

3.1 Introduction

3.1.1 Air quality issues

Canterbury generally has good air quality, and in many places, such as national parks, the air is virtually free of contaminants released by human activities. However, around air pollution sources such as home heating fires, industries and congested roads, concentrations of pollutants can exceed acceptable standards and cause adverse nuisance and human health effects. These pollutants also affect ecosystems.

Good air quality is also of significance to Tāngata Whenua because of the interrelationship of air with other resources such as water, flora and fauna, and its life-supporting capacity. To Tāngata Whenua, air is a taonga.

Air quality issues in Canterbury occur at three scales:

- (a) localised air quality issues associated with odours, dust, smoke, agrichemical spray and other discharges to air from the domestic, transport, commercial, agricultural, horticultural, manufacturing and industrial sectors; and
- (b) ambient air quality issues related to wintertime air pollution in urban areas, particularly Christchurch and Timaru, with its associated health effects and nuisance effects (e.g. reduced visibility, and dust or odour nuisance) resulting from combustion processes; and
- (c) global air quality issues connected with the reduction in the ozone layer and with greenhouse gas emissions and consequential global warming.

3.1.2 Localised air quality issues

A variety of small and medium sized industrial and commercial processes are located in Canterbury (e.g. dry-cleaning, spray painting, abrasive blasting, seed-cleaning, printing processes, timber mills, freezing works and paper, pulp and particle board manufacture). These can have localised impacts on air quality, as can the treatment and disposal of organic wastes arising from people and farming activities and from industries processing agricultural products. These impacts must be weighed against the need for these activities to occur and recognition that in many cases there are few alternatives.

Products of combustion resulting from industrial boilers, home heating devices, motor vehicles and outdoor burning can have localised adverse effects on human health and can cause nuisance.

Industrial emissions have been a major focus of past efforts to improve air quality in the region and are therefore already tightly controlled in their industrial operations.

~~Many people see motor vehicle emissions as a major source of pollution, in particular smoky vehicles.~~ Motor vehicles are sources of pollutants such as carbon monoxide, nitrogen dioxide and benzene, and are a significant source of greenhouse gas emissions. However, in the Canterbury region, relatively low vehicle numbers and concentrations are unlikely to give rise to localised air pollution problems outside of Christchurch.

Outdoor burning of household, garden and farm rubbish can cause localised nuisance problems and can generate potentially hazardous compounds, depending on what is being burnt (e.g. hydrogen chloride, sulphur oxides, various toxic VOCs, dioxins and furans). Incinerators burning household rubbish can produce a range of pollutants, affecting people and the environment. Stubble burning in arable rural areas, and vegetation clearance in the hill and high country by burning can also have adverse effects on amenity values and cause adverse health effects.

Outdoor burning is of most concern when materials are burnt in or adjacent to urban areas. The nuisance effects resulting from “backyard burning” of rubbish in Christchurch are the main source of air quality complaints received by Environment Canterbury. Outdoor burning is also of concern adjacent to other sensitive activities such as ~~public roads~~, dwellinghouses, schools, health care facilities, businesses or any other places where people normally gather.

Odours are caused by mixtures of chemical compounds and can come from a wide range of sources, e.g. garden compost heaps, landfills, mushroom farms, fish processing, oxidation ponds, land effluent disposal, intensive livestock farming, freezing works, silage, and motor vehicle exhausts. Odours can affect people's enjoyment of the outdoors and they can even make them feel sick.

Odours affect people differently, e.g. people who live and work in rural areas may find silage smells acceptable, while others may find silage smells offensive.

Dust (particulate) can be a nuisance when it settles on surfaces, such as windowsills or washing. Dust can irritate your eyes or make it difficult to see. Dust occurring at levels that cause a nuisance can be generated by many activities, including vehicles being driven along unsealed roads, cultivation, stockpiles of materials such as coal or grain, shingle processing, quarries and abrasive blasting.

Dust and odour nuisances are often associated with the uses of land which are subject to controls by territorial authorities. This raises issues of overlapping responsibilities between Environment Canterbury and territorial authorities. Duplication of resource consent processing shall be avoided.

Spraying agrichemicals can cause adverse environmental effects if the spraying is not done correctly. This can result in agrichemical spray-drift causing adverse health effects and damage to non-target areas, especially where it adjoins residential areas or areas frequented by the public such as schools. Other adverse effects that can occur include damage and contamination of crops, water bodies, and sensitive flora and fauna outside the target area.

3.1.3 Ambient air quality issues

A number of urban towns in Canterbury have serious wintertime air quality problems. Monitoring of ambient air quality has highlighted air pollution concerns in Christchurch, Timaru, Ashburton, Rangiora and Kaiapoi, and it is expected that other towns will also have wintertime air pollution problems.

The Canterbury Regional Policy Statement (RPS) (Chapter 13 Policy 1(c)) gives priority to "ensuring ambient air quality improvements are achieved in Christchurch and Timaru".

Pollution comes from different sources, but the contaminant of most concern to human health is suspended particulate (PM₁₀). These are tiny particles in smoke smaller than 10 microns across, which is about one-fifth the diameter of a human hair.

These particles are so small that they get inhaled and can travel deep into the lungs, irritating the breathing passages. They are so small that they can enter buildings that don't even have fires and cause nuisance and health problems for people living there.

Excessive concentrations of PM₁₀ are associated with numerous health problems. These range from minor irritation of the eyes and nose to exacerbation of existing respiratory and cardiac problems among small children and the elderly.

~~In Christchurch, PM₁₀ is associated with a 1% increase in all-cause mortality for every 10 µg/m³ increase in PM₁₀ and a 4% increase in respiratory mortality. This equates to between 40 and 70 'premature' deaths each year. There are also estimated to be between 300,000 and 600,000 restricted activities days each year.~~

[†] µg/m³ — micrograms per cubic metre

Analyses of emission inventories undertaken by Environment Canterbury suggest that approximately 90% of Christchurch's measured PM₁₀ comes from burning wood and coal on domestic fuel burning equipment, including open fires and enclosed burners. 7% of the concentrations of PM₁₀ come from industrial sources and 3% from motor vehicles (based on 1999 emissions).

On a typical winter's night in Christchurch during 1999 there were about 60,000 houses using solid fuel for heating (just over half of Christchurch's houses):

- (a) approximately 17,300 open fires burning both wood and coal producing 42% of the PM₁₀ from domestic heating sources
- (b) approximately 39,400 wood-burning devices producing 50% of the PM₁₀ from domestic heating sources
- (c) approximately 2,900 enclosed coal-burning devices producing 8% of the PM₁₀ from domestic heating sources

Together they produce 10 tonnes of particulate each night, and it all goes into the air Christchurch residents must breathe.

Geography and meteorology are a contributing factor to the wintertime air pollution problem in Christchurch. In winter, temperature inversions occur over Christchurch and can trap air pollution near the ground. This is where cold air is held under layers of warmer air, stopping the tiny particles in smoke from rising and blowing away.

These inversions happen quite a lot during winter. High pollution nights (nights when concentrations of PM₁₀ exceed 50µg/m³ (24 hour average)) occur about 30 times a year between May and August. The worst times for elevated concentrations of PM₁₀ are between 4pm and 10am when many people are using domestic solid fuel burning devices to warm their houses. This is also the time when temperature inversions are most likely to occur.

At a future date, it is proposed to address winter air pollution problems in Timaru and then in other townships such as Ashburton, Rangiora and Kaiapoi. It is evident so far that all these areas have a wintertime air pollution problem. However, investigations and monitoring are still progressing.

~~Investigations and monitoring are still to be undertaken in other urban areas of Canterbury. They will begin in Kaikōura and Waimate in 2002, in Geraldine, Fairlie and Lyttelton in 2003, and in other areas from 2004.~~

Investigations and monitoring are still to be completed in other urban areas of Canterbury. They began in Kaikōura and Waimate in 2002, in Geraldine, Fairlie and Lyttelton in 2003, and commenced in other areas from 2004.

Other contaminants which are of concern at an ambient level are also primarily associated with combustion emissions, and include carbon monoxide, sulphur dioxide, nitrogen oxides, benzene, benzo(a)pyrene and polycyclic aromatic hydrocarbons (PAHs).

The effects of aeroallergens, such as pollens, can induce allergic responses including asthma. However, there is a lack of identifiable management options for aeroallergens, which prevents any regulatory action by Environment Canterbury.

Finally, there are issues associated with reduced visibility, particularly within Christchurch. Visibility is a measure of how clear the atmosphere is. Good visibility is very important to many New Zealanders and a key part of the clean green image that many tourists expect to see here. Usually visibility is affected by natural factors such as fog or sea salt particles but sometimes pollution from human activities causes haze. "Smoggy" days and clear days can differ considerably in visibility.

