
Upper Blairmaud Pig Farm, Banff: surrender of permit (pending)	
SEPA regulated process that have increased emissions to air by more than 30%	No sites identified.

**Table 3.2 New Industrial Processes**

Type of New Development	Details
New developments likely to have a significant impact on local air quality	Score Group PLC, Peterhead: new nitric acid activity
	Scot Proteins Ltd, Kintore: re-opening of rendering plant
	Ardfour Farm, Turriff: chicken rearing process
	Grampian Country Food Group, Newton of Fortrie, Turriff: change from pig process to poultry process
New petrol stations with an annual throughput of greater than 2000 m <sup>3</sup> of petrol	Tesco, Arnhall Business Park, Westhill
New mineral extraction processes likely to have a significant impact on local air quality	No sites identified

SEPA have also requested that the following sources should be considered at the next Updating and Screening Assessment:

- Baker Hughes, Peterhead  
Recovery of oil by distillation from oilfield drill cuttings and oily slops
- Scot Proteins Ltd, Kintore  
Potential local air quality issues not covered by PPC regime

### 3.4 Commercial and Domestic Sources

The Updating and Screening Assessment (2009)<sup>7</sup> identified 6 biomass installations where the technical information provided by the operators was not sufficient to allow completion of screening assessments. The installations identified are sited at Puffin Fuels Ltd, Edinglassie House, Grampian Oats, Hill of Brathens, Auchmacoy Estate and Haddo House Estate.

The plant at Puffins Fuels Ltd remains under consideration in the planning process (listed 2<sup>nd</sup> in Table 3.3). New information indicates that this proposed plant has a thermal capacity greater than 20MW and as such falls under the Pollution Prevention and Control regime, and is out with the scope of simple screening assessment described in Technical Guidance LAQM.TG(09). Consequently, detailed information should be submitted to SEPA by Puffin Fuels Ltd on application for the PPC permit to operate this process. The entry for Puffin Fuels Ltd has therefore been removed from the screening assessment.

Edinglassie House, Strathdon has not installed any biomass, nor are there plans in place to do so. Whilst Grampian Oats do have planning permission to install biomass plant, they have not yet found appropriate technology for their needs and thus have not proceeded to install any biomass at time of writing. Consequently, the entries for Edinglassie House and Grampian Oats have been removed from the screening assessment.

At Brathens Business Park (Hill of Brathens), Banchory sufficient information has been gathered to complete a screening assessment to identify the impact of this installation on local air quality. The screening assessment for this site is detailed in Appendix D, Table D.1 (p36) and predicts that there will be no exceedence of the NAQS objectives for NO<sub>2</sub> or PM<sub>10</sub> as a result of this installation.

Aberdeenshire Council is still seeking the outstanding information for the biomass installation at Auchmacoy Estate.

Haddo House Estate has installed 3 small biomass units, serving 3 separate residential developments on the estate. All 3 biomass units installed on Haddo Estate are below 50kW. This is out with the scope of simple screening assessment as described in Technical Guidance LAQM.TG(09), however a log of information provided for these 3 biomass units will be kept in the inventory of biomass plant throughout Aberdeenshire. Due to the small scale of each of the Haddo Estate biomass developments, and the rural setting, it is unlikely that these installations would lead to exceedences of NAQS objectives. The entry for Haddo House Estate has therefore been removed from the screening assessment.

A review of planning applications was undertaken in addition to requesting information from Aberdeenshire Council Economic Development Section, in order to identify new and proposed biomass installations. The biomass installations identified in this review are listed in Table 3.3.

**Table 3.3 Biomass installations identified since last Updating and Screening Assessment in Aberdeenshire Council Area**

Company	Location	Biomass Type	Capacity kW	Status
Banchory Business Centre	West of Banchory Business Centre, Banchory, AB31 5ZU	Unknown	Unknown	Planning Permission Granted
Puffin Fuels Ltd	Warehouse, Boyndie Aerodrome, Boyndie, Banff, AB45 2LR	Wood (virgin & waste)	2500	Planning Permission Under Consideration
Bancon Developments	Banchory Business Park, Banchory, AB31 5ZU	Unknown	Unknown	Planning Permission Under Consideration
Puffin Fuels Ltd	Puffin Energy, Boyndie Aerodrome, Boyndie, Banff, AB45 2LR (Demonstration plant)	Wood Pellet	25-35	Planning Permission Granted
Deeside Cuisine	Raemoir Road, Banchory	Unknown	Unknown	Planning Permission Granted
Tenants First Housing Co-operative	Former Mart Site, Old Mart Road, Aboyne	Wood Pellet	60	Planning Permission Granted
Meldrum House Estate	Meldrum House Hotel, Oldmeldrum, AB51 0AE	Wood	150	Planning Permission Granted (Installed)
Deeside Activity Park	Deeside Activity Park, Dess, Aboyne	Wood Pellet	100	Installed
Gordon Mitchell Contractors	Haugh of Sluie, Bridge of Canny, Potarch, AB31 4BA	Unknown	Unknown	Planning Permission Granted
Tenants First Housing Co-operative	Kirktonhill Road, Marykirk	Wood Chip	Unknown	Planning Permission Under Consideration
Aberdeenshire Council	Drumblade Primary School, Huntly, AB54 6EQ	Wood Pellet	50	Planning Permission Granted
Inverurie Pre-Cast Concrete Works	Inverurie Pre-Cast Concrete Works, Keithall Road, Inverurie, AB51 3UA	Chipboard and/or Wood	Unknown	Unknown
Bancon Developments	Whole Site, Phase 2, Banchory Business Park Development, Hill of Banchory, Banchory	Unknown	Unknown	Planning Permission Under

				Consideration
Leys Estate	Pantoch Cottages, Banchory (3 x Cottages)	Wood Pellet	23	Installed

A map detailing the spread of identified biomass installations throughout the Aberdeenshire Council area is presented in Appendix B, Map B.7 (p32).

