South Cambridgeshire District Council

Local Air Quality Strategy 2008-2013

South Cambridgeshire District Council

June 2008

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Air quality is legislated for under Part 4 of the Environment Act 1995 which introduces Local Air Quality Management, guided by The Air Quality Strategy for England, Wales and Northern Ireland published by DEFRA in 2000.

Local Air Quality Management is a statutory obligation for all Local Authorities. It involves a rolling programme of air quality assessment, impacting on decisions made by all internal and external bodies responsible for transport planning, highways, growth agendas, development plans and environmental protection.

The Air Quality Strategy provides Local Authorities with air quality objectives and a year by which the objectives should be achieved. With the use of prediction tools and air quality modelling, it is possible to estimate future concentrations of a pollutant at various receptors. If exceedences of any one of the objectives is identified at a receptor point, an Air Quality Management Area (AQMA) is declared. The AQMA is then subjected to further detailed assessment and air quality improvement measures.

The 1st round of review and assessment began in 2000 when air quality monitoring results indicated that relevant objectives would be met by the achievement year of 2005. It was decided that due to traffic growth forecasts on the A14, air quality monitoring would continue for the foreseeable future.

In early 2003, the Council completed an updating exercise. Two monitoring sites alongside the A14 were continuously measuring NO_2 and particulate matter (PM_{10}). The air quality data once again indicated that all relevant objectives would be met by 2005. This was confirmed using projections of concentrations to future years.

By 2005, the air quality monitoring stations at Bar Hill and Impington began to show exceedences of the annual mean NO_2 and the daily mean PM_{10} objectives. As a result, detailed assessments were carried out for both nitrogen dioxide and PM_{10}. The conclusions of the detailed assessments have resulted in the declaration of two Air Quality Management Areas along this stretch of the A14.

Given the major growth proposed for the Cambridge Sub-region, it is important that the Air Quality Management Areas are recognised within the Local Development Framework and the Local Transport Plan.

Certain industrial processes within the District also have an impact on local air quality. However, with the introduction of the Pollution Prevention and Control Act 1999, both South Cambridgeshire District Council and the Environment Agency have a statutory duty to control pollution from certain prescribed processes. The Council is statutorily obligated to ensure industries are compliant with relevant industrial emissions limits.

Increasingly, climate change has risen up the agenda of environmental issues. It is recognised that methods used to slow down climate change will have a direct impact on local air quality, especially when considering improvement to vehicle emissions and reducing road usage.

This air quality strategy aims to bring together all of these issues and lays out a framework upon which all those affected by an Air Quality Management Area build a positive relationship with a common goal of improving air quality without causing significant detriment to any other stakeholder.

1.0 Introduction

1.1 Vision Statement

South Cambridgeshire has been identified as one of 4 major growth areas within the Eastern Region. The expected increase in population within the District will create new challenges in the field of air quality as we attempt to manage the accompanying growth in traffic and emissions from new homes, new industry and business. We aim to continue to work together with developers, local business and industry to ensure that the impact of operations has a minimal impact upon the environment and to promote sustainable development across the District.

The Rogers Review 2007 has placed air quality in the top 5 priorities for Local Authorities to consider because it affects health, quality of life, shortens life expectancy and damages ecosystems. It is so important because it impacts on whole populations, particularly the elderly and those more susceptible to air pollution. We have a vital role to play in delivering better outcomes, reducing the impact of poor air quality and contributing to national outcomes.

Taking our lead from the national air quality strategy, this document sets out our vision for short medium and long-term progress towards a district with ever improving air quality, ensuring that the present and future population of the District is protected from the potentially harmful effects of air pollutants.

Within South Cambridgeshire District Council, we are committed to enhancing the lives of the local population and improving the quality of the environment within which they live. We will achieve this vision by continuing this commitment and by:

- Recognising the needs of everybody within the District
- Working in partnership at local, sub-regional and regional level
- Empowering our local communities to engage in improving air quality
- Promoting sustainable development and sustainable communities
- Focusing on the service user.

Although this Strategy sets out our direction, much is said about how we will go about achieving our aims and targets working in consultation and in partnership with any group, person, organisation or authority who wishes to have a voice on the environment where they live or work. Most decisions made or activities carried out by the Council have the potential to impact on air quality and this should be considered at every level.

1.2 Corporate Objectives of South Cambridgeshire District Council

In July 2007, the Council adopted three corporate objectives and a set of service priorities to provide the overall direction for the authority. These objectives were based on extensive public consultation carried out along with the political priorities of the new administration. These three objectives set the longer-term direction of the Council and are to:-

- Enhance quality of life and build a sustainable South Cambridgeshire where everyone is proud to live and work.

- Work in partnership to manage growth to benefit everyone in South Cambridgeshire now and in the future.

- Deliver high quality services that represent best value and are accessible to all our community.

In order to ensure the Council remains focused on the new corporate objectives an improved service planning framework has been introduced which links each objective through a "golden thread" to the service objectives of each individual service. These three year rolling service plans cover the day-to-day activities of each service as well as any improvements and changes it needs to make.

The Environmental Health Service Plan contains various actions that relate to air quality and emissions. Some actions (such as improving emissions from taxi fleet vehicles) will only be made possible with continued communication and working with other teams within Health and Environmental Services. The actions that relate to air quality include:

- Implementation of the air quality strategy
- Replace the existing air quality monitor to ensure the accuracy of data monitoring
- Investigate the option available to encourage operators of taxi's and private hire vehicles to provide a more environmentally sustainable fleet
- To continue to work closely with the Planning Department
- To review the requirements placed on the service as a result of the Regulatory Enforcement and Sanctions Bill including Primary Authority Principle and guidance issued by Local Better Regulation Office
- To review the Environmental Health Enforcement Policy and other relevant policies against the proposed Statutory Regulators Compliance Code requirements

The annually agreed service objectives, used to show progress towards the corporate objectives result from the consultation and consideration of national priorities and local factors. Corporate milestones are agreed which are used to assess progress towards both corporate and service objectives and to assess the impact that such progress has on the Council and the wider community.

South Cambridgeshire District Council places emphasis on partnership working and a number of policies and strategies have been prepared with partner organisations such as the Health Improvement and Modernisation Plan and the Community Strategy, both of which are aimed at improving the quality of life of the local population.

In addition, a partnership has been established with the Cambridgeshire Primary Care Trust (PCT), the County Council and others to produce and develop the Sustainable Communities Strategy.

Each service within the Council has its' own set of service objectives which are linked in to the corporate objectives.

1.3 Why is a Local Air Quality Strategy Necessary?

The Local Air Quality Strategy has been produced in order to give a platform upon which the local air quality within the District can be improved, bringing together all those with an interest or responsibility for air quality.

People are keen to see action on air quality issues, driven by the perceived benefits and the general improvement to local environments and quality of life.
The National Air Quality Strategy states that all authorities are capable of improving air quality. Therefore, all authorities should seek to draw up an air quality strategy, whether an AQMA has been declared or not.

1.4 Objectives of the Local Air Quality Strategy

The Local Air Quality Strategy aims:

- To achieve National Air Quality Standards
- To improve local air quality
- To carry out the above using cost effective and sustainable methods
- Raise awareness of and promote air quality issues and sustainable environments
- To emphasize the role South Cambridgeshire District Council has in improving air quality within the District
- To work together to achieve our goals
- To encourage partnerships between local industry, businesses and residents
- To raise the profile of air quality amongst the wider community
- Where possible, to suggest objectives for continued good working practices and to link the varying appropriate Council Policies, Plans and Strategies to the Air Quality Strategy

1.5 Air Quality Issues Faced within the South Cambridgeshire District

Cambridge continues to be the financial and administrative centre of Cambridgeshire, and the main area of employment for the surrounding towns and villages and therefore attracts many commuters.

To date, air quality issues within the District of South Cambridgeshire have been linked directly to the volume of traffic that runs through the District, specifically along the A14. The A14 is congested on a regular basis between Bar Hill (to the West of Cambridge) and Milton (to the North North-East of Cambridge). The A14 is discussed in detail in Chapter 2.

A further area of concern is the growth proposed for the sub-Cambridge region. Northstowe, a new town, is proposed between Longstanton and Oakington, just to the North of the air quality management area in addition to the expansion of Cambourne and the Cambridge Eastern and Southern Fringe developments. Pressure on the local transport network is therefore set to increase, which may have a significant impact on the local air quality.

Consideration must be given to the proposed air quality management area for particulate matter and the existing air quality management area for Nitrogen dioxide. Future traffic and development proposals have the potential to cause the air quality management areas to increase in size.

In addition to nitrogen dioxide and particulate matter, a further pollutant of concern is low level ozone. Ozone monitoring is not currently carried out within South Cambridgeshire but an ozone forecast is given on the Councils' air quality webpage.

Ozone presents a problem as it is a gas created in the atmosphere over a wide range of time and distance scales. Because it is not directly emitted from processes it cannot be regulated easily. Reduction in ozone can only be tackled by the reduction of its' precursors such as nitrous oxides and volatile organic compounds (VOC's).

2.0 The Local Setting

2.1 South Cambridgeshire Geographical Location

South Cambridgeshire is a rural district in East Anglia which entirely surrounds but does not include the city of Cambridge. It is the southernmost district of the county of Cambridgeshire and borders Bedfordshire to the west, Hertfordshire to the south, Essex to the south-east and Suffolk to the east.

In addition, South Cambridgeshire forms part of the Cambridge Sub-Region, along with Cambridge City and the Market Towns.

District council boundaries include Cambridge City Council, East Cambridgeshire District Council, St. Edmundsbury District Council, Braintree District Council, Uttlesford District Council, North Hertfordshire District Council, Mid-Bedfordshire District Council and Huntingdonshire District Council.

The district forms part of the Environment Agency's Anglian Region Central Area.

2.2 Description and History of The Area

The district is comprised of 102 parishes with all settlements classified as villages. The landscape and villages are equally varied. Rolling chalk hills and beech woods in the south give way to a clay plateau in the west and the flat fertile fenland of the north typified by its black soils and drainage channels. This landscape has led to the development of distinctive settlement patterns and village character ranging from spring-line villages to the south, to villages nestling in river valleys in the west and large Fen edge villages to the north. Much of the District is farmland of high agricultural quality (grades 1 and 2).

The area has good road and rail links with London and the South-East. The M11/A11 and A14 corridors pass through the District to the west/south and north of Cambridge respectively. Road communications to the Midlands and the East Coast ports were significantly upgraded with the completion of the A1-M1 link in 1994.

Traffic has continued to grow along the stretch of the A14 through the District so that the road is now almost at its maximum capacity.

The main Kings Lynn, Ely and Cambridge to London Liverpool Street railway also runs north-south through the District with stations at Waterbeach, Great Shelford and Whittlesford. A further railway line connects Cambridge to London Kings Cross with stations at Foxton, Shepreth, Meldreth and Ashwell and Morden. This is only a small fraction of the original rail network, which connected Cambridge to Bedford, Haverhill and St Ives.

Aviation is also well served in the District, its natural topography lending itself to runways. The primary airfield used for passenger and freight transport is Cambridge Airport, which straddles the boundary of South Cambridgeshire and the City. A number of private airfields operate around the District each specialising in a different area, such as gliding, training or acrobatics. The Imperial War Museum at Duxford was previously a military establishment and holds several Air Shows each year with the associated storage and repair of vintage aircraft.

At the time of preparation of this strategy, a proposal is in place to change the way in which aircraft fly over parts of London, Southern and eastern England. This includes changes to movements over South Cambridgeshire with an existing holding stack moving from the North Hertfordshire District into South Cambridgeshire and a new holding stack to be introduced in South Cambridgeshire and Newmarket.

There is also a proposal to give nearby Stansted Airport a new runway, which has the potential to further increase aircraft traffic over the District. This accessibility together with the economic success of the Cambridge area in building up a high technology employment sector has created a buoyant local economy whose performance in jobs and wealth creation is well above the national average. The District includes the internationally renowned Cambridge Science Park, while there are other research facilities such as Welcome Trust at Hinxton Hall and The Welding Institute at Great Abington. Local family run service type businesses are distributed around the district.

2.3 Expected Growth Within South Cambridgeshire

The government has identified South Cambridgeshire as one of the four growth areas. Substantial development is proposed over the next 10-12 years with plans to increase the population of the District to 162,000 by 2016.

The regional context of growth within the District is contained within the Regional Planning Guidance for East Anglia (RPG6), approved and adopted in 2000. It focuses much of the regions growth into the Cambridge Sub-Region.

Breaking this down further, the Regional Spatial Strategy and Structure Plan (see Chapter 5) requires specific growth within South Cambridgeshire. It is predicted that the District will experience an increase in housing development of up to 40%.

Much of the employment in the locality is directed towards Cambridge City. With demand outweighing supply of properties within the City, the populations of outlying towns and villages has increased, which in turn has increased the usage of both major and minor commuter routes throughout the District.

At present, major housing developments proposed for South Cambridgeshire include:

- Northstowe (a new town between Longstanton and Oakington) with an expected supply of approximately 9500 new homes,

- Upper Cambourne with an expected supply of approximately 950 new homes and

- Land between Huntingdon Road and the A14 with an expected supply of approximately 1780 new homes.

As development progresses, it is evident that a greater pressure will be placed on both major and minor transport infrastructures, which will have an impact on local air quality issues.

2.4 Demography within South Cambridgeshire

At present, there are approximately 138,000 people living in South Cambridgeshire, approximately 17,000 more than in neighbouring Cambridge City. A quarter of the population are aged under 20 and approximately 16% are over the age of 65. South Cambridgeshire is a relatively affluent area with a low deprivation rate and a mortality rate lower than the national average for England and Wales.

With the District experiencing major growth the population is forecast to grow by 25% by the year 2021.Much of this increase will be due to the proposed new town of Northstowe. It is thought that the population of those over 65 will grow by 87% whilst the child population is forecast to increase by 14%. These are the two social groups that are more likely to experience the most detriment from poor air quality.

2.5 The A14

The A14 trunk road, which passes through the South Cambridgeshire District Council area is a strategic route of national importance and also forms part of the trans European Highway, linking the Midlands and North of England to the ports of Felixstowe and Harwich and the M11 and Stansted to the south. Additionally it is the most important route for local traffic linking Huntingdon and Cambridge with St Ives and other villages along the A14 corridor. The route of the A14 through the District is shown in Figure 1, below.

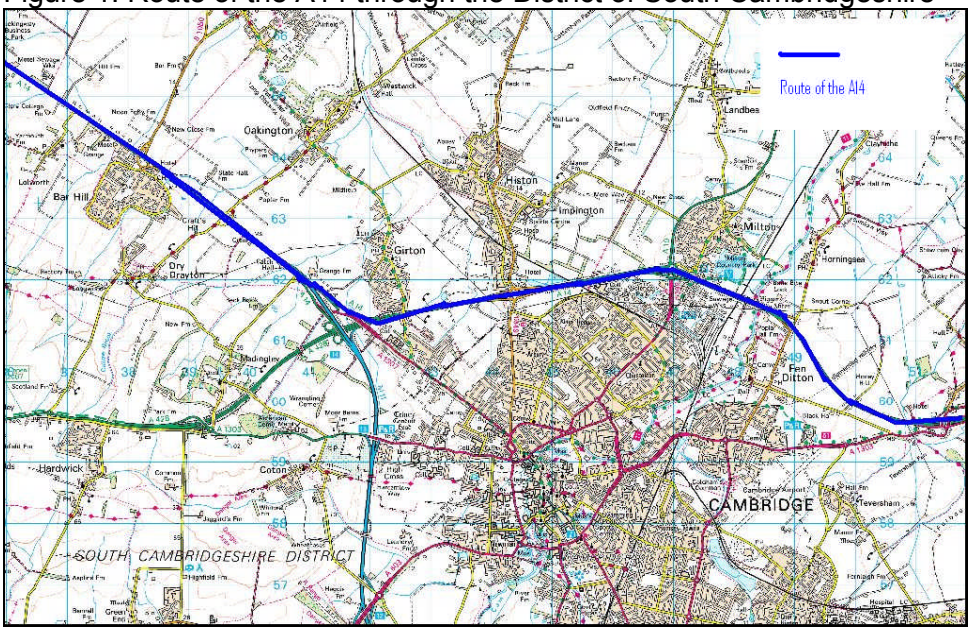
Many sections of the A14 are currently operating close to capacity, with an average of 65 – 90,000 vehicles per day using the route. Up to 25% of the traffic is made up of heavy goods vehicles, far higher than the national average. The road is subject to severe congestion, particularly during peak hours on a regular basis.