3.1.4 Global air quality issues

The two global air quality issues of major importance are the reduction in the ozone layer and the potential for climate change from greenhouse gas emissions, including CO₂, methane, NO_x and halocarbons.

The ozone layer sits about 15-30 kilometres above the earth and it reduces the amount of dangerous ultraviolet light, which reaches the earth from the sun. Too much ultraviolet light can cause skin cancer and cataracts in people; it distorts plant growth, damages the marine environment, and leads to the breakdown of materials such as plastics.

The ozone layer is vital for our survival and well-being.

Human-made substances damage the ozone layer. The Montreal Protocol, signed in 1989, is an international agreement under which these substances are being phased out. The Protocol is working very well. The amount of ozone-depleting substances going into the atmosphere is starting to peak, and it will soon start to decline. The ozone layer is expected to repair itself very slowly over the next 70 years.

The Ozone Layer Protection Act 1996 addresses these issues in New Zealand. The RPS does not identify any role for the Proposed NRRP to address ozone layer depleting substances.

Climate change has also received a great deal of international attention focused on how to respond to the threat. New Zealand is a party to the Framework Convention on Climate Change and has signed the Kyoto Protocol. The Kyoto Protocol commits New Zealand to reducing its emissions of greenhouse gases to 1990 levels, on average, by 2008-2012.

While an enhanced greenhouse effect and the potential for climate change are of national and global significance, it is also important if Canterbury is to contribute to reductions at a regional level that measures are promoted to reduce emissions of carbon dioxide and other greenhouse gases.

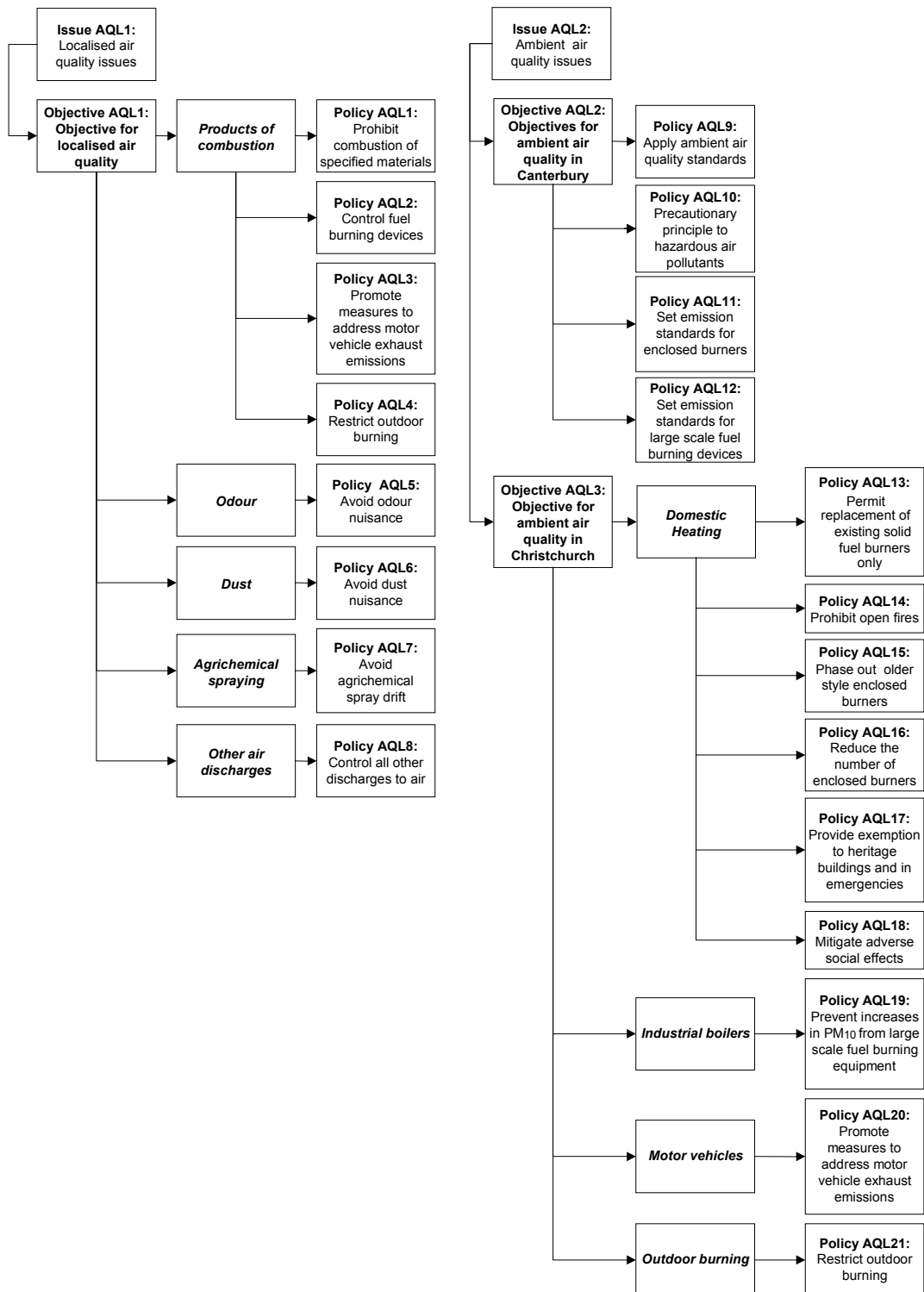
The RPS identifies how Environment Canterbury is addressing global air quality issues. The RPS satisfactorily addresses global air quality issues. No additional action can be identified to occur specifically in the Proposed NRRP that will not occur through addressing the other two regional air quality issues identified in the Proposed NRRP.

Further background information about the issues addressed in this chapter can be found in the "Section 32 Report: Air Quality Chapter of the Proposed Canterbury Natural Resource Regional Plan", Environment Canterbury Report No. R02/4.

3.2 Issue resolution

Figure 3-1: The structure of air quality issue resolution in Canterbury.

This is a summary only; the text that follows contains the actual Council policy.



Issue AQL1 Localised air quality issues

Nuisance and health effects on people, their social, cultural and amenity values, and adverse effects on natural and physical resources, caused by discharges of contaminants into air, including:

- (a) The contaminants from combustion processes, in particular generated from:
 - (i) domestic (small scale) fuel burning devices; and
 - (ii) industrial (large scale) fuel burning devices; and
 - (iii) motor vehicles exhausts; and
 - (iv) outdoor burning.
- (b) Odours generated from waste treatment and disposal, agricultural activities and industrial or trade processes and premises.
- (c) Dust from abrasive blasting, quarrying, unsealed yards, construction, agricultural activities, land disturbance, and bulk material storage, handling and processing.
- (d) Agrichemical spray drifting beyond targeted areas or species.
- (e) The discharge of any other contaminants from industrial or trade processes and industrial or trade premises.

Objective AQL1 Objective for localised air quality

Localised contaminant discharges into air do not, either on their own or in combination with other discharges, result in significant adverse effects on the environment, including:

- (a) ~~adverse effects on Tangata Whenua from the loss of air's as a taonga to~~ Tāngata Whenua; and
- (b) adverse effects on human health and safety; and
- (c) offensive or objectionable odours; and
- (d) diminished visibility, as a consequence of human activities; and
- (e) corrosion and soiling of structures, not being property owned by those causing the discharge; and
- (f) adverse effects on health and functioning of ecosystems, plants and animals; and
- (g) contamination of water.

Explanation and principal reasons

Most air management issues relate to the localised effects of discharges, as opposed to effects on the region's ambient air quality. The issues are readily defined as effects relating to smoke, odour, dust, agrichemical spray and other contaminants. Objective AQL1 seeks to ensure that discharges do not have significant adverse localised effects on the environment.

Objective AQL1(a) recognises that good air quality is also of significance to Tāngata Whenua because of the interrelationship of air with other resources such as water, flora and fauna, and its life-supporting capacity. To Tāngata Whenua, air is a taonga.