### 3.5 New Developments with Fugitive or Uncontrolled Sources

Of the complaints logged during 2009 (detailed in Table 2.3, p11), 10 related to grit and/or dust emissions. Of these 10 complaints, 3 related to dust from construction sites. One related to dust from the Ennstone Thistle quarry at Stirlinghill, Peterhead and one related to dust from Findon quarry. These complaints relate to premises that existed at the time of the last Updating and Screening Assessment in 2009.

No other significant fugitive sources were identified as a result of the remaining 5 complaints.

New developments granted planning permission that have potential to give rise to additional fugitive or uncontrolled matter are listed in Chapter 4 Planning Applications.

Aberdeenshire Council has identified the following new or previously unidentified local developments which may impact on air quality in the Local Authority area:

- Scot Proteins Ltd, Kintore
- Davidson of Rora, Peterhead
- Score Group PLC, Peterhead
- Ardfour Farm, Turriff
- Tesco, Arnhall Business Park
  
- New biomass combustion plant (listed in Table 3.3, p14)
- New developments where planning permission has been granted (listed in Table 4.1, p16)

These will be taken into consideration in the next Updating and Screening Assessment, scheduled for 2012.

## 4 Planning Applications

New developments may have an impact on air quality. The following planning applications, listed in Table 4.1, have been approved and are identified as having a potential impact on air quality.

**Table 4.1 Planning Applications Where Approval Has Been Granted**

<b>Planning Application Reference Number</b>	<b>Description</b>
APP/2009/4160	Erection of shotblasting and paint spraying facilities at Dales Industrial Estate, Peterhead
APP/2009/3852	Erection of Office and Production Facility Building at Balmacassie Industrial Estate, Ellon
APP/2009/1620	Golf Course and Resort Development to form part of Golf Course and Resort Development granted outline planning permission (APP/2006/4605) at Leyton Farm, Balmedie
APP/2009/1102	Re-instatement of Former Quarry and Extension and Formation of Road at Wettyfoot, Netherdale, Turriff
APP/2009/0873	Erection of 2 Furnaces at St Fergus Gas Terminal, St Fergus, Peterhead
APP/2007/0433	Residential Development (245 dwellings) at Schoolhill, Portlethen
APP/2006/2149	Residential Development of 278 Dwellings with Associated Garages including Landscaping, Toddler Play Areas, SUDS Detention Basins, Footpath Links, Viewpoint and Roadways at Inverugie Meadows, Peterhead
APP/2007/2812	Erection of Petrol Filling Station and Car Wash at Arnhall Business Park, Westhill
APP/2007/4558	Erection of New Asda Store, Petrol Filling Station, Landscaping, Car Parking and Associated Access and Ancillary Facilities at Longside Road, Peterhead
APP/2006/4908	Mineral Extraction Sand & Gravel at Hatton Castle, Turriff
APP/2009/3779	Erection of Building for Pullet Rearing at Ardfour Farm, Turriff

Aberdeenshire Council will consider the applications listed in Table 4.1 at the next Updating and Screening Assessment.

## 5 Local Transport Plans and Strategies

Aberdeenshire Council published a Local Transport Strategy (LTS) in April 2007<sup>8</sup>.

The LTS vision is to develop an integrated transport system for Aberdeenshire which contributes to the development of an inclusive and safe society, a sustainable economy and which reduces the environmental damage caused by transport.

The LTS Implementation Plan 2007-2010<sup>9</sup> includes targets to reduce the rate of traffic growth on Aberdeenshire roads and to establish a carbon management monitoring programme and set targets for the future reduction in carbon emissions related to transportation. These targets will have beneficial effects on local air quality in the Aberdeenshire area.

The LTS includes several initiatives that will have a positive affect on local air quality. These include promoting travel behaviour change through personalised and workplace travel planning, school travel plans, public transport publicity campaigns and car sharing schemes.

In October 2009, the Council's first Walking and Cycling Action Plan<sup>10</sup> was produced as a daughter document to the LTS. This outlines a range of actions and policies that the Council will use to deliver increased levels of walking and cycling throughout the region, including the ongoing development of cycling routes and facilities, piloting a bikes on bus service, and the production of downloadable walking and cycling route maps. The Plan also seeks to develop a Cycle Demonstration Town as well as park and cycle schemes to encourage more people in the region to walk and cycle more often.

Within the LTS there is an emphasis on improving public transport with the introduction of initiatives to provide multi-operator ticketing, use of alternative fuels, provision of new transport interchanges and the ongoing development of Demand Responsive Transport services. Recent investment of £1.2 million has seen the development of 43 bus interchange points at strategic locations across the network.

Aberdeenshire Council, in collaboration with partners at regional and national level, are working together to deliver strategic transport improvements across the network, such as the reopening of Laurencekirk Rail Station in May 2009 after over 40 years of closure.

Aberdeenshire Council also continues to support pilot initiatives such as the IT Hot Stop initiatives in Peterhead and Huntly, reducing business mileage and the need to travel for meetings through the use of information and communication technology. The IT Hot Stops provide local residents, businesses and community groups with free access to meeting areas equipped with IT facilities. At Ellon Park and Ride, the Council has also recently installed free to use Wi-Fi capability to the waiting room as a means of increasing the appeal of public transport.