The traffic flows along the A14 are the highest in the County. Over the past 5 years the Highways Agency have undertaken a programme of studies and consultation exercises in order to devise a strategy of improvements for the A14.

Substantial improvements are proposed for the A14 Cambridge Northern Bypass, which will comprise widening of the existing carriageway to 3 lanes in each direction creating local access roads alongside the widened A14 to separate local and strategic traffic.

Given the expected growth described in Section 2.3, it is apparent that improvements to the trunk road network and to public transport provision should be undertaken with air quality improvements in mind.

Figure 1: Route of the A14 through the District of South Cambridgeshire



2.6 Air Quality and Health

Air pollution damages health, quality of life and shortens life expectancy. The Committee on the Medical Effects of Air Pollutants (COMEAP) has undertaken extensive research work into the potential health effects of poor air quality.

If a person is in good health, the levels of air pollution usually experienced in the UK will not cause any noticeable or serious short-term effects. When air pollution levels are high, some people may feel effects such as eye and throat irritation or may begin to cough or struggle to breathe. Table 1, on the following page, contains the effects of high levels of certain pollutants on health.

Those at the greatest risk are the elderly or people who already suffer from respiratory ailments such asthma. It is recognised that on days when air pollution is high, admissions to hospital increase.

South Cambridgeshire has a population that is forecast to increase significantly by 2021 with a rise predicted in the elderly and child populations. As these social groups increase in number, achieving good air quality becomes of paramount significance to protect them from the health effects of poor air quality.

The Rogers Review evidence has estimated that nationally, air quality has the following implications for public health:

- 24,000 hospital admissions and GP appointments
- Between 12,000 and 24,000 premature deaths each year (those with asthma, lung disease and heart conditions being the most susceptible)
- Exposure to particulates reduces the average life expectancy across the UK by up to 8 months.
- The health impacts from particulates in 2005 alone cost £9.1-21 billion.

Figures from the Cambridgeshire PCT suggest that approximately 6% of the population of South Cambridge suffers from asthma, these individuals will also be at greater risk if the air quality is not managed within the District.

Table 1: The effects of major air pollutants on health

Pollutant	Health Effects at Very High Levels
Nitrogen Dioxide, Sulphur Dioxide, Ozone	Irritation of the airways of the lungs, increasing the symptoms of those who suffer from respiratory illness
Fine particles	Carried deep into the lungs causing inflammation and a worsening of heart or lung diseases
Carbon Monoxide	Prevention of the transport of oxygen by the blood. This causes a significant reduction in blood supply to the heart and can have an effect on people suffering from heart disease

Adapted from "Air Pollution: what it means for your health", DEFRA 2002

2.7 Air Quality Monitoring Within South Cambridgeshire

2.7.1 Fine Particulate Matter (PM_{10} and $PM_{2.5}$)

Continuous monitoring is undertaken at two locations for fine particulate matter: Bar Hill (OS Grid Reference 538685,263760) and Impington (OS Grid Reference 543740,261626) using Beta Attenuation Monitors (BAMs). The details of the monitors are shown in Table 2, below.

BAMs work by passing a small beta ray (^{14}C) transmission across a clean filter paper. The filter paper is then automatically passed through the sample inlet at which point, particulate matter is drawn onto the filter. The beta ray transmission is then re-measured and the particulate concentration is calculated using the difference between the 1st and 2nd beta ray transmission measurements.

The Bar Hill site has been in operation since 2001 and the Impington site since January 2003. Both locations were chosen due to the closeness to the A14. It is also considered that the sites are similar to the nearby receptors situated alongside the A14.

Table 2: The Continuous PM_{10} monitors within the District

Site name	Monitor type	Detail	Easting	Northing	Distance to road (m)
Bar Hill	Eberline FH62-IR Beta Attenuation	Heated inlet manifold held at 40^{o}C to drive off volatile component. Results multiplied by 1.3 in line with Guidance Document LAQM TG(03)	538685	263760	8
Impington	Eberline FH62-IR Beta Attenuation		543739	261625	12

2.7.2 Nitrogen Dioxide (NO_2)

Nitrogen dioxide monitoring within South Cambridgeshire is carried out by two techniques: automatic real time monitoring and diffusion tube monitoring.

Continuous monitoring is undertaken at the same two locations as the particulate matter detailed in Table 3. Both sites measure nitrogen dioxide by chemiluminescence.

Table 3: The Continuous NO_2 monitors within the District

Site name	Monitor type	Detail	Easting	Northing	Distance to road (m)
Bar Hill	Thermo 42C	Ozone Chemiluminescence	538685	263760	8
Impington			543739	261625	12

Ozone chemiluminescence is the reference method specified by the EC NO2 Directives. The analysers are calibrated with traceable gas mixtures certified to ISO17025 by the National Environment Technology Centres' (NETCEN) Gas Standards Calibration Laboratory. This provides traceability of measurement to recognised national standards held at NPL or equivalent organisations. The expected accuracy of the method for Nitrogen dioxide is approximately +/- 11% with a precision of +/- 3.5ppb. NETCEN undertake data management and audit of the real-time results using documented procedures.

Measurement of Nitrogen dioxide is also undertaken by diffusion tube monitoring with a network of locations across the district, which have been monitored since 1995. There are currently 19 sites throughout the District. The tubes are supplied and analysed by Harwell Scientifics a UKAS accredited laboratory (0322). The tube preparation method is 50% TEA in Acetone and analysis is by desorption with distilled water, and the extract analysed using a segmented flow auto analyser with ultraviolet detection. The exposure periods for the diffusion tubes are those of the UK Nitrogen Dioxide Diffusion Tube Network run by NETCEN which effectively is a four or five week duration. QA/QC procedures are as detailed in the UK NO2 Diffusion Tube Network Instruction Manual, this document can be found at www.airquality.co.uk/archive/reports/cat06/no2instr.pdf.

The diffusion tube bias adjustment is calculated both from the co-location study carried out at the continuous chemiluminescent monitor at Bar Hill and also from the UWE guidance DT calculation sheet.

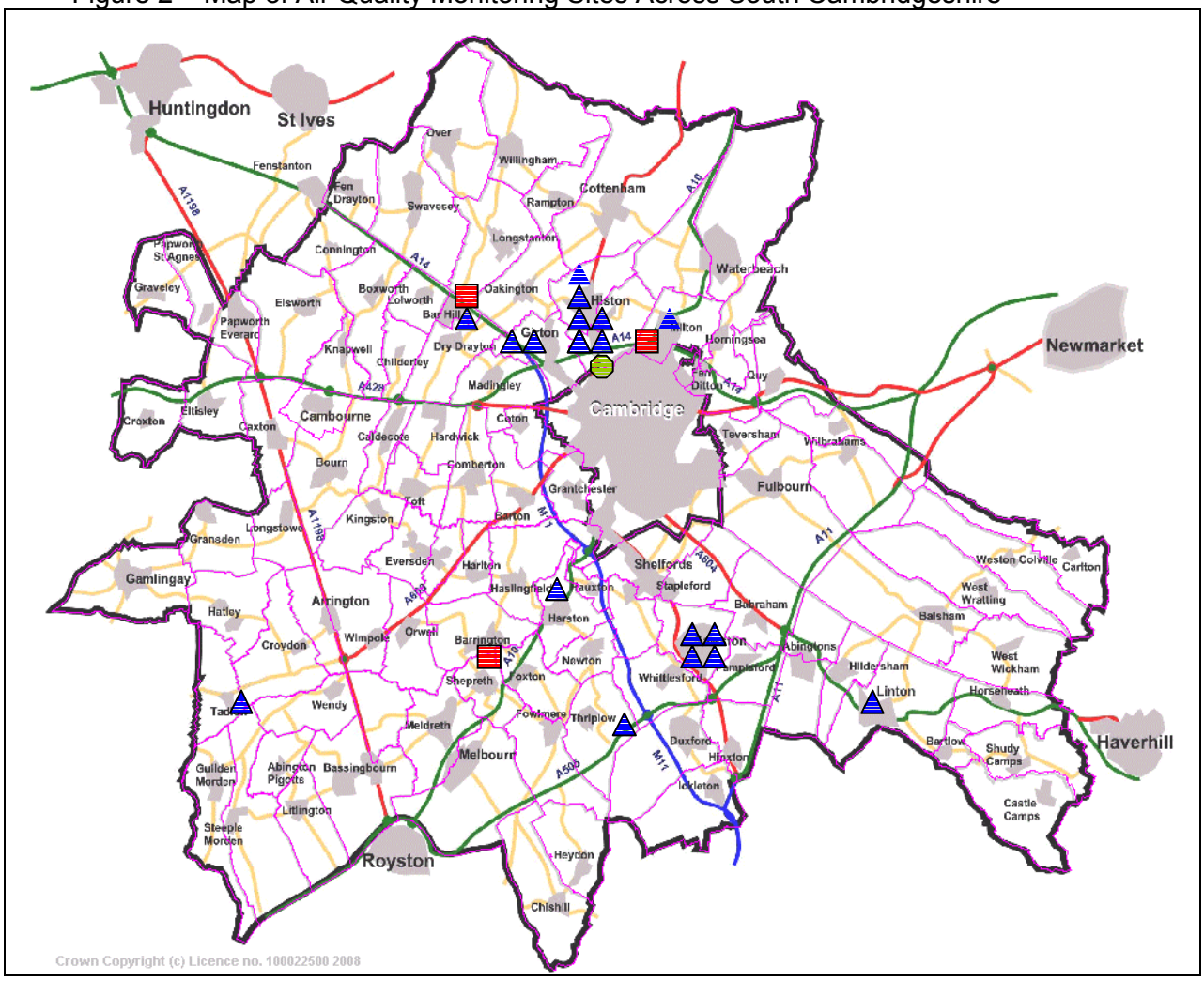
Figure 2 shows the locations of all the monitoring points within the District. There are 19 diffusion tube locations within the District with a high density adjacent to the A14 at Histon, Girton, Bar Hill and at 1 Catchall Farm Cottages (the closest receptor to the A14).

At present, there are 3 active continuous monitoring locations. These are:

- Bar Hill - measuring NOx, NO2, NO, PM10 and PM2.5 from traffic emissions
- Impington - measuring NOx, NO2, NO and PM10 from traffic emissions and
- Barrington - measuring SO2 from the Barrington cement manufacturing process

At the time of writing, a fourth continuous monitor has been purchased by the Council to monitor NO_x, NO_2, NO and PM_{10} within the new Arbury Park community along the south side of the A14 at Histon.

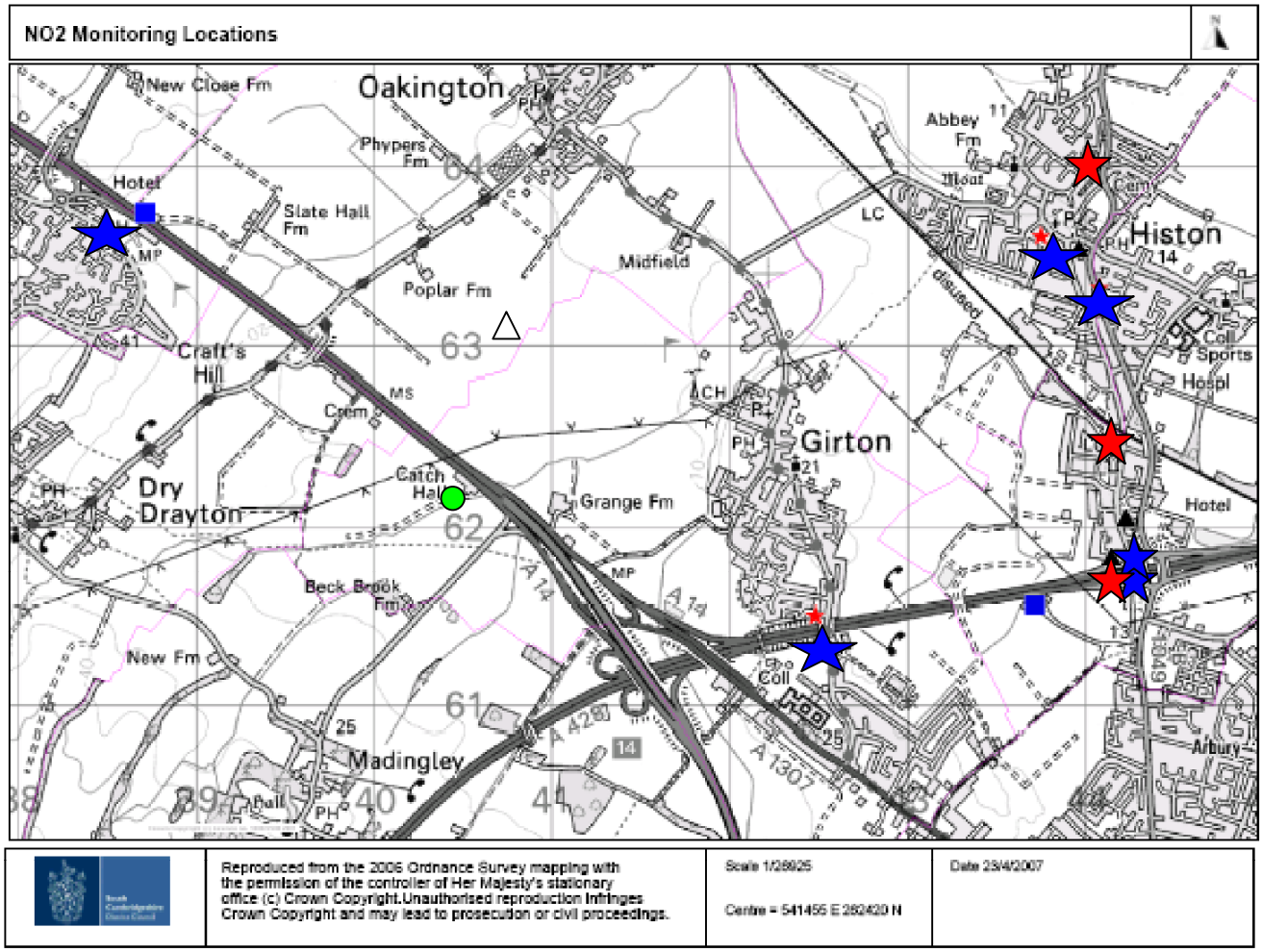
Figure 2 – Map of Air Quality Monitoring Sites Across South Cambridgeshire



Key:		
	▲	NO_2 diffusion tube locations
	■	Continuous monitor locations
	●	Approximate location of the new continuous monitor

The density of monitoring points along the A14 stretch is greater than at any other location within the District due to the fact that air quality problems within South Cambridgeshire are related primarily to traffic emissions along this stretch of the highway. Figure 3 shows the location of these monitoring points in finer detail.

Figure 3 – Map of Air Quality Monitoring Locations along the A14 Corridor



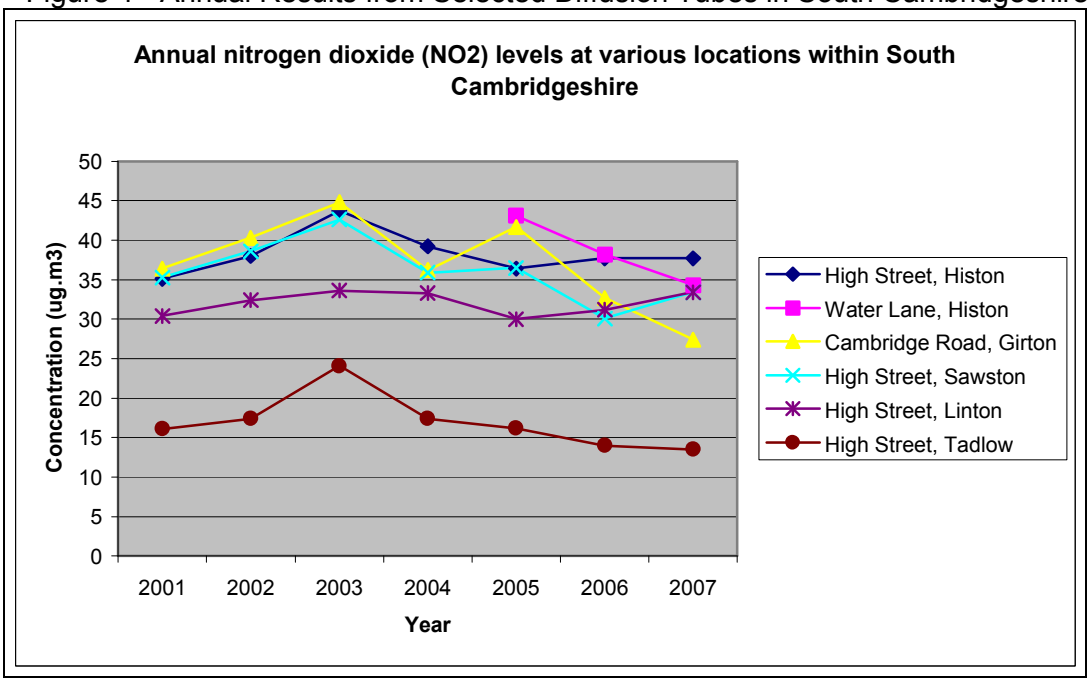
★	NO_2 diffusion tube site with annual mean above the objective (before bias correction) in 2007.
●	New NO_2 diffusion tube site for 2008.
★	NO_2 diffusion tube site with annual mean below the objective in 2007.
■	Continuous Monitoring Locations.

