Notes for track changes. Recommendations made by the Air Officer's Report are shown in Purple. Recommendations made by the Supplementary Air Officer's Report are shown in Blue. Recommendations made by the End of Hearing Air Officer's Report are shown in Red

Words recommended to be added are shown in <u>underline</u>, words recommended to be removed are shown in strike through.

Terms defined within the plan glossary are *Italicised* and marked with a '*' symbol. Terms defined in the Resource Management Act 1991 are *Italicised* and marked with a '^' symbol.

8 Air

8.1 Scope and Background

This chapter addresses the management of air quality. Most people living in the Manawatu-Wanganui *Region* enjoy air that is clean and clear. The high standard of air quality exists not only because of the exposed nature of the Region's landscape to the prevailing winds but also because the Region is mainly rural, with a low population density compared to large urban centres, and a comparatively small number of industrial emissions.

Discharges[^] to air can include odour, products of combustion, particulate matter, solvents, nitrogen oxides, and other gases. They can be complex in nature and have the potential to cause adverse *effects*[^] on *ambient air*^{*} quality and human health. Certain *discharges*[^] must be assessed individually and regulated appropriately.

Nuisances caused by oOdours,¹ smoke and dust have dominated complaints received by the Regional Council for some time, making up more than half of the complaints received between 2000 and 2004. Some of these emissions can also be harmful to human, animal and plant health. Setting clear regional standards for *ambient air* quality, a 24-hour pollution hotline service and provision of public information are intended to help reduce these nuisance effects potential for adverse health and nuisance noxious, dangerous, offensive and objectionable¹ effects and as a consequence the number of complaints.²

In 2004 14 national environmental standards relating to air quality were introduced. These national *regulations* place a requirement on *Regional Councils* to monitor air quality and to report *ambient air* quality exceedances to the public. The primary purpose of the national *ambient air* quality standards is to set minimum requirements for outdoor air quality in order to provide a guaranteed level of protection for the health of all New Zealanders. The Regional Council has established airsheds for Taihape and Taumarunui (see Schedule G) for the purpose of managing *ambient air* quality.

The ambient standards have been adopted in this Plan and the activity standards are reflected in the *rules*. However, in most cases they have minimal impacts on industrial emissions, which will largely continue to be regulated in the same manner as in the past. As degraded air quality can impact on human health, the Health Act 1956 also gives *Tterritorial Aauthorities* and health boards some responsibilities for dust, smoke and odour. Because of this overlap, some nuisance effects are not dealt with as efficiently as they could be. The Regional Council is committed to establishing protocols with *Tterritorial Aauthorities* and health boards to establish clear relationships for response.

¹ Officer's Supplementary report – Air – Recommendation AIR 2A

² Officer's report – Air – Recommendation AIR 2

8.1.1 Fine Particle (PM_{10}^{\star}) Levels

The Ministry for the Environment released the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004 to help reduce or manage fine particle levels (PM_{10}^*). PM_{10}^* are of concern as they can be drawn into the lungs causing or aggravating health problems, particularly respiratory problems. The main cause of the PM_{10}^* problem is emissions from domestic wood burners, although vehicle emissions, backyard burning and, to a lesser extent, industry, may also contribute.

As PM_{10}^* can adversely affect people's health, the national standard has been included in the airshed monitoring programmes. Direct monitoring results for wintertime PM_{10}^* , between 2001 and 2003 in 11 population centres in the Region showed that Taumarunui and Taihape exceeded the PM_{10}^* standard and Ohakune, Feilding, Dannevirke and Pahiatua had the potential to exceed it. Wintertime PM_{10}^* levels in the other five centres – Wanganui, Palmerston North, Levin, Marton and Ashhurst – were under the PM_{10}^* standard. PM_{10}^* levels will continue to be monitored and programmes will be established to reduce them to the standards set in the regulation by 2013.

8.2 Significant Resource Management Issues

Issue 8-1: <u>a</u>*Ambient air*<u>*</u> quality

Aside from fine particle levels in some towns, as described in Issue 8-2, air quality in the Region is high. Nevertheless $localised^3$ adverse *effects* on *amenity values*, human health, *property* or the *environment* can arise where:

- (a) odour, dust, smoke or the *discharge* of *contaminants* is not adequately managed, or
- (b) incompatible *land* uses are located near each other.