## 6 Climate Change Strategies

In September 2008 Aberdeenshire Council launched the 2008-12<sup>11</sup> phase Sustainability Charter, which describes the sustainability principles adopted by the Council and sets out an Action Programme to guide development in accordance with these principles.

Also in 2008 Aberdeenshire Council launched the Climate Change Action Plan<sup>12</sup> which focuses on reduction of emissions within the general operation, project planning and investment policies of the council.

Aberdeenshire Council has signed up to Scotland's Climate Change Declaration with a commitment to reduce carbon emissions and work to adapt to, and mitigate against climate change. The Climate Change Action Plan has been developed, published and is being actively progressed towards meeting this commitment, alongside the Local Authority Carbon Management Programme Strategy and Implementation Plan<sup>13</sup>, in setting targets and timescales for reduction in CO<sub>2</sub> emissions across Aberdeenshire Council's corporate infrastructure and activities. This includes target reductions in CO<sub>2</sub> emissions from council owned and operated buildings, municipal waste to landfill, transport and business mileage of council staff which, it is anticipated, should also provide reductions in pollutants of concern in the local air quality management regime. Through these planned reductions in carbon emissions, Aberdeenshire Council has set a target to be carbon neutral by 2020.

In achieving this goal, there will be a focus on:

- Minimising the requirement for energy
- Minimising actions which result in greenhouse gas emissions
- Maximising the generation of carbon neutral energy
- Use of "offsetting" only as a last resort to match net carbon emissions

The first step in reducing carbon dioxide emissions is to reduce the demand for energy, in buildings, equipment and travel. This can be achieved through both reducing the overall need for energy and by improving the energy efficiency of equipment and buildings. In addition, the levels of waste sent to landfill will be reduced through a focus on waste minimisation and an increase in recycling initiatives. Aberdeenshire Council will also strive towards replacing the use of fossil fuels with low carbon alternatives, preferably renewable energy, such as biomass, hydro, wind, solar or heat pumps. This strategic goal is complimented by Aberdeenshire Council's Renewable Energy Strategy<sup>14</sup>.

In terms of planning for all new developments, Aberdeenshire Council has produced Supplementary Planning Guidance Delivering Carbon Neutrality in New Developments<sup>15</sup>. This guidance was implemented in January 2009 and brings together the provisions of Scottish Planning Policy 6 (Renewable Energy) and other climate change policy as described above.

## 7 Conclusions and Proposed Actions

### 7.1 Conclusions from New Monitoring Data

The new monitoring data indicates that concentrations of NO<sub>2</sub> are below NAQS objectives. The monitoring sites represent areas of relevant exposure in urban areas at both background locations and close to busy roads.

There are no Air Quality Management Areas within the Aberdeenshire Council geographical area and there is no requirement to proceed to Detailed Assessment.

Aberdeenshire Council has considered the trend data for concentrations of NO<sub>2</sub> at all diffusion tube monitoring sites and concluded that the concentrations of NO<sub>2</sub> at 6 sites have remained at a relatively stable low level for a number of years. Consequently, Aberdeenshire Council, following discussion with SEPA, has concluded that monitoring at the 6 sites listed below is no longer relevant:

- |                |                                   |
|----------------|-----------------------------------|
| • Inverurie 3  | 20 St Andrews Gardens, Inverurie  |
| • Inverurie 4  | 6 Ury Dale, Inverurie             |
| • Mintlaw 1    | Mintlaw Square, Mintlaw           |
| • Stonehaven 2 | 6 St Bridget Crescent, Stonehaven |
| • Stonehaven 3 | 17 Hunter Drive, Stonehaven       |
| • Westhill 1   | 2 Lawsondale Avenue, Westhill     |

### 7.2 Conclusions relating to New Local Developments

Aberdeenshire Council is still seeking information in relation to biomass installations at Grampian Oats, Auchmacoy Estate and Haddo House in order to complete screening assessments. This information will be included in the next Progress Report.

Aberdeenshire Council has identified the following new or previously unidentified local developments which may impact on air quality in the Local Authority area:

- Scot Proteins Ltd, Kintore
- Davidson of Rora, Peterhead
- Score Group PLC, Peterhead
- Ardfour Farm, Turriff
- Tesco, Arnhall Business Park
  
- New biomass combustion plant (listed in Table 3.3)
- New developments where planning permission has been granted (listed in Table 4.1)

These will be taken into consideration in the next Updating and Screening Assessment.

### 7.3 Proposed Actions

The new monitoring data indicates that concentrations of NO<sub>2</sub> are below NAQS objectives. There is no requirement to proceed to Detailed Assessment at this time. Trend data for NO<sub>2</sub> concentrations has been considered with the conclusion that NO<sub>2</sub> monitoring will not continue at 6 sites.

Consideration of new local developments in Chapter 3 has led to the identification of 30 new developments where there might be an impact on local air quality. These new developments will be considered in the next Updating and Screening Assessment, scheduled for April 2012.

In terms of new biomass development in particular, Aberdeenshire Council will work to identify and collate technical information regarding biomass installations for which details are submitted under the planning regime, and will also seek to identify and collate technical information for those installations not controlled by the planning regime but where there may be an impact on local air quality. This information will be held in an inventory of known biomass installations throughout the Aberdeenshire Council area. Aberdeenshire Council will carry out screening assessments of all identified new biomass installations in the next Updating and Screening Assessment, scheduled for 2012.

Screening assessments for the biomass installation at Auchmacoy Estate will be completed and the information submitted in the next Progress Report, scheduled for April 2011.

