Draft Air Quality Strategy and Action Plan – Non-Technical Summary

www.southwark.gov.uk

Introduction

Air quality affects us all, in our daily lives we breath in pollution from a variety of sources which can cause health effects. We have come a long way since the 'pea-soup' smogs of the post-war period but the challenge still remains, particularly in London.

In 1999 the first in a series of directives from the European Union was issued. These Air Quality Directives detailed concentrations of several pollutants that member states were to meet by certain dates. Central Government placed the responsibility for meeting most of these objectives onto local authorities through a process that became known as Local Air Quality Management. In Southwark, this responsibility lies with the Council and the Mayor of London.

As part of the LAQM process, we are required to periodically review and assess air pollution concentrations within the borough. This process identified that all pollutant concentration objectives were met in Southwark except for two- nitrogen dioxide (NO_2) and small particles, under 10 microns in diameter (1micron= one thousandth of a metre) which are referred to as PM_{10}. In order to reduce the concentrations of these pollutants, we declared the most of the borough to be an air quality management area (AQMA). The area covered by the AQMA is the entire borough north of the South Circular Road (A205); this was the area where people in Southwark were exposed to concentrations of NO_2 and PM_{10} above the objective levels.

At the same time as declaring the AQMA, we also published an Air Quality Strategy and Improvement Plan that detailed how we would work towards meeting the objective levels. The last time we undertook an air quality assessment in 2006, it showed that NO_2 and PM_{10} objectives were still exceeded.

Since that time, there have been a number of changes in national and regional policy that deals with air quality and wider sustainability matters. The 2002 Air Quality Strategy and Improvement Plan needs to be updated to reflect these changes, in addition to the changes that have taken place in Southwark. The draft Air Quality Strategy and Action Plan (AQSAP) as it is now named, has four objectives:

- To reduce emissions from vehicular transport;
- To tackle emissions from existing fixed sources
- To reduce emissions from new development; and
- To protect public health and monitor air quality.

As a council, we have responsibility across a wide range of areas to improve the environment for the people living and working in Southwark and it is important that this type of work is co-ordinated. The AQSAP and in particular the measures contained, will be monitored through the Southwark Sustainable Environment Partnership.

Air pollution and its effects

The main concerns in Southwark are associated with the high levels of NO_2 and PM_{10}, both of which affect people's health. They can also have other impacts such as on climate change and the natural environment.

Nitrogen dioxide

This pollutant is mainly formed when fossil fuels are burned. The highest concentrations in Southwark are close to busy roads, particularly in the North West of the borough and around the Elephant and Castle. NO_2 levels have remained stable since approximately 2002 and have not decreased with the improvement of vehicle technology as has been anticipated.

Exposure to high levels of NO_2 affects the function of lungs, especially in children and increased hospital admissions occur in areas with high levels of NO_2.

Particulate matter (PM_{10})

Sources of PM_{10} are more varied than those for NO_2 with dust from construction sites and natural sources such as Saharan dust contributing to concentrations. By far the greatest contribution comes from road traffic, not just from fuel burning but also from particles generated by tyre and brake wear. Improvements in vehicle technology have seen concentrations reduce since 2002.

Particles, when inhaled, can also affect lung function but are also suspected of contributing to cancer as some particles are carcinogenic. Short-term high levels of PM_{10}, known as 'pollution episodes' can cause breathing difficulties, especially to people with underlying respiratory conditions.

Non-human impacts of poor air quality

Poor air quality can effect the natural environment by damaging vegetation and reducing growth. Some pollutants can cause acidification in lakes and NO_2 can contribute to algal blooms in lakes whilst PM_{10} can get washed into watercourses and reduce biodiversity. Chemical attack from pollution can damage buildings and soiling, due to smoke, detracts from their appearance.

Air quality and climate change

The relationship between air quality and climate change is complicated. Higher temperatures that are predicted, especially the hotter, drier summers will increase pollution because some of the chemical reactions that lead to NO_2 formation require sunlight. Additionally, less rain will mean that less PM_{10} will be washed out of the atmosphere. Coupled with the fact that higher temperatures make people more sensitive to pollution, the relationship between air quality and climate change is likely to become more important in the future.