Policy AQL1 Prohibit combustion of specified materials

Prohibit the discharge of contaminants into air resulting from the combustion of materials using combustion methods which result in significant adverse effects on the environment, ~~depending on how they are combusted~~, including:

- (a) on any small scale fuel burning device any:
 - (i) fuel having a sulphur content of 1% or greater; or
 - (ii) wood having a moisture content of more than 25% dry weight; or
- (b) wood treated with preservatives or impregnated with chemicals, including but not limited to, wood treated with Copper-Chrome-Arsenic (CCA), but excluding wood treated only by antisapstaining chemicals combusted in a large scale fuel burning device and other treated wood combusted in a purpose built high temperature large scale fuel burning device; or
- (c) chip board, including but not limited to, particle board and laminated boards, but excluding chip board combusted in a purpose-built high temperature large scale fuel burning device; or
- (d) wood which is painted, stained or oiled, but excluding wood treated only by antisapstaining chemicals combusted in a large scale fuel burning device or wood combusted in a purpose-built high temperature large scale fuel burning device; or
- (e) metals and materials containing metals, including but not limited to, cables; or
- (f) materials containing asbestos; or
- (g) all rubber, including but not limited to, rubber tyres; or
- (h) medical waste, pathological wastes, quarantine waste and animal waste, including but not limited to, dried animal faeces, but excluding:
 - (i) outdoor burning of animal carcasses and offal; or
 - (ii) the burning of medical waste, pathological wastes, quarantine waste, and animal carcasses and offal in a purpose-built high temperature incinerator; or
- (i) synthetic material, including but not limited to, motor vehicle parts, foams, fibreglass, batteries, chemicals, paint and other surface coating materials, excluding combustion in a purpose-built high temperature incinerator; or
- (j) tar or bitumen; or
- (k) any type of plastic, ~~but excluding outdoor burning of polyethylene agrichemical or animal remedy containers and polyethylene agricultural wrap~~; or
- (l) used and waste oil, excluding re-refined oil, and excluding used and waste oil combusted in a purpose built high temperature large scale fuel burning device; or
- (m) peat; or
- (n) sludge from industrial processes excluding combustion in a purpose-built high temperature incinerator; or
- (o) materials within a landfill site, waste transfer station or waste recovery area, but excluding landfill gas emissions.

Explanation and principal reasons

Policy AQL1 recognises that some people choose to burn inappropriate materials and that this practice contributes to excessive concentrations of air contaminants, and results in objectionable or offensive smoke and odour, and associated health and nuisance problems.

In some cases these materials may be burnt and this is specified in the rules but they can only be burnt in the circumstances identified because of the significant adverse effect on the environment of the contaminant(s) that results from their combustion.

Dispersion modelling of small scale fuel burning devices indicates that burning of fuel with high sulphur content greater than 1% can cause high local ground level concentrations of sulphur dioxide which may cause adverse health effects. In large scale fuel burning appliances, burning of dry fuel with adequate combustion air will minimise the emission of PM₁₀, visible smoke and products of incomplete combustion. Thus odour and smoke nuisance to neighbours can be reduced. With small scale solid fuel burning devices, wood with moisture content greater than 25% dry weight does not burn efficiently. This increases the difficulty of operating small scale fuel burning devices correctly and the likelihood of smoke and odour nuisance.

Burning of chemically treated timber can cause the discharge of treatment chemicals such as copper, chromium and arsenic. Long-term accumulation of these chemicals in the environment can cause health effects. In addition, emission of salts can cause corrosion of the flue in a solid fuel burning device.

Combustion of glues, plastics, paints, rubber and synthetic materials commonly causes the discharge of toxic and odorous compounds. Organic wastes typically have high moisture content and can cause significant particulate emissions when burned. Disposal of medical waste, animal waste and quarantine waste by burning shall only be undertaken in proper facilities.

Tar and bitumen burning presents a significant health risk for susceptible members of the public as a result of exposure to sulphuric acid mist from this activity. In addition, there are also significant nuisance and negative aesthetic effects resulting from the very large plumes of black smoke produced by this activity.

Material within a landfill site, waste transfer station or waste recovery area is likely to be contaminated and materials permitted for burning inseparable from those that are prohibited from burning.

It should be noted that outdoor burning of animal carcasses and offal, ~~polyethylene silage wrap and bale wrap, and used polyethylene agricultural or animal remedy containers~~ has been specifically controlled in the Proposed NRRP in relation to its effects. Under some circumstances these materials can be burned outdoors in accordance with Policy AQL4.

The policy recognises that alternative methods such as waste minimisation methods (reduce, reuse and recycling) should be followed to reduce the need to dispose of the specified materials to begin with. When disposal is necessary and where there is no satisfactory combustion process which results in the discharge of contaminants into air with offensive or objectionable adverse effects, then alternative disposal methods shall be used, such as landfill.

Methods

The methods used or to be used to implement Policy AQL1 are:

Method AQL1(a) Information and promotion

Environment Canterbury will produce information brochures and co-ordinate education programmes as appropriate with schools, territorial authorities, landcare groups, Federated Farmers, industry (including horticultural industry groups), wood merchants, Energy Efficiency Conservation Authority, home heating associations, appliance retailers and manufacturers, and other agencies to promote:

- (i) the use and storage of dry firewood; and
- (ii) the use of facilities to dispose of wastes that shall no longer be burnt in the open; and

- (iii) on-site composting practices; and
- (iv) waste minimisation initiatives to reduce the need for burning; and
- (v) understanding of the proper use of small scale solid fuel burning appliances.

Method AQL1(b) Canterbury Hazardous Waste Management Strategy

Environment Canterbury will promote, through the Canterbury Hazardous Waste Management Strategy, alternatives to burning hazardous wastes.

Method AQL1(c) Regional rules

Environment Canterbury will apply Regional Rules AQL5, AQL13, AQL37 and AQL38 in Section 3.3, which prohibit the discharge of contaminants to air from combustion of specified materials in Policy AQL1.

Method AQL1(d) Compliance and enforcement

Environment Canterbury may apply for enforcement orders, issue abatement notices and use other enforcement mechanisms in Part XII of the RMA, where the combustion of specified materials listed in Policy AQL1 occur. It is appropriate for Environment Canterbury to take such enforcement action as necessary to prevent a recurrence of these discharges, or to mitigate the effects of these discharges.

Method AQL1(e) Response to complaints and enquiries

Environment Canterbury will:

- (i) provide a 24-hour pollution hotline to respond to any complaints about burning prohibited materials; and
- (ii) provide a database to record the details of any complaints received about burning prohibited materials and to verify, where practicable, any complaints; and
- (iii) provide a customer services line during office hours to respond to any enquiries about burning prohibited materials; and
- (iv) in association with territorial authorities, ~~Crown Public Health Limited~~ health agencies and other authorities that receive complaints, develop and implement a procedure to investigate and resolve complaints regarding burning prohibited materials and investigate any other methods to jointly address complaints about burning prohibited materials; and
- (v) undertake enforcement of the provisions of the ~~Proposed~~ NRRP where necessary.

Policy AQL2 Control particulate and odour emissions from fuel burning devices

- (a) **Any discharge of particulate matter or odour from any fuel burning device shall not be dangerous or noxious, or cause an offensive or objectionable effect beyond the boundary of any site from where the discharge originates.**
- (b) **Minimise Avoid, remedy or mitigate the discharge of excessive particulate matter and odour associated with start-up and refuelling of by limiting such discharges from:**
 - (i) **small scale fuel burning devices to a period of 15 minutes following start-up and a period of five minutes following refuelling; and**
 - (ii) **large scale fuel burning devices burning solid fuel to a period of 30 minutes following cold start up and a period not exceeding four minutes for any subsequent hour of operation; and**
 - (iii) **large scale fuel burning devices burning liquid fuel to a period of two minutes each hour of operation.**

Cross Ref:
Policies
AQL11,
AQL12

Explanation and principal reasons

Policy AQL2(a) recognises that some particulate matter will inevitably be generated from fuel burning devices, especially those burning solid fuel, but it seeks to prevent nuisance effects beyond the site the discharge occurs.

Good practice can minimise particulate matter emissions so that neighbours do not experience significant nuisance effects. For example, good maintenance and operation of industrial boilers can reduce visible smoke emissions to brief periods. Good practice can prevent objectionable or offensive dispersal of smoke or deposition of particles beyond the boundary of the property where the discharge originates.

The general requirement imposed to not cause "objectionable or offensive effects" due to odour discharges is consistent with the general duties imposed by section 17(3)(a) of the RMA.

Policy AQL2(b) similarly recognises that some particulate matter and odour will inevitably be generated as a result of starting and refuelling any fuel burning device. However, these emissions can reasonably be limited to within a short time of start-up and refuelling, assuming that devices are operated correctly and with fuels approved for use in the fuel burning device.

The policy seeks to reduce emissions of particulate to achieve concentrations in ambient air which are more protective of public health and to reduce the nuisance effects of contaminants associated with discharges to air from the combustion of fuels in fuel burning devices.

Methods

The methods used or to be used to implement Policy AQL2 are:

Method AQL2(a) Promotion and education

Environment Canterbury will produce and disseminate information and educational material and co-ordinate as appropriate with territorial authorities and other agencies to promote the correct use of fuel burning devices.