2.8 Air Quality Monitoring Results

2.8.1 Diffusion Tubes

Figure 4 shows the annual monitoring results obtained from various nitrogen dioxide diffusion tubes across the District. The annual mean objective for nitrogen dioxide is 40 µg/m^3.

Figure 4 - Annual Results from Selected Diffusion Tubes in South Cambridgeshire



High Street, Histon is a narrow village road which although is not subject to excessive traffic flows can become congested at peak times owing to vehicles parking on the road and causing obstructions to the flow of traffic. The tube is adjacent to a residential façade and is therefore in a relevant location.

The diffusion tube at Water Lane in Histon was commissioned in 2005. Since being established, it has consistently shown high levels of NO_2. Water Lane is a section of the busy B1049, which acts as a distributor road between surrounding villages and the A14 and Cambridge. The tube location is approximately 1.5km north of the junction of the B1049 with the A14. The highest levels of traffic along the B1049 are experienced during the morning and afternoon rush hours.

The monitoring location in Girton is at the entrance to a small development and opposite a local shop. The tube is situated on a lamppost in a roadside location, on a bridge over the A14 dual carriageway. The site is an equivalent distance from the A14 as local residential gardens and is a relevant location within the Air Quality Management Area for NO_2. The concentration of NO_2 measured in 2007 is the lowest since the diffusion tube was installed. The general trend since 2005 has been down. This location is important within the monitoring network, therefore monitoring here will continue despite the low concentrations of NO_2 recorded in recent years.

The fourth location that previously exceeded the annual mean objective is located in Sawston, currently our largest village with a population of 8,000. The monitoring site is adjacent to the façade of a local public house and the same distance from the roadside as the façade of residential properties and is therefore in a relevant location. The results at this location have been below the annual mean objective since 2004.

Linton is a village located at the very Southern boundary of the District and lies adjacent to the A1307, approximately 5 miles east of the A11. Although it does have a small industrial area, it does not experience excessively high levels of traffic.

Although concentrations of NO_2 at the diffusion tube location have risen over the last 2 years, levels still remain well below the national objective. It is thought that the recent rise in concentrations may be due to highway changes on the narrow High Street.

Monitoring continues in Tadlow as an indication of rural background levels. Tadlow is a very small village approximately 3 miles west of the B1198. There are no industrial emissions nearby and minimal vehicle emissions. Concentrations remain well below the national objective.

2.8.2 Continuous Monitoring

Table 4 displays the results of the continuous monitoring of nitrogen dioxide at Impington. Until 2007, the results were indicating a fluctuating but generally downward trend with exceedences of the 1-hour mean in 2002, 2003 and 2005. Between 2002 and 2004, the annual mean of 40 µg/m3 was being exceeded but the concentrations were reducing. However, 2007 results show that the air quality objective for annual mean at this site was not met. There are no exceedences of the hourly mean in 2007.

Table 4: The NO_2 monitoring results at the Impington continuous monitoring station

	NO_2 2002	**NO_2 2003**	**NO_2 2004**	**NO_2 2005**	**NO_2 2006**	**NO_2 2007**	**National Air Quality Objectives**
Maximum hourly mean	236.7 µg/m^3	485.5 µg/m^3	299.5 µg/m^3	281.0 µg/m^3	160.0 µg/m^3	145.0 µg/m^3	
Hourly mean 99.8th percentile	184.3 µg/m^3	294.7 µg/m^3	250.7 µg/m^3	93.3 µg/m^3	106.4 µg/m^3	126.0 µg/m^3	**200 µg/m^3 <18 exceedences**
Number of exceedences of the AQS 200µg/m^3	2	141	0	1	0	0	**18**
Annual Recorded Mean	48.5 µg/m^3	52.2 µg/m^3	41.3 µg/m^3	31.0 µg/m^3	30.0 µg/m^3	41.0 µg/m^3	**40 µg/m^3**
Data Capture	72%	80.7%	86.4%	92.4%	76%	95.7%	**90%**
Annual Mean (Adjusted)	52.7 µg/m^3	52.2 µg/m^3	42.1 µg/m^3	N/a	30.6 µg/m^3	N/a	**40 µg/m^3**
Estimated Annual Mean in 2005	48.5 µg/m^3	49.5 µg/m^3	41.2 µg/m^3	N/a	N/a	N/a	**40 µg/m^3**
Estimated Annual Mean in 2010	39.9 µg/m^3	40.7 µg/m^3	25.4 µg/m^3	25.4 µg/m^3	26.0 µg/m^3	36.2 µg/m^3	

Table 5 displays the results of the continuous monitoring of nitrogen dioxide at Bar Hill. Since this site was established in 2001, there have been no exceedences of the hourly mean but the annual mean objective has been exceeded in every year between 2002 and 2006. The results for 2007 show a large drop in nitrogen dioxide concentrations. It is not clear what this decrease in concentrations may be attributed to.

Table 5: The NO_2 monitoring results at the Bar Hill continuous monitoring station

	NO_2 2001	**NO_2 2002**	**NO_2 2003**	**NO_2 2004**	**NO_2 2005**	**NO_2 2006**	**NO_2 2007**	**National Air Quality Objectives**
Maximum hourly mean	124.2 µg/m^3	145.2 µg/m^3	166.0 µg/m^3	161.0 µg/m^3	187.0 µg/m^3	157.0 µg/m^3	132.0 µg/m^3	
Hourly mean 99.8th percentile	109.0 µg/m^3	113.0 µg/m^3	132.0 µg/m^3	117.5 µg/m^3	118.3 µg/m^3	122.0 µg/m^3	110.0 µg/m^3	**200 µg/m^3 <18 exceedences**
Number of exceedences of the AQS 200µg/m^3			0	0	0	0	0	**18**
Annual Recorded Mean	38.2 µg/m^3	43.9 µg/m^3	49.7 µg/m^3	46.0 µg/m^3	42.0 µg/m^3	43.0 µg/m^3	34.0 µg/m^3	**40 µg/m^3**
Data Capture	72%	67%	91.7%	84.1%	90.4%	95.4%	93.5%	**90%**
Annual Mean (Adjusted)	40.5 µg/m^3	41.9 µg/m^3	N/a	44.6 µg/m^3	N/a	N/a	N/a	**40 µg/m^3**
Estimated Annual Mean in 2005	36.1 µg/m^3	38.6 µg/m^3	47.1 µg/m^3	43.5 µg/m^3	N/a	N/a	N/a	**40 µg/m^3**
Estimated Annual Mean in 2010	29.7 µg/m^3	31.7 µg/m^3	38.8 µg/m^3	35.8 µg/m^3	34.4 µg/m^3	36.5 µg/m^3	30.0 µg/m^3	

Tables 6 and 7, on the following page display the results of the continuous monitoring of PM_{10} at Impington and Bar Hill respectively.

At Impington, the annual mean objective was achieved in all years except for 2005. Whereas the twenty-four hour mean objective was exceeded in 2006. In 2007, the same objective was met but only by 1 day.

Continuous monitoring of PM_{10} at Bar Hill shows that there have been exceedences of the daily mean objective in 2003, 2006 and 2007 of 40 days, 51 days and 49 days respectively, whilst the annual mean is within the objective in all years.

Table 6: The PM_{10} monitoring results at the Impington continuous monitoring station

	2002	2003	2004	2005	2006	2007	National Air Quality Objectives
Measured Annual Mean (TEOM equivalent)	23 $\mu g/m^3$	30.2 $\mu g/m^3$	26 $\mu g/m^3$	32 $\mu g/m^3$	28 $\mu g/m^3$	26 $\mu g/m^3$	
Data capture of hourly means	80.2 %	88.1 %	72.2%	42%	81.1%	95.5%	**90 %**
Estimated Annual Mean (see below)	23 $\mu g/m^3$	30.1 $\mu g/m^3$	26 $\mu g/m^3$	31 $\mu g/m^3$	28 $\mu g/m^3$	34 $\mu g/m^3$	
Annual Mean (Gravimetric)	30 $\mu g/m^3$	39 $\mu g/m^3$	33 $\mu g/m^3$	42 $\mu g/m^3$	36 $\mu g/m^3$	N/a	**40 $\mu g/m^3$**
Number of exceedences of 24 hour mean > 50$\mu g/m^3$	22 (measured)	72 (measured)	6	37	42	34	**35**
90th percentile (gravimetric)– reported where data capture is below 90%	54.6 $\mu g/m^3$	66.4 $\mu g/m^3$				N/a	

Table 7: The PM_{10} monitoring results at the Bar Hill continuous monitoring station

	2001	2002	2003	2004	2005	2006	2007	National Air Quality Objectives
Measured Annual Mean (TEOM equivalent)	22 $\mu g/m^3$	23 $\mu g/m^3$	25 $\mu g/m^3$	21 $\mu g/m^3$	22 $\mu g/m^3$	26 $\mu g/m^3$	27 $\mu g/m^3$	
Data capture of hourly means	75.2 %	96.5 %	92.4 %	84.7%	92.9%	98.2%	99.2%	**90 %**
Estimated Annual Mean (see below)	22.35 $\mu g/m^3$	N/a	N/a	20.4 $\mu g/m^3$	N/a	N/a	N/a	
Annual Mean (Gravimetric)	28.6 $\mu g/m^3$	29.9 $\mu g/m^3$	32.5 $\mu g/m^3$	27.3 $\mu g/m^3$	28.6 $\mu g/m^3$	34 $\mu g/m^3$	36 $\mu g/m^3$	**40 $\mu g/m^3$**
Number of exceedences of 24 hour mean > 50$\mu g/m^3$	(9) (measure)	27	40	17	25	51	49	**35**
90th percentile (gravimetric)– reported where data capture is below 90%	48.1 $\mu g/m^3$	N/a	N/a		N/a	N/a	N/a	

Continuous monitoring of sulphur dioxide has been carried out at a site adjacent to the Barrington cement works since 2003. There have been no exceedences of the national air quality objectives for sulphur dioxide. Table 8 shows the results of this monitoring.

Table 8: The SO_2 monitoring results at the Barrington continuous monitoring station

Location	**Year**	**Maximum 15 Minute Mean ($\mu g/m^3$) [number of exceedences]**	**Maximum One Hour Mean ($\mu g/m^3$) [number of exceedences]**	**Maximum 24 Hour Mean ($\mu g/m^3$) [number of exceedences]**	**Data Capture (%)**
Challis Green, Barrington	1998	192 [0]	160 [0]	32 [0]	23
	1999	125 [0]	117 [0]	32 [0]	83
	2000	114 [0]	85 [0]	32 [0]	60
	2001	106 [0]	106 [0]	29 [0]	96
	2002	138 [0]	94 [0]	18 [0]	94
	2003	133 [0]	104 [0]	41 [0]	97
Fruit Farm, Barrington	2003	330 [5]	269 [0]	80 [0]	94
	2004	82 (0)	61 (0)	17 (0)	73
	2005	21 (0)	19 (0)	6 (0)	78
	2006	43 (0)	27 (0)	9 (0)	95
	2007	96 (0)	72 (0)	24 (0)	91
National Air Quality Objective	**2004-5**	**266 [35]**	**350 [24]**	**125 [3]**	**90**

3.0 Legislative Background

3.1 The Environment Act 1995

Part IV of The Environment Act 1995 provides the legal framework for requiring Local Authorities in England and Wales to review the air quality in their area. The Act introduces Local Air Quality Management (LAQM)

- The Air Quality Strategy (for England, Scotland, Wales and Northern Ireland)
- Policy Guidance
- Technical Guidance

The main elements of the Air Quality Strategy (AQS) can be summarised as follows:

- National Air Quality Standards and Objectives that must be achieved by each Authority,
- The use of policies by which objectives can be achieved and which include the input of important factors such as industry, transportation bodies and local authorities,
- The predetermination of timescales with target dates for the achievement of objectives.

The Strategy requires the following actions to be taken by each Authority:

- To carry out an air quality review and assessment (AQRA) in accordance with Section 82 of the Environment Act 1995

- Depending upon the results of the AQRA, to make an order designating an Air Quality management Area (AQMA)

- Prepare an air quality action plan (AQAP)

- Modify and update the AQAP

- Continually review and assess the air quality within the District by way of Updating and Screening Assessments (USA) and Progress Reports

- Implement any actions in an action plan

- Revoke or modify an AQMA or Order

At the centre of the AQS is the use of national air quality standards to enable air quality to be measured and assessed. These provide the means by which objectives and timescales for the achievement of objectives can be set.

Most of the proposed standards have been based on the available information concerning the health effects resulting from different ambient concentrations of selected pollutants and are the consensus view of medical experts on the Expert Panel on Air Quality Standards (EPAQS).

The standards and associated specific objectives to be achieved between 2004 and 2010 are attached as Appendix 1. This shows the standards in $\mu g/m^3$ with the number of exceedences that are permitted.

Limit values have been adopted for various pollutants based upon their potential effects on health. Where limit values are not being met for any of the pollutants, the Act gives provision for the Local Authority to declare an Air Quality Management Area (AQMA) for that pollutant.

On declaration of an AQMA, the Local Authority is required to draw up an Air Quality Action Plan, within which are details of potential feasible actions that will help to reduce concentrations of the pollutant within the AQMA. Realistic time scales should be provided for implementation of the identified solutions and an indication as to how progress will be monitored.

3.2 Environment Council Framework Directive 96/62/EC

This Directive sets the framework for the delivery of a number of daughter directives in terms of ambient air quality assessment and management.

A range of pollutants are considered but importantly, Sulphur Dioxide (SO_2), Nitrogen Dioxide (NO_2), Particulate Matter (PM_{10} and $PM_{2.5}$), Lead (Pb), Benzene (C_6H_6), 1-3,Butadiene ($CH_2{=}CHCH{=}CH_2$), Ozone (O_3) and Carbon Monoxide (CO) have all been adopted into UK legislation through the Air Quality Regulations 2000.

3.3 Clean Air Act 1993

This Act consolidates the detail in the previous Clean Air Acts of 1956 and 1968. Using this Act, the Local Authority becomes responsible for the prevention of dark smoke releases from industrial and commercial premises, industrial boilers, incinerators and furnaces. Generally, it covers all industrial processes not covered under the IPPC Regulations (below), including demolition sites.

In addition, local air quality is further protected using this Act by the requirements for the height of chimneys and for the control of dust and grit emissions.

Unlike Part 1 of the Environmental Protection Act 1990 and the IPPC regulations, there is no requirement for Permits to be issued under this legislation.

3.4 European Directive 1996/61/EC: IPPC (Integrated Pollution prevention and Control)

This regulatory system seeks the achievement of a high standard of environmental protection and pollution control from industrial processes in an integrated manner. It covers accidental emissions and regular emissions to water, air, land and the wider environment and requires the consideration of health impacts.

IPPC installation operators must apply for a permit to operate prior to operation and must consider all environmental and health impacts related to the operation of the installation.

In the UK, this Directive has been established as the Pollution Prevention and Control (PPC) Regulations 2000 which have been made under the Pollution Prevention and Control Act 1999. The latter of these was introduced in the UK as a response to 1996/61/EC.

Substance, vibration, heat and noise are considered to be pollutants under the IPPC Regulations. In order to obtain a Permit, the operator must show use of Best available Techniques (BAT) in order to reduce the impact of the process on the local environment. Processes are categorised as Part A1, Part A2 and Part B. Part A1 processes are regulated by the Environment Agency and are monitored for all emissions or discharges to the environment (whether land, air or water), whereas Part A2 and Part B processes are regulated by the Local Authority and are monitored for emissions to air only.

