

# *A Breath of Fresh Air for Nottinghamshire*

**An Air Quality Improvement  
strategy for the next Decade**



Produced by The Nottinghamshire Environmental  
Protection Working Group

**Philip Mulligan, Managing Director Environmental Protection UK (formerly the National Society for Clean Air and Environmental Protection, NSCA)**

*'I am very pleased and honoured to be asked to write the Forward for this Air quality Strategy for Nottinghamshire.'*



Every year local authorities are required to review and assess air quality within their districts under the provisions outlined in the Environment Act 1995. The National Air Quality Strategy 2007 (which has recently been revised) sets a number of Air Quality Objectives (set in regulations for certain pollutants) for the protection of human health and the environment to be achieved between 2003 and 2020. All Nottinghamshire Authorities completed their first review in

2001. This involved each local authority assessing in detail the impact on air quality of emissions from traffic, industrial and domestic sources. Further guidance was issued by the Department for Environment, Food and Rural Affairs (defra) and this resulted in more detailed Updating and Screening Assessments which were completed by all the authorities in Nottinghamshire in 2003 and more recently in 2006. All assessments have been approved by defra.

These results were collated by the Nottinghamshire local authorities. Consultants were employed to undertake modelling of the information to ascertain if any of the Government's Air Quality Objectives would be likely to be exceeded in the given timescales. Where appropriate, air quality monitoring was also carried out to validate the modelled data. If Objectives had been predicted to exceed the criteria, an Air Quality Management

Area (AQMA) was declared. A declaration means that an authority must set out a strategy to identify actions that will be taken to improve air quality within the AQMA and achieve the standards set. At the time of writing four authorities in Nottinghamshire have declared AQMA's or are in the process of declaring.

However, the remaining authorities have not put to one side the air quality issue and have recognised the need to continually improve air quality, regardless of the fact that they have not declared an AQMA. This is particularly important for the councils bordering on authorities that have declared. This framework outlines how the Nottinghamshire authorities, stakeholders and partner organisations intend to collectively tackle the problems highlighted by the air quality review and assessment process.

This framework identifies and agrees an effective strategy to improve air quality in the next decade throughout the whole of Nottinghamshire and also reduce greenhouse gas emissions particularly CO<sub>2</sub>.

In most cases this has meant an authority drawing up and implementing its own local air quality strategy using the framework agreed by all the Nottinghamshire authorities. These strategies have specified action plans to improve air quality on a local basis.

We all can play a role in improving air quality and reducing the effects of global warming. I commend the Nottinghamshire authorities and partners for producing this document and urge everyone to consider how their actions can sustain and improve the good air quality in the County.

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### **Partnership Who's Involved?**

This strategy has been prepared by a partnership of Nottinghamshire Local Authorities, the Environment Agency, The Health Protection Agency and the Highways Agency. The work has been led by the Nottinghamshire Environmental Protection Working Group.

### **Disclaimer**

The information that this document contains is for guidance only and is as accurate as possible at the time of publication. The Partnership accepts no liability for the consequences of any reader acting upon inaccurate or out-of-date reference material or material advice.

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# Introduction

**As early as 1661 the effects of air quality were recognised by John Evelyn when he wrote in 'Fumifugium or the Inconvenience of the Aer and Smoake of London Dissipated'**

*"Aer that is corrupt insinuates itself into the vital parts immediately; whereas the meats which we take, though never so ill conditioned, require time for the concoction, by which its effects are greatly mitigated; whereas the other, passing so speedily to the lungs and virtually to the heart itself, is derived and communicated over the whole masse: In a word, as the Lucid and noble Aer clarifies the Blood, subtilizes and excites it, cheering the Spirits and promoting digestion; so the dark and grosse (on the contrary) perturbs the Body, prohibits necessary Transpiration for the resolution and dissipation of ill Vapours, even to the disturbance of the very Rational faculties, which the purer Aer does so far illimitate, as to have rendered some Men healthy and wise, even to a Miracle."*

**The Royal Commission in 2007 confirmed an extra 25000 premature deaths due to poor air quality in urbanised areas.**

People are generally becoming more concerned about the air they breathe and the effects of global warming and its effect on climate change.

Whilst the quality of the air has improved over the past 20 years with the establishment of smoke control areas in Nottinghamshire and tighter emission limits on industry, people now expect clean air to ensure a good quality of life. Recognising these expectations the Government now requires local authorities to monitor and manage local air quality.

The Environment Act 1995 requires local authorities to review and assess air quality annually to determine where standards set for air quality are likely to be exceeded. If they are exceeded then the local authority must issue orders designating Air Quality Management Areas (AQMAs). For these areas local authorities must draw up action plans to

improve local air quality to such an extent that the standards will be met. Plans may include actions to be taken both within and outside an AQMA. Actions could extend beyond a single Council's area and involve several councils and partner organisations working together. All local authorities in Nottinghamshire whether or not they have any AQMAs within their District, are recommended to devise local air quality strategies to improve air quality and minimise the effects of global warming and climate change.

The basis for the above is the National Air Quality Strategy 1997 (as amended in 2000 and 2002) which laid down a number of air quality standards for the protection of human health and the environment. This produced Air Quality Objectives to be achieved between 2003 and 2010. Objectives for 7 of these air pollutants (benzene, 1,3 butadiene, carbon monoxide,

lead, nitrogen dioxide, particles (PM10) and sulphur dioxide) were formalised in the Air Quality Regulations 1997 (as amended in 2000 and 2002). The strategy initially proposed an Objective for ozone; but this pollutant requires control on a national and international basis. The proposed Objective for ozone was not therefore formalised in the regulations but remains a target for action by national governments.

Local Air Quality Management (LAQM) is an ongoing process. An air quality framework agreed by all the local authorities and partner organisations in Nottinghamshire will ensure effective consultation and co-operation. Such collaborative and partnership working should improve air quality in Nottinghamshire. To that end this framework strategy identifies broad actions for co-operation between Nottinghamshire authorities and stakeholders such

as The Environment Agency. The Health Protection Agency and Primary Care Trusts to improve air quality. It identifies what actions will be taken, what actions should be taken and what additional actions should be supported.

This document has been compiled by local authority air quality specialists, the Environment Agency, Health Protection Agency and the Highways Agency. Its success in improving air quality in Nottinghamshire will be assessed by 2011.

Photo Evidence for the Case Against Smoke



*The purpose of the 'A Breath of Fresh Air for Nottinghamshire' document is to help local authorities and partner organisations manage and improve ambient air quality and to protect the health and wellbeing of the public in a co-ordinated and integrated manner. In practice, having identified priorities to control air emissions and consulted the public on what action they might be prepared to take to minimise air pollution, the framework is a working document to provide and focus actions to improve air quality in Nottinghamshire.*

*No one individual, company or authority is ultimately responsible for air pollution and it is recognised that efficient air quality management requires strong multidisciplinary co-operation between stakeholders. In this structured approach local authorities and partner organisations in Nottinghamshire must work together to ensure complimentary actions on a regional basis to protect and improve the quality of the air we breathe.*

#### **A Framework for Action**

The Framework for Action seeks to fulfil the following main objectives:



- Minimise air pollution and the impact of global warming and climate change.
- Encourage sustainable development in Nottinghamshire to protect the health and wellbeing of the population.
- To work with businesses, stakeholders and the residents of Nottinghamshire to encourage sustainable improvements in air quality.
- Support and maintain the work of the Nottinghamshire Air Quality Steering Group.
- Complement other county wide groups and strategies adopted and supported by Local Authorities and the County Council and other organisations such as the Environment Agency, Primary Care Trusts, Highways Agency and the Health Protection Agency.
- Ensure that the strategy to improve air quality in Nottinghamshire is reviewed by 2011.

#### **Background**

Local Authorities along with the County Council, Highways Agency, Primary Care Trust, Health Protection Agency and the Environment Agency have been working together to review and assess air quality in Nottinghamshire over the past 10

years. Initially emissions of a number of air pollutants for the whole of Nottinghamshire for 1997 and 2005 were estimated. Emission inventories were then modelled to give maps of ground level concentrations of these air pollutants to identify areas where air quality standards might not be met. In a lot of cases sophisticated monitoring was carried out to check the air quality in these areas and the predictions made by the modelling.

Most councils completed their initial review and assessment of air quality early in 2001. Following this, further Updating and Screening Assessments were completed in 2003 and 2006.

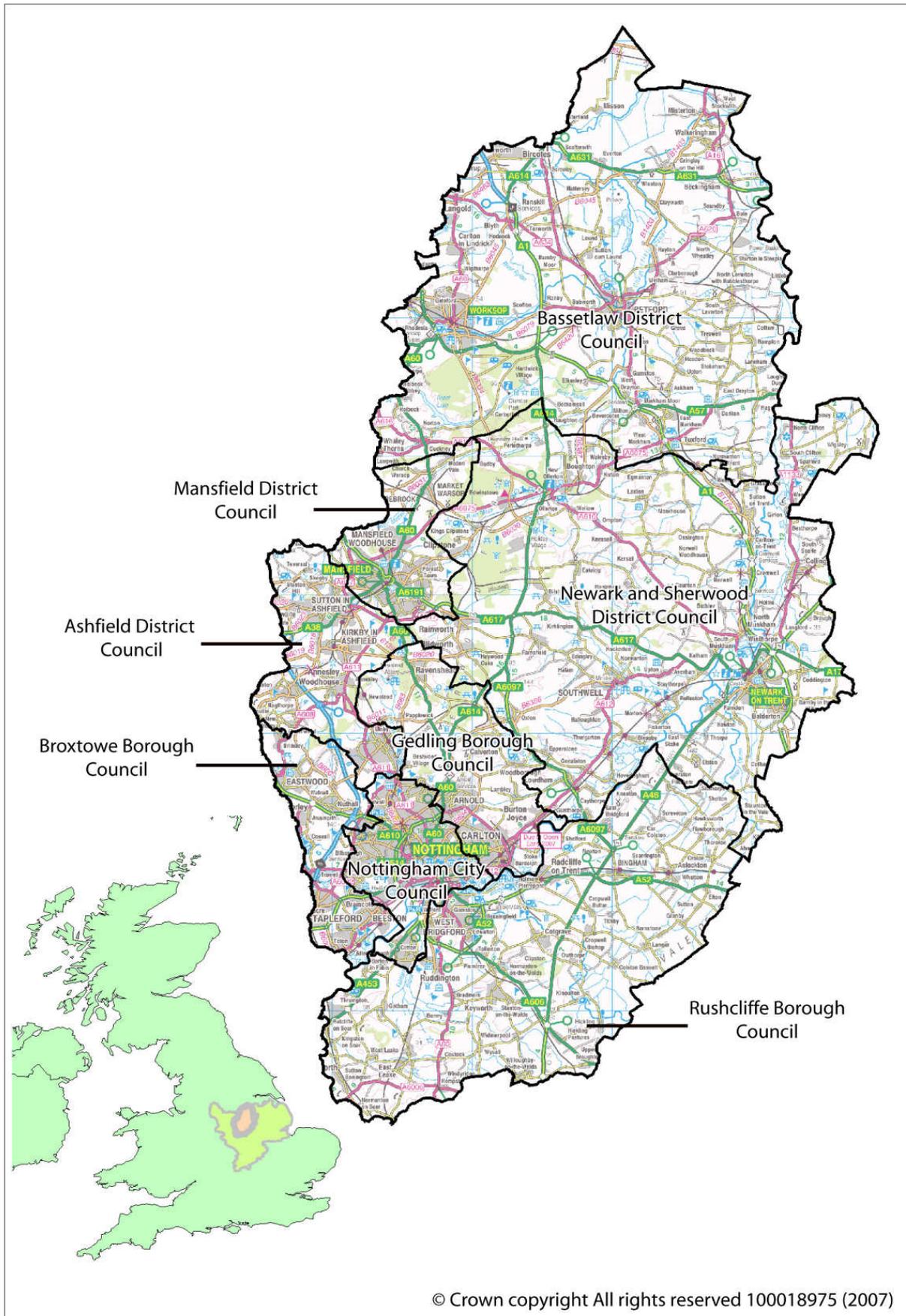
Where air quality standards have been shown not to be met or are border-line in achieving the standards, then the Nottinghamshire local authorities have either designated or quickly implemented actions for improvement. This whole process has demonstrated a commitment to achieve the standards. This whole process requires involvement with a number of stakeholders and agencies. One of the successes within Nottinghamshire is the collaborative and transparencies of working with all the agencies to ensure that the air quality standards set are achieved in a reasonable timeframe.

