

Portsmouth City Council web page:
<http://www.portsmouth.gov.uk/living/22814.html>

Air pollution impact

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The LAQM process was introduced because of the detrimental effect of air pollution on both human health and ecosystems.

The quality of the air we breathe has a great impact on our respiratory health. Lung tissue is easily damaged by pollutants in the air, which can result in increased risk of triggering the onset of attacks of asthma and chronic bronchitis and other respiratory diseases including Chronic Obstructive Pulmonary Disease (COPD). Furthermore, long term exposure to air pollution can lead to premature ageing of the lungs, reduced lung function and shortened life expectancy.

Population groups that are particularly vulnerable to air pollution exposures are those:

- inherently more sensitive to air pollutants (individuals with a genetic predisposition and unborn or very young children);
- with increased sensitivity because of old age, certain diseases (lung disease, asthma, heart problems and COPD), or environmental and socio-economical factors;
- exposed to excessive levels of air pollutants.

A variety of air pollutants have known or suspected harmful effects on human health and the environment.

Public health as well as all living beings can be threatened by often visible but harmful air pollution. Air pollution in general can result into one or a combination of effects on human health:

- Chest pain and tightness
- Coughing and wheezing
- Dry throat
- Fatigue
- Headache Impairment of lung function
- Irritation of mucous membranes
- Nausea
- Pain during deep breaths
- Shortness of breath

For example, excessive ground level ozone and particulate matter do not cause, but can aggravate chronic respiratory diseases such as asthma and bronchitis.

In Portsmouth the pollutants which may have an impact on human health are principally the products of combustion from traffic. This is mainly nitrogen dioxide and also very fine particles with a diameter of less than 10 microns (known as PM10).

The West of England university [Air Quality Management Resource Centre](#) reports that the health impacts of air quality in the UK are almost twice those of physical inactivity, estimated to be £10.7 billion per annum.

On the 16th March 2010, a cross-party Environmental Audit Committee (EAC) appointed by the House of Commons published the "Air Quality" document in two Volumes ([Volume I](#) and [Volume II](#)) that reported:

- "Air pollution on UK streets is contributing to tens of thousands of early deaths each year and the government is not doing enough to tackle the problem. The MPs warn that Britain could face millions of pounds in fines if our cities continue to breach EU air quality targets supposed to protect public health."
- Tim Yeo MP, Chair of the EAC said: "Air pollution probably causes more deaths than passive smoking, traffic accidents or obesity, yet it receives very little attention from Government or the media. In the worst affected areas this invisible killer could be taking years off the lives of people most at risk, such as those with asthma
- The large EU fines we face, if we don't get to grips with this problem, should now focus Ministers' minds. Much more needs to be done to save lives and reduce the enormous burden air pollution is placing on the NHS."

On the 30th March 2010 Asthma UK has backed this report. Neil Churchill, Chief Executive of Asthma UK, said:

"We agree that awareness needs to be raised and behaviour needs to change if air quality targets are to be met. It's shocking that the UK is so far behind on its commitments. We also warmly welcome the committee's recommendation for the government to take better account of the health impacts of poor air quality. If the government is serious about pushing the prevention agenda this is precisely the kind of action it needs to take action. Air quality is of prime concern to people with asthma and two thirds tell us that traffic fumes trigger their asthma symptoms. 29% say that a reduction in air pollution is the single thing that would make the most difference to their quality of life in relation to their asthma. Quantifying the impact of pollution on health and quality of life, as well as the costs to the NHS and the economy, would open people's eyes to the importance of improving air quality."

Most of air quality reports tend to focus on human health. However, the impact upon the environment is considerable. Air pollution has wide ranging environmental impacts including loss of biodiversity, reduced crop yields and contributes to climate change. Excess nitrogen from emissions of ammonia and NO_x leads to excessive plant growth and decay that disturbs the biodiversity of both land-based and water-based ecosystems.

Emissions of ammonia and NO_x also contribute to acidification of ecosystems. Ozone has a direct effect on plants, damaging their leaf structure, reducing growth and compromising their defence mechanisms. A 'critical load' is an estimate of the exposure to one or more air pollutants, above which there is risk of damage to certain sensitive elements of the environment. Critical loads for acidity and the fertilising effects of nitrogen are exceeded in over half the UK's natural and semi-

natural habitats. Currently 60% of sensitive habitats exceed the critical load for nutrient nitrogen.

Poor air quality is frequently obvious in Portsmouth. Across the city NOx emissions can be seen by anyone that chooses to look. Impacts upon our own microclimate NOx contributes to the visible formation of a brown-hazey cloud of pollution which can be seen above Portsea Island particularly on warm days.

If you have any air pollution related questions or have any comments regarding this site please do not hesitate to contact us at airquality@portsmouthcc.gov.uk. Alternatively, please telephone our City Help Desk on 023 9283 4092 and ask for the Environmental Protection Manager.