Method AQL2(b) Regional rules

Environment Canterbury will apply Regional Rules AQL1 to AQL28 in Section 3.3, to control particulate matter and odour from fuel burning devices.

Method AQL2(c) Resource consents

Resource consents may be granted for fuel burning devices that discharge contaminants into air. These may involve combustion processes which are specified as controlled, discretionary or non-complying activities.

Method AQL2(d) Compliance and enforcement

Environment Canterbury may apply for enforcement orders, issue abatement notices and use other enforcement mechanisms in Part XII of the RMA, where the discharge of particulate matter from any fuel burning device is dangerous or noxious, or causes offensive or objectionable dispersal or deposition of particles beyond the boundary of any site from where the discharge originates. Such adverse effects may arise out of a breach of the rules set out in the ~~Proposed~~ NRRP, or a breach of resource consent conditions. It is appropriate for Environment Canterbury to take such enforcement action as necessary to prevent a recurrence of any discharge, or to mitigate the effects of any discharge.

Method AQL2(e) Response to complaints and enquiries

Environment Canterbury will:

- (i) provide a 24-hour pollution hotline to respond to any complaints about fuel burning devices; and
- (ii) provide a database to record the details of any complaints received about fuel burning devices and to verify, where practicable, any complaints; and

- (iii) provide a customer services line during office hours to respond to any enquiries about fuel burning devices; and
- (iv) in association with territorial authorities, ~~Crown Public Health Limited~~ health agencies and other authorities that receive complaints, develop and implement a procedure to investigate and resolve complaints regarding fuel burning devices and investigate any other methods to jointly address complaints about fuel burning devices; and
- (v) undertake enforcement of the provisions of the ~~Proposed~~ NRRP where necessary.

Method AQL2(f) Assessment criteria

Environment Canterbury when determining whether or not a discharge of particulate matter from a combustion source has caused an objectionable or offensive effect will use the assessment criteria contained in Appendix AQL3.

Policy AQL3 Promote measures to address motor vehicle exhaust emissions

- (a) **Promote traffic management that avoids the occurrence of localised air quality problems associated with exhaust emissions from motor vehicles.**
- (b) **Promote initiatives to reduce the occurrence of smoky motor vehicle exhaust emissions.**

Explanation and principal reasons

The legal ability of Environment Canterbury to directly control motor vehicle exhaust emissions is so limited as to be impractical, but it can promote measures to reduce the incidents of smoky vehicle exhausts.

In the Canterbury region, relatively low vehicle numbers and concentrations are unlikely to give rise to localised air pollution problems outside of Christchurch. In this context, motor vehicle exhaust emissions are known to be responsible for elevated concentrations of carbon monoxide at street level. For example, on the relatively congested Riccarton Road, carbon monoxide measurements taken at street level exceeded national ambient guidelines (10 mg/m³, eight hour average) on 25 of the 79 days monitored in 1996. The one hour guideline (30 mg/m³) was exceeded on three of the 79 days. Improved traffic management can avoid the occurrence of corridor problems.

Although smoky vehicles are a relatively small part of the overall air quality problems, they do cause local nuisance and the public perception is that they are a significant problem.

Traffic management and reducing smoky vehicle exhaust emissions are just two mechanisms available to the public and local authorities which are achievable and desirable to reduce the adverse effects of motor vehicle exhaust emissions.

Methods

The methods used or to be used to implement Policy AQL3 are:

Method AQL3(a) Advocacy

Environment Canterbury will advocate to the New Zealand Police for increased enforcement of the '10 second rule' for smoky motor vehicle exhaust emissions controlled by the New Zealand Police, through Regulation 28 of the Traffic Regulations 1976.

Cross Ref:
Policy AQL20

Method AQL3(b) Information and promotion

Environment Canterbury will:

- (i) prepare or contribute to the preparation of educational material dealing with the efficient operation of motor vehicles to minimise emissions; and
- (ii) promote cycling, walking and other alternatives to cars; and
- (iii) continue to support and encourage public passenger transport.

Method AQL3(c) Investigation

Environment Canterbury will investigate in Christchurch:

- (i) concentrations of contaminants at street level resulting from transport emissions; and
- (ii) the relationship between land use patterns and motor vehicle exhaust emissions.

Method AQL3(d) Regional Land Transport Strategy

Environment Canterbury, in accordance with the Land Transport Act 1998, will prepare a Regional Land Transport Strategy. That document will:

- (i) identify the future land transport needs of the region; and
- (ii) identify the most desirable means of responding to such needs in a safe and cost effective manner, having regard to the effect the transport system is likely to have on the environment; and
- (iii) identify an appropriate role for each land transport mode in the region, including freight traffic, public passenger transport, cycling, and pedestrian traffic; and
- (iv) state the best means of achieving the matters referred to in paragraphs (ii) and (iii).

Method AQL3(e) Territorial authorities

Territorial authorities in the preparation, variation, change or review of their district plans and through the exercise of their functions shall, to the extent required by the Resource Management Act, take into account the desirability or the need to:

- (i) provide for the implementation of traffic management control measures to reduce traffic congestion; and
- (ii) support and encourage the use of low emission modes such as walking, cycling and public passenger transport and give consideration to these modes at all stages of the planning process including subdivision; and
- (iii) encourage patterns and forms of urban settlement and infrastructure that decrease production of motor vehicle exhaust emissions and decrease the demand for motorised transport; and
- (iv) develop zoning and density provisions which will encourage more public transport, cycling and walking-supportive development patterns and environments; and
- (v) review parking requirements and private vehicle parking pricing in areas identified as being public transport nodes or corridors; and
- (vi) develop and utilise design guidelines that direct land use planning away from development which creates dependency upon private motor vehicles, and towards development which is in support of public transport; and
- (vii) act in a way that is not inconsistent with ~~adopt~~ the provisions of the Canterbury Regional Land Transport Strategy.

Policy AQL4 Restrict outdoor burning

Restrict the discharge to air of contaminants associated with outdoor burning, except:

- (a) from outdoor burning that occurs in accordance with the recommended burning guidelines contained in Appendix AQL1 and ~~Appendix AQL2~~; and
- (b) where the discharges are from the burning of the following materials:
- (i) vegetative material on the premises from which the material is derived and up to two neighbouring properties; or
 - (ii) untreated wood, cardboard and paper; or
 - ~~(iii) used polyethylene agricultural wraps, but only where there is no economic alternative to polyethylene or no reasonable re-use or recycling for this material; or~~
 - ~~(iv) triple rinsed used polyethylene agrichemical or animal remedy containers, but only where there is no reasonable re-use or recycling for this material; or~~
 - ~~(v) (iii)~~ animal carcasses burned in accordance with quarantine or disease control requirements or where the groundwater table restricts disposal to land;

and notwithstanding the above,

- (c) where such discharges:
- (i) are from burning materials and fuels for fire fighting training and fire fighting research purposes; or
 - (ii) are well removed from sensitive activities including urban areas of the region; or
 - (iii) occur from the burning of vegetative material in the following circumstances, assessed on a case by case basis by Environment Canterbury:
 - (1) where it is impracticable to remove vegetative material because of unsuitable access, and such vegetative material will result in a fire risk if not removed or will damage structures if not removed; or
 - (2) where the financial implications of the alternatives to burning vegetative material are significant; or
- (d) where such discharges result from outdoor burning in instances where there is structural damage to small scale fuel burning devices or chimneys and flues resulting from a natural hazard event and where electricity power is cut off, but only for the duration of the electricity power loss; or
- (e) where the discharge of particulate matter is in a manner which is not dangerous or noxious, or does not cause offensive or objectionable dispersal or deposition of particles beyond the boundary of any site from where the discharge originates.

Explanation and principal reasons

Outdoor burning of vegetation and other waste material can cause adverse health effects and significant nuisance effects such as soiling, visual obstruction and odour. These effects can be minimised by controlled burning, well removed from sensitive areas. In addition to PM₁₀, combustion of general refuse results in discharges of a range of toxic contaminants and as such burning of mixed refuse is prohibited.

Cross Ref:
Policy AQL21

Good practice can minimise particulate matter emissions so that neighbours do not experience significant nuisance effects. It is recognised in Policy AQL4(a) that if good practice is adopted then objectionable and offensive smoke can be avoided or mitigated. ~~Appendices Appendix AQL1 and AQL2 contains recommended burning guidelines for the burning of vegetation, paper and cardboard and for the burning of used polyethylene agricultural wraps and used agrichemical or animal remedy containers.~~ For example, vegetative material shall be dry at the time of burning. This will maximise combustion efficiency, promote quick burning and help limit discharges of contaminants.

Policy AQL4(b) specifies materials which will be permitted to burn.