Although most Nottinghamshire councils have not had to declare any Air Quality Management Areas they are keen to ensure that they work together in the future in a co-ordinated manner to manage and, where possible, improve local air quality.

A summary of the 2006 emission inventory document is now included in the strategy. It is clear that the largest likely source of air pollutants arises from traffic, domestic combustion and the larger industrial processes such as power stations.

# District Boundaries

## in Nottinghamshire



# UK Air Quality Objectives

Objectives included in the Air Quality Regulations (England) (Wales) 2000 and in Air Quality (England) (Wales) (Amendment) Regulations 2002 for the purpose of Local Air Quality Management.

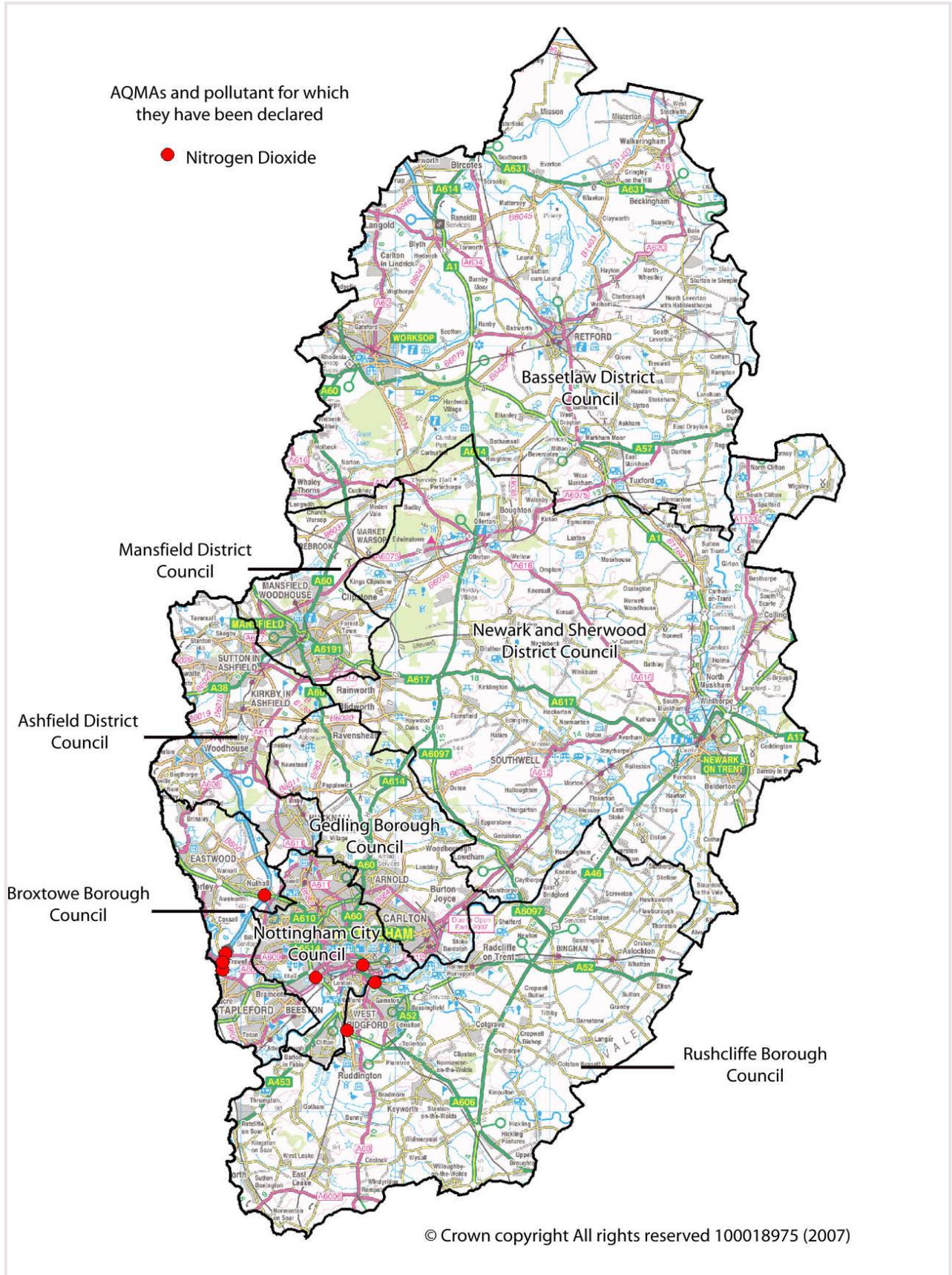
| Pollutant                                                      | Air Quality Objective                                               |                                   | Date to be achieved by |
|----------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------|------------------------|
|                                                                | Concentration                                                       | Measured As                       |                        |
| <b>Benzene</b> <sup>1.</sup>                                   | 16.25 µg/m <sup>3</sup>                                             | Running annual mean               | 31.12.2003             |
|                                                                | 5 µg/m <sup>3</sup>                                                 | Annual mean                       | 31.12.2010             |
| <b>1,3-Butadiene</b>                                           | 2.25 µg/m <sup>3</sup>                                              | Running annual mean               | 31.12.2003             |
| <b>Carbon monoxide</b> <sup>1.</sup>                           | 10.0 mg/m <sup>3</sup>                                              | Maximum daily running 8-hour mean | 31.12.2003             |
| <b>Lead</b>                                                    | 0.5µg/m <sup>3</sup>                                                | Annual mean                       | 31.12.2004             |
|                                                                | 0.25µg/m <sup>3</sup>                                               | Annual mean                       | 31.12.2008             |
| <b>Nitrogen dioxide</b> <sup>2.</sup>                          | 200 µg/m <sup>3</sup> not to be exceeded more than 18 times a year. | 1-hour mean                       | 31.12.2005             |
|                                                                | 40 µg/m <sup>3</sup>                                                | annual mean                       | 31.12.2005             |
| <b>Particles (PM<sub>10</sub>) (gravimetric)</b> <sup>3.</sup> | 50 µg/m <sup>3</sup> not to be exceeded more than 35 times a year.  | 24-hour mean                      | 31.12.2004             |
|                                                                | 40 µg/m <sup>3</sup>                                                | annual mean                       | 31.12.2004             |
| <b>Sulphur dioxide</b>                                         | 350µg/m <sup>3</sup> not to be exceeded more than 24 times a year.  | 1-hour mean                       | 31.12.2004             |
|                                                                | 125µg/m <sup>3</sup> not to be exceeded more than 3 times a year.   | 24-hour mean                      | 31.12.2004             |
|                                                                | 266µg/m <sup>3</sup> not to be exceeded more than 35 times a year.  | 15-minute mean                    | 31.12.2005             |

1. The Air Quality Objective of 5 µg/m<sup>3</sup> for benzene and the Objective of 10µg/m<sup>3</sup> for carbon monoxide came into force in separate Air Quality (Amendment) Regulations for England and Wales on 11 December 2002 and 31 December 2002 respectively.

2. The Objectives for nitrogen dioxide are provisional.

3. Measured using the European gravimetric transfer sampler or equivalent

# Air Quality Management Areas in Nottinghamshire



## Background

### Contribution by Source of Emissions in Nottinghamshire

#### Purposes of an Emissions Inventory

Nottinghamshire Authorities engage consultants to undertake an emission inventory every three years. An emissions inventory allows the magnitude and spatial distribution of emissions across an area to be investigated and enables the relative importance of different sources of air pollution to be examined and identifies temporal and spatial trends.

The emissions data has a further role in providing the basis for dispersion modelling exercises and air quality management planning. In conjunction with transport models it also provides the basis for forecasting air quality and determining the effects of changes in land use planning and transportation policies.

#### An atmospheric emissions inventory will therefore be of key significance:

- As an underpinning and benchmarking tool for undertaking air quality reviews as described by the Air Quality Strategy (DETR, 2000) and enshrined in the Environment Act 1995;
- For assessing the impact of new development and the changes to road infrastructure or the process of identifying the environmental benefits in any proposed urban change;
- For developing air quality action plans; and
- To provide input to dispersion modelling which can be used to guide or refine air quality monitoring networks

| Pollutant                           | Point Sources |          |        |         |                 |
|-------------------------------------|---------------|----------|--------|---------|-----------------|
|                                     | Total 2004    | Part A*  | Part B | Boilers | Petrol Stations |
| Sulphur Dioxide                     | 120230        | 119866   | 304    | 60      | -               |
| Nitrogen Dioxide                    | 71972         | 69037    | 2300   | 635     | -               |
| Carbon Monoxide                     | 15758         | 12973    | 1640   | 1145    | -               |
| Particulate matter below 10 microns | 1810          | 1259     | 280    | 271     | -               |
| Non Methane VOCs                    | 3816          | 350      | 1295   | 29      | 2142            |
| Benzene                             | 13            | 3        |        | 1       | 9               |
| 1,3 Butadiene                       | 2.4           | 2        |        |         | 0.4             |
| Carbon Dioxide                      | 28508914      | 28427241 | 4006   | 77667   | -               |
| Poly Aromatic Hydrocarbons          | 79            | -        |        | 79      | -               |
| Lead                                | 5             | 3        | 0      | 2       | -               |

\*Including West Burton, Cottam and Ratcliffe-on-Soar power stations

#### Summary

Emissions of the key primary pollutants in the Air Quality Strategy were estimated from all sources where possible. Emissions of the greenhouse gas CO<sub>2</sub> were also estimated. Emissions from lead, benzene, 1,3 butadiene and PAH's were estimated where emission factors were readily available.

The largest contributions to the estimated emissions of key pollutants in Nottinghamshire are made by the 2 power generators. The second largest contributor to NO<sub>x</sub> and PM<sub>10</sub> emissions is road transport. Road transport is the largest single contributor to emissions of CO, benzene and 1,3-butadiene.

Cottam Power Station



The key UK Air Quality Strategy Objective for coal-fired power stations is the sulphur dioxide 15 minute Objective. The purpose is to limit, to a maximum of 35, the number of 15-minute instances in any one year that sulphur dioxide is present in the air at a concentration greater than 100 parts per billion (ppb).

To achieve this challenging Objective, power stations can fit flue gas desulphurisation plant (FGD), use lower sulphur coals or avoid times when there is a high risk of poor dispersion conditions, such as the middle of the day in summer.

EDF Energy chose the FGD route, which is the most effective way of meeting the limit. FGD removes more than 90% of sulphur dioxide emissions from the station exhaust gas. This ensures air quality compliance, with a high degree of confidence. The FGD at West Burton became fully operational at the end of 2004. FGD is now operational on most units at Cottam and will be fully completed in 2007.

FGD operation, combined with lower sulphur coals at Cottam, ensured that in 2004 the Air Quality Objective was achieved at all monitoring sites around EDF's two power stations. This was a year ahead of the official deadline of 2005 and a high level of compliance has been maintained since.

EDF's monitoring site near Cottam provides a good example of the effectiveness of the measures taken. The number of times that sulphur dioxide concentrations exceeded the 100 ppb level dropped from 91 in 2003 to just 5 in 2004.

EDF Energy continues to provide the local authorities and the Nottinghamshire Air Quality Steering Group with regular updates on air quality and is happy to work with the regulators to reduce emissions and improve environmental performance.