Issue 8-2: Fine particle (*PM*₁₀^{*}) levels

The use of home heating appliances is likely to be causing fine particle levels to exceed the national *ambient air*^{*} quality standard for PM_{10}^* in Taumarunui and Taihape, and to risk exceeding this standard in Ohakune, Feilding, Dannevirke and Pahiatua.

8.3 Objectives

Objective 8-1: *Ambient air* quality

A standard of *ambient air*^{*} quality is maintained which is not detrimental to *amenity values*, human health, *property* or the life-supporting capacity of air and meets the national *ambient air*^{*} quality standards.

This Oobjective implements Issue 8-1⁴

Whāinga 8-1: Te kounga hau o-waho

Ka tiakina tētahi paenga kounga hau o-waho kāore he whakawhara ki ngā ūara Taonga<u>*</u> whakaahuru, te hauora tangata, ngā rawa, te oranga tonutanga rānei o te hau – ka eke hoki ki ngā paenga kounga hau o-waho o te motu.

³ Officer's report – Air – Recommendation AIR 3

⁴ Officer's report – Air – Recommendation AIR 4

Objective 8-2: Fine particle (*PM*₁₀^{*}) levels

- (a) Fine particle levels in Taihape and Taumarunui are reduced to comply with the national *ambient air*^{*} quality standard for PM_{10}^{*} by 1 September 2013⁵.
- (b) Fine particle levels in other areas are managed in a manner which ensures ongoing compliance with the national *ambient air*^{*} quality standard for PM_{10}^* .

This Oobjective implements Issue 8-2⁶

Whāinga 8-2: Ngā taumata ira meroiti (PM₁₀^{*})

- (a) Hei mua mai i te 1 o Hepetema 2013 ka whakahekea iho ngā ira meroiti i Taihape me Taumarunui kia hāngai tonu ki te paenga kounga hau o-waho (PM_{10}^*) o te motu.
- (b) Ka whakahaeretia ngā taunga ira meroiti i wāhi kē kia hua ai ka hāngai tonu ki te paenga kounga hau o-waho (PM_{10}^*) o te motu.

8.4 Policies

8.4.1 Ambient Air^{*} Quality

Policy 8-1: National Environmental Standards

The National Environmental Standards set out in Table 8.1 shall be adopted as *ambient air** quality standards for the Manawatu-Wanganui Region and *ambient air** quality shall be:

- (a) maintained or enhanced in those areas which meet the standards
- (b) enhanced in those airsheds which do not meet the standards

in accordance with the air quality categories and designated responses in Table 8.2.

This Ppolicy implements Objective 8-1⁷

Table 8.1	National	Environmental	Standards	for <u>Aa</u> mbient	A <u>a</u> ir <u>*</u> Qquality°	

Contaminant [^]	Threshold Concentration	Permissible Excess
Carbon monoxide	10 mg/m ³ (running 8-hour mean)	One 8-hour period in any 12-month period
Nitrogen dioxide	200 µg/m³ (1-hour mean)	Nine 1-hour periods in any 12-month period
Ozone	150 μg/m³ (1-hour mean)	Not to be exceeded at any time
Fine particles (PM ₁₀ *)	50 µg/m³ (24-hour mean)	One 24-hour period in any 12-month period

⁵ The date of 1 September 2013 for achieving compliance with the national ambient air quality standard for PM₁₀, is set in the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004.

⁸ Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004.