The next action for Aberdeenshire Council under Review and Assessment will be the submission of the Progress Report in April 2011.

## 8 References

- 1 Aberdeenshire Council, *Air Quality Updating and Screening Assessment for Aberdeenshire Council 2003 for Aberdeenshire Council*, available at <http://www.aberdeenshire.gov.uk/environmental/atmosphere.asp>, July 2003
- 2 Aberdeenshire Council, *Local Air Quality Management Progress Report 2004*, available at <http://www.aberdeenshire.gov.uk/environmental/atmosphere.asp>, April 2004
- 3 Aberdeenshire Council, *Local Air Quality Management Progress Report 2005*, available at <http://www.aberdeenshire.gov.uk/environmental/atmosphere.asp>, April 2005
- 4 Aberdeenshire Council, *Air Quality Updating and Screening Assessment 2006 for Aberdeenshire Council*, available at <http://www.aberdeenshire.gov.uk/environmental/atmosphere.asp>, August 2006
- 5 Aberdeenshire Council, *Local Air Quality Management Progress Report 2007*, available at <http://www.aberdeenshire.gov.uk/environmental/atmosphere.asp>, April 2007
- 6 Aberdeenshire Council, *Local Air Quality Management Progress Report 2008*, available at <http://www.aberdeenshire.gov.uk/environmental/atmosphere.asp>, April 2008
- 7 Aberdeenshire Council, *Air Quality Updating and Screening Assessment 2009 for Aberdeenshire Council*, available at <http://www.aberdeenshire.gov.uk/environmental/atmosphere.asp>, July 2009
- 8 Aberdeenshire Council, *Local Transport Strategy 2007-10*, available at <http://www.aberdeenshire.gov.uk/transportation/lts/index.asp>, April 2007
- 9 Aberdeenshire Council, *Local Transport Strategy Implementation Plan 2007-10*, available at <http://www.aberdeenshire.gov.uk/transportation/lts/index.asp>, April 2007
- 10 Aberdeenshire Council, *Walking and Cycling Action Plan*, available at <http://www.aberdeenshire.gov.uk/transportation/strategy/WalkingandCyclingStrategy.asp>, August 2009
- 11 Aberdeenshire Council, *Sustainability Charter 2008-12*, available at [http://www.aberdeenshire.gov.uk/green/sustainabilitycharter.asp#Charter\\_2008\\_12](http://www.aberdeenshire.gov.uk/green/sustainabilitycharter.asp#Charter_2008_12), April 2008
- 12 Aberdeenshire Council, *Climate Change Action Plan*, available at <http://www.aberdeenshire.gov.uk/green/ClimateChangeActionPlanJune08.pdf>, June 2008
- 13 Aberdeenshire Council, *Local Authority Carbon Management Programme Strategy and Implementation Plan*, available at <http://www.aberdeenshire.gov.uk/green/greenhouse.asp>, March 2007
- 14 Aberdeenshire Council, *Renewable Energy Strategy*, available at [http://www.aberdeenshire.gov.uk/green/renewable\\_energy2.pdf](http://www.aberdeenshire.gov.uk/green/renewable_energy2.pdf), December 2004
- 15 Aberdeenshire Council, *Supplementary Planning Guidance Delivering Carbon Neutrality in New Developments*, available at <http://www.aberdeenshire.gov.uk/planning/supplementary/index.asp>, January 2009



## **Appendices**

Appendix A: QA/QC Data

Appendix B: Maps

Appendix C: Figures

Appendix D: Biomass Screening Assessment

## Appendix A: QA:QC Data

### Diffusion Tube Bias Adjustment Factors

The laboratory analysis of the passive diffusion tubes used by the Council is undertaken by Aberdeen City Council public analyst. Aberdeen City Council public analyst is a UKAS accredited laboratory with documented Quality Assurance/Quality Control (QA/QC) procedures for diffusion tube analysis. The laboratory prepares the diffusion tubes using the 20% triethanolamine (TEA) in water method.

Aberdeen City Council public analyst participates in the AEA inter-comparison scheme, with bias correction factors calculated and applied annually. The laboratory analyses results from co-location studies at various locations throughout Aberdeen City and Aberdeenshire.

The 2009 bias adjustment factor for Aberdeen City Council Laboratory of the Public Analyst was obtained the Review and Assessment Helpdesk database and is presented in Table A.1.

**Table A.1 Details of 2009 bias adjustment factors for Aberdeen City Council Public Analyst**

Method	Year	Site type	Local authority	Study length (mths)	Diffusion tube mean conc. (g/m <sup>3</sup> )	Automatic monitor mean conc. (g/m <sup>3</sup> )	Bias	Tube precision	Bias adjustment factor (Cm/Dm)
20% TEA in Water	2009	K	AEA Tech Inter-comparison	9	125	106	18.5%	G	0.84

### Factor from Local Co-location Studies (if available)

Aberdeenshire Council does not undertake any co-location studies.