Vegetation burning is limited to that derived from the property where burning occurs, and up to two neighbouring properties. This prevents commercial burning establishments that could concentrate the potential sources (and effects) at one location. It also limits the scale of the operation.

~~Used polyethylene agricultural wraps and used polyethylene agrichemical or animal remedy containers pose a significant waste problem for the agricultural sector. Disposal of bulky polyethylene agricultural wraps at landfills is expensive and many public landfills are not willing to accept used agrichemical or animal remedy containers. Further, while Environment Canterbury supports reuse or recycling of plastics, viable recycling or re-use options may not currently be available at all locations. Therefore burning of polyethylene wraps and containers is permitted in the interim, until environmentally preferable waste management options become available for these materials. Environment Canterbury will investigate alternative options in association with territorial authorities and users and producers of these products.~~

Exemption has been provided for fireworks, the burning of fuels in hangi and barbecues for food cooking purposes, through their exclusion from the definition of outdoor burning.

Despite the allowance for burning specific material, other criteria need to be adhered to and these are identified in Policy AQL4(c), (d) and (e).

Provision for fire fighting training and research in Policy AQL4(c)(i) is in recognition that this is a necessary activity, which may not conform to the other requirements. However, unnecessary burning of buildings as a means of demolition will be strongly discouraged.

Providing sufficient separation between outdoor burning and sensitive activities, identified in Policy AQL4(c)(ii), will mitigate significant adverse health effects and nuisance effects from occurring. This effectively restricts outdoor burning in residential areas unless the circumstances identified in Policy AQL4(c)(iii) prevent alternative disposal of vegetative material. Such circumstances can only be assessed on a case-by-case basis, taking into account the principles of the RMA.

Policy AQL4(d) provides exemptions to outdoor burning following a natural hazard event that has rendered small scale solid fuel burning appliances unsuitable for use and where electricity supply is disrupted for long periods. The policy provides security of heating supply and cooking facilities in those cases of real emergency.

Policy AQL4(e) recognises that some particulate matter will inevitably be generated from fuel burning devices, especially those burning solid fuel, but it seeks to restrict nuisance effects to the site from where they are discharged. It also recognises that cost effective alternatives to burning materials in the open air are generally available.

The Christchurch Clean Air Zones specifically address discharges to air from outdoor burning that may exacerbate Christchurch's wintertime air pollution problem by up to 33%. Outdoor burning is prohibited in the Christchurch Clean Air Zones 1 and 2 during winter months as identified in Policy ~~AQL20~~ AQL21.

Burning of hill and high country vegetation is also covered by Part IV of the ~~Proposed~~ Land and Vegetation Management Regional Plan.

Methods

The methods used or to be used to implement Policy AQL4 are:

Method AQL4(a) Advocacy

Environment Canterbury will advocate to:

- (i) central government and territorial authorities regarding the need to address issues associated with used polyethylene agricultural wrap and agrichemical or animal remedy containers; and
- (ii) New Zealand Fire Service and the building industry to strongly discourage the unnecessary burning of buildings as a means of demolition; and
- (iii) farmers through landcare groups and Federated Farmers about the use of alternative means to burning of crop residues or vegetative stubble, tree prunings and the clearance of production land by burn-offs, when located near sensitive activities.

Method AQL4(b) Promotion and education

Environment Canterbury will produce information brochures and co-ordinate education programmes as appropriate with territorial authorities, landcare groups, Federated Farmers, Industry and other agencies to promote:

- (i) the use of facilities to dispose of wastes that shall no longer be burnt in the open; and
- (ii) on-site composting practices; and
- (iii) waste minimisation initiatives to reduce the need for burning; and
- (iv) the use of good management practices identified in Appendix AQL1 to mitigate the adverse effects on air quality from the burning of crop residues or vegetative stubble, tree prunings and the clearance of production land by burn-off.

Method AQL4(c) Investigation

Environment Canterbury will investigate:

- (i) alternatives to the disposal by burning of polyethylene agricultural wraps and used polyethylene agrichemical and animal remedy containers, including opportunities for reducing, re-using, recycling, resource recovery and residual management; and
- (ii) the availability of alternative products to polyethylene agricultural wraps.

Method AQL4(d) Canterbury Hazardous Waste Management Strategy

Environment Canterbury will promote, through the Canterbury Hazardous Waste Management Strategy, alternatives to burning agrichemical or animal remedy containers.

Method AQL4(e) Regional rules

Environment Canterbury will apply Regional Rules AQL29 to AQL38 in Section 3.3, to control outdoor burning.

Method AQL4(f) Resource consents

Resource consents may be granted for outdoor burning which does not meet criteria specified in the Proposed NRRP for permitted activities.

Method AQL4(g) Compliance and enforcement

Environment Canterbury may apply for enforcement orders, issue abatement notices and use other enforcement mechanisms in Part XII of the RMA, where there are adverse effects of the discharge to air of contaminants associated with outdoor burning. Such adverse effects may arise out of a breach of the rules set out in the Proposed NRRP, or a breach of resource consent conditions. It is appropriate for Environment Canterbury to take such enforcement action as necessary to prevent a recurrence of any discharge, or to mitigate the effects of any discharge.

Method AQL4(h) Response to complaints and enquiries

Environment Canterbury will:

- (i) provide a 24-hour pollution hotline to respond to any complaints about outdoor burning; and
- (ii) provide a database to record the details of any complaints received about outdoor burning and to verify, where practicable, any complaints; and
- (iii) provide a customer services line during office hours to respond to any enquiries about outdoor burning; and
- (iv) in association with territorial authorities and other authorities that receive complaints, develop and implement a procedure to investigate and resolve complaints regarding outdoor burning and investigate any other methods to jointly address complaints about outdoor burning; and
- (v) undertake enforcement of the provisions of the ~~Proposed~~ NRRP where necessary.

Method AQL4(i) Assessment criteria

Environment Canterbury when determining whether or not a discharge of particulate matter from a combustion source has caused an objectionable or offensive effect will use the assessment criteria contained in Appendix AQL3.

Policy AQL5 Avoid odour nuisance

- (a) **Prevent any discharge of odour from new activities that discharge contaminants into air, such that it does not cause offensive or objectionable effects beyond the boundary of any site where it originates. Where a new activity is unable to do this then that activity shall:**
 - (i) **as far as practicable locate away from sensitive areas and activities;**
or
 - ~~(ii) locate in areas where odour emissions beyond the boundary do not cause offensive or objectionable effects.~~
- (b) ~~Promote the adoption of the best practicable option to prevent or minimise offensive or objectionable effects of odour from existing activities that discharge contaminants into air, such that it does not cause offensive or objectionable effects beyond the boundary of any site where it originates~~
Where appropriate existing activities that discharge contaminants into air shall adopt the best practicable option to avoid remedy or mitigate offensive or objectionable effects of odour such that they do not cause offensive or objectionable effects beyond the boundary of any site from which they originate.
- (c) **Avoid encroachment of sensitive activities on existing activities discharging odorous contaminants into air, unless adverse effects of the odour can be avoided or mitigated by the encroaching activity.**

For the purposes of this policy: new activities are those activities which are established after 1 June 2002 ~~the date of notification of the Proposed NRRP~~ or not lawfully established on or before 1 June 2002 ~~the date of notification of the Proposed NRRP~~; and existing activities are those activities which are lawfully established on or before 1 June 2002 ~~at the date of notification of the Proposed NRRP~~.

Explanation and principal reasons

The objectionable and offensive effects of odour are a significant adverse effect on the environment and a significant resource management issue in the Canterbury region. Over half of the air quality complaints received by Environment Canterbury's pollution hotline relate to the offensive or objectionable effects of odour. These are principally attributed to intensive livestock farming, effluent and manure application to land, meat/fish processing including fellmongeries, wool scouring, landfills, offal pits, composting, and other odorous agricultural and industrial or trade activities. While industrial, rural and domestic activities can cause some offensive or objectionable odour effects beyond the site boundary, good practice may minimise emissions so that neighbours do not experience significant adverse effects.

Policy AQL5 recognises that it may not be possible to completely avoid all detectable odours. What is offensive or objectionable will depend on the frequency of exposure, the intensity of odorous substances, the duration of exposure, the nature of the odour and the sensitivity of the receiving environment. Environment Canterbury will determine what is offensive or objectionable on the basis of assessment criteria.

The adverse effects of odour nuisance can be avoided if contaminants are not discharged near sensitive areas or activities. New activities that generate odour shall be well removed from sensitive areas and activities to prevent offensive or objectionable effects and hence complaints. Only when the adverse effects of odorous discharges can be satisfactorily avoided or mitigated should new activities be allowed to locate near sensitive areas and activities.