Permits are obtained by application to the enforcing Authority or Agency who will assess all relevant information in conjunction with Process Guidance (PG) Notes relevant to the process application.

The Permit will specify methods of environmental and process control that must be implemented by the operator (including factors such as waste handling and minimization, stack emissions monitoring and manual inspections for odour and dust).

The process can be inspected by the enforcement officer up to 3 times yearly, depending on previous performance records, in order to determine compliance with the requirements of the permit.

The IPPC Directive and hence the PPC Regulations place limits on the levels of pollution emitted to the environment but this will take into account local geographical settings, installation location and the technical characteristics of the installation.

The operator must show compliance with BAT (Best Available Techniques) to implement the requirements of the Permit and must show due regard to Health and Safety issues.

In summary, the PPC regulations control all emissions to the atmosphere from certain industrial sites including: dust (large and fine particulate matter), Sulphur Dioxide (SO_2), Volatile Organic Compounds (VOC's), Nitrous Oxides, heavy metals and all other toxic gases or emissions relevant to the particular industrial process.

3.5 Environmental Protection Act 1990

The main legislative framework for air quality is contained within the Environment Act 1995, however, Part 3 of the Environmental Protection Act enables Local Authorities to take enforcement action against certain types of air pollution. Under section 80 of the Act, it is possible to take enforcement action against dust nuisance, smoke from bonfires and odours.

A statutory nuisance is defined as an activity that is causing or is likely to cause unacceptable interference with the personal comfort or amenity of neighbours or the nearby community. Statutory nuisance includes noise, dust, steam, smell, effluvia, smoke and accumulations.

3.6 LAPPC and LA-IPPC

Local Authority Pollution Prevention and Control (LAPPC) and Local Authority Integrated Pollution Prevention and Control (LA-IPC) are formerly regulated under the Pollution Prevention and Control Regulations 2000. Prior to this, control of

emissions from industry were regulated under Part 1 of the Environmental Protection Act 1990 which introduced the Integrated Pollution Control (IPC) for the Environment Agency and Local Authority Pollution Control (LAPC). This regime provided a minimal level of control for Local Authorities. The new regulations give greater powers to the enforcing Authority. Shortfalls in LAPC compared to LAPPC include:

- A smaller range of pollutants was monitored
- IPC and LAPC focused just on the process rather than the entire facility
- LAPC focuses on air pollution alone
- Health and Safety is not such a consideration as with the PPC regulations.

South Cambridgeshire District Council has control of 60 authorised processes, which incorporates varying industry types, petrol stations and dry cleaners. This number changes year on year as new permits are issued or others are revoked. Further detail on the type of industry permitted within the District is presented in Chapter 3.8 and Appendix 4.

3.7 The Role of the Environment Agency and IPPC

The Environment Agency is responsible for the monitoring of emissions to air, land and water from the Part A1 processes. These processes are usually the larger, more polluting industries within a District.

As with the LAPPC and LA-IPPC, the Environment Agency regulate certain processes under the Integrated Pollution Prevention and Control regime, which has been created under the Pollution Prevention and Control Act 1999 and the Pollution Prevention and Control Regulations 2000.

There are various other EU Directives and UK Legislation that are used during the process, the main ones of which are discussed later in this chapter.

The Environment Agency set Emission Limit Values (ELVs) for the processes which set limits on the amounts of various pollutants associated with that particular process. Where ELVs are breached, the Environment Agency has the power to take enforcement action.

There are 4 Part A1 processes within the District, including:

- Cement manufacture,
- Animal processing,
- Cadmium plating and
- Adhesive and hi-tech material manufacture.

South Cambridgeshire District Council work in liaison with the Environment Agency to obtain data relating to atmospheric emissions from the processes and keep informed of process or permit changes.

3.8 Prescribed Processes Within South Cambridgeshire

Air quality has been identified as one of five national priorities within the Rogers Review (contained within the document ‘National Enforcement Priorities for Local Authority Regulatory Services’, Peter Rogers, March 2007) and this includes the regulation of emissions to air from factories and homes.

Regulating the industrial processes is an important part of improving public health and tackling climate change. Industrial processes within the District vary in size and nature. Currently, there are 60 permitted processes within South Cambridgeshire that are the responsibility of South Cambridgeshire District Council. These include:

- 23 petrol stations,
- 4 premises containing waste oil burners,
- 1 natural gas odourising plant,
- 8 premises using bulk cement,
- 1 premises producing dry chalk powder,
- 1 roadstone coating plant,
- 4 mobile concrete crushers,
- 1 crematorium,
- 1 maggot breeding farm,
- 1 premises printing flexible packaging,
- 1 hide and skin processing plant,
- 2 metals and plastics coating plant,
- 6 vehicle respraying premises,
- 1 surface cleaning premises,
- 5 dry cleaners.

A detailed list of the premises is included within Appendix 4.

Actions

- To continue the rolling programme of air quality review and assessment within the District, giving consideration to Prescribed Processes.
- To continue to have a close working relationship with Environmental Health Officers and Environment Agency officers responsible for Permitted Process inspections
- To keep up-to-date on new installations and revoked Permits within the District
- To secure improvements required within the timescales set for each of the processes in order to reduce VOC, NO_x and primary PM_{10} emissions

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3.9 Other EU Legislation

Whilst the major legislation governing air quality has previously been covered within this Strategy, it is also important to note and be aware of other legislation that may affect air quality. In particular, the following should be borne in mind:

3.9.1 The Large Combustion Plants Directive LCPD, 2001/80/EC

This Directive aims to reduce ground level ozone and to cause a reduction in acidification through the reduction of Sulphur Dioxide (SO_2) and Nitrous Oxides (NO_x) from any industry with large combustion plants, power stations, steel-works or petroleum refineries.

South Cambridgeshire District Council has one process regulated by this Directive, namely a gas compressor station operated by the National Grid near Duxford.

3.9.2 The Waste Incineration Directive 2000/76/EC (WID)

This Directive aims to prevent or limit, as far as reasonably practicable, the emissions to the environment or to human health, of harmful substances created as a result of waste incineration processes. It covers a range of substances, including dioxins and gives specifications for the operating conditions of the plant.

In addition, the WID specifies monitoring, measurement and reporting time intervals and methods to be used for the process (on a site specific basis) and specifies Emission Limit Values (ELVs) for the substances of concern that must not be exceeded.

One site is currently operating within this Directive in South Cambridgeshire, namely, Cemex, a concrete manufacturing process based in Barrington. It is regulated by the Environment Agency.

3.9.3 The Solvent Emissions Directive 1999/13/EC (SED)

This Directive is aimed at limiting the emissions of solvents to the atmosphere. Solvents undergo chemical reactions in the atmosphere that cause the formation of ozone. Ozone is harmful to human health but is also a major factor in the formation of nitrogen dioxide and toxic photochemical smog.

SED is enforced through the IPPC regime and is relevant to businesses or industries that use over the limit value of a particular solvent per year. If the annual emission limit value is not being achieved, the operators are required to choose between two options: either a solvent reduction scheme (which will involve substitution of solvent based products to water based products) or to comply with an annual target concentration (which may be more difficult to achieve).

The progression towards achieving SED by relevant industrial processes will be viewed and assessed within the IPPC inspection procedures and enforcement action will be taken under the same guidance. South Cambridgeshire District Council currently has 14 processes that fall within the SED.

3.9.4 Paints Directive 2004/13/EC

This Directive is aimed at the paint manufacturing industry and aims to limit the amount of solvent used in paints, varnishes and vehicle refinishing products. As a result of this, the Directive is directly linked in to the achievement of SED (above) as paint and related products contain less and less solvent.

3.9.5 The Control of Major Accident Hazards Regulations 1999 (COMAH)

The aim of COMAH is to prevent and mitigate the potentially dangerous effects of toxic substances either to human health or the environment. The Regulations have been implemented as a result of the European “Seveso II” Directive.

COMAH is enforced by the Health and Safety Executive and the Environment Agency and is focussed on storage and usage of the substances, health and safety measures in place to prevent accidents and mitigation measures in the case of accidents. In terms of the air quality strategy, COMAH is seen to control release of harmful substances to the atmosphere.

4.0 The South Cambridgeshire Air Quality Review and Assessment Process

The first assessment was undertaken in 2000 and adopted a phased approach to the review and assessment process concentrating on those areas where public exposure may present a health risk to individuals. The report highlighted that there were several areas that required pollution reduction measures but that the risk of exceeding air quality objectives in relevant locations was minimal. However, with increasing numbers of vehicles using the A14 and the forecast reduction in emissions owing to fleet renewal not coming to fruition concentrations of nitrogen dioxide continued to increase.

In 2003, an Updating and Screening Assessment (USA) was carried out by South Cambridgeshire District Council. The USA enabled the review of any changes in local circumstances and assessment of monitoring results. The USA concluded that no detailed assessments were required at this time.

Following a year when meteorological conditions led to poor dispersion of emissions, thereby affecting air quality, the Annual Progress Report undertaken in 2004 identified that there may be a possibility that the annual mean nitrogen dioxide target would not be met in areas adjacent to the A14.

Continuous monitoring in 2005 showed that this objective was exceeded at the Bar Hill site and diffusion tube measurements at Cambridge Road, Girton also showed that the annual mean objective was exceeded in this location. This was reported in the Cambridgeshire Local Authorities Updating and Screening Assessment 2006, published in April 2007. The conclusions of this report, subsequently accepted by DEFRA, were that South Cambridgeshire District Council should proceed to a detailed assessment of nitrogen dioxide in those areas.

In addition to this, the 2006 Progress Report also identified the potential for exceedences of the Daily Mean PM_{10} objective and recommended that further assessment of PM_{10} would also be required.

In November 2006, a detailed assessment of Nitrogen Dioxide (NO_2) levels within the District was completed and submitted to DEFRA. During the assessment process, existing monitoring data was used to compare against modelled, predicted data. The detailed assessment found that the modelled data agreed with the monitored data in that the Annual Mean Objective for Nitrogen Dioxide of 40µg/m^3 was not being met. The detailed assessment proposed an AQMA for a stretch of the A14 between Bar Hill and Milton. The boundary for the AQMA for NO_2 is attached as Appendix 2.

Following acceptance of the proposed AQMA by DEFRA, an Air Quality Management Order was issued under Section 83 of the Environment Act 1995, officially designating the AQMA.

A second detailed assessment, concentrating on PM_{10} was submitted to DEFRA in December 2007. The detailed assessment concluded that whilst the annual mean objective of 40µg/m^3 was currently being met, the Daily (24-hour mean) Objective of 50µg/m^3 not to be exceeded more than 35 times per year was not being met at either the Bar Hill or Impington continuous monitoring stations. The DA proposed a boundary for a second AQMA along a stretch of the A14 between Bar Hill and the Histon Interchange. The boundary for the proposed AQMA for PM_{10} is attached as Appendix 3.

5.0 Cross Boundary Working

5.1 The East of England Regional Spatial Strategy (RSS)

The RSS sets out the intentions for further development within Eastern England and covers subject matter such as economic development, housing, the environment, transport, waste management, culture and sport and recreation. It is the early versions of the RSS that have brought new towns such as Cambourne and Northstowe to South Cambridgeshire.

Chapter 9 of the RSS focuses specifically on environmental issues, introducing Policy Env7 (air quality). This particular policy is detailed below:

"Local development documents and local transport plans, having regard to the increased levels of development and associated infrastructure proposed across the region, will include objectives, proposals and policies that seek to:

• reduce or reverse the growth of motor traffic

• encourage infrastructure for cleaner transport fuels such as liquefied petroleum gas (LPG) and compressed natural gas (CNG)

• ensure that new development does not exacerbate air quality in existing and potential air quality management areas (AQMAs)

• pay particular attention to any potential effects on wildlife, where potentially polluting development, increased motor traffic or intensive agricultural facilities producing ammonia, are expected close to sensitive habitats such as Sites of Special Scientific Interest (SSSIs)

• seek to mitigate existing and potential air quality pollution problems."

All Local Authorities are required to produce a Local Development Framework (LDF). The LDF must include policies that address these issues.

5.2 The Local Development Framework (LDF)

The Local Development Framework (LDF) was adopted in July 2007 and replaces the previous Local Plan, published in 2004. It contains a series of Development Plan Documents (DPD's), which set out visions of the future of South Cambridgeshire and the objectives and targets that must be met in order to achieve that vision.

The overall environmental aim of the Local Development Framework is to preserve the biodiversity, historic interest and special character of the landscape and settlements of South Cambridgeshire and to achieve new development, which respects and reinforces local distinctiveness. In doing this, a contribution will be made towards the protection of the regional, national and global environment. This overall aim may be met in a number of objectives:

- To maintain and enhance the character and appearance of South Cambridgeshire's countryside and landscape.
- To protect and enhance the biodiversity of the District, particularly to safeguard wildlife by protecting habitats.

- To protect and enhance the built-environment.
- To safeguard and record the archaeological heritage.
- To protect and improve the quality of the land, water and air environments.
- To reduce energy consumption.

The LDF makes up just one part of the Development plan which itself is made up of statutorily adopted plans within the Council. In summary, the LDF:

- Takes account of national, regional and strategic planning policies,
- Identifies sites for, and requirements of, major development,
- Provides the framework of policies for assessing all planning applications,
- Enables infrastructure and service providers to bring forward their services when needed by new development,
- Enables the public to be fully involved in developing local policies and proposals.

The Local Development Framework contains Policy NE/16, directly linked to air quality. The policy reads:

"1. Development proposals will need to have regard to any emissions arising from the proposed use and seek to minimise those emissions to control any risks arising and prevent any detriment to the local amenity by locating such development appropriately.

2. Where significant increases in emissions covered by nationally prescribed air quality objectives are proposed, the applicant will need to assess the impact on local air quality by undertaking an appropriate modelling exercise to show that the national objectives will still be achieved. Development will not be permitted where it would adversely affect air quality in an Air Quality Management Area."

This policy aims to protect human health and the environment from possible negative effects on air quality caused as a direct result of development and satisfied the requirements of the Regional Spatial Strategy.

In addition to the direct link with air quality emissions, the LDF also contains policies relating to energy efficiency, renewable energy and transport. Policies that will have an impact on local air quality and/or climate change are detailed in Appendix 5.

The LDF will also be responsible for aiding achievement of the Community Strategy (see 5.4) but it is also broken up into the major areas of development called Development Plan Documents (DPDs). The DPDs give the principles and policies to be achieved for the different areas of development, including: Northstowe, Cambridge Southern Fringe and Cambridge East.

Each DPD contains a site specific Area Action Plan for the developments and includes policies that will have a direct impact upon air quality issues, such as sustainable development and cycling and car parking provisions.

Actions

- To encourage pre planning application discussions between the developer and South Cambridgeshire District Council where air quality is a potential concern

- To provide technical and non-technical advice to the Planning department on air quality issues arising from development proposals and planning applications at all stages of the planning process
- To ensure that all policies within the Local Development Framework that have a direct impact on local air quality are working in favour of improving air quality in locations where this is necessary
- To work in close liaison with the planning department in order to seek regular review of the performance of the Local Development Framework against air quality strategy objectives

5.3 Planning Applications

The Health and Environmental Services Department are consultees to the Planning Department when planning applications are received. Consultation includes issuing advice and recommendations where air quality may become an issue during the construction phase and the operational phase of a development.

The Government has recently streamlined the planning application process in an attempt to make the process quicker and easier. The new procedure is called 1APP and has superseded all existing planning application forms (with the exception of minerals) from 6th April 2008. 1APP provides a consistent approach to planning applications and introduces a set of questions that direct the applicant to provide the relevant information with submission of the application to speed up the determination process.

In addition to 1APP, South Cambridgeshire District Council will use, where appropriate, legal agreements in the form of Section 106 agreements. These are made between the local authority and the developer and linked to a planning application. They are also known as planning gain, planning benefits, community benefits or planning obligations.

Section 106 agreements are drawn up under the Town and Country Planning Act 1990 when it is thought that negative impacts cannot be dealt with through planning conditions alone or where the local authority feel that planning conditions may have a negative impact on the progress of the development. Such an agreement is proposed to be used with Northstowe.

In terms of air quality, the local authority can negotiate for the provision of funding for further air quality monitoring work or request that the developer carries out the further monitoring. Other items that may be negotiated include provision of an air quality information service for local residents or the carrying out of further air quality assessment work (including dispersion modelling).

Actions

- To provide technical and non-technical advice to the Planning Department on air quality issues arising from planning applications received with the 1APP forms

- Where appropriate, to negotiate air quality related items on a section 106 agreements to balance any negative impacts that the development may have
- To utilise any revenue obtained through section 106 agreements for air quality purposes.

