

Questions and Answers on Air Quality

1. What is a national environmental standard?

National environmental standards (NESs) are regulations made under sections 43 and 44 of the Resource Management Act 1991. The national air quality standards impose minimum standards and obligations that regional councils must meet, although councils may impose more stringent requirements in some cases.

The NESs for Air Quality are contained in the *Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins and Other Toxics) Regulations 2004*. They set out prohibitions and restrictions on discharges from specified activities (such as burning of oil), ambient air quality standards for carbon monoxide, nitrogen dioxide, sulphur dioxide, ozone and PM₁₀, restrictions on granting resource consents, restrictions on the use of woodburners and control of emissions at landfills.

2. What is PM₁₀ (and why does it matter)?

PM₁₀ is particulate matter that is less than 10 microns in diameter. It comes from sources such as burning coal, oil, wood and light fuel oil in domestic fires, transportation and industrial processes. Natural sources of particles include sea salt, dust, pollens and volcanic activity. In most places in New Zealand, levels of PM₁₀ in the air are at their highest in winter months, due to a higher use of domestic fires.

PM₁₀ is small enough to be inhaled into the lungs (the hairs in our nose and air passages remove particles larger than 10 microns) and can cause serious adverse health effects, including premature death. A 2007 national study estimated that about 1100 New Zealanders die prematurely from air pollution in urban areas each year – a more recent update indicates that this figure may be higher, around 1640. Groups most sensitive to particle pollution include healthy children, adults with obstructive lung disease, asthmatics, and the elderly, although all people can suffer ill effects.

There is no 'safe' threshold for PM₁₀. While poor visibility may be associated with high PM₁₀ levels, the risk of adverse health effects remains even when there is good visibility. Air quality standards for PM₁₀ need to balance the risks to public health, particularly for vulnerable population groups, against the feasibility of achieving the standards and the expected costs of compliance.

3. What is the current PM₁₀ standard?

The ambient (outdoor) air quality standard for PM₁₀, in place from 1 September 2005, is for the level of PM₁₀, averaged over a 24-hour period, not to exceed a concentration of 50 micrograms per cubic metre (50 µg/m³), more than once a year.

Air quality is managed in areas called 'airsheds'. In airsheds where the PM₁₀ ambient standard is breached, the regulations constrain the granting of consents for significant industrial discharges of PM₁₀. This constraint is phased out to August 2013, to allow councils time to meet the standard. From September 2013, councils cannot issue *any* consents to discharge PM₁₀ in breaching airsheds.

4. Why was the PM₁₀ standard reviewed?

Three potential problems were identified with the PM₁₀ standards:

- Perceived stringency of the standard;
- Equity of current regulations
- Compliance with the standard by 2013.

Perceived stringency of the standard

The World Health Organisation (WHO) guideline for PM₁₀ is 50 µg/m³ as a 24-hour average with three permitted exceedences per year. Different countries have adopted different standards; while many adopt the target of 50µg/m³, there is a range of permitted exceedences, and some provide for the exclusion of 'exceptional events' from the count of exceedences. There was concern that the New Zealand standard, allowing for only one exceedence and with no provision for 'exceptional events', may be too stringent.

Equity of current regulations

The regulations impose restrictions on the issuing of resource consents in breaching airsheds, and the burden of these restrictions fall on industry, which require consents. The problem is that domestic solid-fuel consumption, not industry, is the primary source of PM₁₀ pollution during winter. As a consequence, the regulations are not considered equitable.

Compliance with the current standard by 2013

In 2004, when the standards were put in place, it was expected that all airsheds would comply with the PM₁₀ standard by 2013. However, it is currently estimated that there will be 15 airsheds which will not comply at that time, including Auckland, which represents nearly 30% of New Zealand's population. There is a concern that the 2013 deadline is unachievable.

5. What changes will be made?

The main changes to the regulations will be:

- Pushing out the target date for regional councils to meet the ambient PM₁₀ standard. New split target dates are 1 September 2016 (polluted airsheds) and 1 September 2020 (heavily polluted airsheds);
- Making provision for the exclusion of exceptional events (e.g. dust storms, volcanic eruptions)
- Requiring offsets from new industries with significant PM₁₀ discharges in polluted airsheds from September 2012, replacing the current restrictions on industrial consents
- Prohibiting new open fires in homes in polluted airsheds from September 2012.

The regulatory changes will be supported by an approach of 'assisted compliance'. This includes requiring councils to publicly report PM₁₀ monitoring data and to provide information on airshed implementation plans for polluted areas. The Ministry for the Environment will also develop a national compliance strategy to

monitor progress and follow up non-compliance. This will include education on the health impacts of PM₁₀ and provide best practice guidelines for airshed action plans and for managing offsets.

6. When will the changes happen?

These policy changes need to be drafted as new regulations and approved by the Governor-General. The new regulations are expected to come into effect early in 2011.

New restrictions, relating to mandatory industry offsets and prohibitions on new open fires, will not come into effect until 1 September 2012, and will apply only in airsheds that do not meet the ambient PM₁₀ standard at that time. The old restrictions on existing industry will be lifted as soon as the regulations come into effect.

7. What opportunities were given to the public to have their say?

The Minister for the Environment announced the review of the air quality standards in 2009, establishing an independent Technical Advisory Group (TAG) to prepare a report with recommendations. The TAG's proposals, along with a number of other options, formed the basis of a discussion document published in June 2009 for public input. Targeted workshops, with industry, air quality experts and councils, were held in five centres. Public submissions were invited, and 114 submissions were received. 25% of submissions came from the general public and 4% from stakeholder groups or iwi.

8. What effect will the changes have on:

- **public health?**

The ambient PM₁₀ standard has not changed and provides a bottom line standard to guarantee a set level of public health protection. This is an important objective of the air quality standards.

- **industry?**

Without the changes, industry would be unfairly affected, as they would face significant obstacles in obtaining resource consents and would meet nearly 80% of the costs of meeting the PM₁₀ standard. Under the changes, industry will have greater certainty in obtaining resource consents and will face compliance costs only when they add to PM₁₀ pollution.

- **households?**

Many councils have already introduced rules to control emissions from households. The changes in the regulations are likely to affect only a small number of householders, who will not be able to install open fires in their homes in polluted areas.

- **transport?**

The Land Transport Rule: Vehicle Exhaust Emissions 2007, amended in 2009, has led to significant reductions in vehicle emissions, including PM₁₀. Successive changes to fuel regulations have also led to improvements.

- **councils?**

Those councils having difficulty in achieving the 2013 compliance target date will now have until 2016, or 2020, to achieve the PM₁₀ standard.

Many councils already provide useful information on the state of their airsheds, but there will now be a requirement on them to provide specified information to the Minister and to the public. If councils wish to meet the new standard more quickly they are quite free to do so. The national environment standard sets a minimum.