The issue of reverse sensitivity can be addressed by requiring sensitive activities to locate well away from processes resulting in objectionable or offensive odour emissions. This will minimise problems associated with gradual encroachment of residential and other development on existing industrial and trade processes. In general, existing industrial and trade activities have been developed in areas that are removed from sensitive areas and activities. Poor land use planning shall not diminish the value of the investment of the existing industrial or trade activities.

The concept of reverse sensitivity to remedy or mitigate the adverse effects of established activities is an important policy tool to separate incompatible new activities from established activities. This concept recognises the importance of land use planning to ensure activities discharging objectionable or offensive levels of contaminants into the air are kept separate from sensitive land use activities such as residential use or vice versa.

The general requirement imposed to not cause "objectionable or offensive effects" due to odour discharges is consistent with the general duties imposed by section 17(3)(a) of the RMA.

The impacts of odour on the community can be chronic or acute. In many cases, the observation of odour beyond the boundary of a property should be used to indicate the potential for adverse effects on the community. The actual extent to which the community is adversely effected, or in other words, whether objectionable or offensive effects have occurred, would normally require the use of one or more assessment tools and criteria, as detailed in Appendix AQL5. It is anticipated that the results of these assessments could be further supported by the recorded observations of council officers regarding specific incidents of objectionable or offensive odour, at or beyond the boundary of a property.

Methods

The methods used or to be used to implement Policy AQL5 are:

Method AQL5(a) Information and promotion

Environment Canterbury will produce information brochures and co-ordinate as appropriate with territorial authorities and other agencies to promote:

- (i) industry-led codes of practice for the management of odours, such as the ~~Pork Industry Code of Practice for Pig Farming, EnviroPork, 2005 (November 1990)~~ and
- (ii) cleaner production for odorous activities.

Method AQL5(b) Regional rules

Environment Canterbury will apply Regional Rules AQL40 to AQL42, AQL45 to AQL51, and AQL54 to ~~AQL74~~ AQL73 in Section 3.3, to control odorous activities.

Method AQL5(c) Resource consents

Resource consents may be granted for odorous activities. These may involve discharges into air which are specified as controlled, discretionary or non-complying activities.

Method AQL5(d) Compliance and enforcement

Environment Canterbury may apply for enforcement orders, issue abatement notices and use other enforcement mechanisms in Part XII of the RMA, where the discharge of odour causes offensive or objectionable effects beyond the boundary of any site from where it originates. Such effects may arise out of a breach of the rules set out in the ~~Proposed~~ NRRP, or a breach of resource consent conditions. It is appropriate for Environment Canterbury to take such enforcement action as necessary to prevent a recurrence of any odorous activity, or to mitigate the effects of any odorous activity.

Method AQL5(e) Response to complaints and enquiries

Environment Canterbury will:

- (i) provide a 24-hour pollution hotline to respond to any complaints about odorous activities; and
- (ii) provide a database to record the details of any complaints received about odorous activities and to verify, where practicable, any complaints; and
- (iii) provide a customer services line during office hours to respond to any enquiries about odorous activities; and
- (iv) in association with territorial authorities and other authorities that receive complaints, develop and implement a procedure to investigate and resolve complaints regarding odorous activities and investigate any other methods to jointly address complaints about odorous activities; and
- (v) undertake enforcement of the provisions of the ~~Proposed~~ NRRP where necessary.

Method AQL5(f) Assessment criteria

Environment Canterbury when determining whether or not a discharge of odour has caused an objectionable or offensive effect will use the assessment criteria contained in Appendix AQL5.

Method AQL5(g) Territorial authorities

Territorial authorities in the preparation, variation, change or review of their district plans and through the exercise of their functions shall undertake land use planning that:

- (i) provides appropriate locations for odorous activities; and
- (ii) makes provision to protect established odorous activities from encroachment by sensitive activities.

Policy AQL6: Avoid dust nuisance

- (a) Any dust discharge shall not cause corrosion, be noxious or dangerous, or cause objectionable or offensive dispersal or deposition of particles beyond the boundary of the site where the discharge originates.
- (b) Avoid the encroachment of sensitive activities on existing activities discharging dust into air, unless adverse effects of the discharge can be avoided or mitigated by the encroaching activity.

For the purposes of this policy existing activities are those activities which are lawfully established on or before 1 June 2002 at the date of notification of the Proposed NRRP.

Explanation and principal reasons

Dust nuisance has adverse impacts on amenity values, such as the soiling of clean surfaces, and it has visual impacts. Few forms of dust would be classified as “noxious” or “dangerous” but most can be “offensive” or “objectionable”.

~~Dust associated with activities such as loading and unloading bulk materials at ports, abrasive sandblasting, quarries, flour milling, saw milling, seed cleaning, and coal and fertiliser storage, is of significant concern.~~

Good practice can avoid, remedy, or mitigate minimise emissions so that neighbours do not experience significant nuisance effects. For example, dust controls such as watering surfaces and erecting windbreaks can prevent objectionable or offensive concentrations of dust at neighbouring properties.

Dust nuisance problems are often associated with land use activities. Therefore, the issue of reverse sensitivity can be addressed by requiring sensitive activities to locate well away from ~~processes resulting in activities that may cause~~ objectionable or offensive effects from dust emissions. This will minimise problems associated with ~~gradual~~ encroachment of residential and other development on existing industrial and trade processes. In general, existing industrial and trade activities have been developed in areas that are removed from sensitive areas and activities. Poor land use planning shall not diminish the value of the investment of the existing industrial and trade activities.

~~Recognising the~~ The concept of reverse sensitivity ~~to remedy or mitigate the adverse effects of established activities~~ is an important policy tool to separate incompatible new activities with from established activities. This concept recognises the importance of land use planning, where possible, to ensure activities discharging objectionable or offensive levels of contaminants into the air are kept separate from sensitive land use activities such as residential use or vice versa.

Methods

The methods used or to be used to implement Policy AQL6 are:

Method AQL6(a) Information and promotion

Environment Canterbury will produce information brochures and co-ordinate as appropriate with territorial authorities and other agencies to promote:

- (i) industry-led codes of practice for the management of dust discharges; and
- (ii) cleaner production for activities that produce dust discharges.

Method AQL6(b) Regional rules

Environment Canterbury will apply Regional Rules AQL39, AQL42 to AQL45, AQL48, AQL50 to AQL67, AQL69 and AQL70 in Section 3.3, to control dust.

Method AQL6(c) Resource consents

Resource consents may be granted for dust generating activities. These may involve discharges into air which are specified as discretionary activities under Regional Rules AQL58, AQL63 and AQL70.

Method AQL6(d) Compliance and enforcement

Environment Canterbury may apply for enforcement orders, issue abatement notices and use other enforcement mechanisms in Part XII of the RMA, where the adverse effects of the discharge of dust causes corrosion, is noxious or dangerous, or causes offensive or objectionable dispersal or deposition of particles beyond the boundary of any site from where the discharge originates. Such adverse effects may arise out of a breach of the rules set out in the Proposed NRRP, or a breach of resource consent conditions. It is appropriate for Environment Canterbury to take such enforcement action as necessary to prevent a recurrence of any dust generating activity, or to mitigate the effects of any dust generating activity.

Method AQL6(e) Response to complaints and enquiries

Environment Canterbury will:

- (i) provide a 24-hour pollution hotline to respond to any complaints about dust generating activities; and
- (ii) provide a database to record the details of any complaints received about dust generating activities and to verify, where practicable, any complaints; and
- (iii) provide a customer services line during office hours to respond to any enquiries about dust generating activities; and
- (iv) in association with territorial authorities and other authorities that receive complaints, develop and implement a procedure to investigate and resolve complaints regarding dust generating activities and investigate any other methods to jointly address complaints about dust generating activities; and
- (v) undertake enforcement of the provisions of the Proposed NRRP where necessary.

Method AQL6(f) Assessment criteria

Environment Canterbury when determining whether or not the discharge of dust has caused an objectionable or offensive effect, will use the assessment criteria contained in Appendix AQL4.

Method AQL6(g) Territorial authorities

Territorial authorities in the preparation, variation, change or review of their district plans and through the exercise of their functions shall undertake land use planning that:

- (vi) provides appropriate locations for activities that discharge dust; and
- (vii) makes provision to protect established activities that discharge dust, from encroachment by sensitive activities.