5.4 The Local Transport Plan (LTP)

The Local Transport Plan gives consideration to air quality issues, as encouraged by the Governments *"freedoms and flexibilities"* agenda and contains input from each of the Local Authorities in Cambridgeshire on their respective air quality issues and concerns.

An Air Quality Action Plan will be required for the AQMA declared for PM_{10} and NO_2 in South Cambridgeshire. It is essential that the Action Plan be created in liaison with Cambridgeshire County Council, the Highways Agency, Huntingdonshire District Council and Cambridge City Council as all actions taken that have an impact on the A14 will impact heavily on the work of each of those Authorities and actions will require the consent of the Highways Agency or Cambridgeshire County Council in all actions proposed for the A14. Actions agreed will be incorporated into the Local transport Plan.

The Local Transport Plan does not take into account the requirement for improved transport and transport links from the proposed new developments surrounding Cambridge.

The Long term Transport Strategy (LTTS) forms a much larger study of the transport requirements within the County.

The Transport Innovation Fund are investigating the possibility of congestion charging within Cambridge City. However, when Elected Members considered congestion charging within South Cambridgeshire, it was decided that it would not be suitable for this District.

In addition, Cambridge City Council and South Cambridgeshire District Council have employed the services of Cambridge Environmental Research Consultants (CERC) to carry out a full and detailed air quality modelling assessment to look at the wider air quality impacts in Cambridgeshire accounting for the transport impacts of the growth agenda.

Actions

- To continue liaison with Cambridgeshire County Council on transport issues
- To supply data, advice and information to Cambridgeshire County Council in order that informed decisions and discussions can be stimulated within the Local transport Plan
- To continue to progress the air quality modelling project with CERC and Cambridge City Council
- To keep up to date on the progress of the air quality modelling project and subsequent report from CERC

5.5 The Local Area Agreement (LAA)

The Local Area Agreement draws on County wide crosscutting themes identified within the local Sustainable Community Strategies. It aims to give a co-ordinated response to vital local issues such as:

- Managing growth
- Economic prosperity
- Environmental sustainability
- Equality and inclusion
- Safer and stronger communities

There are crosscutting issues with air quality, especially within the environmental sustainability and equality and inclusion considerations.

The LAA is focussed upon promoting local community and workforce involvement and generally improving the quality of life and has a strong emphasis on partnership working. Any improvements to local air quality will have impacts on the Local Area Agreement.

Actions

- To liaise with and advise the Policy, Performance and Partnerships corporate area (responsible for South Cambridgeshire District Councils' involvement in the LAA) during the air quality review and assessment process.
- To have regard for the LAA when making development control decisions or decisions made in line with the Environment Act 1995.

5.6 The Sustainable Community Strategy

Under the Local Government Act 2000, all Local Authorities must prepare a Sustainable Community Strategy for promoting issues such as sustainable development and social, economic and environmental well being within their areas. The Sustainable Community Strategy has been created by a partnership including health services, the police, parish councils and business and voluntary sectors, all of which make up the South Cambridgeshire Local Strategic Partnership.

The Sustainable Community Strategy is split into 4 objectives, three of which will impact on air quality. Those with air quality implications are summarised in Table 9, with a description of potential impacts on air quality. Some actions included within the Sustainable Community Strategy relate directly to the Local Development Framework.

Table 9: Factors of the Sustainable Community Strategy Impacting on Air Quality

Factor	Impact
Safe and clean communities	Protecting and enhancing the environment and cleanliness of our communities, actively impacting on the quality of the environment
Building successful new communities	Supporting the delivery of low carbon growth and promoting low carbon lifestyles, reducing emissions to the atmosphere
A sustainable infrastructure and environment	Seeking to minimise climate change through promoting a low energy future, reducing emissions to the atmosphere Promotion of walking and cycling, reducing reliance on cars

Actions

- To liaise with and advise the Policy, Performance and Partnerships corporate area (responsible for Community Development and the Sustainable Community Strategy) during the air quality review and assessment process.
- To have regard for the Sustainable Community Strategy when making development control decisions or decisions made in line with the Environment Act 1995.

5.7 Climate change

On a global scale, climate change has been recognized as a major issue of importance and as one the greatest threats facing the world today. In order to combat the effects of climate change, it is essential to reduce carbon emissions on local, national and global scales.

In line with central Government, South Cambridgeshire District Councils' environmental policies will have a regard for their impact on climate change and greenhouse gas emissions.

There are six known damaging greenhouse gases – carbon dioxide, methane, nitrous oxide, ozone, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride. Nitrous oxide is measured within South Cambridgeshire and the major source within the District is transport.

South Cambridgeshire District Council has accepted the need to address the issue of climate change and along with East Cambridgeshire District Council and Cambridgeshire County Council has signed the Nottingham Declaration for Climate Change upon which, each signatory commits to compliance with the Kyoto Target (a 30% reduction in carbon dioxide emissions by 2010).

A guidance document, The Climate Plan, has been created and adopted by South Cambridgeshire District Council to detail how the Kyoto Target is going to be achieved within the District. Many of the targets identified within the Climate Plan will have a direct impact on local air quality.

Tackling climate change involves the use of mitigation measures such as:

- Using biomass fuels rather than conventional, popular fuels. This results in a lowering of carbon emissions but an increase in particulate emissions through production and transport of the fuel.

- Reduce traffic congestion and encourage the shift to walking and cycling. Whilst this will impact on carbon emissions, it will also help to reduce emissions of particulates and nitrogen dioxide, the two pollutants of the most concern within the District.

- Reducing air pollution from generation of electricity simply by having more energy efficient homes

- To publicise and promote the use of low emission vehicles. It is predicted that approximately 380,000 Tonnes of carbon can be saved per annum by 2020 just through the use of lower emission vehicles.

This air quality strategy recognises that policies to tackle climate change can have benefits for local air quality.

5.7.1 Sustainability and The Climate Plan

The term sustainable development can be defined as *"development that meets the needs of the present without compromising the ability of future generations to meet their own needs"*.

The Council's Local Agenda 21 Strategy was adopted in 1998 based on a number of guiding principles, which are relevant to this strategy: -

- Caring for our biodiversity,
- Encouraging good management of our countryside and environment,
- Encouraging local action.

In addition, South Cambridgeshire District Council has produced a Sustainability Appraisal Scoping Report, which identifies the areas of the Local Development Framework that are relevant to sustainable development.

In addition, the Sustainability Appraisal Scoping Report includes a section on Climate Change and Pollution, within which it discusses the need to reduce waste, emissions of greenhouse gases and pollution in general whilst conserving energy and protecting the local environment. Specific aspects include:

- Reduction of usage of raw materials,
- Renewable energy and energy conservation,
- Waste disposal,
- Quality of life and local environments

Sustainability and the Climate Plan are closely linked in terms of energy efficiency. Both have a target of reducing pollution and conserving energy.

The Home Energy Conservation Act 1995 gives Local Authorities with housing stock, the responsibility of drawing up a strategy which can be used to improve the energy efficiency in all housing (public and private sector). Within South Cambridgeshire, this issue is addressed within the Climate Plan and the Home Energy Efficiency Scheme (HEES).

The South Cambridgeshire District Council Climate Plan was completed in November 2005. The contents of the Climate Plan impact heavily on local air quality. With the reduction of greenhouse gas emissions in mind, some main aims of the Climate Plan are:

- To improve energy conservation within the home
- To improve energy conservation within council owned buildings
- To create partnership working with other organisations, authorities and businesses
- To aid in the creation of the air quality strategy
- To give consideration to mitigation measures such as low emission zones

It is clear from the above points that the Climate Plan will help to improve local air quality.

The **Home Energy Efficiency Scheme** (HEES) is aimed at targeting fuel poverty but will also have an impact on local air quality. Within the HEES, fuel poverty is tackled in many ways but it is energy conservation through education, publicity campaigns and, where appropriate, grant aid, which will impact most directly on local air quality. Improving energy efficiency within the home reduces the concentrations of pollutants being released to atmosphere.

Actions

- When developing air quality action plans, South Cambridgeshire District Council will have regard for the synergy that exists between improving air quality and reducing greenhouse gas emissions
- To aid in the regular review and assessment of the performance of the Climate Plan
- To aid in the implementation of objectives detailed in the Climate Plan by acting upon feasible air quality improvements identified within the air quality action plans
- To work in liaison with the Corporate Sustainability Officer and Private Sector Housing

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5.8 Travel for Work Partnership

South Cambridgeshire District Council is a member of the Travel for Work partnership, which involves a number of local employers. Each of the members of TfW creates a site-specific travel for work plan which details travel arrangements to and from the site.

Actions

- Continued support for the Travel for Work Partnership
- To promote the travel for work partnership wherever possible
- Support the Corporate Travel for Work Plan
- Calculate energy and emissions data for council-owned vehicles

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5.9 Other Guidance

The Guidance and Legislation mentioned previously relates solely to the statutory obligations Local Authorities must carry out. The following Guidance relates to advice and recommendations in terms of planning and air quality.

5.9.1 Planning Policy Statement (PPS) 23

PPS23 applies to England only and advises that the planning system should have a key role when dealing with any development that could either give rise to pollution or be significantly affected by pollution.

Focussing on sustainable development, PPS23 contains advise on pollution control through development control, utilising the various pieces of legislation and guidance as discussed throughout Chapter 3.

In particular, PPS23 clarifies the importance of:

- Pre-application discussions
- The potential effects of existing sources of pollution on new, sensitive developments
- The need to examine the effects of a development on existing air quality and/or air quality management areas.

Actions

- To ensure the use of PPS23 whenever and wherever a significant development is proposed within the District
- To liaise closely with the Planning department and developers at pre-application stage to determine what information is required at the application stage

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5.9.2 NSCA Development Control: Planning for Air Quality

The local planning process has an important role to play in improving air quality, as discussed later in Chapter 6. In addition to PPS23, Local Authorities have guidance supplied by the National Society for Clean Air (NSCA - now, Environmental Protection UK).

The Guidance gives advise and recommendations on all aspects of the development control process with regards to air quality, including:

- The promotion of pre-application discussions,
- When to expect and what to expect from an air quality assessment,
- How to treat an air quality management area when development is proposed within or adjacent to it,
- How to assess the significance of the impact of a development on air quality,
- Possible mitigation measures to protect the development and the existing environment.

Actions

- To ensure that the Guidance is used whenever major developments are proposed in areas of poor air quality or where the development could worsen local air quality significantly.
- To use the Guidance in conjunction with all other relevant documents.
- To ensure that the relevant person(s) within the Planning Department are aware of the NSCA Guidance.
- To keep up-to-date on the Guidance available.

5.10 Performance Monitoring

Performance monitoring of services within South Cambridgeshire District Council is carried out using a set of National Indicators (NI's). As of April 2008, the NI's have replaced the previous system of Best Value Performance Indicators (BVPI) and Performance Assessment Frameworks (PAF's).

South Cambridgeshire District Council has adopted a "Health Card", whereby specific National Indicators (including NI194) have been added to the card and are measured by specific local Performance Indicators in order to rate performance. A total of 35 National Indicators have been selected as the most appropriate to the local situation. These have now been agreed by the Government Office.

Actions

- To review the performance of the Council against National Indicators relating to air quality using the Health Card.
- To continue to work towards improving Council performance against the National Indicators and stride towards a clean bill of health.

5.11 Provision of Public Information

South Cambridgeshire District Council maintains and updates its' own air quality web pages where basic information on air quality can be obtained by the public. In addition to this, all the air quality reports prepared to date can be downloaded.

The webpage contains a link to a more detailed South Cambridgeshire air quality website which is maintained and updated by AEA Technology. From this page, archived and current air quality data can be downloaded along with specific detail about the air quality monitoring stations within the District. It is the responsibility of South Cambridgeshire District Council to inform AEA Technology of any updates, changes or problems with the website.

In addition to web-based information, the public can request air quality data either over the phone or in writing. Information and data will be provided within 3 days of the information request as long as the data is publicly available.

Actions

- To continue to monitor, update and maintain the Councils' own air quality webpages.
- To continue to monitor the Councils' air quality webpages run by AEA Technology and to inform them of any problems, updates and maintenance issues.
- To continue to supply data to the public, as and when requested in line with all appropriate data request regulations and legislation.
- To be transparent at all times with regards to publicly available information.

6.0 What Next.……..

There are two main areas of further actions: the development control process and the air quality review and assessment process.

6.1 Development Control and The Developers Guide to Air Quality

Air quality is a consideration during the planning process when:

- Developments are proposed in areas where air quality is already poor,
- Developments will give rise to a significant increase in traffic.

It is recognised that detailed air quality assessments can be confusing, time consuming and difficult to understand, especially during the air quality modelling stage of the assessment. It is with this in mind that South Cambridgeshire District Council is producing a guide for developers.

The purpose of the guide is to assist developers and their advisors to understand and be aware of what information South Cambridgeshire District Council (SCDC) will need to assess an application for planning consent on land which is or may be affected by poor air quality. The guidance will enable the swift processing of planning applications for developments proposed in areas that are either potentially affected by poor air quality or developments that may significantly worsen air quality.

The guidance aims to indicate the extent of the assessment and gives an indication as to all details required by SCDC to satisfy its statutory responsibilities at the initial planning application stage, in relation to Part 4 of the Environment Act 1995. The Council aims to ensure that good practice is adopted in dealing with air quality issues.

The developer should show that any air quality assessment carried out has covered the main topics detailed with the guidance and is in accordance with the requirements of South Cambridgeshire District Council.

“The Developers Guide to Air Quality” will be available on the Councils’ air quality web pages located at:
http://www.scambs.gov.uk/Environment/Pollution/AirPollution/airquality.

Where it is thought developments will be impacted by poor air quality, the Planning Officer overseeing the project will be advised of the benefits of supplying the developer either with a copy of the guidance document or directing the developer to the web-link above.

Actions

- To ensure a consistent approach to dealing with air quality for all proposals that will be affected by or may cause poor air quality
- To ensure that developers and their advisors are aware of the requirements of South Cambridgeshire District Council in terms of air quality assessment
- To ensure that the policies relating to air quality within the Local Development Framework are appropriately considered
- To aid in the promotion and development of sustainable projects

6.2 Air quality review and assessment

The process of air quality review and assessment will continue for the short, medium and long term. It is envisaged that air quality objectives will become more stringent in future years.

South Cambridgeshire District Council will look to improve and extend the air quality monitoring network within the District and bring air quality issues to the forefront of planning and decision making with the Council.

6.2.1 Determining an Air Quality management Area (AQMA)

The air quality review and assessment process involves detailed assessment of existing air quality monitoring data and predictions of future air pollution levels using air quality modelling techniques.

The air quality models enable a contoured output to be given based upon pollutant concentrations around specified receptors. Using statistical analysis, it is possible to draw the boundary of the air quality management area. This will usually be based upon the 95^{th} percentile confidence level although there are varying methods of carrying out this exercise depending upon local circumstances (for example, availability of actual monitored data).

A percentile is a value of a variable below which a certain percentage of observations fall. It is widely regarded that the 95^{th} percentile gives a sufficient enough confidence that a receptor outside this level will not experience air pollution levels above the air quality objectives. As an example; the annual air quality objective for nitrogen dioxide is 40µg/m^3 the boundary for the air quality management area would be drawn at approximately 38µg/m^3 (95% of 40), this leaves a scope for error within the model.

On acceptance of the proposal of the air quality management area by DEFRA and then by Council members, the final report is sent out to statutory consultees and, where it is thought necessary, to non-statutory consultees. Following consultation, an order is drawn up under Section 83 of the Environment Act 1995, officially declaring the AQMA.

Following declaration, an air quality action plan must be drawn up to identify suitable mitigation and pollution methods that can be employed so that target levels can be achieved.

6.2.2 Identify stakeholders

A stakeholder can be defined as any person, organisation or Authority who has an interest in land and any issues that may affect that land.

Each stakeholder will have an interest in local air quality for varying reasons such as; wanting an improvement to the environment they live and work in, wanting to ensure that mitigation measures do not have a serious impact on their lives or business or wanting to ensure that actions to tackle air quality will not cause problems in areas of other enforcement regimes.

Interested parties will include:

- Cambridgeshire County Council

- Transport Planners
- Highways Agency
- Environment Agency
- The Health Protection Agency
- Cambridge City Council – Environmental Health/Planning
- South Cambridgeshire District Council
- Council Members
- Local industry
- Local business
- The public (residents)
- The public (pressure groups)

These groups also form the list of statutory and non-statutory consultees, with whom South Cambridgeshire District Council must consult when preparing to issue final documents drafted during the air quality review and assessment process.