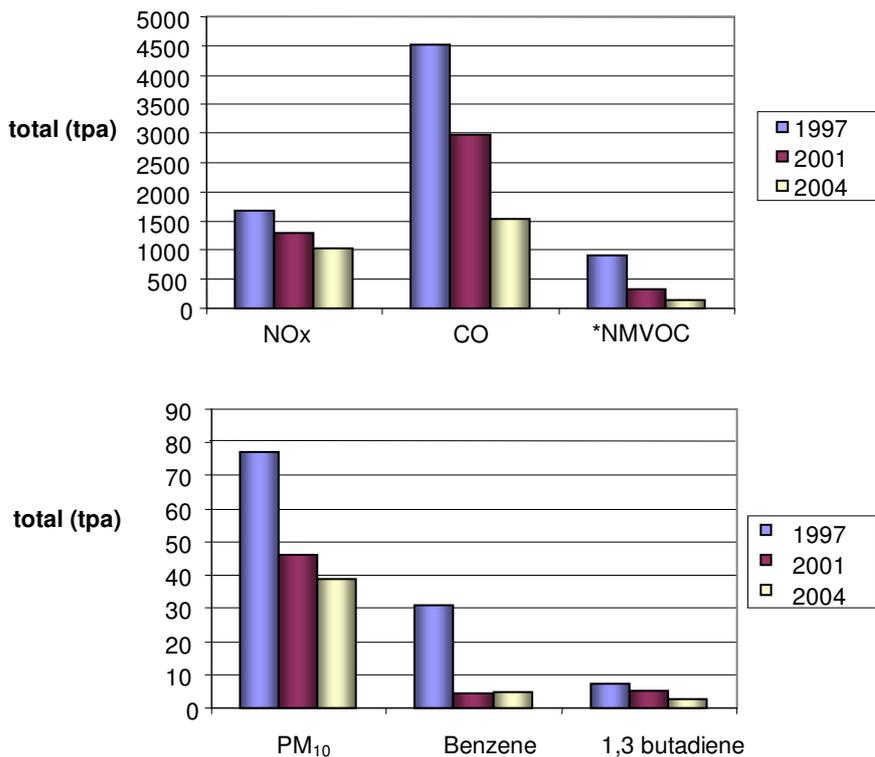
It is pleasing to see that overall emissions have reduced since 2001 continuing a downward trend from 1997. This is for all pollutants apart from the greenhouse gas CO<sub>2</sub>. This is a pattern shared with most areas in the UK.

Emissions of the key pollutants from road transport have decreased significantly from 1997 and further still since 2001, with emissions of NO<sub>x</sub> down by approximately 20% and emissions of PM<sub>10</sub> down by approximately 16%. This decrease is largely due to the improvements in engine technology and the increased penetration of the vehicle fleet with more modern vehicles with lower emissions of these pollutants.

Emissions of the key pollutants from industrial processes are also generally lower than in 2001 and significantly lower than industrial emissions in 1997.

The increase in CO<sub>2</sub> emissions since 2001 is mostly (86%) from an increase in CO<sub>2</sub> emissions from the 2 power generators in Nottinghamshire. The power generators are estimated to account for about 96% of the CO<sub>2</sub> emissions in Nottinghamshire. It is worth noting that emissions of CO<sub>2</sub> are not a local air quality issue and contribute only to global warming and climate change, the location of these emissions whether within or outside Nottinghamshire has no bearing on their impact. The increase in CO<sub>2</sub> emissions is of course related to our increased demand for energy.

A comparison was made between selected source categories for 1997, 2001 and 2004. The bar charts below show a comparison of a number of pollutants.



\*NMVOC – Non methane Volatile Organic compounds  
PM10 Particulate Matter below 10 micron size fraction

## Public Sector

*This area is one of the Sectors that the Nottinghamshire Authorities can influence directly. The management of air quality is a statutory duty on all Local Authorities in the UK. The Nottinghamshire Authorities have however decided to encourage actions to improve air quality in the whole of Nottinghamshire over and above the minimum statutory requirement.*

*This means co-operation and co-ordination with all the major stakeholders involved with air quality issues. There is an active Nottinghamshire Corporate Air Quality Steering Group which meets at least four times a year. The Highways Agency, Environment Agency and the Health Protection Agency are all active members of this Group contributing to the overall Objective of improving air quality and reducing greenhouse gas emissions in Nottinghamshire. The group also has representatives from academia which enables it to keep up to date with new developments and research into Global warming and climate change.*

## Monitoring Network and Website

*An air quality monitoring network has been established throughout the county and before the end of 2007 the data from this network will be published via a website giving local air quality updates. The data will also be processed and displayed in council offices so the general public can have clear, simple information on air quality in their local area.*

*In addition, currently the group is investigating a corporate approach to the supply and analysis of NO<sub>2</sub> Diffusion Tubes using a single laboratory to increase efficiency and accuracy of results as well as reducing costs.*



## Government Grant

*During 2006 the group was successful in obtaining a grant of 46K from Defra to fund the development of the countywide AQ information system as described above. A suitable company has been selected and this company will provide a web-based solution for collating and distributing the monitoring information.*

### Further Resources Website:

- Defra  
Air Pollution - What it means to your health, leaflet  
<http://www.defra.gov.uk>
- NSCA  
<http://www.nsca.org.uk/pages/index.cfm>  
National Society of Clean Air and Environmental Protection.
- Nottinghamshire local authority air quality pages  
[http://www.broxtowe.gov.uk/index/enviro/environ\\_pollution/pollution\\_air.htm](http://www.broxtowe.gov.uk/index/enviro/environ_pollution/pollution_air.htm)

<http://www.rushcliffe.gov.uk/doc.asp?cat=9441>

<http://www.gedling.gov.uk/index/env-home/pe-poll-home/pe-poll-agm.htm>

<http://www.ashfield-dc.gov.uk/ccm/navigation/environment/pollution/air-pollution/monitored-air-pollutants/>

<http://www.mansfield.gov.uk/index.aspx?articleid=201>

<http://www.newark-sherwooddc.gov.uk/pp/gold/viewGold.asp?IDType=Page&ID=7119>

[http://www.bassetlaw.gov.uk/index/environment/environment\\_and\\_health\\_services/pollution.htm](http://www.bassetlaw.gov.uk/index/environment/environment_and_health_services/pollution.htm)

[http://www.nottinghamcity.gov.uk/site-map/environment/pollution/air\\_pollution/air\\_quality.htm](http://www.nottinghamcity.gov.uk/site-map/environment/pollution/air_pollution/air_quality.htm)

<http://www.defra.gov.uk/environment/airquality/index.htm>

<http://www.airquality.co.uk/archive/index.php>

<http://www.naei.org.uk/>

<http://www.opsi.gov.uk/si/si2001/20012315.htm>

### Further reading

- Authorities recent USAs (2006)
- Nottinghamshire Emissions Inventory (2004)
- The Air Quality Strategy for England, Scotland, Wales and Northern Ireland Working Together for Clean Air (2000)
- Consultation on new strategy (2006)

## What actions can be taken to improve air quality?

### What actions will be taken to maintain and improve air quality in Nottinghamshire?

- All Authorities will review annually air quality in their districts in line with the statutory duty and government guidance.
- Facilitate meetings of at least four per year of the Nottinghamshire Air Quality Steering Group.
- Manage and update as necessary an emissions inventory for the whole of Nottinghamshire.
- Review on a local basis, and when practical reduce emissions to air from their own activities and in particular energy generation.
- Implement all the legislative requirements necessary to improve air quality and in particular the setting up of Air Quality Management Areas (AQMAs). In doing so however, to consult with all stakeholders and the general public to ensure that the process is open and transparent for comment.
- Comment on targets for greenhouse gas reductions.
- Establish a web based information system providing up to date real time air quality information.

### What actions should Councils Support?

- Adopt a Local Air Quality Improvement Strategy that involves consultation with stakeholders and the public.
- Adopt partnership working across all areas of air quality assessment.
- Adopt policies that protect the health and welfare of individuals and the environment from poor air quality.

### What actions are Councils encouraged taking?

- Work with the Local Authorities, businesses, partners and all stakeholders to reduce emissions of air pollutants from processes in Nottinghamshire.
- Collate all monitoring data in the County and use it to maintain and improve air quality throughout the whole of Nottinghamshire.

### What actions are taken by Partner (or Stakeholders) organisations?

- **Health Protection Agency** – HPA and the Primary Care Trusts to provide expert advice on health issues when required and in particular when air quality incidents occur.
- **Environment Agency** - The Agency will work towards shared strategies with our partners at a local level to improve air quality from all sources. Provision of information in an understandable, accessible format on air quality issues, including emissions inventories, will be a priority for the Agency.
- **Highways Agency** – The HA is committed to working in partnership with local authorities towards the delivery of the Air Quality Strategy, including maintaining and supporting our guidance on air quality assessment, making available our air quality monitoring data via the internet and working to develop and evaluate traffic control systems which reduce vehicle emissions. We are also working towards improved performance in emissions control during our construction and maintenance activities.

### CASE STUDY



#### • Eastcroft Incinerator

The Environment Act 1995 requires all local authorities to identify sources of pollution within their area. However, pollution does not respect boundaries and a polluting source in one district, may have an adverse effect on a neighbouring authority. The proposed expansion of the Eastcroft Incinerator, Nottingham, could have affected neighbouring authorities in terms of air quality.

As a result, the Nottinghamshire Air Quality Steering Group was regularly kept updated and attended meetings to discuss their concerns on the impact of the development ensuring air quality Objectives were not compromised.

# Transport

## Transport

One of the main sources of air pollution is road transport, particularly in urban areas; around busy roads, at congested junctions and where traffic is stood with engine idling. Shorter car journeys such as the school run or trips to the shops, produce proportionally higher concentrations of pollutants because vehicle engines do not have a chance to heat up fully and therefore do not work at full efficiency when working over shorter distances.

The majority of the Air Quality Management Areas are primarily transport related and reducing road transport's contribution to emissions is therefore a key part of local authorities' responsibilities.

The Greater Nottingham Local Transport Plan (GNLTP) and the North Nottinghamshire Local Transport Plan (NNLTP) have recently been through a process of review. This process of review results in several options which are then considered through a Strategic Environmental Assessment (SEA).

The overall LTP objectives should be compatible with the SEA objectives; SEA objectives include:

- To maintain and improve air quality in the Air Quality Management Areas and then across all areas
- Reduce greenhouse gas emissions from transport and the use of fossil fuels
- Reduce the need to travel through the promotion of sustainable development locations
- Promote accessibility to public transport, cycling and walking
- Reduce reliance on travel by car

The GNLTP has chosen a package that includes the base LTP programme plus Nottingham Express Transit (NET) Phase 2, Workplace Parking Levy and associated measures to represent implementation of high quality public transport improvement linked to pricing restraint. The NNLTP has considered the option through a SEA, the preferred LTP option, is anticipated to tackle congestion hotspots and encourage more sustainable travel.



Underpinning all Nottingham's transport developments and achievements, the Big Wheel campaign provides an over-arching marketing campaign to explain the aims of the Local Transport Plan in simple, engaging and accessible terms. The Greater Nottingham Transport Partnership, representing councils and companies across the city and its surroundings and

backs the Big Wheel campaign. Distinctive branding and high profile campaigns have helped to raise public awareness about local transport issues, how they are being tackled and promoted to encourage public transport use.

### Further Resources Website:

- **Defra**  
Air Pollution - What it means to your health, leaflet  
<http://www.defra.gov.uk>
- **NSCA**  
<http://www.nasca.org.uk/pages/index.cfm>  
National Society of Clean Air and Environmental Protection.

- **The Big Wheel**  
<http://www.thebigwheel.org>

Nottingham Express Transit  
<http://www.nottinghamexpresstransit.com>

- **LTP's**  
[http://www.nottinghamshire.gov.uk/home/traffic\\_and\\_travel/strategy-policy/ltp.htm](http://www.nottinghamshire.gov.uk/home/traffic_and_travel/strategy-policy/ltp.htm)  
[http://www.nottinghamcity.gov.uk/transport\\_and\\_streets/](http://www.nottinghamcity.gov.uk/transport_and_streets/)

- **A453 Multi Modal Study**  
<http://www.gov.uk/transport/mmr-b-studies/a453/default.htm>

- **M1 Widening**  
<http://www.highways.gov.uk/roads/projects/4347.aspx>

- **Dft 'Act on CO<sub>2</sub>'**  
<http://www.dft.gov.uk/ActOnCO2/>

### Further reading

- **Planning Policy Statement 23:**  
Planning and Pollution Control. ODPM 2005.
- **Air Quality:**  
Planning for Action. NSCA 2001.
- **Climate Change:**  
Framework for Action in Nottinghamshire. NottsCC.