Policy AQL7: Avoid agrichemical spray drift

- (a) **Avoid the discharge into air of agrichemical sprays in a manner that results or is likely to result in spray drifting beyond boundaries of targeted properties or targeted species and onto non-targeted properties or species, and avoid contamination of or contaminating water, by:**
- (i) **controlling agrichemical spray application in sensitive areas and in proximity to sensitive activities and roadways; and**
 - (ii) **requiring agrichemical spray application not to exceed any rate or contravene any other requirement specified in the agrichemical manufacturer's instructions; and**
 - (iii) **promoting compliance with the Code of Practice for the Management of Agrichemicals (NZS8409:1999); and**
 - (iv) **promoting agrichemical spray applicators to be appropriately qualified; and**
 - (v) **requiring aerial agrichemical spray applicators to be appropriately qualified; and**
 - (vi) **requiring prior notification of agrichemical spray application when:**
 - (1) **requested by those people whose properties may be directly affected by the agrichemical spray application; or**
 - (2) **spraying near property boundaries that may be directly affected by the agrichemical spray application; and**
 - (vii) **advocating the use of agrichemicals which are less likely to create an off-target spray drift hazard.**
- (b) **Promote alternative means of pest control in order to encourage less reliance on the use of agrichemical spray application.**
- (c) **Avoid encroachment of sensitive activities on existing activities using agrichemical sprays, unless adverse effects of the discharge can be avoided or mitigated by the encroaching activity.**

Explanation and principal reasons

The spray application of agrichemicals to control plant and insect pests and fungal diseases, is common throughout the Canterbury region. Such agrichemicals are used in horticulture, pastoral farming, cropping, and forestry. Agrichemicals are also used to control plant and insect pests, and fungal diseases in public parks, reserves, roadsides, riverbeds, and residential gardens.

It is generally accepted within Canterbury that agrichemicals need to be used as part of current agricultural practice, as long as the agrichemicals are applied safely and responsibly. However, it is not accepted that off-target agrichemical spray drift be allowed to affect human health, amenity values or the wider environment.

Agrichemical spray drift can cause odour nuisance, health effects, damage to non-target flora and fauna, and contamination of land and waterways. However, off-target spray drift may be substantially reduced, particularly if good agrichemical spraying practice is followed. It is therefore important that agrichemical applicators do not exceed any rate or contravene any other requirement specified in the manufacturer's instructions and are compliant with the Code of Practice for the Management of Agrichemicals (NZS8409:1999). Chapter 4: Water Quality of the NRRP contains policies and associated methods that address the discharge of agrichemicals onto or into water and land.

Environment Canterbury, territorial authorities and ~~Crown Public Health Limited~~ health agencies receive complaints with respect to agrichemical spraying, with many inquiries about the

appropriateness of the use of agrichemical sprays in various situations. If the Code of Practice for the Management of Agrichemicals (NZS8409:1999) is complied with, then many of the concerns of the public could be alleviated before the agrichemical spraying is undertaken.

District plan provisions will be promoted by Environment Canterbury to address the issue of reverse sensitivity by requiring new sensitive activities to locate well away from processes using agrichemical spraying. This will minimise problems associated with gradual encroachment of residential and other development on existing activities. In general existing activities using agrichemicals have been developed in areas that are removed from sensitive areas and activities. Poor land use planning shall not diminish the investment of existing horticultural activities.

The concept of reverse sensitivity to remedy or mitigate the adverse effects of established activities is an important policy tool to separate incompatible new activities with established activities. This concept recognises the importance of land use planning to ensure activities discharging objectionable or offensive levels of contaminants into the air are kept separate from sensitive land use activities such as residential use or vice versa.

The requirement to notify adjoining properties does not give the notified person the right to veto a spraying operation on a neighbouring property or in a public amenity area. The notification of the intention to spray is intended to inform people who could be affected, and provide the opportunity for them to take action to avoid or minimise potential exposure of themselves or their property to specific applications of agrichemicals. The provision of notification decreases the possibility of adverse effects occurring unintentionally and the opportunity for the person to provide for their own well being and health and safety. The Code of Practice for the Management of Agrichemicals (NZS8409:1999) provides guidance on the notification and signage for application of agrichemicals in Appendix N of that document.

Methods

The methods used or to be used to implement Policy AQL7 are:

Method AQL7(a) Advocacy

Environment Canterbury will undertake ongoing liaison with industry and relevant organisations such as ~~Crown Public Health Limited~~ health agencies, territorial authorities, Federated Farmers and growers' associations to advocate to agrichemical spray users to:

- (i) provide information to ~~the public about~~ those who may be affected by agrichemical use, including the types of agrichemicals used, and when, how and why they are used; and
- (ii) undertake research and adopt alternative means of pest control to encourage less reliance on agrichemical spray application.

Method AQL7(b) Information and promotion

Environment Canterbury will:

- (i) promote adherence to the Code of Practice for the Management of Agrichemicals (NZS8409:1999) through landcare and resource groups, including promotion of appropriate disposal methods and alternatives to disposal for agrichemical containers; and
- (ii) encourage appropriate training of operators in the correct use and application of agrichemical sprays including the 'GROWSAFE[®]' training programmes and the "Registered Chemical Applicators Scheme" developed by the New Zealand Agrichemical Education Trust; and
- (iii) encourage aerial applicators to use Global Positioning Systems (GPS) to reduce the risk of application beyond target areas or species; and
- (iv) produce and disseminate information and education material about:
 - (1) safe, responsible, and efficient use of agrichemicals in Canterbury; and
 - (2) use or development of alternative pest management practices; and

- (3) management practices that avoid off-target spray drift from ground and aerial spraying; and
 - (4) appropriate organisations to contact about spray drift concerns and complaints; and
 - (5) those activities that need to be protected from encroachment by sensitive activities.
- (v) work with territorial authorities, agrichemical contractors, growers' associations, Federated Farmers of New Zealand, and landcare/resource groups to:
- ~~(1) investigate the practicality and usefulness of local authority maintained registers of people who request notification of agrichemical spray application; and~~
 - ~~(2)~~
- maintain and make available to the public a list of registered chemical applicators and pilots with a current GROWSAFE® Agrichemical Rating who operate in the region.

Method AQL7(c) Regional rules

Environment Canterbury will apply Regional Rules ~~AQL70 AQL71 to AQL74~~ AQL73 in Section 3.3, to control the discharge of agrichemicals.

Method AQL7(d) Resource consents

Resource consents may be granted for the discharge of agrichemicals. These may involve agrichemical application specified as a ~~limited~~ discretionary activity.

Method AQL7(e) Compliance and enforcement

Environment Canterbury may apply for enforcement orders, issue abatement notices and use other enforcement mechanisms in Part XII of the RMA, where the adverse effects of the discharge of agrichemical sprays causes noxious, dangerous, offensive or objectionable effects beyond the boundary of any property from where the discharge originates. Such adverse effects may arise out of a breach of the rules set out in the ~~Proposed~~ NRRP, or a breach of resource consent conditions. It is appropriate for Environment Canterbury to take such enforcement action as necessary to prevent a recurrence of any discharge, or to mitigate the effects of any discharge.

Method AQL7(f) Response to complaints and enquiries

Environment Canterbury will:

- (i) provide a 24-hour pollution hotline to respond to any agrichemical spray drift complaints; and
- (ii) provide a database to record the details of any agrichemical spray drift complaint received and to verify, where practicable, any complaints; and
- (iii) provide a customer services line during office hours to respond to any enquiries about agrichemical spray drift; and
- (iv) in association with territorial authorities, ~~Crown Public Health Limited~~ health agencies, growers' associations and other authorities that receive complaints, develop and implement a procedure to investigate and resolve complaints regarding agrichemical spray drift and investigate any other methods to jointly address complaints about agrichemical spray drift; and
- (v) undertake enforcement of the provisions of the ~~Proposed~~ NRRP where necessary.

Method AQL7(g) Territorial authorities

Territorial authorities in the preparation, variation, change or review of their district plans and through the exercise of their functions shall undertake land use planning that:

- (i) provides appropriate locations for activities that use agrichemical sprays; and
- (ii) makes provision to protect established activities that use agrichemical sprays from encroachment by sensitive activities.

Policy AQL8: Control all other discharges to air

Control discharges of contaminants to air not specifically provided for in Policies AQL1 to AQL7 by:

- (a) allowing as permitted activities discharges of contaminants into air from industrial or trade premises or industrial or trade processes that have no more than minor adverse effects on the environment; and
- (b) ~~giving priority to~~ avoiding, remedying or mitigating adverse effects of localised ground level concentrations of contaminants, including cumulative effects, on:
 - (i) human health; and
 - (ii) the health and functioning of ecosystems, plants and animals; and
 - (iii) values of significance to Tāngata Whenua; and
 - (iv) cultural and amenity values; and
- (c) applying the precautionary ~~principle~~ approach to the discharge of hazardous air pollutants identified in Schedules AQL1 and AQL2.