⁶ Officer's report – Air – Recommendation AIR 1

 $^{^{7}}$ Officer's report – Air – Recommendation AIR 6

Contaminant [^]	Threshold Concentration	Permissible Excess
Sulphur dioxide	350 μg/m ³ (1-hour mean)	Nine 1-hour periods in any 12-month period
	570 μg/m ³ (1-hour mean)	Not to be exceeded at any time

Table 8.2	Air Quality	Categories	and Designated	Response
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Category	Measured Value	Designated Response
Unacceptable	Greater than the threshold concentration in the National Environmental Standards for Air Quality, and exceeds the permissible excess in Table 8.1	 Enhance Establish long-term strategy Monitor Publicly notify exceedances
Degraded	66% to 100% of the threshold concentration in the National Environmental Standards for Air Quality in Table 8.1, with one exceedance	 Maintain, and enhance where practicable Establish awareness programmes Monitor where practicable
Acceptable	Up to 66% of the threshold concentration in the National Environmental Standards for Air Quality in Table 8.1, with one exceedance	Maintain

Policy 8-2: Regional standards for *ambient air* quality

In addition to the National Environmental Standards set out in Policy 8-1, *ambient air** quality shall be managed in accordance with the regional standards set out in Table 8.3.

This policy implements objective 8-19

able 8.3 Regional Standards for Ambient Air <u>*</u> Quality
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Contaminant <u>^</u>	Regional Standard
Odour	 A discharge[^] shall not cause any offensive or objectionable odour to the extent that causes an adverse effect beyond the property[*] boundary or on public land.⁹
Dust	 A discharge_ shall not cause any noxious, offensive or objectionable dust to the extent that causes an adverse effect beyond the property* boundary or on public land⁹ Except this standard shall not apply to dust created from vehicles on roads.
Smoke and water vapour	 A discharge[^] shall not result in any objectionable or offensive smoke or water vapour to the extent that causes an adverse effect beyond the property[*] boundary or on public land[*].
Agrichemicals*	 A discharge[^] shall not give rise to noxious or dangerous levels of agrichemicals[*] in locations that are likely to cause adverse effects[^] on human health, non-target plants or animals, or property[*].
Gases and other airborne contaminants [^]	 A discharge[^] shall not result in noxious or dangerous levels of gases or other airborne contaminants[^] beyond the property[*] boundary or on public land[*].

 $^{^{9}}$ Officer's report – Air – Recommendation AIR 7 and AIR 14

Note: There are Guidelines contained within Section 14.2 that assist in defining the terms noxious, dangerous, offensive and objectionable⁹

Policy 8-3: Regulation of *discharges*[^] to air

Discharges[^] of *contaminants*[^] into air <u>shall</u> will ¹¹ be generally allowed provided:

- (a) the effects[^] of the discharge[^] are consistent with the approach set out in Policy 8-1 for implementing the National Environmental Standards for ambient air^{*} quality, and
- (b) the *discharge* is <u>overall</u>¹⁰ consistent with the regional standards for *ambient air** quality set out in Policy 8-2.
- (c) <u>Due consideration is given to the National Environmental Standards</u> <u>1 September 2013 date for PM_{10}^* concentrations.</u>¹¹

This Ppolicy implements Objective 8-1¹¹

Policy 8-4: Incompatible *land*[^] uses

Problems arising from incompatible *land* uses establishing near each other shall be avoided, remedied or mitigated primarily through *district plans* and *Territorial Authority* consent decisions which:

- (a) prevent the future establishment of potentially incompatible *land*<u>-</u>use activities near each other, or
- (b) allow the establishment of potentially incompatible *land* use activities near each other provided no existing lawful activity, operated in a manner that adopts the *best practicable option* or which is otherwise environmentally sound, is restricted or compromised.

This Ppolicy implements Objective 8-1¹²

8.4.2 Fine Particle (PM_{10}^{\star}) Levels

Policy 8-5: Fine particles in Taihape, Taumarunui and other unacceptable airsheds

- (a) The Regional Council has established airsheds for Taihape and Taumarunui, as shown in Schedule G, on the basis that the fine particle (PM₁₀*) levels at these centres are breach the National Environmental <u>Standards unacceptable</u> ¹⁶under Policy 8-1. The Regional Council will establish additional airsheds where monitoring shows fine particle levels that are in breach of the National Environmental Standards unacceptable¹⁶
- (b) Strategies to reduce fine particle (PM_{10}^*) levels shall be established by 2008 for Taumarunui and Taihape, and after this date for any other

¹⁰ Officer's report – Air – Recommendation AIR 1 and AIR 14

¹¹ Officer's report – Air – Recommendation AIR 8

¹² Officer's report – Air – Recommendation AIR 9

¹³ Under the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004 airsheds must be established for areas failing to meet the National Environmental Standards for ambient air quality, for the purpose of monitoring and managing air quality.

airsheds with <u>concentrations of unacceptable</u> fine particle <u>that breach the</u> <u>National Environmental Standard levels</u>¹⁶. The strategies will primarily focus on existing wood burners and home heating appliances, and will identify ways of facilitating and supporting the changes necessary to comply with the fine particle standard.