Specific roles of the main Authorities and Agencies are detailed in Tables 10, 11 and 12, below:

Table 10: The Role of South Cambridgeshire District Council

Local Authority	**Sub-division**
Planning and Sustainable Communities	Development Control
	Appeals
	Planning Policy
	Building Control
	Major Developments
Health and Environmental Services	Environmental Health and Protection
	Waste Management
	Fleet Management
	Taxi Licensing
Policy, Performance and Partnerships	Community Development
	Community Strategy and Local Partnership
	Corporate Projects
	Policy and Performance
	Communications
	Climate Change
	Sustainability

Table 11: The Role of Cambridgeshire County Council

County Council Dept	**County Council Sub-division**	**County Council Plan, Strategy or Procedure**
Corporate		Community Strategy
		Sustainability
Environment	Transport planning	Local Transport Plan
	Mineral planning	Minerals Plan
	Waste management	Waste Management
	Planning	Structure Plan

Table 12: The Role of Other Authorities and Agencies

Agency or Group	Contact	Procedure
Environment Agency	Process Inspector	IPPC/IPC Authorisations
	LEAPs Officers	Local Environment Action Plans
	Regional Air Pollution	
Highways Agency	Network and Customer Service (NCS) Area Teams	
	East Anglian Regional Officers	
Primary Care Trusts (PCTs) and Health Protection Agency (HPA		Health Improvement Programmes and Health Protection Committees

6.5 Priority Actions

A series of priority actions have been identified to give an indication of the future direction of air quality studies. These actions are listed in Table 13, below:

Table 13: Priority Actions

Priority Action	Reason
To implement the air quality strategy	Set out the Councils policy on improvements to air quality
To continue to monitor nitrogen dioxide at relevant locations using diffusion tubes	Measurement of existing air quality levels
To continue to monitor nitrogen dioxide at relevant locations using real time continuous analysers	Measurement of existing air quality levels
To continue to monitor particulate matter at relevant locations using real time continuous analysers	Measurement of existing air quality levels
To replace the existing air quality monitor	Ensuring accuracy of data monitoring
To expand the air quality monitoring network within the District	To give a better coverage of air quality monitoring which enable more detailed analysis and prediction of existing air quality
To create an achievable Air Quality Action Plan that contains air quality improvement actions that can be implemented within a reasonable time frame and without excessive costs to help improve air quality within the District	To work towards improving air quality, with in mind to achieve air quality objectives, have the existing AQMA's revoked and to improve the quality of life across the District
To carry out further detailed assessments of both nitrogen dioxide and particulate matter	To ensure that the conclusions of the first detailed assessments remain true prior to implementing potentially very expensive mitigation measures
To keep DEFRA informed of progress towards achieving better air quality through the creation of progress reports and further detailed assessments	This is a statutory obligation
To continue to work towards the goals of the Local Development Framework whilst achieving the aims and targets required by the Air Quality Strategy	To ensure that new development proposed for the District does not have a detrimental impact on local air quality

Investigate the option available to encourage operators of taxi's and private hire vehicles to provide a more environmentally sustainable fleet	To encourage sustainable transport through the taxi licensing regime
To continue to work closely with the Planning Department	To ensure that the statutory obligations of Environmental Health are being met whilst still meeting the statutory obligations of the Planning Department
To review the Environmental Health Enforcement Policy and other relevant policies against the proposed Statutory Regulators Compliance Code requirements	To ensure the Environmental Health Service meets best regulatory practice and complies with the requirements of the Statutory Code
To review the requirements placed on the service as a result of the Regulatory Enforcement and Sanctions Bill including Primary Authority Principle and guidance issued by Local Better Regulation Office	To ensure the Environmental Health Service meets best regulatory practice and complies with the requirements of the Act and is in a position to use the new sanctions regime

7.0 Local Authority Enforcement Options

7.1 Traffic

The air quality management area alongside the A14 is attributable primarily to road traffic. When considering road traffic, enforcement action is possible but is dependant upon whether or not the Council sees advantage in applying for extra regulatory powers. Examples include:

Roadside vehicle emissions testing: which may result in a fixed penalty notice if a failure is recorded

Idling engines: fixed penalty notices for drivers of vehicles (including taxi fleets and buses) who leave engines idling unnecessarily.

The examples given above will be assessed for feasibility and cost-benefit within the Councils' Air Quality Action Plan.

7.2 LAPPC and LA-IPPC - Service of improvement notices

South Cambridgeshire District Council has a statutory duty to assess the emissions from Part A2 and Part B processes. As discussed in Chapter 3, a Permit is issued to each installation as required. If, at any time, installations under Local Authority control show unsatisfactory performance against the Permit, the Council will serve a prohibition or improvement notice under the Environmental Permitting Regulations 2007, requiring that emission limits stated within the Permit are achieved or releases to the environment are adequately controlled.

Such notices will be accompanied with a time frame over which the works or improvements must be carried out.

7.3 Part 3 of the Environmental Protection Act 1990 - Statutory Nuisance

Although Part 3 of the Environmental Protection Act does not enable strict control over emission limits from industrial premises, it can be used to take enforcement action on any premises where a statutory nuisance is being caused.

The IPPC Regulations will cover most polluting industries, however, statutory nuisance can be used to control any noxious or smoky emissions from premises not under the IPPC umbrella.

Enforcement action in the form of abatement notices, which requires the statutory nuisance to be abated either from immediate effect or within a time-frame specified by the enforcing Authority.

When considering the content of a Permit for renewal, complaints of statutory nuisance against the premises can be taken into account although the primary legislation used for enforcement action remains the Pollution Prevention and Control Act 1999.

7.4 Clean Air Act

The Clean Air Act 1993 makes it an offence to cause or knowingly permit a furnace to be used to:

- burn pulverised fuel, or
- burn any solid matter at a rate of 45.4kg or more an hour, or
- burn any liquid or gaseous matter at a rate equivalent to 366.4kW or more, unless the height of the chimney has been approved by the Council and any conditions attached to approval have been complied with.

When a new boiler or other heating plant is to be installed it is necessary to obtain approval for the height of the chimney to be used in conjunction with the appliance. This must be carried out through the Clean Air Act 1993. Applications for chimney-stack height should be made to South Cambridgeshire District Council.

In addition, it is an offence to emit dark smoke from any furnace or chimney from any building and for new installations to emit dust or grit.

Complaints involving any of the above received by South Cambridgeshire District Council will be dealt with under the Clean Air Act 1993. Enforcement notices can be served, legally requiring abatement of the problem.

8.0 Liaison and Communication

The overarching objective of any communication undertaken is to be open, accessible, receptive and responsive. A summary of the formal consultation stages expected to be encountered within the operation of this Strategy are given below:

8.1 Statutory Consultees

Under the Environment Act 1995, the council is required to consult formally on its strategy prior to adoption. In particular, Schedule 11 of the Act provides the minimum legal requirements for the consultation procedure. The statutory consultees for the purposes of air quality are:-

- Environment Agency
- Department for Environment, Food and Rural Affairs (Formally Ministry of Agriculture, Fisheries and Food)
- Regional Development Agency
- Cambridgeshire County Council

8.2 Non-Statutory Consultees

There is great scope for members of the public, businesses, voluntary organisations and neighbouring authorities to play an important role in dealing with air quality issues within the District. Efforts will be made to encourage participation in the problem solving process of improving local air quality, recognising the valuable contribution of these sectors. Parish Councils especially are seen as an important source of local information in this area.

A collaborative approach to dealing with air quality issues will be created and built upon with the support of the Public Health Specialist in the Environmental Health Department and the Community Strategy and Local Strategic Partnership Service in the Policy, Performance and Partnerships Department to raise the profile of the strategy.

8.3 Communicating with Residents Living Within an AQMA

Part of the Council's regulatory duty is to declare an air quality management area if National Air Quality Objectives are not being met. At present, there are two such AQMA's affecting properties within Impington, Histon, Girton and the Bar Hill area.

The regulations provide an incentive to undertake voluntary action, in that any materials that require disposal as a result of voluntary remediation will be exempt from landfill taxes. This exemption does not apply to materials generated as a result of compliance with a remediation notice and therefore acts as an incentive to undertake the work voluntarily. This approach requires effective communication with owners, occupiers and other interested parties.

Where a formal designation of an AQMA is required, the following actions will be undertaken:

- Write to the owner and/or the occupier of the property at least 5 working days prior to designation, explaining in summary the reason for designation

- If requested, dispatch a copy of the Detailed Assessment to the owner and/or occupier of the property within 5 working days of receipt of a request
- Write to the owner/occupier of neighbouring properties and/or the complainant within 5 working days of designation.

8.4 Communication with the Public

Air quality is a complex issue by virtue of the many varying factors that effect releases of emission and plume dispersion. There will always exist a difficulty in explaining health, social and environmental impacts of poor air quality to the layperson.

Effective risk communication is important. It may be that elevated levels of pollution will be perceived differently in terms of risk between local residents and the expectations of some residents may not be able to be met under the current National Air Quality Strategy. However, the Council will maintain an open, transparent and honest stance when communicating air quality issues to the public.

The Air Quality Management Areas within South Cambridgeshire will include many private residential premises. Therefore, it is important that every effort is made to engage owners and occupiers of these premises in a consultation process.

Careful consideration needs to be given to those groups or individuals who are most at risk from the hazards posed by poor local air quality, such as the elderly, the very young and those who already suffer from respiratory ailments, for example, asthma.

In addition, with many people, it is assumed that air quality relates primarily to climate change. Whilst this is a major issue that we must tackle, it is also critical to relay the potential impacts on human health and quality of life when dealing with local air quality.

The Council will treat any concerns raised by a member of the public seriously and with respect, recognising the importance of the issue to that group or individual.

8.5 Key Contacts within the Council

Statutory Air Quality – All queries relating to air quality will be handled by the Health Protection Unit (HPU) of the Environmental Health Department. This team is lead by the Health Protection Team Leader and supported on air quality issues by the Scientific Officer (Air Quality). Statutory air quality information is passed to the Planning Department in order that they may fulfil their planning obligation under the Development Control Plans and Local Development Framework.

Planning Issues – Within the HPU, an Environmental Health Officer (Planning Specialist) acts as the liaison officer between planning and environmental health and works in close communication with the Health Protection Unit Team Leader, the Scientific Officer (Air Quality) and the Local Planning Authorities.

The Health Protection Unit is consulted on all planning applications that may have an impact on local air quality. Recommendations and advice are passed between the HPU and the Planning department via the EHO (Planning Specialist).

8.6 Provision of Information to Cambridgeshire County Council

Cambridgeshire County Council is responsible for creating and progressing major local and regional strategies such as the Local transport Plan (LTP) and the Regional Spatial Strategy (RSS). Such strategies have a direct impact on the local air quality.

With this in mind, it is vital that Cambridgeshire County Council has up-to-date and detailed air quality information supplied by all Local Authorities within the County.

Cambridgeshire County Council are actively involved in the Updating and Screening Assessments and the Progress Reports carried out across Cambridgeshire. The active involvement is encouraged by all the District Councils' throughout the County and helps with the development of major documents such as the Local Transport Plan.

8.7 Public Information

Air Quality Monitoring and information is available upon request to the Environmental Health Department at South Cambridgeshire Hall or freely available on the South Cambridgeshire District Council Air Quality webpages via the following link: (http://www.scambs.gov.uk/Environment/Pollution/AirPollution/airquality.htm).

The web page allows the user to view information on:

- Diffusion tube data (historic and current)
- Download monitoring and modelling reports
- Non-technical detail about pollutants of concern
- Links to other useful internet sources
- Download archived and up-to-date monitoring and modelling reports

The web page contains a link to a second South Cambridgeshire Air Quality website (http://scambs-airquality.aeat.co.uk/) which is run and maintained by AEA Technology on behalf of the Council. From this webpage, the user can:

- View daily air pollution forecasts within the District
- Download current and archived continuous monitoring data
- View detailed information on the continuous monitors within the District
- Download information on pollutants of concern.

The content of the web pages is regularly reviewed and updated.

There is also a public register containing the Permit details of the LAPPC processes within the District. This information, along with Air Quality Monitoring and Modelling information can be obtained during office hours, Monday to Friday, at the following location: -

South Cambridgeshire Hall
Cambourne Business Park
Cambourne
Cambridge
CB3 6EA.

Tel: 08450 450 063
Fax: 01954 443248
e-mail:env.health@scambs.gov.uk

8.8 Information management

In order to implement the strategy, a large amount of information must be gathered relating to monitoring results, traffic information and development proposals. All information will be subject to in-house quality assurance and control procedures covering:-

- Data verification, authenticity and accuracy of information entered and retrieved;
- Responsibilities and procedures for those handling information;
- Measures to keep the information safe from loss, damage or deterioration and to prevent unauthorised access or amendment; and
- Periodic audits of the system.

However, there will also be information gathered during the strategy about particular processes or movements, which is not prescribed for entry into the public domain. The Council will ensure that the relevant Acts will be complied with in respect of data protection and access to environmental information.

8.8.1 The Data Protection Act 1984 applies to all personal data that is processed automatically. This will have the greatest impact when details of specific properties lying within an air quality management area exist.

8.8.2 The Freedom of Information Act 2000 applies to all public bodies in the United Kingdom. It introduces a public “right to know”. Requests for information can be made either verbally or in writing. A standard procedure for responding has been incorporated as Council policy.

8.8.3 The Environmental Information Regulations 2004 require public bodies, including local authorities, to make available to any person who requests it information relating to the environment within two months of the request. Notwithstanding the requirements of the Regulations, requests for information held by the Council as part of the Strategy will be responded to promptly and within 10 days of receipt of the enquiry wherever possible.

8.9 Exemptions

Under the Freedom of Information Act 2000 and the Environmental Information Regulations 20 04, information can be withheld if it falls under one of the exemption categories. Exemptions are listed in Appendix 6.

9.0 Review Mechanisms

Periodic review of the strategy is essential to ensure that it is up to date. Statutory guidance gives recommendations on the frequency at which further reporting should be carried out. This will be an on-going process within the terms of the strategy as defined and the review types are described below.

9.1 Progress Reports

The progress reports are a continuation of the LAQM process and prevent the rolling program of air quality management from becoming stagnant. In particular, the progress reports include:

- Reporting of annual results
- Detail of ongoing work towards improving air quality
- Detail of major changes within the District that may impact local air quality

The next progress report is expected by the end of April 2008

9.2 Updating and Screening Assessment (USA)

The USA is used to determine whether or not a detailed assessment for a pollutant is required. The USA's are completed periodically by all Local Authorities. The next is expected by the end of April 2009. It aims to:

- Clearly identify locations and pollutants of concern

- Provide the evidence required to support the conclusion to proceed or not to proceed to a detailed assessment

- To identify factors that may result in the recommendation of a Detailed Assessment where there was no requirement previously. This may be due to any of the following:

    - Addition of receptors where none previously existed
    - Above average traffic growth
    - Major changes to transport infrastructures
    - Revocation or addition of Permits

9.3 Further Assessment

Further detailed assessments are required to be submitted 12 months after the declaration of an AQMA. The further assessments have the following uses:

- To confirm the original assessment of air quality and to show that the Council was right to declare the Air Quality Management Area in the first place;

- To calculate more accurately how much of an improvement in air quality will be required to deliver the air quality objectives within the Air Quality Management Area;

- To refine knowledge of the sources of air pollution so that an Air Quality Action Plan can be prepared;

- To take account of any local or national policy developments which have come to light since the Air Quality Management Area was declared;

- To report on further real-time monitoring of air quality carried out in the borough

- To investigate whether the assumptions on which the Air Quality Management Area has been based are still valid

- To check whether or not the AQMA is still valid.

9.4 Air Quality Action Plan (AQAP)

Air Quality Action Plans are required to be submitted to DEFRA between 12 and 18 months after declaration of the AQMA. The AQAP serves to:

- Bring together all interested parties in steering groups to enable open discussion and communication on the best ways forward

- Assess all potential improvement schemes in terms of
  - ✓ Cost
  - ✓ Feasibility
  - ✓ Overall benefits
  - ✓ Implementation timescales
  - ✓ Detrimental impacts of schemes on local social, economic and environmental factors

- Come to decisions on the most locally appropriate and feasible schemes to take to the next level of implementation

- To build upon the air quality strategy and to provide further basis for continuing air quality improvements.