Climate change, understandably, is perhaps the most publicised environmental issue presently. The challenge to reduce emissions of CO_2 has resulted in many new environmental standards and policies. Many of the initiatives such as encouraging people to cycle and walk will have a beneficial effect for carbon and air pollution emissions. Renewable energy has the potential to provide means of meeting some of our energy demands whilst reducing carbon emissions. However, one form of renewable energy, biomass, can also reduce air quality. Considered to be carbon neutral, biomass energy generation emits more air pollution than equivalent gas fired plant and could cause deterioration in local air quality. It is important that policies and measures to reduce carbon emissions do not have an unacceptable impact on air quality.

Air quality action plan measures

1. Reduce emissions from vehicular transport

By far the majority of emissions from transport in Southwark are from road vehicles. One of the objectives of our draft Transport Plan is to reduce the impact of transport on air quality. A large focus of the draft Transport Plan is to encourage people to switch to more environmentally friendly methods of transport such as walking, cycling, and public transport.

Measure 1: We will continue to encourage the use of the car club schemes, monitor and report on uptake and allocate additional spaces should demand warrant.

People using car clubs are less likely to own a car and research suggests that members are more likely to walk for short journeys and cycle. Because car club vehicles are renewed regularly, they have the latest engine technology with lower emissions.

Measure 2: Southwark will continue to implement measures to encourage sustainable travel choices, within the borough.

Encouraging people to use more environmentally friendly travel will not only reduce emissions but can benefit health if these choices are to cycle or walk.

Measure 3: Southwark will pilot a scheme to identify and implement local air quality improvements near to schools

Most of the schools in Southwark have travel plans in place; however the school run still exposes children to pollution, particularly near to school gates where parents drop off and pick children up. We propose to run a pilot project to reduce concentrations near schools.

Measure 4: Southwark will, following a publicity campaign, undertake enforcement on idling engines at hotspots within the borough.

Vehicle engines left idling when parked contributes to pollution, there is law that makes this an offence but has rarely been enforced. We will start enforcing this law to tackle this unnecessary form of pollution.

Measure 5: Southwark will undertake air quality assessments on all major (£1m in value and having a significant impact on the highway) traffic management schemes and initiatives.

Traffic management schemes can sometimes cause a detrimental impact on air quality, particularly if vehicles are slowed. Most schemes are expected to benefit air quality and by using detailed air quality assessments for the larger schemes, we can fully understand their impact and improve air quality where possible.

Measure 6: Southwark will train an officer to deliver 'in house' smarter driver training to all employees that are required to drive for work purposes.

'Smarter driving' is essentially driving in a more fuel efficient manner, thereby reducing emissions. For example, accelerating at a steady rate, anticipating traffic lights and using gears in conjunction with brakes to slow down. This type of driving can reduce fuel consumption by up to 15%. By training Southwark employees to drive in this manner, we will not only reduce emissions but also reduce fuel costs.

Measure 7: We will develop an emissions strategy for all new council and council contractors' vehicles and plant.

New vehicles that we lease or purchase need to meet certain environmental standards, but these are focused on CO_2 emissions. Developing a strategy for NO_2 and PM_{10} emissions, we will reduce the impact of the council's and our contractors' vehicles on air quality.

Measure 8: Southwark will work with partner boroughs in the central London air quality cluster group to lobby for a central London low emission zone.

The London Low Emissions Zone, introduced in 2008 has demonstrated how air quality can be tackled at a regional level. Unfortunately, London is likely to exceed the NO_2 objective across large parts of its area with the highest levels in central London. A Low Emission Zone for this area would be a very effective method to reduce concentrations.

2. Reduce emissions from fixed sources

Boilers and other non-transport sources of air pollution are generally referred to as 'fixed sources' and currently contribute just under 50% of Southwark's NO_x emissions, it is vital that these sources are addressed.

Measure 9: Southwark will continue its implementation of energy efficiency measures in council owned buildings.

Energy efficiency measures will reduce carbon emissions and improve air quality in addition to reducing fuel costs. Being the largest landlord in London, Southwark has both a responsibility and opportunity to benefit the environment and its tenants with energy efficiency measures such as cavity wall insulation.

Measure 10: Southwark will ensure that local energy generation plant will be fitted with suitable abatement and dispersal technologies.

Transporting electricity large distances causes losses in power, which is why government is encouraging local energy generation, for example through gas or biomass boilers. Where previously the emissions from energy generation might have been from power plants outside London, they will now be occur where local energy generation plant will be located. The impact of these plant can be reduced by using technology to trap or reduce pollutant emissions.