(c) Applications to discharge fine particles (PM10*) in the Taihape and Taumarunui airsheds, and in any other airsheds <u>that breach the National</u> <u>Environmental Standards</u> with unacceptable fine particle levels¹⁶, shall be managed in accordance with regulations 17A and 17C of the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004 <u>including the</u> Significance Test in <u>eClause 17</u> of the Regulations.¹⁴

This Ppolicy implements Objective 8-2¹⁴

Policy 8-6: Fine particles in Ohakune, Feilding, Dannevirke and Pahiatua and other degraded areas

The Regional Council will generally only grant *resource consents* to *discharge* fine particles (PM_{10}^*) into the air in Ohakune, Feilding, Dannevirke and Pahiatua and other areas classified as degraded under Policy 8-1:

- (a) if the *applicant* has shown that the *discharge* is the *best practicable option*, and the consent is for a duration of five years or less, or
- (b) if the *applicant* can show that the *discharge* of PM_{10}^* will be offset by a reduction in other sources of PM_{10}^* within the same area-, or ¹⁵
- (c) <u>if the applicant^ can demonstrate that the potential and actual adverse</u> <u>effects^ of the proposed discharge^ of PM_{10}^* will be no more than minor.</u>¹⁵

This Ppolicy implements Objective 8-2¹⁵

8.5 Methods

Managing *discharges* to air is a mix of regulatory and non-regulatory approaches. Part II of this Plan contains regional *rules* relating to the activities described in this chapter. The key non-regulatory methods the Regional Council will pursue are outlined below.

Project Name-Method 8-1 ¹⁷	Improving Air Quality (<i>PM</i> ¹⁰ *) – Long-Term Strategies: Taumarunui and Taihape and other unacceptable airsheds
Project ¹⁷ Description	Long-term strategies will be developed to improve air quality in Taumarunui and Taihape, and other unacceptable airsheds that breach the National Environmental Standard, such that they to ¹⁶ meet the national ambient air* quality standard for fine particles (PM_{10}^*).
	 The primary focus of the long term strategies will be to reduce <i>PM</i>₁₀* emissions from home heating appliances (wood burners). Strategies will include: consultation with the community
	 participation in the Ministry for the Environment "home heating programme" investigation of funding options for upgrading domestic heating appliances emissions inventory assessments and education
	 monitoring of <i>PM₁₀[*]</i> encouraging practices that may reduce <i>PM₁₀[*]</i> emissions, including reduction

¹⁴ Officer's report – Air – Recommendation AIR 10

¹⁵ Officer's report – Air – Recommendation AIR 11

¹⁶ Officer's End of Hearing report – Air – Table 1, Question 8

Project Name-Method 8-1 ¹⁷	Improving Air Quality (<i>PM</i> ¹⁰) – Long-Term Strategies: Taumarunui and Taihape and other unacceptable airsheds
	of backyard burning.
Who	The ¹⁷ Regional Council, <u>shall work with the</u> ¹⁷ Ministry for the Environment, <u>Ministry of Social Development</u> , ¹⁷ Energy Efficiency Conservation Authority, Health Boards, <i>Territorial Authorities</i> , industry and the community.
Links to Policy	This project links to method implements ¹⁷ Policy 8-5.
Target	Taumarunui and Taihape airsheds will meet the national <i>ambient air</i> [*] quality standard for fine particles (PM_{10}^*) by September 2013.