Actions

- To submit to DEFRA air quality action plans relating to any air quality management area declared within 18 months of declaration of that AQMA,
- To identify and research all possible air quality improvement tools and policies for cost, implementation time and feasibility of implementation,
- To work in close liaison with Cambridgeshire County Council, Cambridge City Council and Huntingdonshire District Council when researching and implementing the air quality action plan,
- To work closely with all consultees and interested parties when creating and implementing the air quality action plan

9.5 Reviewing Performance

In October 2007, the Government set a new series of National Indicators for Local Authorities to measure their performance against. The Indicators are explained in the document “National Indicators for Local Authorities and Local Authority Partnerships: Handbook of Definitions” published by the Government Department “Communities and Local Government”.

National Indicator "NI 194" relates specifically to the level of air quality and is defined as:

"… reduction in NO_x and PM_{10} emissions through local authority's estate and operations."

In order to achieve this aim, this Council will need to undertake a review of vehicle emissions and heating installations associated with functions and buildings within its ownership. In order to reduce these emissions, policy measures will need to be implemented to control and/or abate emissions. These are exemplar actions, which could be used to promote such activities that improve local air quality.

In addition, the same factors to achieve good results against NI194 are also used to achieve good results against NI184 (CO_2 reduction from Local Authority operations), NI186 (per capita reduction in CO_2 emissions in the Local Authority area) and NI188 (adapting to climate change), all of which relate to climate change.

The Health and Environmental Services department will work closely with other relevant Departments within the Council, providing advice and data that will enable assessment of performance against these objectives.

As a process of showing achievement of the National Indicators, South Cambridgeshire District Council has adopted a "Health Card". Specific national Indicators (including NI194) have been chosen to be incorporated onto the Health Card, which will then be used to assess performance of the Council against those indicators.

Actions

- To provide data and advice, as requested by other Council Departments, to enable review of Council performance against relevant National Indicators,
- To support council-wide policy on local environmental improvements and tackling climate change
- To actively manage performance using the National Indicators included on the Health Card to monitor the achievements of the Council.

9.6 Reviewing the strategy

As part of the overall quality management of this work, it is important to consider the need to review the strategy from time to time. This strategy is relevant for 5 years (2008 to 2013), after which, a review programme will take account of:

- Changes to existing legislation, Regulations or the National Air Quality Strategy,
- Introduction of new legislation or Regulations,
- Changes in local circumstances (for example, revocation of an AQMA),
- Introduction of new sources of industrial emissions

- Updates or changes to existing Council policy and/or guidance (including Cambridgeshire County Council)

- Introduction of new, relevant Council policies and/or guidance (including Cambridgeshire County Council)

The strategy will be finalised following consultation and work will then begin on further detailed assessments for the pollutants of concern and an Air Quality Action Plan.

Appendix 1 – NAQS Objectives

Summary of objectives of the National Air Quality Strategy			
Pollutant	**Objective**	**Measured as**	**To be achieved by**
Benzene All Authorities	16.25 µg/m^3	Running Annual Mean	31 December 2003
Benzene Authorities in England and Wales only	5 µg/m^3	Annual Mean	31 December 2010
Benzene Authorities in Scotland and Northern Ireland only	3.25 µg/m^3	Running Annual Mean	31 December 2010
1,3-Butadiene	2.25 µg/m^3	Running Annual Mean	31 December 2003
Carbon monoxide Authorities in England, Wales and Northern Ireland only	10.0 mg/m^3	Maximum daily running 8 Hour Mean	31 December 2003
Carbon monoxide Authorities in Scotland only	10.0 mg/m^3	Running 8 Hour Mean[a]	31 December 2003
Lead	0.5 µg/m^3	Annual Mean	31 December 2004
	0.25 µg/m^3	Annual Mean	31 December 2008
Nitrogen dioxide[b]	200 µg/m^3 Not to be exceeded more than 18 times per year	1 Hour Mean	31 December 2005
	40 µg/m^3	Annual Mean	31 December 2005
Nitrogen Oxides**	(V) 30 µg/m^3	Annual Mean	31 December 2000
Ozone*	100 µg/m^3	Running 8 hour Mean Daily maximum of running 8 hr mean not to be exceeded more than 10 times per year	31 December 2005
Particles (PM10) (gravimetric)[c] All authorities	50 µg/m^3 Not to be exceeded more than 35 times per year	24 Hour Mean	31 December 2004
	40 µg/m^3	Annual Mean	31 December 2004
Particles (PM10) Authorities in Scotland only[d]	50 µg/m^3 Not to be exceeded more than 7 times per year	24 Hour Mean	31 December 2010
	18 µg/m^3	Annual Mean	31 December 2010
Poly aromatic hydrocarbons[e]	0.25 ng/m^3 B(a)P	Annual Mean	31 December 2010
Sulphur dioxide	266 µg/m^3 Not to be exceeded more than 35 times per year	15 Minute Mean	31 December 2005
	350 µg/m^3 Not to be exceeded more than 24 times per year	1 Hour Mean	31 December 2004

	125 µg/m^3 Not to be exceeded more than 3 times per year	24 Hour Mean	31 December 2004
	(V) 20 µg/m^3	Annual Mean	31 December 2000
	(V) 20 µg/m^3	Winter Mean (01 October - 31 March)	31 December 2000

Notes:

a. The Quality Objective in Scotland has been defined in Regulations as the running 8-hour mean, in practice this is equivalent to the maximum daily running 8-hour mean.

b. The objectives for nitrogen dioxide are provisional.

c. Measured using the European gravimetric transfer sampler or equivalent.

d. These 2010 Air Quality Objectives for PM 10 apply in Scotland only, as set out in the Air Quality (Scotland)Amendment Regulations 2002.

e. Not included in regulations

µg/m^3 - micrograms per cubic metre

mg/m^3 - milligrams per cubic metre

*Ozone is not included in the Regulations

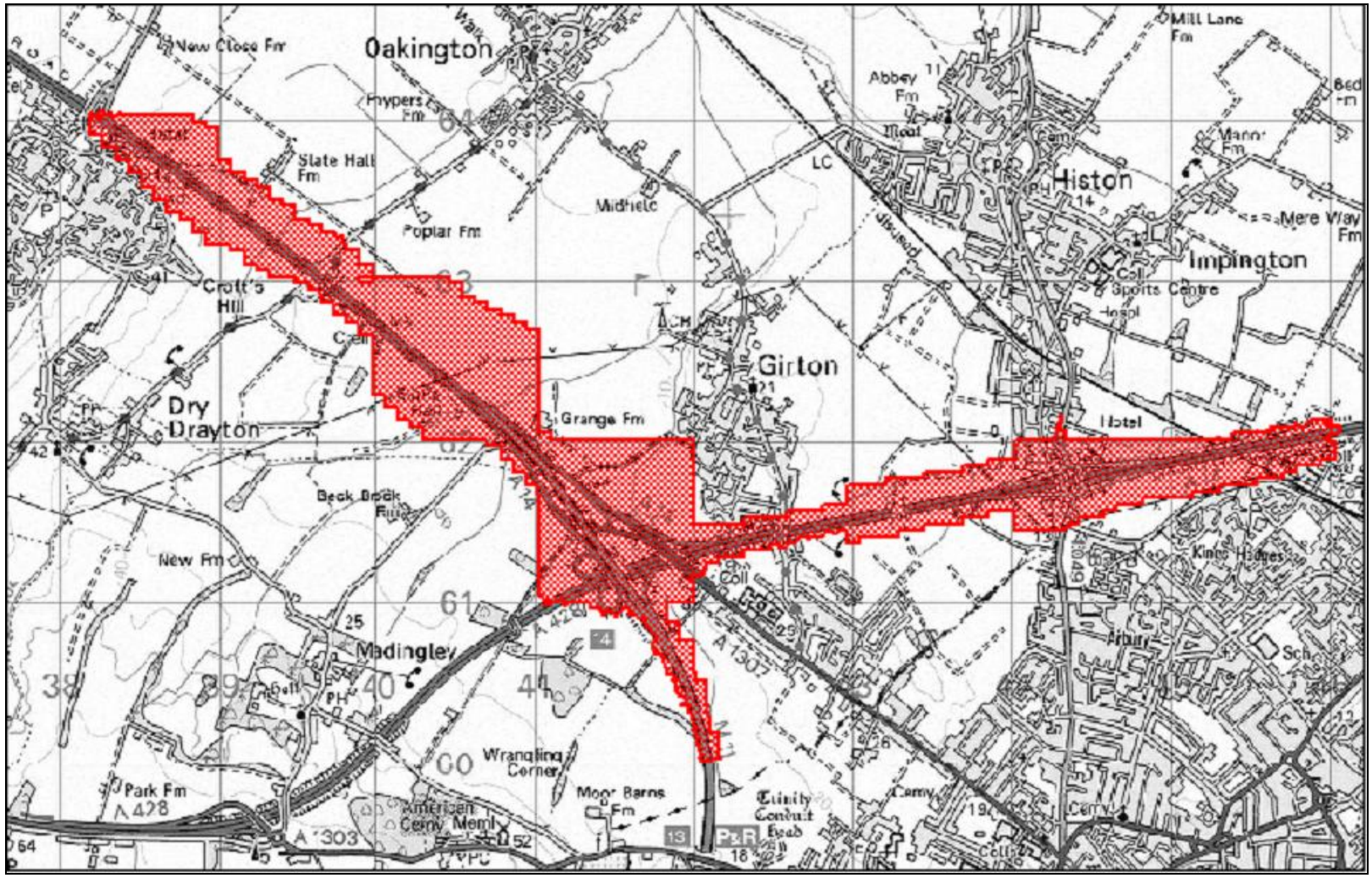
** Assuming NOx is taken as NO2

(V) These standards are adopted for the protection of vegetation and ecosystems. All of the remainder are for the protection of human health.

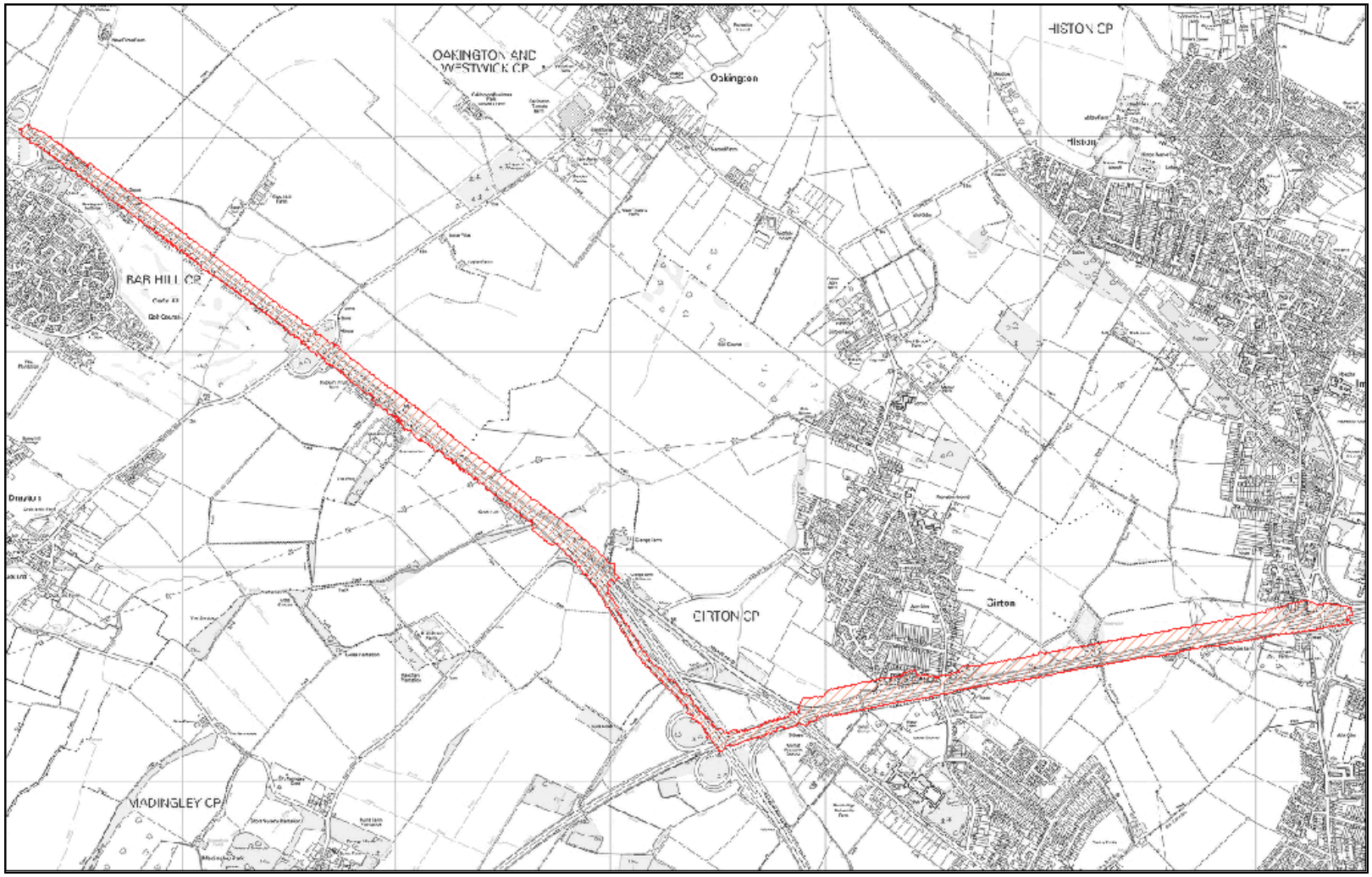
New particle objectives for England, Wales, Northern Ireland and Greater London not included in Regulations

Region	Objective	Measured as	To be achieved by
Greater London	50 µg/m^3 not to be exceeded more than 10 times per year	24-hour Mean	31 December 2010
Greater London	23 µg/m^3	Annual Mean	31 December 2010
Greater London	20 µg/m^3	Annual Mean	31 December 2015
Rest of England, Wales and Northern Ireland	50 µg/m^3 not to be exceeded more than 7 times per year	24-hour Mean	31 December 2010
Rest of England, Wales and Northern Ireland	20 µg/m^3	Annual Mean	31 December 2010

Appendix 2 – Predicted Area of Exceedence of the Annual Mean Average Concentration of NO_2 Boundary of Current AQMA



Appendix 3 – Predicted Area of Exceedence of 24 Hour Mean Concentration of PM_{10} included within Air Quality Management Area



Appendix 4 – Prescribed Processes in South Cambridgeshire

Register of PPC permitted installations in South Cambridgeshire - 2007/08		
Operator	**Prescribed process**	**Address of process**
W J Nightingale	Waste Oil Burner	As operator address
Nightingale's Garage		
London Road		
Sawston		
Cambridge CB2 4EF		
Panther Taxis Ltd	Waste oil burner	As operator address
The Warehouse		
Convent Drive		
Waterbeach		
Cambridge		
CB5 9QT		
David Hayward	Waste oil burner	As operator address
Over Garage		
27 High Street		
Over		
Cambridgeshire		
CB4 5ND		
Geoff Sturgess and Ian McNulty	Waste oil burner	Autostore
PO Box 833		Unit 1, Newton Hall
Harston		Town Street
Cambridge		Newton
CB2 5ZG		Cambridgeshire
		CB2 5PE
Murketts of Cambridge Limited	Petrol	Murketts of Cambridge Limited
137 Histon Road		47/49 London Road
Cambridge		Stapleford
CB4 3JD		Cambridge
		CB2 5DG
Duxford Service Station Limited	Petrol	As operator address
Duxford Service Station		
Newmarket Road		
Duxford		
Cambridge		
CB2 4QQ		
WM Morrison Supermarket PLC	Petrol	WM Morrison Supermarket
Hilmore House		Broad Street
Thornton Road		Cambourne
Bradford		Cambridgeshire
W Yorks		CB3 6EY
BD8 9AX		
Granta Garage Filling Station	Petrol	As operator address
Bypass Road		
Linton		
Cambridge		
CB1 6NL		