## What actions can be taken to improve air quality?

### What actions will the Council Support?

- Use air quality targets in Local Transport Plans
- The reporting of smoky diesels (heavy goods vehicles) to the Vehicle Inspectorate.
- Parking restrictions where appropriate.
- Restricted vehicular access to towns and city centres where appropriate

### What actions should the Council Support?

- Larger employers in developing green commuter plans or car sharing schemes.
- Use of park and ride schemes to secure improvements in air quality.
- Integrated transport systems.
- Cycle and pedestrian routes.
- Use of green fuels.
- Bus quality partnerships
- Business initiatives to replace their existing fleet vehicles with greener alternatives when they need replacing.
- Replace Council vehicles with more environmentally friendly vehicles when opportunity arises

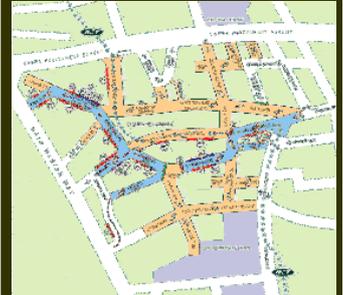
### What actions are Councils encouraged to take?

- Review how staff travel to work and put in place a green commuter plan or car sharing scheme where appropriate.
- Review their car leasing and loan schemes to give incentives for smaller more fuel-efficient cars.
- Review their taxi licensing schemes and promote incentives for the use of cleaner fuels.
- Support initiatives to check emissions from vehicles and reduce exhaust emissions.

### What actions are taken by Partner (or Stakeholders) organisations?

- **The County Council** – Provide a sustainable and efficient transport network accessible to everyone in Nottinghamshire.
- **The Environment Agency** - The Environment Agency is the Government's principal adviser on the environment. Although we have few formal transport powers (with the notable exception of those relating to inland waters navigation in certain areas of the country), decisions taken in transport policy have environmental impacts which affect our role in managing air and in responding to climate change. We highlight the issue of transport and its environmental impact at a strategic and operational level. In commenting on these issues we will draw attention to environmental priorities and to those areas that have an impact on our regulatory decisions.
- **Health Protection Agency** - HPA and the Primary Care Trusts support and encourage within their organisations environmentally sound transport strategies, such as workplace travel plans and 'green' travel initiatives.
- **The Highways Agency** - The HA can influence air quality through contributing to strategic planning, improving roads and integrating transport and improving sustainable travel. The HA will provide better information for improved operation in supporting Local Authorities in delivering the National and local Air Quality Strategies.

### Case Study



#### Nottingham Clear Zone

The Nottingham Clear Zone is part of a national initiative to reduce congestion and pollution within urban areas to provide cleaner, safer places where people can socialise, work and shop. By applying traffic access restrictions within the City Centre, setting emission and quality standards for public transport and encouraging the use of low/zero emission vehicles, Nottingham City Council aims to ensure Nottingham's continued popularity and vitality whilst reducing unnecessary car journeys into the City Centre.

The Nottingham Clear Zone was introduced at the end of 2001 early 2002 and excludes all but essential traffic from the Clear Zone during the middle of the day. The scheme was reviewed and some access restrictions simplified in November 2004.

With restrictions on traffic flow through the Clear Zone area, there is less traffic on the roads around the Old Market Square making it a cleaner, safer place for people to visit. In addition, with more environmentally-friendly buses, taxis and the tram, visitors have easy, reliable access into the City Centre using transportation that doesn't pollute and congest the City's environment.  
<http://www.nottinghamclearzone.com/>

### Planning and Land Use

*The Government attaches great importance to controlling and minimising pollution and is committed to the principles of sustainable development. The planning and pollution control systems are separate but complementary in achieving sustainability and protecting the environment.*

Pollution control is concerned with preventing pollution through the use of measures to prohibit or limit the release of substances to the environment from different sources. The planning system controls the development and use of land in the public interest. It plays an important role in determining the location of developments which may give rise to pollution in that area. Nottinghamshire air quality specialists are very keen to work closely with planning departments to ensure that effective pollution control measure are put in place during the planning process. It is far easier to deal with air pollution in the planning process than later when problems have occurred.



### ***Development Control – Planning for Air Quality, National Society Clean Air Guidance***



*An extract from the text is..* The management of social, economic and environmental issues at a local level has become increasingly complex, requiring interactions across a wide range of policy areas. Air Quality is no exception. Information relating to the state of the atmospheric environment has traditionally come from the environmental health/ pollution control functions of the local authorities. The main levers for action exist within the policy spheres of transport planning and development control. However, the improvement of air quality exists as a duty of local authorities as a whole and it is only through coherent corporate action that this duty can be discharged.

Development control carries the responsibility for integrating a very wide range of issues into planning decisions. Development control officers must therefore rely on the input of experts from other policy areas to inform those decisions. The process for doing this has varied considerably, both across different local authorities and over time. Guidance produced by the National Society for Clean Air has been issued to promote a greater consistency in this process and through doing so help to maximise the beneficial effects of good development control on air quality and the wider environment.

#### **Further Resources**

##### **Website:**

- **Defra**  
Air Pollution - What it means to your health, leaflet  
<http://www.defra.gov.uk>
- **NSCA**  
<http://www.nasca.org.uk/pages/index.cfm>  
National Society of Clean Air and Environmental Protection.

#### **Further reading**

- **Planning Policy Statement 23:**  
Planning and Pollution Control. ODPM 2005.
- **Air Quality:**  
Planning for Action. NSCA 2001.
- **Climate Change:** Framework for Action in Nottinghamshire. NottsCC.

# What actions can be taken to improve air quality?

## What action will be taken when considering air quality in planning and land use?

- Develop, implement and maintain procedures to ensure that neighbouring councils are consulted on any proposed development likely to significantly affect air quality within their area.
- Ensure air quality is a material consideration when assessing planning applications and, where a significant deterioration in air quality is predicted, put in place conditions to mitigate the effects.
- Ensure that wherever possible all new developments are accessible by alternative means of transport, minimising the need to travel by supporting mixed development schemes.
- Require monitoring/modelling to be carried out to establish the potential impact of any development likely to have a significant impact on local air quality.

## What further actions should the Council Pursue?

- Adoption of policies and procedures to ensure air quality is a consideration when formulating or assessing countywide initiatives.

## What actions are the Council encouraged to take?

- Make use of the Nottinghamshire Sustainable Development Guide.
- Persuade 'large employers' to adopt a green commuter plan, especially through negotiation involving new developments.
- Development Control to produce 'Development Briefs' to assist applicants in determining relevant issues which require addressing as part of the application process.
- Assess all appropriate planning applications against a check list for sustainable development to determine, amongst other issues, its impact on air quality and other matters likely to affect air quality such as energy efficiency, green energy and transport. To encourage and advise developers about sustainability and environmental issues.

## What actions are taken by Partner (or Stakeholders) organisations?

- **The Environment Agency** is a statutory consultee on planning applications within a 500 m radius of a site regulated by the EA under Integrated Pollution Prevention and Control (England and Wales) Regulations 2000. These are the major sites regulated by the Agency that can influence air quality. The Agency provides relevant advice to the planners to ensure any concerns about a development and a regulated process are identified and included within any relevant permission. We promote the use of a risk based approach to planning in relation to air quality, directing development to areas where the risk to human health and biodiversity can be minimised.
- **Primary Care Trusts** with support from the Health Protection Agency may become involved in planning applications that could have significant public health impacts to ensure that the potential impact on health is considered. This will include ensuring that health impacts as a result of adverse air quality have been taken into account.
- **The Highways Agency** The Highways Agency will participate in all stages of the planning process and will work alongside other organisations and developers to ensure national and regional aims and objectives can be aligned and met. DfT's Circular 02/2007 'Planning and the Strategic Road Network' sets out how the Agency will take part in the development of Regional Spatial Strategies (RSSs) and Local Development Frameworks (LDFs) from the earliest stages. It encourages the Agency and Regional Planning Bodies (RPBs) and Local Planning Authorities (LPAs) to work together to ensure effective participation in the preparation of regional and local sustainable development policy and sets out how the Agency will deal with planning applications. The Circular reinforces the agency's approach to mitigating the transport impacts of development. The HA will seek to apply the following solutions iteratively:
  - Impact avoidance through Sustainable Location
  - Impact Minimisation through realistic Travel Plans
  - Access management
  - Capacity enhancements as last resort and only where compatible with suitable principles.

The Highways Agency will therefore seek to ensure the mitigation of the environmental impact of new developments by the above means.

## CASE STUDY



### Planning Case Study

Air Quality is now a major consideration when it comes to Environmental Impact Assessments of a development, particularly when air quality Objectives may be compromised.

The retailers, Ikea, recently submitted plans to Broxtowe Borough Council to expand the outlet near Junction 26 of the M1.

On the recommendation of the Environmental Health division, a condition was attached to planning consent to review the impact the development would have on air quality objectives, ensuring neighbouring residents were not exposed to levels above the prescribed standards in the Air Quality Objectives.

This process was fully transparent and was successful in safeguarding the excellent air quality in the area.

## Health and Education

*Clean air is essential for our health, quality of life and the environment. The UK Government within its National Air Quality Strategy sets Objectives for eight main air pollutants that are known to harm human health and occur widely throughout the UK. These Objectives are health based and are underpinned by epidemiology and medical evidence.*

For most people in good health, the concentration levels of the key pollutants in Nottinghamshire are unlikely to cause any serious health effect. However, on the rare occasion when pollution levels are high (e.g. during a pollution episode) some individuals may experience some discomfort such as eye irritation or coughing. Certain sensitive individuals who are more susceptible to respiratory disorders may feel the effects more acutely, or at lower concentration levels. These individuals include those who suffer from heart and lung disease, including asthma and bronchitis, especially young children and the elderly.

### Councils and stakeholder partners can:

- work towards disseminating information on the links between health and the environment;
- support education on air quality and related topics;
- help individuals and organisations obtain information and take action. (e.g. developing workplace commuter plans, car sharing initiatives etc)
- encourage campaigns and strategies such as walking and cycling that not only enhance personal fitness and health but also contribute to improvements in air quality.



**Nottinghamshire County Council provides advice, support and training events for teachers and schools on a range of issues related to environmental education and management. It also works with schools supporting them with:**

- Eco Schools, an environmental management system for schools covering a range of areas including transport, energy and water management and healthy living. These areas are reinforced through activities; classroom work; and linked to the National Curriculum.
- The Healthy Schools Initiative supports schools, promoting the health and well-being of their school community; it covers 8 themes including physical activity and safety.
- School Travel Plans: A council team work with schools to implement School Travel Plans which aim to reduce traffic and related problems around schools by reducing car use and making it easier for children to find alternative ways of getting to school e.g. 'walking buses', promoting cycling.
- Energy Certification for Schools programme: The Council works across Nottinghamshire with the Newark and Sherwood Energy Agency supporting schools working on energy monitoring/reduction.

### Further Resources Websites:

#### • Health effects of air pollutants.

DEFRA's Expert Panel on Air Quality Standards (EPAQS) and DH Committee on the Medical Effects of Air Pollutants (COMEAP) have published many reports that consider the health effects of pollutants

#### EPAQS:

<http://www.defra.gov.uk/environment/airquality/aqs/>

#### COMEAP:

<http://www.advisorybodies.doh.gov.uk/comeap/index.htm>

#### • Defra

<http://www.defra.gov.uk/environment/airquality/publications/airpoll/index.htm>  
Air Pollution: *What it means to your health*, leaflet.