Project Name-Method 8-2 ¹⁷	Improving Air Quality (PM_{10}^*) – Awareness Programme: Ohakune, Feilding, Dannevirke, Pahiatua and other <u>"degraded"</u> areas
Project ¹⁷ Description	The aim of this project method ¹⁷ is to increase awareness of air quality issues in Ohakune, Feilding, Dannevirke and Pahiatua, and other degraded areas, and to encourage practices that may improve air quality such as: • more use of efficient wood burners • upgrading of wood burners to reduce PM_{10}^* emissions • reducing backyard burning • monitoring of PM_{10}^* where practicable.
Who	<u>The</u> ¹⁷ Regional Council <u>-shall work with the</u> ¹⁷ Ministry for the Environment, <u>Ministry of Social Development</u> ¹⁷ Energy Efficiency Conservation Authority, <u>Hh</u> ealth <u>Bb</u> oards, <u>-T</u> territorial <u>Aa</u> uthorities_, industry and the community.
Links to Policy	This project links to Mmethod implements ¹⁷ Policy 8-6.
Target	PM_{10}^{*} levels in Ohakune, Feilding, Dannevirke and Pahiatua will be maintained or improved to ensure ongoing compliance with the national <i>ambient air</i> [*] quality standard for fine particles (PM_{10}^{*}).

Project Name Method 8-3 ¹⁸	Monitoring by the Regional Council 18
Project ¹⁸ Description	Air quality will be monitored for particulate matter (PM_{10}^*) in Taumarunui and Taihape as per National Environmental Standards requirements and in Dannevirke, Ohakune, Feilding and Pahiatua as practicable. Air quality will also be monitored for particulate matter (PM_{10}^*) in Palmerston North and possibly Wanganui, because of the increased potential for population exposure.
	This project will also provide for the revision of the status of airsheds, including the gazettal of new airsheds in relation to National Environmental Standards for <i>ambient air</i> quality.
Who	<u>The</u> ¹⁸ Regional Council <u>-shall work with the</u> ¹⁸ Ministry for the Environment, National Institute of Water and Atmospheric Research and <u>-territorial</u> <u>Aa</u> uthorities <u></u>
Links to Policy	This project links to Mmethod implements ¹⁸ Policy 8-1.
Targets	To monitor air quality to the standard required in the National Environmental Standard for <i>ambient air</i> quality.
	To revise airshed status every two years after this Plan becomes <i>operative</i> and gazette new airsheds as necessary.

 ¹⁷ Officer's report – Air – Recommendation AIR 15
 ¹⁸ Officer's report – Air – Recommendation AIR 16

Project Name Method 8-419	Protocols with Territorial Authorities and Health Boards
Project Description	 This project Mmethod ¹⁹includes the development of protocols or memoranda of understanding with <i>Territorial Authorities</i>[^] and health boards for air quality issues to agree on respective responsibilities, in particular: smoky fires and incinerators fire permits and <i>open burning</i>* dust complaints odour complaints complaints about airborne <i>contaminants</i>[^], gases and fumes, and dangerous or noxious <i>discharges</i>[^].
Who	<u>The</u> Regional Council $-shall work with +territorial Aauthorities and +health Bboards.$
Links to Policy	This project links to Mmethod implements ¹⁹ Policy 8-2.
Target	Protocols agreed and signed off by 2009.

Project Name Method 8-520	Public Information – Air Quality		
Project ²⁰ Description	 Easily accessible information will be developed and provided on the following air quality issues for the general public: smoky fires and incinerators fire permits and <i>open burning</i>* dust odours airborne <i>contaminants</i>[^], gases and fumes burning of wastes <i>PM</i>₁₀[*] and home heating agrichemical* <i>spray drift</i>*. 		
Who	<u>The</u> Regional Council $-shall work with^{20} + territorial Aauthorities^, Hhealth Bboards and other relevant agencies organisations^{21}.$		
Links to Policy	This project links to Mmethod implements ²⁰ Policy 8-2.		
Target	Information provided via website and available in paper form by 2009.		

Project Name Method 8-6 ²²	24 Hour Pollution Hotline
Project ²² Description	This service relates to the ongoing provision of a 24 hour Pollution Hotline to record and respond to air quality complaints.
Who	The ²² Regional Council.
Links to Policy	This project links to Mmethod implements ²² Policy 8-2.
Targets	24 hour Pollution Hotline continues and is widely publicised ²² .