### QA/QC of diffusion tube monitoring

Aberdeen City Council public analyst participates in the WASP scheme, with performance during the period October 2008-9 rated as **GOOD** (available at [http://laqm1.defra.gov.uk/documents/Summary\\_of\\_Laboratory\\_Performance\\_in\\_WASP\\_R103-107.pdf](http://laqm1.defra.gov.uk/documents/Summary_of_Laboratory_Performance_in_WASP_R103-107.pdf))

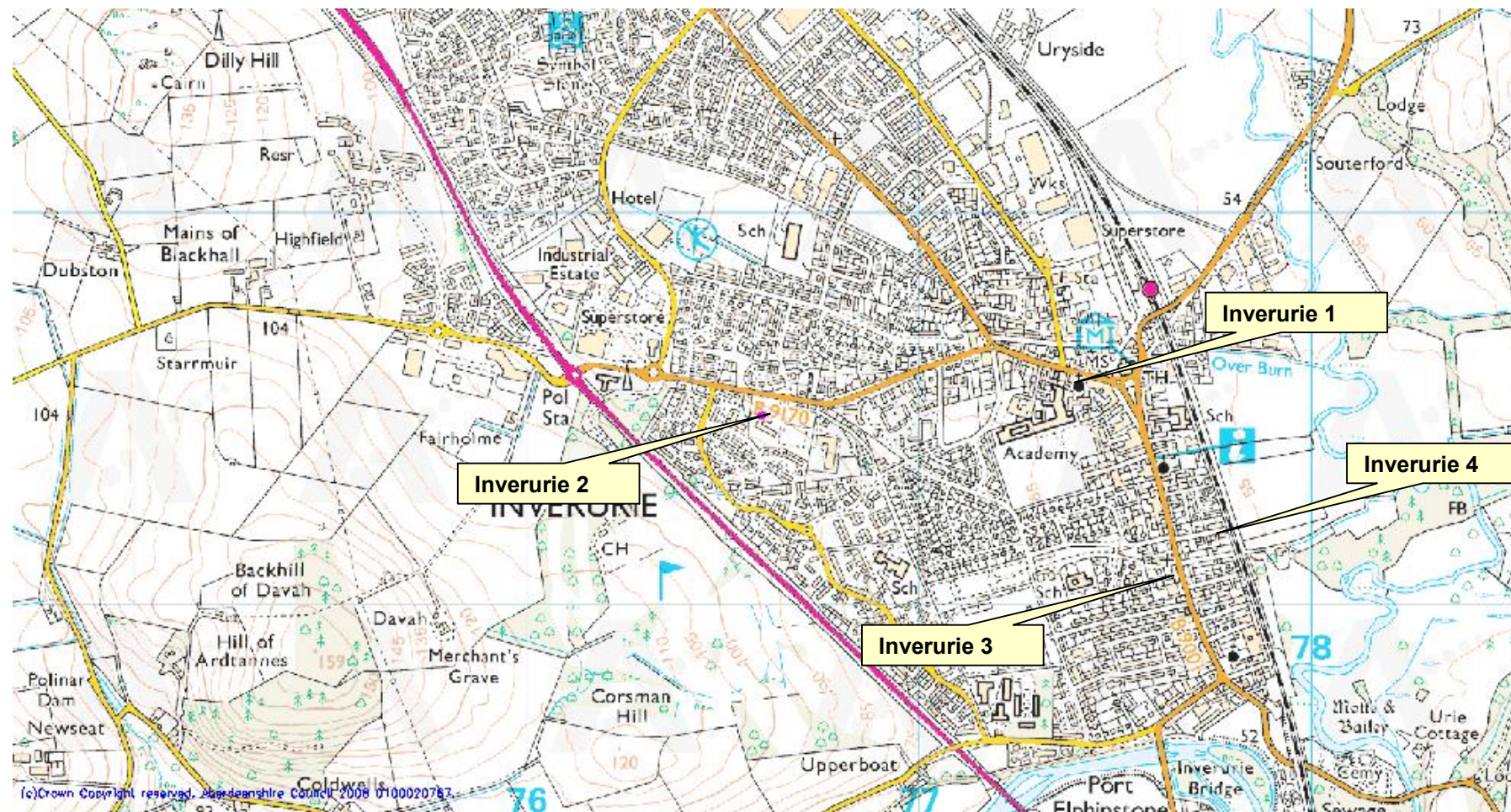
Data obtained from the Review and Assessment Helpdesk database, detailed in Table A.1, presents Tube Precision as **GOOD**.

## **Appendix B: Maps**

- Map B.1**      **Settlements in Aberdeenshire where NO<sub>2</sub> Diffusion Tube Monitoring was undertaken during 2009**
- Map B.2**      **Location of NO<sub>2</sub> Diffusion Tube Sites (Inverurie)**
- Map B.3**      **Location of NO<sub>2</sub> Diffusion Tube Site (Mintlaw)**
- Map B.4**      **Location of NO<sub>2</sub> Diffusion Tube Sites (Peterhead)**
- Map B.5**      **Location of NO<sub>2</sub> Diffusion Tube Sites (Stonehaven)**
- Map B.6**      **Location of NO<sub>2</sub> Diffusion Tube Sites (Westhill)**
- Map B.7**      **Locations of Identified Biomass Installations throughout Aberdeenshire**