#### • DETR

Winter Smog Summer Smog, 1998  
<http://www.defra.gov.uk/environment/airquality/publications/smog/index.htm>

#### • The UK Air Quality Information Archive

<http://www.airquality.co.uk/archive/index.php>

#### • The UK National Air Quality Strategy.

Department of Environment Food and Rural Affairs (2000). *National Air Quality Strategy, Working Together for Cleaner Air* and associated regulations and guidance.  
<http://www.defra.gov.uk/environment/airquality/strategy/index.htm>

<http://www.lagmsupport.org.uk/>

#### • Eco Schools

<http://www.eco-schools.org/>

#### • Walk to School Initiatives

[http://www.nottinghamshire.gov.uk/home/traffic\\_and\\_travel/roadsafety/roadsafety\\_schools/walktoschool.htm](http://www.nottinghamshire.gov.uk/home/traffic_and_travel/roadsafety/roadsafety_schools/walktoschool.htm)

<http://www.walktoschool.org.uk/site.htm>

#### • Safer Routes to School

[http://www.nottinghamshire.gov.uk/home/traffic\\_and\\_travel/roadsafety/roadsafety\\_schools/saferoutestoschool.htm](http://www.nottinghamshire.gov.uk/home/traffic_and_travel/roadsafety/roadsafety_schools/saferoutestoschool.htm)  
Nottinghamshire County Council initiative

#### • Energy Certification for Schools

[www.est.org.uk/schools](http://www.est.org.uk/schools)

#### • Healthy Schools initiative

[www.healthyschoolsnotts.org.uk](http://www.healthyschoolsnotts.org.uk)

• **EMPAHSIS:** East Midlands Public Health  
<http://www.emphasisnetwork.org.uk/>

### Further reading

#### • WHO (2005)

*Effects of Air Pollution on Children's Health and Development, A Review of the Evidence.* European Centre for Environment and Health, Bonn.

#### • Department of Health

(DH) (1998)  
*Saving Lives: Our Healthier Nation* - has been succeeded by  
DH (2004) *Choosing Health: making healthier choices easier*

#### • East Midlands Development Agency

(EMDA) (2003)  
*Investment for Health, a public health strategy for the East Midlands*  
<http://www.emra.gov.uk/i4h/>

## What actions can be taken to improve air quality?

### What actions will be taken when considering Health and Education?

- Councils will review and assess air quality within their areas against national health based standards and Objectives. Where Councils identify that the standards and Objectives will not be met, Air Quality Management Areas (AQMAs) and action plans will be implemented with the aim of improving air quality to meet the required standard.
- Work with Primary Care Trusts, the Health Protection Agency and other health professionals through mechanisms such as Health Improvement Programmes and local Strategic Partnerships (LSPs) to raise awareness about poor air quality, the health effects, the sources of pollution and how to reduce emissions to the air.
- Actively promote awareness of measures to improve air quality.
- Council will produce annual reports of air quality assessments and monitoring data.

### What actions should the Council Support?

- Promotion of defra's Air Pollution and Public Information Bulletin/Service.
- The promotion and encouragement of children to walk or cycle to school for both health and environmental benefits. Through programmes such as 'walk to school week', 'safer routes to school' and 'healthy schools initiative'.

### What actions are Councils encouraged to take?

- Work with schools to promote the use of National Society Clean Air's air pollution teaching packs.
- Support and work with academia in carrying out research projects which affect air pollution in Nottinghamshire.

### What actions are taken by Partner (or Stakeholders) organisations?

- **The Environment Agency** - The EA has a statutory regulatory duty to protect human health and the environment. We consider health implications in our decision making process and seek advice from other organisations as appropriate. A major challenge is making people aware of the health risks associated with pollution and how to place these in the context of other risks. This is particularly difficult when there is a level of uncertainty in the scientific knowledge underpinning regulatory decisions. We have recently produced a document Better Environment – Healthier People which clarifies our role and relationships with other organisations. It can be obtained from our website.
- **Primary Care Trusts and Health Protection Agency** -The HPA/ PCTs are willing to be consulted on and provide advice on air quality and related health issues. They will work with Local Authorities to raise awareness and disseminate information on air quality issues. The HPA will provide advice to Local Authorities in the investigation of pollution episodes with regard to impact on human health and communicate the results of these investigations to the PCTs.
- **Highways Agency** -The HA is committed to ensure that the road network within Nottinghamshire does not have a detrimental effect on people's health. The HA is working with local authorities to improve air quality in areas of congestion through the Local Transport Plans and action plans for Local Air Quality Management Areas.

### Nottingham Health Action Team (NHAT):

The Nottingham Health Action Team (NHAT) promotes good health and tackles health inequalities through identifying and addressing the environmental causes of ill health. NHAT works across different sectors in Greater Nottingham and in 2003 it took on an additional economic role and contributes to the Sub Regional Strategic Partnership. Topic areas include - Food Initiatives, Affordable Warmth, Transport & Health Initiatives and Waste.

The Nottingham Health Action Team represents an integrated approach, which involves representatives from diverse organisations and perspectives including: a local MP, the East Midlands Public Health Team, Health Protection Agency, Nottingham Trent University, 4 Primary Care Trusts (Nottingham City, Gedling, Rushcliffe, Broxtowe & Hucknall); 6 local authorities (Nottinghamshire County, Gedling, Rushcliffe, Broxtowe, Ashfield and Nottingham City), NHS Trusts, private sector and voluntary sector.

The Health Initiatives budget has spent up to £60,000 per year supporting innovative projects which contribute to the protection and promotion of the health of Greater Nottingham residents by ensuring a safe, clean and sustainable environment and by identifying and addressing the environmental causes of ill health.

## Energy Efficiency

### Energy Efficiency

*“Around £12 billion worth of energy is wasted in the UK every year.”*

*Increasing energy efficiency within industry, workspaces and our homes will result in a both long term financial savings and an improvement in air quality.*

*The UK government has committed taking action on climate change by reducing carbon dioxide emissions through the Kyoto agreement. The key to achieving this commitment is promoting a more energy efficient society. The overall demand for energy is likely to increase; therefore in order to accommodate this increase while reducing CO<sub>2</sub> emissions a number of changes will need to be made by:*

- *Using energy more efficiently, such as using more efficient vehicles and equipment,*
- *Using energy from renewable sources such as solar, biomass or wind,*
- *Making clean and efficient use of fossil fuels such as coal and oil.*

*To help achieve these aims the government has set a target that 10% of the UK electricity supplies will be generated from renewable sources by 2010. Obligations placed on the electricity supply companies together with some funding from the proceeds of the climate change levy is expected achieve this.*

The way that energy is generated is changing. There is a movement away from conventional large scale power production towards smaller, local power plants, often to meet the needs of single company, with the option of exporting surplus to the national grid. A result of this the ability to use combined heat and power systems, therefore increased energy efficiency. Examples of such systems can be found at Boots plc and the Queen’s Medical Centre at in Nottingham, and British Sugar at Newark.



#### **New Energy Efficiency Plant**

During July 2006, Veolia Environmental Services, which has recently been awarded the County’s 26-year waste management contract, announced that Rufford Colliery, near Rainworth, is the proposed site for a new Energy Recovery Facility (ERF) to be built. The Energy Recovery Facility (ERF), which will provide energy from the incineration of waste, is one of the solutions proposed to manage the county’s waste.

Approximately 180,000 tonnes of residual waste left over after recycling & composting a year will be processed by the ERF. It is anticipated that in 2012, when the plant is fully operational, this will represent approximately 35% of the household waste in Nottinghamshire. The facility will produce up to 15MW of electrical energy, enough to power up to 15,000 homes, which will be fed into the National Grid.

The proposed facility will have a high visual and environmental specification. The modern facility will also be clean and safe. Any emissions will be within safety limits and be subject to tight legislative controls to ensure that any releases to atmosphere are properly managed. In addition the facilities operation will be subject to the requirements of a planning permission and the granting of a Pollution Prevention Control Permit from the Environment Agency, who will also act as an independent monitor of the facility’s operation.

<http://www.onyxgroup.co.uk/pages/newspressDirect.asp?articleId=1348>

#### **Further Resources Website:**

- Defra web site  
[www.defra.gov.uk/environment/climatechange/dat/energy-factsheet.htm](http://www.defra.gov.uk/environment/climatechange/dat/energy-factsheet.htm)
- The Carbon Trust  
[www.thecarbontrust.co.uk](http://www.thecarbontrust.co.uk)
- Sherwood Energy Village  
[www.sherwoodenergyvillage.co.uk](http://www.sherwoodenergyvillage.co.uk)
- Nottinghamshire Agenda 21  
<http://www.nottinghamshire.gov.uk/home/environment/greenissues/climatechange.htm>

- Energy Saving Trust  
[www.est.org.uk](http://www.est.org.uk)
- The Carbon Trust  
<http://www.thecarbontrust.co.uk/en/ergv>
- The Energy Saving trust  
<http://www.est.org.uk>
- The National Energy Foundation  
<http://www.nef.org.uk>
- Grants finder  
[www.est.org.uk/solar/](http://www.est.org.uk/solar/)

#### **Further Reading:**

- The Department for Environment, Food and Rural Affairs  
<http://www.defra.gov.uk/environment/energy/index.htm>
- Energy efficiency grants  
<http://www.direct.gov.uk>
- Educational Resources  
[www.think-energy.com/](http://www.think-energy.com/)

- Nottingham City Council  
[http://www.nottinghamcity.gov.uk/sitemap/energy\\_efficiency\\_in\\_your\\_home](http://www.nottinghamcity.gov.uk/sitemap/energy_efficiency_in_your_home)
- Nottinghamshire County Council  
<http://www.nottinghamshire.gov.uk/home/environment/greenissues/energy.htm>
- Solar power grants for businesses  
[www.saveenergy.co.uk/qid/](http://www.saveenergy.co.uk/qid/)

- Climate Change  
[www.bbc.co.uk/climate/evidence/index.shtml](http://www.bbc.co.uk/climate/evidence/index.shtml)
- Positive about wind power  
[www.ves2wind.com/about.html](http://www.ves2wind.com/about.html)
- Carbon Calculator  
[www.carboncalculator.com/](http://www.carboncalculator.com/)

## What actions can be taken to improve air quality?

### What actions will Councils take to reduce energy consumption?

- Review their energy usage and put in place initiatives to improve energy efficiency where appropriate.
- Provide advice to the public and businesses about energy efficiency and building design, maintenance and insulation etc.
- Make energy efficiency an integral part of housing and building maintenance.
- Play an active role in the Local Authorities Energy Partnership.
- Promote home energy efficiency schemes.

### What actions should Councils Support?

- Initiatives to encourage energy efficiency.
- Use of renewable energy in their own buildings.
- Energy demonstration projects.
- The use of renewable energy.

### What actions are taken by Partner (or Stakeholders) organisations?

- **The Environment Agency** regulates numerous sites under The Pollution Prevention and Control Regulations 2000 (PPC) this legislation specifically requires installations to be operated in such a way that energy is used efficiently. In addition, energy efficiency is one of several considerations to be taken into account when determining Best Available Techniques for the prevention and minimisation of pollution. All installations falling under the scope of PPC shall meet a set of defined basic energy requirements for energy efficiency and must either participate in a Climate Change agreement or Trading Agreement with the UK government or through compliance with further permit specific requirements.

**Primary Care Trusts and Health Protection Agency** The HPA promotes within organisation initiatives to reduce the amount of energy and natural resources used. PCTs together with local authorities and the voluntary sector can work to alleviate fuel poverty by providing advice on grants for insulation and heating, home improvement schemes and raise awareness of energy efficiency.

- **The Highways Agency always** looks for initiatives and ways to reduce energy in its building and support networks.

### Case Studies

#### • CHP at QMC

The Combined Heat and Power plant at the Queens Medical Centre, Nottingham was officially opened in February 1999. The efficiency of on-site energy generation provides a major overall reduction in the production of "greenhouse" gases. Combined with the massive addition to the site's existing standby generator capacity it will provide the added security of "business as usual" in the event of any external power disruption. The plant is projected to save the Trust around £350,000 per year.  
**Contact:** Robert Cartwright, Estate Operation Manager, Tel 0115 924 9924 ext. 43642.

#### • Mine Gas Extraction for Power Generation

Coalgas (UK) Ltd. received planning permission in 1998 to extract methane from a disused mine shaft at the former Steeley Colliery near Worksop and used it to both generate electricity and to supply the adjoining Bakers fractory with gas from power.  
**Contact:** Mr A.R. Barnes, Development Manager, Tel 01623 421642.

#### • Inland Revenue sets example

The recently relocated Inland Revenue Offices at Castle Meadow, Nottingham have won acclaim for their energy efficient features. The buildings favour natural daylight over electric lighting and, to this end, incorporate slatted balconies, back reflecting light shelves, and triple-glazed windows. The most notable feature is perhaps the glass stair towers which act as "solar chimneys" and provide natural, comfortable ventilation and heating. The building is connected to the Nottingham District Heating Scheme.  
**Contact:** Sheila Garner, Inland Revenue Offices, Tel 0115 974 0058.

