

Air quality monitoring

What pollutants are monitored?

We monitor a number of pollutants in the borough.

These include:

- nitrogen dioxide;
- ozone;
- sulphur dioxide;
- particulates;
- carbon monoxide; and
- benzene.

Where are pollution levels monitored?

Pollution levels are monitored at many sites across the borough. We are not able to monitor every street, so we choose sites which are representative of different locations, such as sites close to busy roads, away from roads, and near industrial processes.

How are pollution levels monitored?

We monitor pollution levels using a number of different techniques and instruments. Some of these are very basic pieces of equipment, while others are state of the art equipment that use complex electronic systems and computer technology to provide up to the minute information on pollution levels.

These include:

Diffusion tubes

These are passive samplers, which means they do not use a pump to pull air through the sampler. Instead air 'diffuses' into the sampler over a period of four weeks. The tubes are mounted on lamp columns or buildings to give pollution readings over a four week period. Every four weeks, the tubes are collected and sent to a laboratory for analysis.

Although they cannot be used to provide up to the minute pollution levels, they are cheap and easy to use. We use diffusion tubes to monitor long term trends of nitrogen dioxide and benzene.

Particulate monitors

We have a number of different monitors which sample air-borne particulates, some of which can separate the particles according to their size. This information is useful, since the size of the particle often indicates where it has come from - such as a car exhaust, industrial activity or construction work.

Automatic monitoring stations

These stations consist of a permanent housing, such as a portacabin, which contains a number of sophisticated electronic instruments. Air is continuously pumped into each analyser and the level of the pollutant in the air recorded. The pollution levels are automatically stored by the analyser and the data sent via telephone lines to a central computer where data for the whole of London is collected.

The equipment used in these monitoring stations is very sensitive to changes in temperature, so the housing is air-conditioned. The analysers are also 'calibrated' every two weeks to make sure they are working correctly. This is done by putting a sample of air containing a known level of the pollutant into the analyser, and making sure the analyser reads the same level.