State Oil Ltd	Petrol	Worsted Filling Station
1 Old Watford Road		A11 Babraham
Bricket Wood		Nr. Cambridge
St. Albans		CB2 4AX
Herts		
AL2 3RS		
Marshall Motor Group Ltd	Petrol	Marshall Motor Group Ltd
Accounts Department		Teversham Corner
Teversham Corner		Service Station
Service Station		Newmarket Road
Newmarket Road		Cambridge CB1 5AS
Cambridge		CB1 5AS
CB1 5AS		
Total UK Ltd	Petrol	Lolworth Service Station
40 Clarendon Road		Huntingdon Road
Watford		Lolworth
Herts		Cambridge
WD1 1TQ		CB3 8DR
Mark Larway	Petrol	Cambridge Service Station
Extra MSA Forecourts Ltd		A14 Boxworth
8 Castle Hill		Cambridge
Lincoln		
LN1 3AA		
Tesco Stores Ltd	Petrol	Tesco Stores Ltd
PO Box 400		Cambridge Road Ind Estate
Cirrus Building		Milton
Shire Park		Cambridge
Welwyn Garden City		CB4 6AZ
Herts AL7 1AB		
Tesco Stores Ltd	Petrol	Tesco Stores Ltd
PO Box 400		15-18 Viking Way
Cirrus Building		Bar Hill
Shire Park		Cambridge
Welwyn Garden City		CB3 8EL
Herts AL7 1AB		
Pace Petroleum Ltd	Petrol	Q8 Girton
Purchase Ledger		Huntingdon Road
Burgan House		Girton
The Causeway		Cambridge
Staines		CB3 0LQ
Middlesex		
TW18 3PA		
Pace Petroleum Ltd	Petrol	Q8 Arrington
Purchase Ledger		15 Ermine Way
Burgan House		Arrington
The Causeway		Royston
Staines		Herts
Middlesex		SG8 0AD
TW18 3PA		
Pace Petroleum Ltd	Petrol	Q8 Waterbeach
Purchase Ledger		A10 Ely Road
Burgan House		Landbeach
The Causeway		Cambridge
Staines		CB4 9NW
Middlesex		
TW18 3PA		

Elite Cars (Cambridge) Limited	Petrol	Elite Fuels
18 Cambridge Road		Cambridge Road
Foxton		Foxton
Cambridgeshire		Cambridge
CB2 6SH		CB2 6SH
Shell UK Limited	Petrol	Shell Gibbet (142)
Shell Centre		St Neots Road
London		Caxton
SE1 7NA		Cambridge
		CB3 8PD
Shell UK Limited	Petrol	Shell Fourwentways
Shell Centre		Little Abington
London		Cambridge
SE1 7NA		CB1 6AR
A & A Chapman Limited	Petrol	As operator address
Acorn of Abington		
Cambridge Road		
Little Abington		
Cambridge		
CB1 6BS		
BP Oil UK Ltd	Petrol	Whittlesford Service Station
Witan Gate House		Whittlesford Bridge
500-600 Witan Gate		Pampisford
Milton Keynes		Cambridge
MK9 1ES		CB2 4HD
BP Oil UK Ltd	Petrol	Childerley Gate Filling Station
Witan Gate House		St Neots Road
500-600 Witan Gate		Dry Drayton
Milton Keynes		Cambridge
MK9 1ES		CB3 8AY
Wallis & Son Ltd	Petrol	As operator address
Cavendish House		
Cambridge Road		
Barton		
Cambridge		
CB3 7AR		
Buckingham & Stanley	Petrol	As operator address
34 Station Road		
Histon		
Cambridge		
CB4 4LQ		
Harston Service Station	Petrol	As operator address
High Street		
Harston		
Cambridge		
CB2 5QB		

Totalfina GB Ltd	Petrol	Flint Cross Service Station
40 Clarendon Road		Newmarket Road
Watford		Heydon
Herts		Royston
WD1 1TQ		Herts
		SG8 7PN
Helen Brunton	Odorising Natural Gas	
National Grid Gas plc		Gt Wilbraham
Block 4 Area 7		
Brick Kiln Street		
Hinckley		
Leicestershire		
LE10 0NA		
Cemex UK Materials Ltd	Use of bulk cement	Cemex UK Materials Milton
Cemex House		Winship Industrial Estate
Coldharbour Lane		Milton
Thorpe		Cambridgeshire
Egham		CB4 4BQ
Surrey		
TW20 8TD		
Cemex UK Materials Ltd	Use of bulk cement	Cemex UK Materials Linton
Cemex House		The Grip
Coldharbour Lane		Hardstock Road
Thorpe		Linton
Egham		Cambridgeshire
Surrey		CB1 6NT
TW20 8TD		
Tarmac Ltd	Use of bulk cement	Tarmac Ltd
Millfields Road		Dales Manor Business Park
Ettingshall		Grove Road
Wolverhampton		Sawston
WC4 6JP		Cambridgeshire
		CB2 4LH
Tarmac Ltd	Use of bulk cement	Tarmac Ltd
Millfields Road		Tarmac Topfloor and Topblock
Ettingshall		Dales Manor Business Park
Wolverhampton		Grove Road
WC4 6JP		Sawston
		Cambridgeshire
		CB2 4LJ
Eternit UK Ltd	Manufacture of fibre	As operator address
Whaddon Road	re-inforced plastics	
Meldreth	and use of bulk cement	
Royston		
Herts		
SG8 5RL		
Allen Newport Ltd	Use of bulk cement	Allen Newport Ltd
Walton House		Cambridge Centre for Recycling
31 New Path		Ely Road
Fordham		Waterbeach
Ely		Cambridge
Cambs		CB5 9PG
CB7 5JX		
David Ball Group	Use of bulk cement	As operator address
Huntingdon Road		
Bar Hill		
Cambridge		
CB3 8HN		
East Anglian Haulage Limited	Use of bulk cement	As operator address
Madingley Garage		
Madingley Road		
Coton		
Cambridge CB23 7PH		

Omya UK Ltd	Production of Dry Chalk Powder	As operator address
Admin. Manager	(Mineral drying)	
75 Station Road		
Steeple Morden		
Nr. Royston		
Herts		
SG8 0NZ		
Lafarge Aggregates Ltd	Roadstone Coated Process	Lafarge Aggregates Ltd
The Old Rectory		Cambridge Coating Plant
Misterton		Chesterton Junction
Lutterworth		Cowley Road
Leicestershire		Cambridge
LE17 4JP		CB4 4DL
T. J. Austin	Mobile Concrete Crusher	Austins
Austins		Lesanna Farm
19 Granary Cottages		Cantelupe Road
Harston		Haslingfield
Cambridge		
CB2 5NH		
Mr M E Davenport	Mobile Concrete Crusher	As operator address
M Dickerson Ltd		
Ely Road		
Waterbeach		
Cambridge		
P J Boreham & Son Ltd	Mobile Concrete Crusher	P J Boreham & Son Ltd
The Lamb Yard		Webb's Yard
High Street		Six Mile Bottom Road
West Wratting		West Wratting
Cambridge		Cambridge
CB1 5LU		CB1 6NE
Seearo Group	Mobile Concrete Crusher	As operator address
Grange Farm		
Newmarket Road		
Flint Cross		
Nr Royston		
Herts		
SG8 7PR		
Ms Tracy Spaxman	Crematorium	As operator address
Crematorium & Cemeteries Manager		
Cambridge City Crematorium		
Huntingdon Road		
Cambridge CB3 0JJ		
R Cox – Director	Maggot Breeding	As operator address
Ouse Valley Bait Co Ltd		
Gransden Lodge		
Little Gransden		
Sandy		
Beds SG19 3EB		
Ampac Security Products Ltd	Printing of Flexible Packaging	Ampac Security Products Ltd
179 Great Portland Street		Saxon Way
London		Melbourn
W1W 5LS		Royston
		Herts
		SG8 6DN
Hutchings & Harding Ltd	Hide and Skin Processing	As operator address
161/163 High Street		
Sawston		
Cambridge		
CB2 4HN		
Thyssenkrupp Automotive	Coatings of Metals & Plastics	As operator address
Tallent Chassis Limited		
Bourn Airfield		
St. Neots Road		
Bourn		
Cambridge		
CB3 7TQ		

Aim Composites Ltd	Coating of Metal and Plastics	as operator address
Pembroke Avenue		
Waterbeach		
Cambridgeshire		
CB5 9QR		
Advantage Contracts Ltd	Vehicle Respraying	As operator address
T/A Commercial Bodyworks		
Toseland Road		
Graveley		
Cambridgeshire		
PE18 9PS		
John Newman Bodyworks Ltd	Vehicle Respraying	As operator address
8 Mill Hill		
Gamlingay		
Sandy		
Beds		
SG19 3LW		
Vindis Group Bodyshop	Vehicle Respraying	As operator address
Buckingway Business Park		
Rowles Way		
Box End		
Swavesey		
Cambridge		
CB4 5UG		
Marshall Specialist Vehicles	Vehicle Respraying	As operator address
The Airport		
Cambridge		
CB5 8RX		
Papworth Specialist Vehicles Limited	Vehicle Respraying	as operator address
1 Papworth Business Park		
Papworth Everard		
Cambridgeshire		
CB3 8WA		
Marshall Motor Group Limited	Vehicle Respraying	as operator address
Cambridge Body Shop		
699 Newmarket Road		
Cambridge		
CB5 8SQ		
Marshall of Cambridge Aerospace Limited	Surface cleaning	as operator address
Hear Treatment Department		
The Airport		
Cambridge		
CB5 8RX		
Johnson Cleaners UK Limited	Dry cleaning	Johnson Cleaners Regional Ofice
Tesco Unit 1		26 The Rushes
Cambridge Road		Loughborough
Milton		Leics
Cambs		LE11 5BG
CB44AZ		
Johnson Cleaners UK Limited	Dry cleaning	Johnson Cleaners Regional Ofice
Unit 9		26 The Rushes
The Mall		Loughborough
Bar Hill		Leics
Cambs		LE11 5BG
CB3 8DZ		
Cinca Limited	Dry cleaning	as operator address
Sawston Dry Cleaners		
31B High Street		
Sawston		
CB2 4BG		
Ebrina Limited	Dry cleaning	as operator address
Cambourne Dry Cleaners		
Unit 4B		
Caxton House		
Cambourne		
Cambridgeshire		
CB3 6JN		
Ede and Ravenscroft Limited	Dry cleaning	as operator address
Unit A		
Denny Industrial Estate		
Waterbeach		
Cambs		
CB25 9QD		

Appendix 5 – LDF Policies directly relating to emissions

Policy NE/16 Emissions

1 Development proposals will need to have regard to any emissions arising from the proposed use and seek to minimise those emissions to control any risks arising and prevent any detriment to the local amenity by locating such development appropriately

2 Where significant increases in emissions covered nationally prescribed air quality objectives are proposed, the applicant will need to assess the impact on local air quality by undertaking an appropriate modelling exercise to show that the national objectives will still be achieved. Development will not be permitted where it would adversely affect air quality in an Air Quality Management Area.

Appendix 6 – The Freedom of Information Act and Environmental Information Regulations Exemptions

Freedom of Information (FoI) Act

Whilst the FoI Act creates a right to request specific information held by public bodies, it also creates a number of exemptions from that right. There are two types of exemptions, absolute exemptions where the information can never be disclosed and qualified exemptions where information will have to be disclosed unless it can be successfully argued that the public interest in withholding it is greater than the public interest in releasing it. The main exemptions that will apply to information held by South Cambridgeshire District Council are:

Qualified Exemptions subject to the public interest test:

- Information intended for future publication.
- Investigations and proceedings conducted by us.
- Law enforcement.
- Health and safety.
- Environmental information.
- Personal information.
- Legal professional privilege.
- Commercial interests.
- Prejudice the effective conduct of the Councils affairs.

Absolute Exemptions:

- Information accessible to applicant by other means.
- Court records, etc.
- Personal information.
- Information provided in confidence by a third party where disclosure would give rise to an actionable breach of confidence.

Environmental Information Regulations

Information can be withheld if it would adversely affect any of the subjects below:

- International relations
- Defence and national security
- Public safety
- The course of justice, including court proceedings within a public authority
- Intellectual property rights
- Legal confidentiality of any proceedings within a public authority
- Commercial confidentiality designed to protect legitimate economic interests

- Voluntarily supplied information from people who have not consented to its disclosure
- The environment to which the information relates

Other balanced exemptions (ie where the public interest test is applied) include:

- Requests that are manifestly unreasonable or too general
- Incomplete or unfinished information such as draft reports or other work in progress
- Internal communications from within the authority
- Personal data that does not breach the Data Protection Act

Appendix 7 – Possible Solutions for inclusion in the Air Quality Action Plan.

Solutions that may be considered by South Cambridgeshire District Council internally

- Ensure the Council fleet is up to Euro V standards
- Work with internal Departments (development control)
- Provision of public transport specifically for staff South Cambridgeshire Hall
- Reduce car parking spaces for all non-essential car users at South Cambridgeshire Hall
- Promote home working schemes
- Promote importance of good vehicle maintenance to staff
- Council housing stock to incorporate CHP
- Council housing stock to use renewable energy sources where possible
- Ensure energy efficiency throughout Council buildings
- Improve the services on the Councils' Air Quality website
- Research provision of air quality forecasting for the District (i.e SMS services)

Solutions that may be considered by South Cambridgeshire District Council affecting the wider environment

- Improve local public transport systems
- Work with neighbouring authorities to improve public transport between and through them
- Lobby to take freight off the roads
- Provide education and promotion on alternative modes of transport
- Carry out roadside emissions testing
- Plan and create a sustainable infrastructure in new towns such as Northstowe to allow local people a good alternative to using their cars
- Improve the website and methods by which the public can obtain air quality information, statistics and data
- Introduce the "idling engines" bye-law (switch off campaign, including poster campaign)
- Work closely with external bodies (County Council, other District Authorities, bus companies, taxi services, Health Protection Agency and other interested businesses and bodies)
- Promote home working amongst council staff
- Promote essential car maintenance and servicing amongst council staff
- Promote LPG usage and lobby to improve availability
- Promote low sulphur fuels for river vessels
- Introduce road charging
- Introduce low emission zones
- Create a partnership with local HGV operators to promote cleaner fuels and fuel technologies
- Expand parking control zones and no parking zones
- Expand pedestrian only zones
- Implement bus priority measures
- Provision of bike racks on buses
- Restrict access to vehicles in certain areas
- Introduce more traffic calming measures
- Further improve park and ride sites
- Increase the number of cycle routes and improve condition of existing ones
- Implement a reduction of speed limits
- Introduce Home zones
- Promote the use of cleaner domestic fuels

- Promote the use of public transport
- Promote cycling as an alternative to cars
- Promote walking as an alternative to cars
- Organise and take part in campaigns and roadshows
- Give the public better access to the air quality forecasting
- Promote health benefits of walking and cycling
- Support and promote Travelwise/travel for work
- Work with Communities and Living to create safer routes to schools
- Improve the school transport provision
- Ensure taxi fleet compliance

Appendix 8 – Glossary of Terms

ADMS - *Atmospheric Dispersion Modelling Simulation*

AQMA - *Air Quality Management Area*

AQRA - *Air Quality Review and Assessment*

NAQS - *National Air Quality Strategy*

LAQM - *Local Air Quality Management*

Cambridgeshire Horizons – *the vehicle for delivering the major projects within the Cambridge Sub-Region*

CERC - *Cambridge Environmental Research Consultants*

COMEAP – *Committee on the Medical Effects of Air Pollutants*

Continuous monitor – *electronically operated pollutant monitor that logs data to a set or specified time scale (e.g hourly data)*

DA - *Detailed assessment*

DEFRA - *Department for the Environment, Food and Rural Affairs*

Diffusion tube – *Analysis method used in South Cambridgeshire for* NO_2

Distributor Road – *A road that feeds a trunk road*

DMRB – *Design Manual for Roads and Bridges. A tool used for the prediction of current and future pollutant levels*

Environment Act 1995 – *the legislation acting as the driving force behind air quality review and assessment*

EPA 1990 - *Environmental Protection Act 1990*

EPAQS – *Expert Panel on Air Quality Standards*

GIS – *Geographical Information System*

HPU - *Health Protection Unit*

IPPC - *Integrated Pollution Prevention and Control*

LAAPC - *Local Authority Air Pollution Control*

NAQO - *National Air Quality Objectives*

NO_2 - *Nitrogen dioxide*

Particulate Matter – *Dust particles*

PM_{10} - *Particulate matter less than 10 microns in diameter*

PPC - *Pollution Prevention and Control*

Progress Report – *A continuation of the air quality review and assessment process which gives consideration to changes in local circumstances over a 12 month period*

SO_2 - *Sulphur dioxide*

Trunk road – *A major road in the District*

USA - *Updating and Screening Assessment*

Validation – *Comparison of predicted (modelled) and observed (measured) data*

$\mu g/m^3$ - *Micrograms per cubic metre*