## Industrial and Commercial

### Industrial and Commercial

*Emissions to atmosphere from industrial and commercial premises are legislated through the EU Integrated Pollution Prevention and Control Directive (IPPC). This directive primarily aims to ensure a high level of environmental protection and so Local Authority IPPC aims to prevent emissions and waste production and where that is not practicable, reduce them to acceptable levels. Local Authorities and the Environment Agency will be enforcing IPPC legislation to protect the environment as a whole, promote the use of clean technology, minimise waste at source, encourage innovation by leaving significant responsibility for developing satisfactory solutions to environmental issues with industry operators and to provide a one stop shop for administering Permits. IPPC also takes the integrated approach beyond the initial task of permitting, including compliance monitoring, permit reviews, variations, transfers, through to the restoration of sites when industrial activities cease.*

#### **LACORS Team Set up for Environmental Protection issues**

LACORS' role is to support and co-ordinate local authority regulatory services in various areas. On 3 April 2006, LACORS launched a new team to deal with environmental protection policy issues. LACORS is a government central body created by the UK local authority associations.

The new team will work with all Local Authority Environmental Protection Services in England – both officers and elected members – to deliver service improvements through a more coordinated and informed approach. In addition to IPPC, LACORS work will include air, land, water and noise pollution. LACORS will be working closely with the LGA, the Improvement & Development Agency (IDeA) and defra to coordinate their collective efforts and ensure that the most important issues are dealt with satisfactorily and appropriate policy solutions are developed.

#### **Case Study - Industry and Commercial Sherwood Forest Crematorium**

*Crematorium opened in January 2006,*



Sherwood Forest is unique by virtue of its environmental excellence. It is the first crematorium in Britain to install equipment designed to protect against heavy metal pollution and mercury. These pollutants are key factors in the destruction of marine habitats and health land. Prior to being emitted to

atmosphere via an emission stack the gases from the Cremator pass through flue gas cooling and bag filtration system. This ensures the adequate removal of particles and contaminants from the flue gases. The facility has not only set new standards of client care for people across North Nottinghamshire but also for the future of the planet. It is one of the first crematoria that can truly call itself green with virtually no key pollutant emissions.

[http://www.memoria.org.uk/sherwood\\_crematorium.htm](http://www.memoria.org.uk/sherwood_crematorium.htm)

#### **Further Resources Website:**

- **Defra Web Site**

<http://www.defra.gov.uk>  
Environmental Protection

Aim is to protect and improve the environment, and to integrate the environment with other policies across Government and in international forums.

- **LACORS**

<http://www.lacors.gov.uk>

- **Environment Agency Web Site**

<http://www.defra.gov.uk/environment/index.htm>

- **UK statutory instruments on the Stationary Website.**

<http://www.hmso.gov.uk>.

#### **Further Reading:**

- **Industrial Air Pollution Control by Local Authorities**

<http://www.defra.gov.uk/environment/airquality>

- **General Guidance on PPC Regulation**

<http://www.defra.gov.uk/environment/ppc>

## What actions can be taken to improve air quality?

### What actions will Councils take to ensure a high level of environmental protection?

- Rigorously enforce legislation to control emissions of air pollutants.
- Encourage businesses to be more environmentally aware by adopting a risk based enforcement and charging regime.
- Assist and advise business in complying with relevant legislation.
- Be represented on the East Midlands LACOR's Team

### What actions should Councils Support?

- Business initiatives to help them review their operations and try to reduce emissions of air pollutants from their activities.
- Business Environmental Statements which include policies that take account of air quality and the management of emissions of air.
- Business initiatives to adopt EMAS or ISO14001.
- Sustainable Business support groups.

### What actions are Councils encouraged to take?

- Work with businesses to provide advice on sustainable development and, amongst other issues, ways to minimise emissions of air pollutants from their activities.

### What actions are taken by Partner (or Stakeholders) organisations?

- **The Environment Agency** The Environment Agency will aim to ensure all business activities will have environmental concerns at the heart of their thinking and operations. The adoption of sustainable production and consumption practices will be the norm. Industries will exercise stewardship over their products to ensure that they are compatible with sustainable development. Risk and incentive-based charging schemes will reward reduced risks to human health and the environment and encourage effective environmental management.
- The public will use its purchasing and investment powers, and its opinion, to influence industrial performance in terms of human health and the environment. Through the public being better informed and involved, there will be greater general approval in the regulatory process and public confidence in it.
- To achieve this, the Environment Agency will work to simplify and improve the regulatory process for business, improve access to environmental information for business and the public, and promote the prevention of pollution and minimisation of waste in industry.
- **Primary Care Trusts and Health Protection Agency** The PCTs, as statutory consultees under the Pollution Prevention and Control Regulations 2000, considers (with support from the HPA) the potential impact on health from industrial installations that fall within these Regulations. The assessment of each installation will include consideration of any emissions to atmosphere and their potential impact on the health of human receptors.
- **Highways Agency** The HA are keen to encourage industry and commerce to improve air quality and would assist with comments on road infrastructure where appropriate.

### Case Studies

EDF Energy operates West Burton and Cottam Power Stations two major Power stations in the Nottinghamshire area. Both sites have undergone recent investment to improve the emissions from the sites and significantly reduce the sulphur dioxide emitted as a result of their operation. A new Flue Gas Desulphurisation (FGD Plant) at the cost of £120 million has been installed at West Burton and commenced full operation in October 2005.

This will remove 92% of the sulphur dioxide emissions produced by the 2,000MW coal burning Power Station. This prevents around 90,000 tonnes of sulphur dioxide emissions each year. Equally Cottam Power station is currently halfway through a similar investment programme to install FGD treatment to dramatically reduce the amount of Sulphur Dioxide it emits.

EDF energy regularly updates the Nottinghamshire authorities on its activities and produces a yearly public document outlining its monitoring and emission programme.



## Climate Change and Global Warming

### Climate Change and Global Warming

*Britain is at the forefront of action both against Climate Change and Global Warming to adapt to its inevitable consequences. The Government's 2003 energy white paper put climate change at the heart of the country's energy policy. In the white paper, the government reaffirmed its commitment to go beyond our Kyoto commitments in cutting emissions of greenhouse gases to 20 percent below 1990 levels by 2010. And it goes further, making Britain among the first industrialised countries in the world to embrace a long term target of a 60 percent cut in emissions compared to 1990 levels by mid-century.*

Climate change is widely attributed to the emission of greenhouse gases (GHGs), the main one being carbon dioxide (CO<sub>2</sub>) through the burning of fossil fuels. Others GHGs include methane (CH<sub>4</sub>) and nitrous oxide (NO<sub>x</sub>), which are of lesser concern. However nationally, approximately 90% of energy is derived from fossil fuels, and hence contributes to Climate Change and Global Warming.

The principal effects of Climate Change and Global Warming in the UK are likely to be seen with warmer, drier summers and warmer wetter, stormier winters. This may already be happening, with the hottest five years on record all being since 1997. 2000 and 2007 were the wettest year in the 20<sup>th</sup> century,

with severe floods in Nottinghamshire. This was reiterated in the Energy Review and the Climate Change UK programme both launched in 2006, which together set out the framework to enable the country to move in the right direction to meet the long-term challenges. By tackling energy consumption, it is possible to have the dual benefit of improving air quality and reducing GHG emissions. In fact many of the actions suggested in other chapters of this document, e.g. energy efficiency and transport, can help to reduce GHG emissions.

Defra has launched a campaign on tackling climate change. The Act On CO<sub>2</sub> campaign, which began on 9 July 2007, includes TV, press and online advertising.

The advertising aims to introduce the concept of a personal carbon footprint, and to encourage behaviour change to help reduce personal carbon emissions. As part of the campaign the government has developed the Act On CO<sub>2</sub> calculator to help people calculate their carbon footprint and find lots of ways to make it smaller. To find out yours visit

[www.direct.gov.uk/ActOnCO2](http://www.direct.gov.uk/ActOnCO2)



### Forces for change

#### International

- As a signatory to the Kyoto Protocol, the UK is committed to reducing GHGs by 12.5% by 2012 (using 1990 levels as a baseline)

#### National

- UK has agreed a domestic target to reduce CO<sub>2</sub> emissions by 20% by 2010 (using 1990 levels as a baseline)
- UK Energy White Paper (2003) suggests that 60% reductions are required by 2050 if global temperature increases are to be halted

#### Local

- Effects of climate change will be felt at a local level, therefore local action is necessary
- Nottinghamshire Agenda 21 has adopted interim targets towards a 60% CO<sub>2</sub> reduction by 2050 and carbon neutrality by 2100
- Nottingham Declaration on Climate Change requires signatures to join with their community to tackle the causes and effects of climate change.

#### Further Resources Website:

- National Society of Clean Air and Environmental**  
<http://www.nasca.org.uk/pages/index.cfm>
- Nottingham Declaration**  
<http://www.nottinghamdeclaration.org/>
- defra**  
[www.defra.gov.uk/environment/climatechange/index.htm](http://www.defra.gov.uk/environment/climatechange/index.htm)
- Carbon Trust**  
[www.thecarbontrust.co.uk](http://www.thecarbontrust.co.uk)
- Energy Saving Trust**  
[www.est.org.uk](http://www.est.org.uk)
- Climate Heroes**  
[www.climatechallenge.gov.uk/whats\\_being\\_done/projects/climateheroes/default.aspx](http://www.climatechallenge.gov.uk/whats_being_done/projects/climateheroes/default.aspx)

- National Energy Foundation carbon calculator**  
[www.nef.org.uk/energyadvice/co2calculator.htm](http://www.nef.org.uk/energyadvice/co2calculator.htm)
- Climate Care carbon calculator** (aimed at individuals - with option to offset emissions)  
<http://www.climatecare.org/404/>
- UK Climates Impact Programme**  
<http://www.ukcip.org.uk/>
- The Tyndall Centre for climate change research.**  
<http://www.tyndall.ac.uk/index.shtml>

#### Further reading

- Department of Health (2001)**  
Health Effects of Climate Change in the UK  
<http://www.dh.gov.uk/en/AdvanceSearch/Result/index.htm?searchTerms=the+effects+of+climate+change>
- Department of Health (2004)**  
Heat wave Plan for England.  
<http://www.dh.gov.uk/assetRoot/04/11/57/33/04115733.pdf>
- Health Protection Agency** (Reviewed July 2003).  
Provisional guidelines on the public health implications of flooding.  
[http://www.hpa.org.uk/infections/topics\\_az/flooding/menu.htm](http://www.hpa.org.uk/infections/topics_az/flooding/menu.htm)

#### Nottinghamshire Agenda 21

Climate Change in Nottinghamshire: Options for Mitigation and Adaptation  
<http://www.nottinghamshire.gov.uk/climatechange/finalreport.pdf>

A technical study undertaken by Dr. Brian Waters, which outlines what climate change could mean to Nottinghamshire and how we might best respond Climate Change – Framework for Action in Nottinghamshire, Nottinghamshire Agenda 21 (2005)

## What actions can be taken to improve air quality?

### What actions will Councils take to reduce energy consumption?

- Reduce CO<sub>2</sub> emissions caused by energy use in Council buildings
- Purchase low carbon green electricity
- Making a public commitment to tackling climate change and Global Warming by signing the Nottingham Declaration on Climate Change (2005) – all local authorities in the county are now signatories to this Declaration which has nationwide status and is endorsed by the government. It requires each signatory authority to prepare a plan with the local communities to address the causes and effects of Climate Change and Global Warming.
- Promote awareness of Climate Change and Global Warming through the “Climate Heroes” campaign (see web link pg22)
- Promote energy efficiency through the Local Authorities Energy Partnership
- Improving standards of new builds and promote the use of the Sustainable Developer Guide.
- Promote green travel plans
- Promote the use of renewable energy and energy efficiency measures

### What actions should Councils Support?

- Promotion of *Climate Change - Framework for Action in Nottinghamshire*
- Encourage organisations and sectoral groups in Nottinghamshire to sign up to the vision for the county contained in *Climate Change – Framework for Action in Nottinghamshire* and to develop their own action plan in support of the vision
- Promotion of sustainable energy and climate change objectives through community-wide strategies and land use plans
- Promote the initiatives set out in the Local Transport Plan to reduce the traffic growth

### What actions are Councils encouraged to take?

- Sign up to the vision for the County contained in *Climate Change – Framework for Action in Nottinghamshire*
- Create a Nottinghamshire Green House Gas emissions inventory as part of a wider pollution emissions inventory
- Adopt a council-wide strategy on climate change, global warming and sustainable energy
- Integrate climate change and global warming initiatives across all service areas in local authorities
- Adopt a ‘whole-life’ approach to investment, including revolving funds which pay upfront for sustainable energy measures, and then reinvest the savings in further projects

### What actions are taken by Partner (or Stakeholders) organisations?

- **Environment Agency** Limiting and adapting to climate change is one of the nine themes in the Environment Agency’s corporate plan. The Environment Agency will contribute to meeting the Government’s Objectives through our role of regulating pollution from industry and waste disposal. We are responsible for regulations that cover 40 percent of UK emissions of greenhouse gases. We will also research and publicise the likely effects of climate change and global warming, helping public and private bodies alike to meet the challenge. And we have specific responsibility for addressing likely impacts as we manage the country’s flood defences and water resources.
- **Health Protection Agency** The main impacts of climate change on health are likely to be through extreme weather events, changing patterns of infectious disease and increased exposure to UV radiation. Therefore the government, the HPA and PCTs need to anticipate and prepare for the long-term effects of such change.