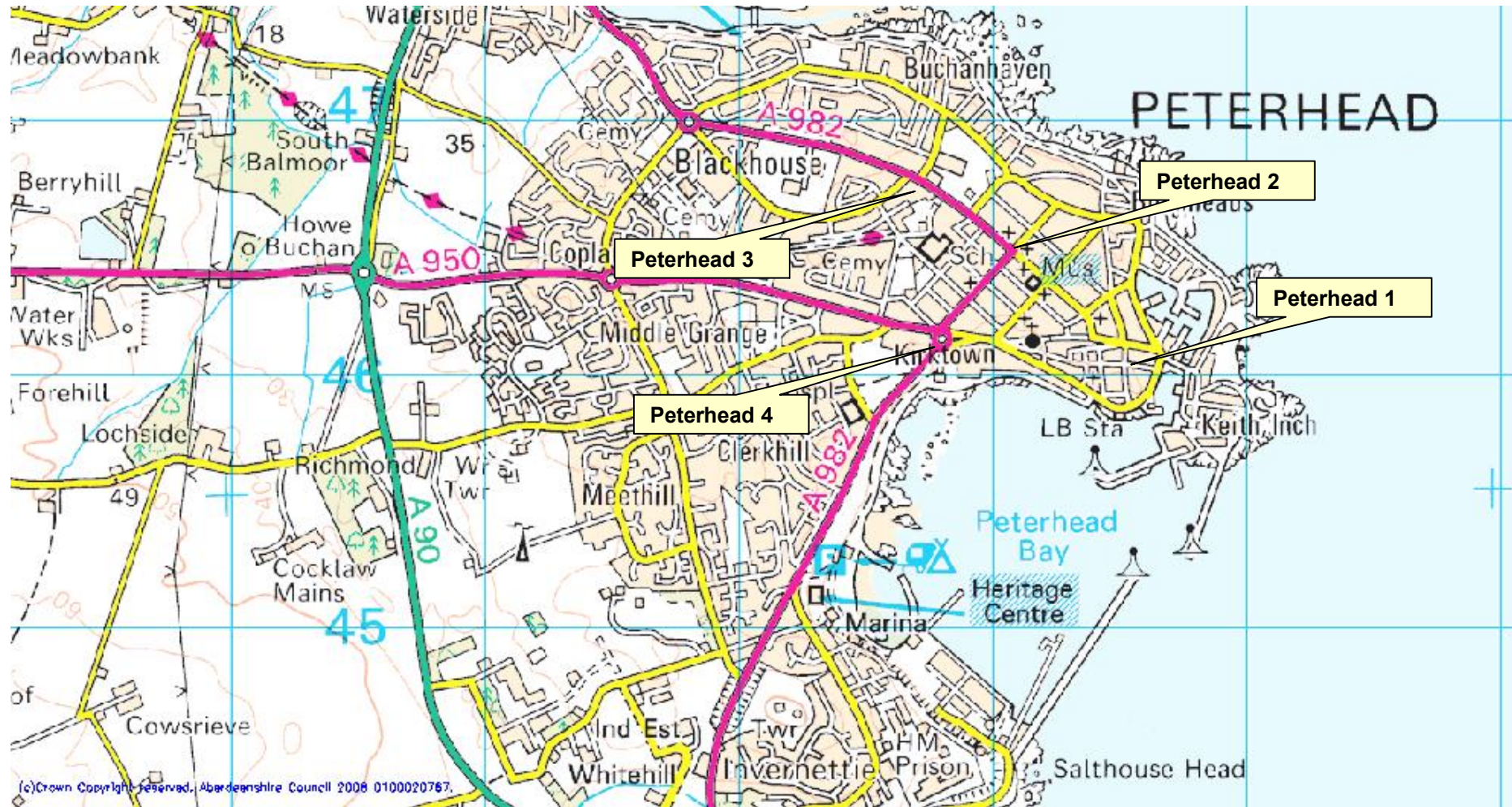
Map B.2 Location of NO<sub>2</sub> Diffusion Tube Sites (Inverurie)



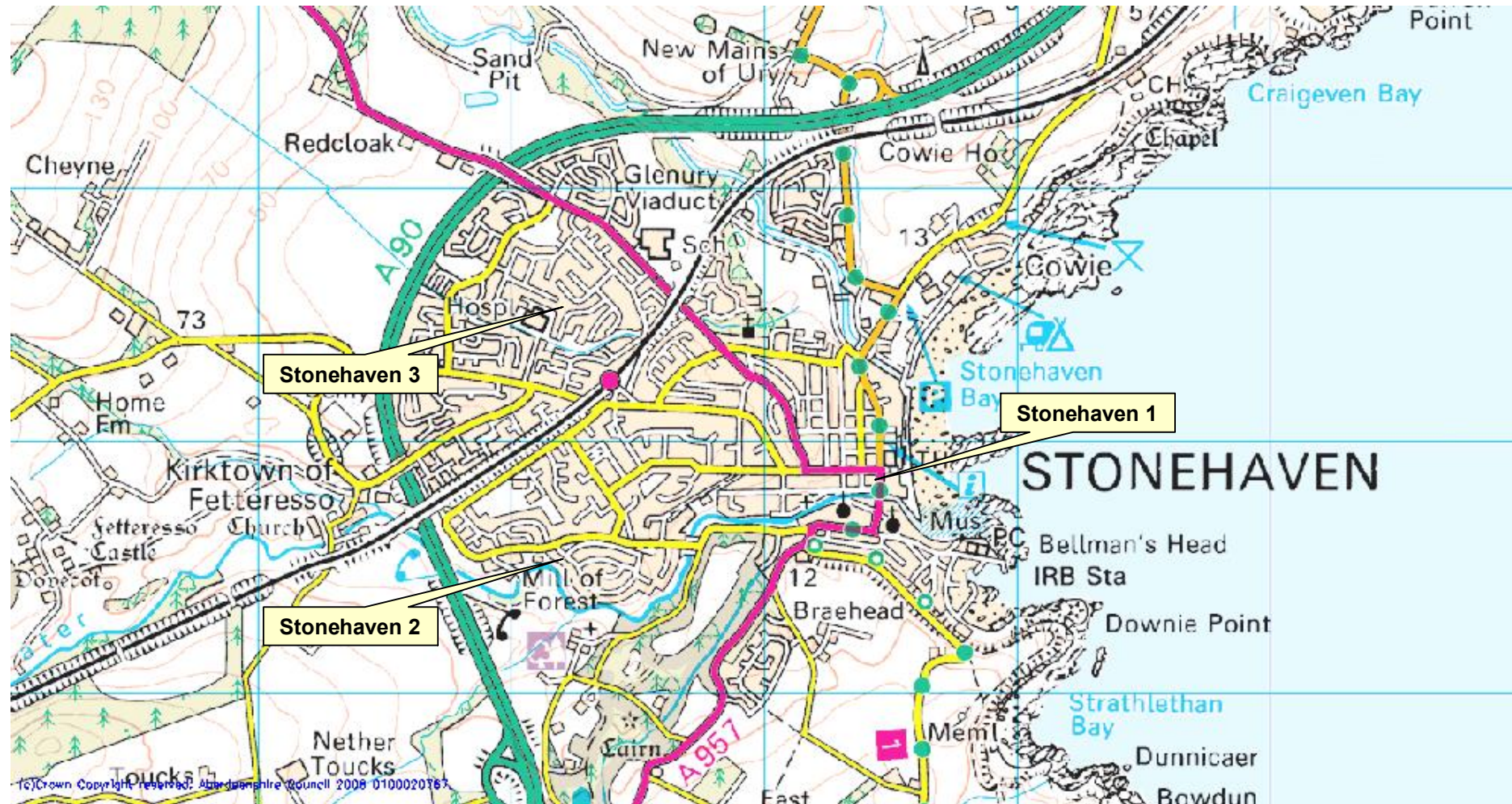
Map B.3 Location of NO<sub>2</sub> Diffusion Tube Site (Mintlaw)