Measure 11: Southwark will continue to regulate part B processes to ensure that high standards of air pollution control are maintained.

Environmental Health and Trading Standards regulate certain polluting processes that release emissions to the atmosphere. We will continue to inspect these processes to ensure that high standards are maintained.

3. Reduce emissions from new development

Large parts of Southwark are in the process of being regenerated, this new development could effect air quality either through the construction phase (from dust and vehicle emissions) or what is termed their 'operational phase', which refers to the emissions from the completed development. It is important that these new developments do not reduce air quality.

Measure 12: Southwark will require developers, within their environmental construction management plans, to adopt the measures included in the London Councils and GLA Best Practice Guidance on construction and demolition.

In 2006 the London Councils and GLA published guidance on reducing the impact of construction and demolition on air quality. We currently require larger developments to submit a plan that demonstrates how they will limit the impact of construction and demolition on air quality. With the adoption of this measure, we will be able to require contractors to comply with the London Councils and GLA guidance.

Measure 13: Southwark will monitor all travel plans received as part of the planning process for compliance and take enforcement action where appropriate.

Developers are required to submit travel plans for major developments, but until recently we did not monitor these. By doing so, we will ensure that environmental benefits are maintained.

Measure 14: Southwark will require developers to submit air quality assessments for all major applications within the air quality management area and any other development that may have an adverse impact on air quality.

Many new developments will include boilers that emit air pollution, it is important that these emissions do not reduce local air quality. Some developments will also increase traffic levels which must also be included in air quality assessments. By requiring developers to submit these, we can make informed decisions about planning applications.

Measure 15: Southwark will gather an evidence base to determine present and future concentrations within the borough, this information will be made available to developers and their consultants when needed to conduct air quality assessments.

Air quality assessments are usually undertaken by using computer models to predict present and future pollution concentrations. The last time we did one for Southwark was in 2006. This data now needs to be updated and we will model air quality for Southwark as part of this Action Plan. This will help us identify areas of poorer air quality to tackle first.

Measure 16: Southwark will develop policies within its emerging local development framework that will require new development to reduce PM_{10} and NO_X emissions when compared to previous site use.

By identifying areas of poorest air quality (measure 15), we can develop policies for these areas, through the planning process, to improve air quality. For example, we could require new development to emit 10% fewer pollutants than the land use it is replacing.

4. Protect public health and monitor air quality.

Air quality is often high on the list of the public's environmental concerns. By supporting national campaigns to improve air quality we can keep the profile of air quality high and encourage people to reduce their own impact on air quality. Other initiatives, such as AirTEXT will keep people informed about pollution in their area.

Measure 17: Southwark will continue to promote the AirTEXT service at events and schools and will support other events relevant to air quality.

AirTEXT is a scheme that people can sign up to, free of charge, which alerts them when days are expected to be high in pollution. This is done by email, phone call or text message the evening before a predicted 'pollution episode'. It can assist people particularly vulnerable to poor air quality to plan their activities in order to reduce the effect of these pollution episodes.

Measure 18: Southwark will provide up to date information on air quality via its website.

We will refresh the air quality pages on our website to provide information to the public on pollution concentrations, how they might reduce their impact on air quality and what the council is doing to improve air quality.

Measure 19: Southwark will commence the operation of two automatic monitoring stations at the Elephant and Castle and Old Kent Road and a diffusion tube survey to provide a more comprehensive survey of air quality in the borough.

Automatic monitoring stations measure concentrations of NO_2 and PM_{10} and provide detailed information that is used in computer models and to measure how we are performing, we will have two such monitors in the borough. Diffusion tubes are a relatively cheap method to monitor over a large geographical area and provide useful data on air quality.

Measure 20: Southwark will work with the Mayor to ensure that the 'right tree right place' methodology proposed takes suitable account of the benefits and costs of street trees on air quality within the Borough and Camberwell.

Although trees and vegetation can improve air quality, the extent of coverage that would be needed in London to improve air quality is so great that street trees are unlikely to measurably improve air quality. The Mayor's street trees initiative has identified Borough and Camberwell as priority locations for street trees. Care needs to be taken in selecting the species and location of these street trees. This is because some species emit compounds that react with chemicals in the atmosphere to increase concentrations of some pollutants; trees can also reduce the dispersal of pollutants in some situations. The 'right tree, right place' methodology seeks to ensure these adverse effects are minimised.

Environmental Protection Team

January 2011