For example, through the *Heatwave Plan for England* the Department of Health (DoH) sets out responsibilities of the HPA; Met Office; DoH; Strategic Health Authorities; Primary Care Trusts; Local Authorities; and Regional Directors of Public Health, should such an event occur. The HPA is responsible for surveillance of heat-related illness (e.g. through monitoring of calls to NHS Direct and GP consultations) and reporting to DoH. Primary Care Trusts will work with Councils to issue advice and support to people identified as ‘at-risk’ from extreme heat and occupants and staff of residential and nursing homes.

### Case Studies

#### Attenborough Nature Centre

Attenborough Nature Centre has been designed with its own renewable energy resources that will meet the annual energy needs of the building in normal use, thus providing zero net Green House Gas emissions. Specific features include: high levels of insulation, photovoltaic panels to provide electricity, a “heat-pump” to provide heating and hot water, roof-mounted hot-water solar panels and window sizes designed to provide good levels of daylight.

Contact: Philip Songhurst,  
Centre Manager  
Tel: 0115 972 1777  
[www.attenboroughnaturecentre.co.uk/building%20brochure.pdf](http://www.attenboroughnaturecentre.co.uk/building%20brochure.pdf)

#### Energy recovery from waste disposal

Five landfill sites in Nottinghamshire operate energy recovery schemes. At these sites in Daneshill, Sutton, Dorket Head, Bilsthorpe and Burntstump, landfill gas (mainly methane) is collected and burnt to generate electricity. The landfill gas is created as waste decomposes naturally, so energy recovery not only reduces methane emissions - one of the more powerful Green House Gases but also reduces the need for energy derived from burning fossil fuels. Landfill gas sites in Nottinghamshire have a capacity of around 7 MW of renewable energy (2003 data).



## Domestic Sector

### Domestic Sector

*The Clean Air Acts of 1956 and 1968 were introduced to deal with the smogs (a combination of smoke and fog) of the 1950's and 1960's, which were caused by the widespread burning of coal for domestic heating and industry without any controls. In 1956, the London smog was blamed for the premature death of 12,000 people in the UK.*

#### Clean Air Act

Under the Clean Air Act, local authorities may declare the whole or part of the district to be a smoke control area. It is an offence to emit smoke from a chimney of a building, from a furnace or from any fixed boiler if located in a designated smoke control area unless it is an "exempt" appliance.

The Secretary of State for Environment, Food and Rural Affairs has powers under the Act

to authorise smokeless fuels or exempt appliances for use in smoke control areas in England. Therefore, it is a requirement that fuels burnt or obtained for use in smoke control areas have been "authorised" in Regulations and that appliances used to burn solid fuel in those areas (other than "unauthorised" fuels) have been exempted by an Order made and signed by the Secretary of

State or Minister in the devolved administrations. Your local authority is responsible for enforcing the legislation in smoke control areas and you can contact them for details of any smoke control areas in their area. They will also have details of the fuels and appliances, which may be used.

The whole districts of Ashfield Rushcliffe and Mansfield are designated smoke control areas.



**The London Smogs of 1957**

#### Domestic Bonfires

It is estimated that garden waste accounts for 20% of all household rubbish. In order to reduce the waste that goes into the bin, many people often have bonfires to burn their garden waste.

There are no specific laws governing the use of bonfires although under the Environmental Protection Act, a statutory nuisance includes "smoke, fumes or gases emitted from premises so as to be prejudicial to health or a nuisance".

Not only is a bonfire likely to cause nuisance to neighbours; it also has a detrimental effect on air quality.

There are other methods of getting rid of garden waste other than burning. Your council will have a recycling point where you can take garden waste or you can compost it yourself.

A number of Councils provide their residents with a variety of bins for separating household, recyclable material and garden waste. Some Council's will also collect garden waste and send it for composting for either use in agriculture eliminating the need for chemical fertilizers or processed for domestic resale.



#### Further Resources Website:

- **Clear Skies Renewable Energy Grants**

<http://www.clear-skies.org/>

- **Department of Health, Keep Well Keep Warm 2005/2006**

[http://www.dh.gov.uk/PolicyAndGuidance/HealthAndSocialCareTopics/HealthAndSocialCareArticle/fs/en?CONTENT\\_ID=4076849&chk=N3IuFO](http://www.dh.gov.uk/PolicyAndGuidance/HealthAndSocialCareTopics/HealthAndSocialCareArticle/fs/en?CONTENT_ID=4076849&chk=N3IuFO)

- **National Society for Clean Air and Environmental Protection**

<http://www.nasca.org.uk>

- **UK Smoke Control Areas**

<http://www.uksmokecontrolareas.co.uk/>

- **Air Pollution and Human Health**

NSCA 1999 (National Society for Clean Air and Environmental Protection)

- **Department of Health: Winter Warmth Advice Line**

8am – 8pm Monday to Friday; FREEPHONE 0800 085 7000 TEXTPHONE 0800 085 7857

- **Air Quality in the UK**

defra 2003 (Department for Environment Food and Rural Affairs)

- **Fireworks!**

NSCA 2004 (National Society for Clean Air and Environmental Protection)

- **The UK National Air Quality Archive**

<http://www.airquality.co.uk>

- **Air Pollution Laws**

NSCA 2003 (National Society for Clean Air and Environmental Protection)

- **Indoor Air Pollution**

NSCA 1991 (National Society for Clean Air and Environmental Protection)

- **UK Air Pollution**

Netcen National Environmental Technology Centre

## *What actions can be taken to improve air quality?*

### *What actions will Councils take to reduce energy consumption?*

- Enforce legislation to control emissions to air from chimneys of domestic properties and bonfires
- Assist and advise householders in complying with relevant legislation
- Encourage reduction and recycling of household waste
- Promote home composting of garden waste
- Encourage domestic households to remove polluting appliances

### *What actions should Councils Support?*

- Energy efficiency in domestic properties
- Advise members of the public with bonfire etiquette
- Advise members of the public on appliances and fuel in smoke control areas
- Promote bins for garden waste – the council can recycle garden waste
- Promote compost bins for residents of Nottinghamshire – a compost converter can be purchased from Nottingham County Council for a few pounds.
- Advise and support safe bonfire night evenings, reducing the need for personal bonfires on bonfire night

### *What can Nottinghamshire residents do to help?*

- Use only authorised fuels in smoke control areas
- Use exempted appliances in smoke control areas
- Don't have bonfires and compost garden waste
- Attend organised bonfire night evenings rather than holding their own event
- Make use of renewable energy
- Buy only Energy Efficient Appliances

### **Highways Agency**

As part of our influencing travel behaviour work we are giving priority to those sites with known air quality issues. Smaller schemes are also being given enhanced priority if they are forecast to deliver improvements in air quality.

## Case Studies



Whilst a bonfire is an English tradition, it is estimated that 14% of total UK dioxin emissions are produced on Bonfire Night.

The bright colours and effects in fireworks are produced by a cocktail of chemicals. Fireworks emit light, heat and sound energy along with carbon dioxide and other gases and residues. The exact emissions will vary depending on the firework, but as gunpowder is the main component sulphur compounds are emitted, along with small amounts of particulates (PM<sub>10</sub>), metal oxides and organic compounds.

Your council will have details on organised safe bonfire evenings, which you and your family can enjoy, reducing the need for you to have your own bonfire and fireworks display, which will have a positive effect on air quality.

## Information and Services

### Information and Services

*“Information does not necessarily lead to increased awareness, and increased awareness does not necessarily lead to action. Information provision, whether through advertisements, leaflets or labeling, must be backed up by other approaches.” Demos & Green Alliance, 2003*

*The information and services provided by all of the partner organisations form a key role in the implementation of the Air Quality Strategy for Nottinghamshire. The provision of relevant and up to date information for stakeholders and the public provides a platform for decision making on the impact of Air Quality within the County. This can influence organisations and the public to look at the impact they have on air quality and make decisions to reduce this for the benefit of all.*

*Changing behaviour is one of the main obstacles for the reduction in the impact we all have on Air Quality within Nottinghamshire. The actions based in this strategy along with effective communication and provision of information can work towards achieving effective changes in behaviour. With the continual advancements in technology more and more information is being provided that is accessible to a growing number of the population. It is important that all organisations are aware of the need to ensure we are aware of what information is needed and also how this is delivered.*

*Consultation with stakeholders helps to understand what information and services are required and whether we are achieving the aims and objectives within this strategy document.*

#### Further Resources Website:

- **Office of Public Sector Information**  
<http://www.opsi.gov.uk/stat.htm>  
Full text of Statutory Instruments
- **Environment Agency Web Site**  
<http://www.defra.gov.uk/environment/index.htm>
- **NSCA**  
<http://www.nasca.org.uk/pages/index.cfm>  
National Society of Clean Air and Environmental Protection.
- **DEFRA – Air Quality Web Site**  
<http://www.defra.gov.uk/environment/airquality/index.htm>  
This web site has details of developments to control and manage ambient air quality across the UK, including European and international air quality issues.

- **The National Air Quality Information Archive**

<http://www.airquality.co.uk/archive/index.php>  
This site provides up-to-date, comprehensive, detailed information on air quality. Information is available on the 24 hour forecast of air pollution levels within Nottingham and the East Midlands. The site also provides considerable information on national air quality monitoring.

- **National Society of Clean Air and Environmental Protection**

<http://www.nasca.org.uk/pages/index.cfm>  
This is an environmental protection charity that brings together organisations across the public, private and voluntary sectors.

#### Further reading

- **University of West England – Air Quality Review and Assessment Website**

<http://www.uwe.ac.uk/aqm/review/links.html>  
This site is to assist Local Authorities in their duties for the reviews and assessments of air quality. It provides guidance for best practice

- **Cassella Stanger Action Plans and modelling help desk**

<http://www.stanger.co.uk/actionplan>  
[http://www.casellastanger.com/modelling\\_helpdesk](http://www.casellastanger.com/modelling_helpdesk)  
This site provides help and assistance to Local Authorities in the development of Air Quality Action Plans and for undertaking modelling.

- **Care4air**

<http://www.care4air.org/>  
Care4Air is a good example of a partnership between the four South Yorkshire local authorities and South Yorkshire Travelwise. Its aims are to highlight what is happening in the region on air quality issues.

