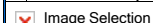
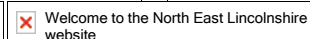





Cleethorpes, Grimsby & The North East Lincolnshire Wolds





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Air Quality Monitoring

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Why do we Monitor Air Quality?

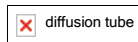
The first part of the Review and Assessment process identifies the potential polluting sources that might be significant in terms of their individual or collective impact on air quality in relevant locations such as residential areas. Typical examples of significant polluting sources could include busy roads or large industrial facilities, though road use is by far the most problematic in relation to air quality. Monitoring is necessary to determine the level of pollution at the relevant receptor locations that are close to one or more of these polluting sources. This is the next step in determining whether the public within these locations are at risk of being harmed by the pollution, i.e. if the levels of one or more specific pollutants are above their respective National Air Quality Standards.

How do we Monitor Air Quality?

North East Lincolnshire Council has an array of different monitoring equipment which currently enables the levels of four different types of pollutants to be continually assessed. These pollutants include: Nitrogen Dioxide, Sulphur Dioxide, Benzene and Particulate Matter (10 micron). Each of these pollutants are monitored in different ways and at different locations throughout the area.

Passive Monitoring - Diffusion Tubes

The Council currently has a passive air quality monitoring network consisting of 30 Nitrogen Dioxide diffusion tubes and 5 Benzene diffusion tubes, distributed over 28 separate locations in Grimsby. Diffusion tubes are literally small tubes that contain pollutant specific absorbing materials. They are strategically placed where potential pollution problems may result; busy roads or congested, narrow streets, for example. A fraction of the pollution created by the vehicles will find its way inside the tubes and become trapped. Subsequent analysis by a laboratory then indicates the level of the specific pollutant collected, such as Nitrogen Dioxide. From this the average level of the pollutant over the collection time, usually once a month, can be determined.



Benzene & Nitrogen Dioxide Diffusion Tubes

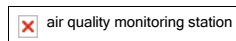
The network has been gradually expanded to ensure representative air quality monitoring coverage in the area, though further expansion and redeployment will continue to be necessary in the future.

Click on the link below for results from the passive monitoring network:

[Passive Monitoring Results](#)

Real Time Monitoring

Diffusion tubes are an economic analytical tool which can help focus attention to specific locations where a potential breach of a standard is likely to occur but their accuracy is questionable. It is therefore necessary to locate more complex and expensive, yet more accurate, air quality monitoring stations at such potential pollution hot spots. These stations can monitor the levels of specific pollutants in real time rather than just providing an average over a set time as with diffusion tubes. Because of this, they can detect short lived pollution episodes which would not be evident in the diffusion tube results. Unfortunately real time monitoring stations are very expensive and thus have to be utilised on a priority basis.



Real Time Air Quality Monitoring Station at Fryston House Grimsby

Real time air quality monitoring stations can help provide the necessary data with which to ascertain whether compliance with the National Air Quality Standards will occur. The Council currently has two monitoring stations like the one in the picture above. However the Council was recently successful in bidding for Government funding to enable the acquisition of another station. This and the current mobile station, formally positioned at Riby Square, will be located at the two highest priority areas where the recent investigatory work has identified potential air quality problems.

Click on the link below for results from the real time air quality monitoring stations:

[Real Time Monitoring Results](#)

The Council also uses the real time monitoring results to report on the Quality of Life Indicator 27 (QoL27) for Air Pollution. For further information click on the link below:

[Quality of Life Indicator](#)

Why doesn't the Council Monitor all the different Pollutants?

Monitoring all the different types of pollutants would be extremely expensive and in most cases is unnecessary. Knowing which pollutants to monitor is therefore dependent on which National Air Quality Standards the Local Authority feels to be at risk of being exceeded. This is deduced in the early stages of the Review & Assessment process when all the known polluting sources are screened against various technical criteria to highlight which ones could give rise to significant amounts of specific pollutants. 95% of air quality problems are caused by pollution from road traffic. However, it is specifically the level of Nitrogen Dioxide and Particulate Matter (10 micron) that is the usual cause for concern and hence these are the pollutants that are the

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