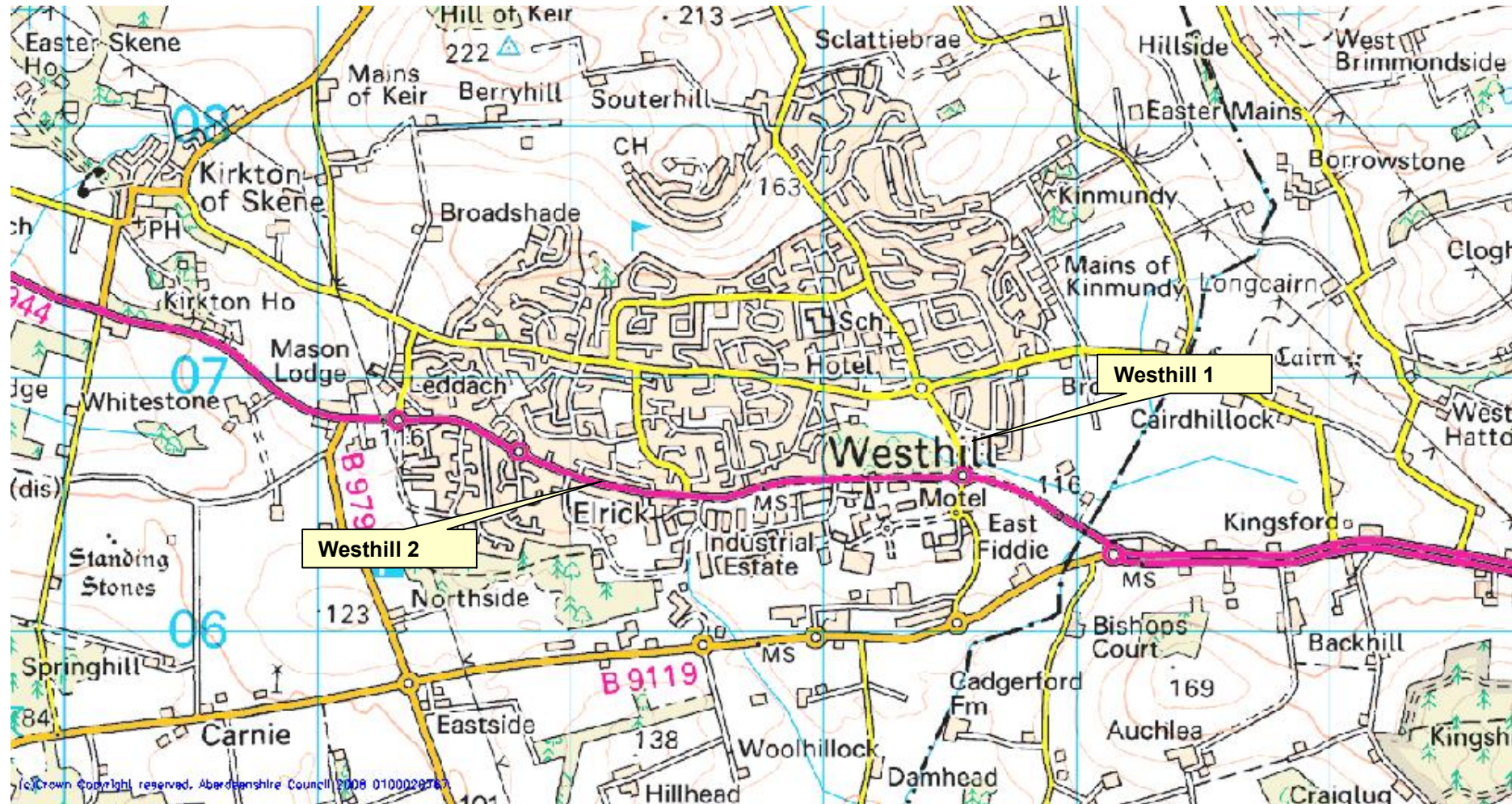
Map B.4 Location of NO<sub>2</sub> Diffusion Tube Sites (Peterhead)