- **Ashfield District Council**

<http://www.ashfield.dc.gov.uk/ccm/navigation/environment/pollution/air-pollution/monitored-air-pollutants/>

- **Bassetlaw District Council**

[http://www.bassetlaw.gov.uk/index/environment/environment\\_and\\_health\\_services/pollution.htm](http://www.bassetlaw.gov.uk/index/environment/environment_and_health_services/pollution.htm)

- **Broxtowe Borough Council**

<http://www.broxtowe.gov.uk/index/environment/air-pollution/pollution-air.htm>

- **Gedling Borough Council**

<http://www.gedling.gov.uk/index/e-nv-home/pe-poll-home/pe-poll-aqm.htm>

- **Mansfield District Council**

<http://www.mansfield.gov.uk/index.aspx?articleid=201>

- **Newark & Sherwood District Council**

<http://www.newark-sherwooddc.gov.uk/pp/gold/viewGold.asp?ID=2031>

- **Nottingham City Council**

<http://www.nottinghamcity.gov.uk/sitemap/environment/pollution/air-pollution/air-quality.htm>

- **Rushcliffe Borough Council**

<http://www.rushcliffe.gov.uk/doc.asp?cat=9441>

# What actions can be taken to improve air quality?

## What actions will Councils take to improve information and services?

- Consult the public, industry and other organisations on reviews and assessments of air quality, action plans to improve Air Quality Management Areas and local air quality strategies.
- Provide information for the public and other organisations on air quality monitoring results undertaken by each Authority.
- Maintain public registers for the Integrated Pollution Prevention and Control regime, containing all relevant documents for the control of air emissions from Permitted Installations.
- Liaise with partner organisations within this framework agreement to investigate regional air pollution episodes and mitigate against any health or environmental effects.

## What actions should Councils Support?

- Consultation on air quality through local Groups.
- Initiatives to obtain feedback from the public and industry on the methods used by local authorities to promote improvements in air quality.
- Provision of information and advice to the public and to other organisations to assist them in adopting initiatives for reducing their impact on air pollution, such as sustainable transport plans, abatement technology, energy saving schemes, renewable energy sources, climate change strategy development and EMAS.

## What actions are Councils encouraged to take?

- Publish information on air quality on a web site.
- Publish easy to read and easy to understand air quality information on a web site for Nottinghamshire.
- Procurement of the same monitoring services across the County.

## What actions are taken by Partner (or Stakeholders) organisations?

### Environment Agency

- The Pollution Inventory (PI) is a database of 170 substances emitted to air, and water from UK industrial installations, activities or plants regulated by the Agency. The emissions data is reported annually as a mass emission from individual sites if greater than a specified threshold and is made publicly accessible on the Internet. The main objectives of the PI are to:
  - provide the public with easily accessible information about pollution from industrial and other sources in their local area and nationally;
  - help environmental regulators to protect the environment;
  - help the Government to meet national and international commitments and obligations for emissions reporting.
- As a minimum, in areas where an EU standard is exceeded, we will ensure that the activities we regulate do not make a significant contribution to poor air quality. We will also make our contribution to the achievement of the UK air quality Objectives.
- The Pollution Inventory web site ([www.environment-agency.gov.uk/pi](http://www.environment-agency.gov.uk/pi)) provides general and sector specific guidance, available via the 'Reporting to the PI' link. The web site also provides a number of basic modelling tools, including a package for sewage treatment works and electronic tools to help landfill operators estimate leachate and gaseous emissions. There is also an oil estimator tool to assist in estimating emissions from waste oil treatment processes.

### Primary Care Trust and Health Protection Agency

- The HPA/ PCTs are willing to be consulted on and provide support on air quality and related health issues.
- The HPA/ PCTs will work with local authorities to raise awareness and disseminate information on air quality issues and pollution episodes to the general public and more sensitive individuals.
- The HPA will provide support to Councils in the investigation of pollution episodes with regard to impact on human health.

**Highways Agency** The Highways Agency is committed to provide simple and clear information to the public on issues relating to the road network, improvements or expansion.

## Case Study

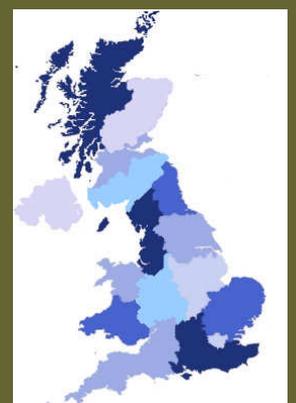


The National Air Quality Archive provides information on the levels of air quality throughout the country and up to date forecasts from a national network of real time monitoring sites. Information can be obtained locally for East Midlands and Nottingham by use of an interactive map of the country.

The forecast predicts the level of air quality in 10 bandings in 4 categories, 'Low', 'Medium', 'High' & 'Very High'. Both hourly and weekly monitoring results are provided for each of the national monitoring sites.

To access the information log onto:

<http://www.airquality.co.uk/archive/index.php>



## Central Government and European Activities

### Central Government and European Activities

There is a number of European and National policies that are expected to contribute to improving air quality over the next few years. These include tighter emission standards for new vehicles and additional controls over certain industrial processes. Some of the relevant policies are summarised below:

#### *European and national policies to reduce pollution*

| Policy                                                     | Summary                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Air Quality Framework and Daughter Directives              | The Framework Directive establishes the principle that the European Union can set limit values for specific pollutants                                                                                                                                                                                                                                    |
| Auto Oil programme                                         | All new vehicles must comply with stringent emission standards. There are also controls over fuel quality, which also reduces emissions                                                                                                                                                                                                                   |
| Acidification strategy                                     | This is a strategy which aims to reduce areas at risk of acid rain by reducing emissions of SO <sub>2</sub> , NO <sub>x</sub> , and ammonia. It consists of: A Directive which limits the sulphur content of liquid fuels<br>Emission limits for new large combustion plant and a national limit for total SO <sub>2</sub> emissions from existing plant. |
| EC Solvents Directive                                      | This aims to reduce emissions of volatile organic compounds from certain industrial installations                                                                                                                                                                                                                                                         |
| Integrated Pollution Prevention and Control Directive      | This limits emissions from certain industrial installations, requiring them to take steps to ensure that EC Objectives are met. Many of these processes are already controlled under national legislation (Pollution Prevention and Control Act 1999)                                                                                                     |
| UNECE convention on long range transboundary air pollution | This aims to reduce the impact of transboundary pollution from one country to another by requiring emission reductions. It covers heavy metals, including cadmium, lead and mercury as well as some of the pollutants with Objectives in the national air quality strategy.                                                                               |
| Planning framework                                         | The land use planning system and the transport framework are expected to have regard to the national air quality strategy.                                                                                                                                                                                                                                |

Although air quality is expected to improve as a result of these initiatives, local action will still be necessary to reduce pollution to meet the levels set in the Government's air quality Objectives and in any event the authorities in Nottinghamshire are always looking for ways to improve air quality.

#### **Further Resources**

##### **Website:**

- **Climate Change**

<http://www.climatechallenge.gov.uk>

- **defra**

<http://www.defra.gov.uk>

- **EUROPA**

<http://ec.europa.eu/environment/air/index.htm>

#### **Further reading**

- **defra**

*Climate Change: The UK Programme 2006.* Her Majesty's Stationary Office

- **defra**

*Impacts of Climate Change: Implications for DEFRA 2003.*

- **EURPOA.**

*Environment 2010 : Our Future, Our Choice*

## What actions can be taken to improve air quality?

### What actions will Councils take?

- Respond to relevant consultations which could affect local air quality in Nottinghamshire.
- Lobby Government to support integrated public transport systems and initiatives in Nottinghamshire.
- Support the National Society for Clean Air and other environmental groups where their policies are considered appropriate.

### What actions should Councils Support?

- New legislation and guidance to control emissions to atmosphere from all sectors of the community in a sustainable manner.
- Action and initiatives to remove gross vehicle polluters and those without a MOT from roads.
- Policies to increase tax incentives for smaller more fuel efficient vehicles and for the use of cleaner fuels.
- National campaigns which raise awareness about poor air quality.

### What actions are Councils encouraged to take?

- Promote national campaigns which raise awareness about poor air quality and what to do about it.

### What actions are taken by Partner (or Stakeholders) organisations?

- **Primary Care Trust and Health Protection Agency** will work closely with local authorities and their partners to ensure effective consultation as new European and Nation policies and environmental legislation are introduced.
- **Highways Agency** - The HA have recognised that co-operation between the Agency and other interested parties is central to the success of a fully integrated transport system - Real change can only be delivered if organisations work together to reach a common understanding, whether the partnership is formal or informal, or is at a national, regional, local or project-specific level.

### Case Studies

#### M1 Widening



The Highways Agency proposes to improve by widening and junction works approximately 50 miles (85km) of the M1 between Leicester (Junction 21) and Chesterfield (Junction 30). This includes a stretch of the M1 Motorway which passes through Nottinghamshire

The scheme is proposed to be undertaken in two phases:  
Contract 1: works within the existing highway boundary to enable early congestion relief between Junctions 25 to 28; and Contract 2: the remainder of the improvement works between Junctions 21 and 30 including works at junctions, link roads and crossings that require additional land take.

Air quality impacts have been assessed in accordance with Volume 11, Section 3, Part 1 of the Design Manual for Roads and Bridges (DMRB). This document provides a three-stage appraisal methodology, using screening and detailed modelling as and where appropriate for comparison with the relevant UK air quality standards and guidelines.

The forecast concentrations indicate that the effect of the proposals on local air quality would largely be minor or negligible. Most receptors across the areas assessed experience either no increase in pollutant concentrations or a minor increase between the 2010 Do Minimum and Do Something scenarios. All national Objectives and EU limit values are predicted to be met in the relevant years both with and without the proposals in place. Further information can be found in the full Environmental Statement



# Nottinghamshire Environmental Protection Working Group

## Local Authorities

### **Ashfield District Council**

[http://www.ashfield-dc.gov.uk/air\\_quality/index.shtml](http://www.ashfield-dc.gov.uk/air_quality/index.shtml)

### **Bassetlaw District Council**

[http://www.bassetlaw.gov.uk/index/environment/environment\\_and\\_health\\_services.htm](http://www.bassetlaw.gov.uk/index/environment/environment_and_health_services.htm)

### **Broxtowe Borough Council**

[http://www.broxtowe.gov.uk/index/environ/environ\\_pollution/pollution\\_air.htm](http://www.broxtowe.gov.uk/index/environ/environ_pollution/pollution_air.htm)

### **Gedling Borough Council**

[http://www.gedling.gov.uk/index/env-home/pe-poll-home/pe\\_-\\_pest\\_dog\\_pollution\\_control-aqm.htm](http://www.gedling.gov.uk/index/env-home/pe-poll-home/pe_-_pest_dog_pollution_control-aqm.htm)

**Mansfield District Council** [http://www.mansfield.gov.uk/env\\_menu/env\\_ehmenu/env\\_airquality.htm](http://www.mansfield.gov.uk/env_menu/env_ehmenu/env_airquality.htm)

### **Newark & Sherwood District Council**

<http://www.newark-sherwooddc.gov.uk/pp/gold/viewGold.asp?ID=2031>

### **Nottingham City Council**

[http://www.nottinghamcity.gov.uk/sitemap/environment/pollution/air\\_pollution/air\\_quality.htm](http://www.nottinghamcity.gov.uk/sitemap/environment/pollution/air_pollution/air_quality.htm)

### **Nottinghamshire County Council**

<http://www.nottinghamshire.gov.uk/>

### **Rushcliffe Borough Council**

<http://www.rushcliffe.gov.uk/doc.asp?cat=9441>

## Partners

### **The Environment Agency**

The Environment Agency are responsible for looking after the environment and making it a better place for now and future generations. Your environment is the air you breathe, the water you drink and the ground you walk on. Working with business, Government and society as a whole, the EA are making the environment cleaner and healthier.

### **Health Protection Agency**

An independent body that protects the health and well-being of everyone in England and Wales. The Agency plays a critical role in protecting people from infectious diseases and in preventing harm when hazards involving chemicals, poisons or radiation occur. They additionally prepare for new and emerging threats, such as a bio-terrorist attack or virulent new strain of disease.

### **Primary Care Trust**

Free-standing statutory bodies responsible for delivering better health care and health improvements to their local area. They directly provide a range of community health services (such as general practitioner (GP), dentist, optician, NHS walk-in centres, NHS Direct etc) and work with local authorities and other agencies that provide health and social care locally to make sure a community's needs are met.

### **Highways Agency**

The Highways Agency is responsible for managing, maintaining and improving the strategic road network in England on behalf of the Secretary of State for Transport. This public asset is worth over £72 billion and provides a vital service to commerce and industry and to the lives of individuals and communities.