Anticipated Environmental Results 8.6

Anticipated Environmental Result	Link to Policy	Indicator	Data Source

 ¹⁹ Officer's report – Air – Recommendation AIR 17
 ²⁰ Officer's report – Air – Recommendation AIR 18
 ²¹ Officer's Supplementary report – Air – Recommendation AIR 18A
 ²² Officers report – Air – Recommendation AIR 19



By 2013 fine particle (<i>PM</i> ₁₀) levels in the Region meet the national air quality standard.	Air Policy: 8-1, 8-5 and 8-6	 <i>PM</i>₁₀[*] levels, especially in Taumarunui and Taihape 	Horizons' <u>The Regional</u> <u>Council</u> state of environment air quality monitoring programme
The number of confirmed incidents of objectionable, offensive or noxious airborne substances causing adverse effects beyond <i>property</i> boundaries is reduced by 10% over the life of this Plan.	Air Policy: 8-1, 8-2, 8-3 and 8-4 Administration Policies: 2-5, 2-2, 2-3 and 2-5	Number of confirmed incidents	 Horizons' The Regional <u>Council</u>' incidents database Consent compliance database

8.7 Explanations and Principal Reasons

8.7.1 Ambient Air_* Quality

Objective 8-1, Policies 8-1 to 8-4 and the associated methods establish a framework to manage *ambient air** quality, in particular to manage the effects of various *discharges*^ to air and to reduce nuisance effects.

Policy 8-1 sets out the National Environmental Standards (NES) for ambient air^{*} quality as required by the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins and Other Toxics) Regulations 2004. The Regional Council has used the standards as a framework for the regional standards for ambient air^{*} quality as reflected in Policy 8-2. These policies will assist in developing the methods the Regional Council has put in place to ensure that compliance with the National Environmental Standards is achieved by 1 September 2013. To achieve the compliance date the Regional Council will need to work closely with *Fierritorial Aauthorities*^ and health boards to establish clear responsibility protocols.

The Regional Council recognises that resource users need to *discharge* to air to provide for their social, cultural and economic well-being. Even those who operate under best practice guidelines may receive nuisance complaints. Policies 8-3 and 8-4 allow for such resource users and the monitoring methods (such as public information, a 24-hour pollution hotline and compliance monitoring) to ensure National Environmental Standards and regional standards are not breached. Policy 8-4 and the associated methods assist in educating the community about rural versus lifestyle block incompatibilities and also encourage $\underline{Tterritorial Aauthorities}$ to review future land-use developments to prevent incompatibility and reduce future nuisance complaints.

8.7.2 Fine Particle (PM_{10}^{\star}) Levels

Objective 8-2, Policies 8-5 and 8-6, and the associated methods set out a framework to reduce or manage fine particle levels (PM_{10}^*) in order to meet the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004.

The Ministry for the Environment released these regulations in September 2004. One of the standards applies to PM_{10}^* which can adversely affect people's health. The regulations require that airsheds are established where exceedance of standards are likely, that PM_{10}^* levels are monitored and reduced in those airsheds to the standards set in the regulation by 2013, and that *resource consent*^ applications in those airsheds are determined as per regulations 17 to 17C.

Monitoring results for wintertime PM_{10}^* between 2001 and 2003 confirmed that Taumarunui and Taihape exceeded the PM_{10}^* standard and Ohakune, Feilding, Dannevirke and Pahiatua had the potential to exceed it. Policy 8-5 specifically targets Taumarunui and Taihape and Policy 8-6 targets Ohakune, Dannevirke, Feilding and Pahiatua at a response level consistent with the PM_{10}^* monitoring results mentioned above. Domestic home heating is the most likely main contributor to wintertime PM_{10}^* levels. *Resource consent* applications in those airsheds will be determined as per regulations 17 to 17C.

While Palmerston North was under the PM_{10}^* standard, monitoring will continue, to ensure that PM_{10}^* levels remain at an acceptable standard for the city's population base.