Map B.5 Location of NO<sub>2</sub> Diffusion Tube Sites (Stonehaven)



Map B.6 Location of NO<sub>2</sub> Diffusion Tube Sites (Westhill)



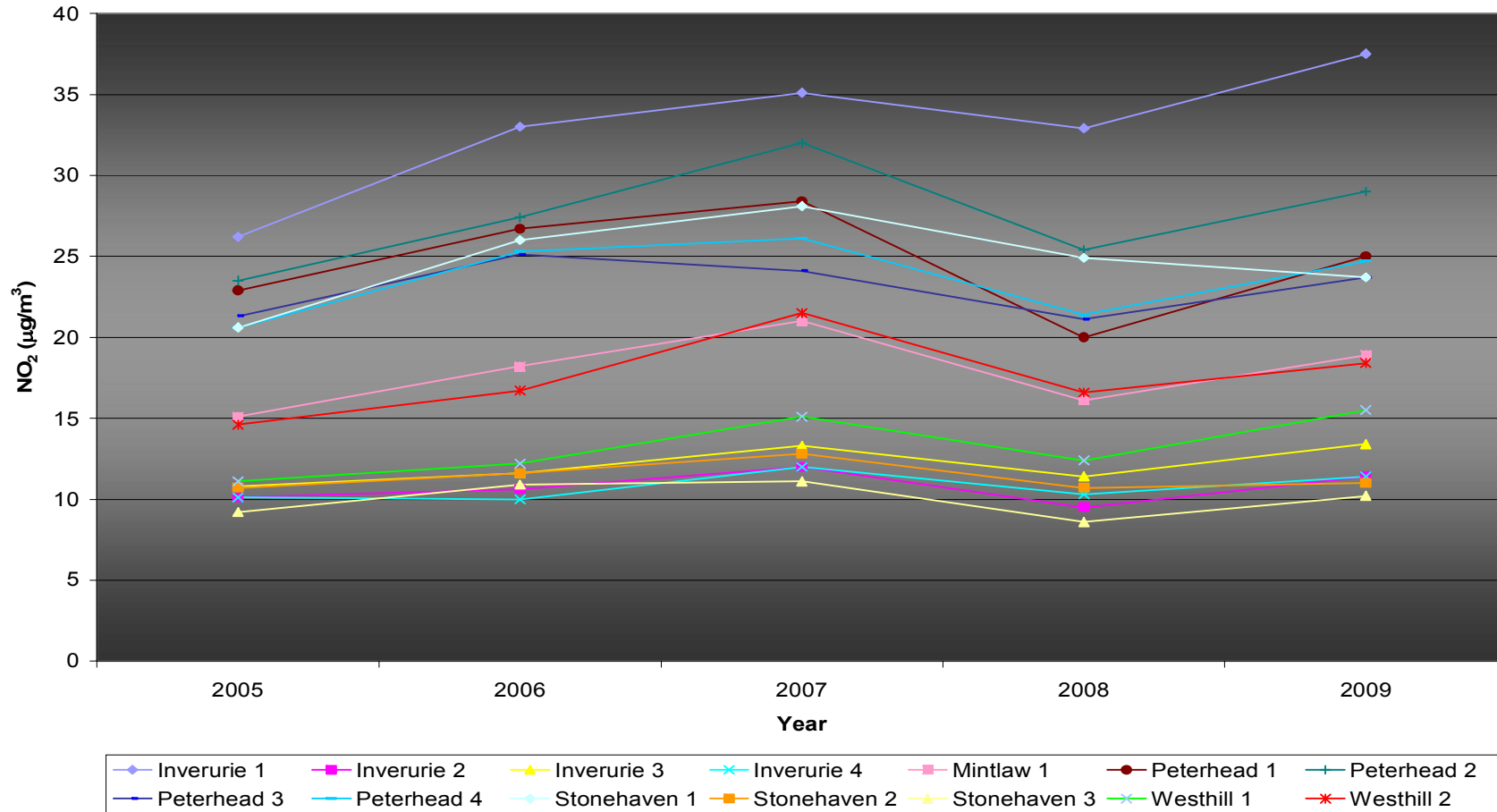


## **Appendix C: Figures**

**Figure C.1      Trend Plot of NO<sub>2</sub> Diffusion Tube Results Over Period 2005 to 2009**

Figure C.1 Trend Plot of NO2 Diffusion Tube Results Over Period 2005 to 2009

**NO<sub>2</sub> Diffusion Tube Results 2005-9**



## **Appendix D: Biomass Screening Assessment**

Table D.1 Biomass Screening Assessment

Site	Stack height (m)	Stack diameter (m)	Combustion appliance	Thermal capacity (Kw)	nearest building height (m)	stack effective height (m)	Estimated emissions (g/s)		Background concentration (ug/m <sup>3</sup> )		Threshold emission rate (g/s)			Adjusted emissions (g/s)		
							PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub> - am	NO <sub>2</sub> 1-hr	PM <sub>10</sub>	NO <sub>2</sub> am	NO <sub>2</sub> 1-hr
Brathens Business Park	8	0.25	Woodchip	120	3	8	0.0034	0.0143	8.4	3.3	0.003	0.009	0.040	0.0001	0.0004	0.0030
Auchmacoy Estate	6.7	0.4	Straw Burner	700	5	2.82			9.1	3.8						

Updated information

Awaiting information to complete screening assessment