Cross Ref:
Policy AQL10

Explanation and principal reasons

Section 15(1) of the RMA allows discharges of contaminants into air from industrial or trade premises only when the discharge is expressly authorised by a permitted activity rule, a resource consent or by regulation. Policy AQL8(a) establishes a framework which allows discharges into air from industrial or trade premises and industrial or trade processes, without the need for a discharge permit when the discharge has minor or no adverse effects on the environment.

Policy AQL8(b) identifies that where there are adverse effects from discharges an appropriate response to avoid, remedy or mitigate those adverse effects needs to be formulated. When considering applications for resource consents to discharge contaminants into air, ~~priority must be given to ensuring~~ the adverse effects on the values listed in (i) to (iv) are to be avoided, remedied or mitigated.

Schedule AQL1 lists the priority hazardous air pollutants for which national ambient air quality guidelines are proposed. Schedule AQL2 lists other hazardous air pollutants identified by the Ministry for the Environment, which are either known or suspected to cause acute human health effects or other significant adverse effects on the environment. In assessing acceptable levels of hazardous air pollutants in discharges, a precautionary approach will be applied having particular regard to available information, including any guidelines.

Methods

The methods used or to be used to implement Policy AQL8 are:

Method AQL8(a) Regional rules

Environment Canterbury will apply Regional Rules AQL13 to AQL58 and AQL70 in Section 3.3 to control the discharge of contaminants from industrial or trade premises and processes.

Method AQL8(b) Resource consents

Resource consents may be granted for activities which discharge contaminants into air. These may involve discharges into air which are specified as controlled, limited discretionary, discretionary or non-complying activities.

Method AQL8(c) Compliance and enforcement

Environment Canterbury may apply for enforcement orders, issue abatement notices and use other enforcement mechanisms in Part XII of the RMA, where there are adverse effects of the discharge of contaminants to air. Such adverse effects may arise out of a breach of the rules set out in the Proposed NRRP, or a breach of resource consent conditions. It is appropriate for Environment Canterbury to take such enforcement action as necessary to prevent a recurrence of any discharge, or to mitigate the effects of any discharge.

Method AQL8(d) Response to complaints and enquires

Environment Canterbury will:

- (i) provide a 24-hour pollution hotline to respond to any complaints about discharges to air from industrial or trade processes or industrial or trade premises; and
- (ii) provide a database to record the details of any complaints received about discharges to air from industrial or trade processes or industrial or trade premises and to verify, where practicable, any complaints; and
- (iii) provide a customer services line during office hours to respond to any enquiries about discharges from industrial or trade processes or industrial or trade premises; and
- (iv) in association with territorial authorities, ~~Crown Public Health Limited~~ health agencies and other authorities that receive complaints, develop and implement a procedure to investigate and resolve complaints regarding discharges to air from industrial or trade processes or industrial or trade premises and investigate any other methods to jointly address complaints about discharges to air from industrial or trade processes or industrial or trade premises; and
- (v) undertake enforcement of the provisions of the Proposed NRRP where necessary.

Issue AQL2 Ambient air quality issues

Existing and potential adverse health and nuisance effects because of poor ambient air quality in the urban and settled areas of Canterbury, particularly in Christchurch and Timaru, primarily associated with domestic heating emissions.

Objective AQL2 Objectives for ambient air quality in Canterbury

- (a) Where existing ambient air quality is equivalent to or better than the acceptable target specified in the Regional Ambient Air Quality Targets in Schedule AQL1 maintain air quality at ~~that better~~ its existing level.**
- (b) Where monitoring identifies existing ambient air quality to be poorer than the acceptable target specified in the Regional Ambient Air Quality Targets in Schedule AQL1, improve ambient air quality to at least the level identified as acceptable so as to protect human health and safety and reduce the nuisance effects of poor ambient air quality.**

Explanation and principal reasons

Objective AQL2 covers all of Canterbury including Christchurch. Objective AQL3² is in addition to the outcome sought under Objective AQL2, and applies to that area identified in the Christchurch Clean Air Zones 1 and 2.

Objective AQL2 follows from Objective 1 of Chapter 13 of the RPS, that seeks to “Maintain or improve ambient air quality so that it is not a danger to people’s health and safety, and reduce the nuisance effects of low ambient air quality.” This provides a broad basis for all air quality management.

In order to demonstrate success towards this general goal, a precise definition is required of the level at which ambient air quality is a danger to human health and safety or is a nuisance.

Policy 1 of Chapter 13 of the RPS states that standards shall be set to “maintain minimum ambient air quality in urban areas of Canterbury based on concentrations of contaminants that cause adverse health effects and nuisance effects.”

The Ministry for the Environment has established National Ambient Air Quality Guidelines 2002 (NAAQG). The NAAQG identify guideline values for primary air contaminants and priority hazardous air pollutants. They provide the basis for protecting public health from adverse effects of air pollutants and for eliminating, or reducing to a minimum, those contaminants of air that are known or likely to be hazardous to human health and well being.

The NAAQG are a starting point from which to formulate region-specific criteria or Regional Ambient Air Quality Targets (RAAQT). The NAAQG identify levels that will provide maximum protection to the environment, taking into account existing air quality, community expectations, economic implications, and the purpose and principles of the RMA.

In the NAAQG the Ministry for the Environment’s Environmental Performance Indicators Programme (*Environmental Performance Indicators: Proposals for air, fresh water and land, 1997*) provides a basis for establishing the RAAQT. Table 3.1 identifies the five categories of ambient air quality developed under the Environmental Performance Indicators Programme.

² See page 3-35

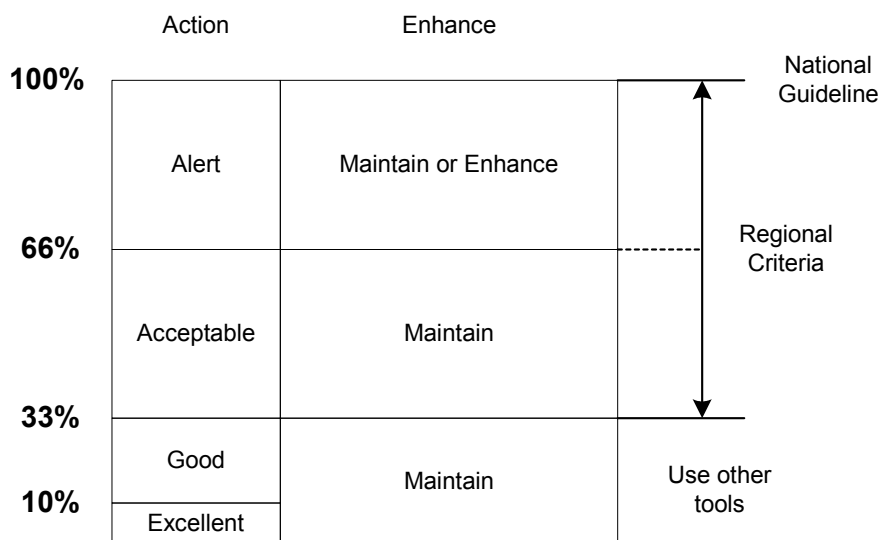
Table 3-1 Ministry for the Environment National Ambient Air Quality Guideline (NAAQG) categories

Category	Measured value	Comment
Action	Exceeds the NAAQG value.	Exceedences of the NAAQG are a cause for concern and warrant action if they occur on a regular basis.
Alert	Between 66% and 100% of the NAAQG value.	This is a warning level, which can lead to exceedences if <u>upward</u> trends are not curbed.
Acceptable	Between 33% and 66% of the NAAQG value.	This is a broad category, where maximum values might be of concern in some sensitive locations, but are generally at a level that does not warrant dramatic action.
Good	Between 10% and 33% of the NAAQG value.	Peak measurements in this range are unlikely to affect air quality.
Excellent	Less than 10% of the NAAQG value.	Of little concern: if maximum values are less than a tenth of the guideline, average values are likely to be much less.

Table 3.1 shows that pollution levels recorded above 66% of any NAAQG value fall within the ‘alert’ category. This is a warning level indicating that the NAAQG value could be exceeded if upward trends are not curbed. This provides a definition of degraded air as it implies that 66% of the NAAQG is the threshold above which it is necessary to consider taking action to maintain or reduce emissions into the airshed.

In developing regional ambient air quality criteria, Ministry for the Environment has developed a range of values for region-specific criteria (Figure 3-2). The Ministry for the Environment suggests that regional councils should adopt criteria based on the monitoring results, with the aim of maintaining air quality at measured levels when it is below 66% of the NAAQG value, and enhancing when it is above.

Figure 3-2: Potential range of values for regional criteria based on the categories in Table 3.1



It is noted that the RAAQT in the Canterbury region, identified in Schedule AQL1, are based on this advice. The targets support the objectives and policies in this plan and aim to maintain air quality in areas of the Canterbury region where it is already good, and enhance air quality in areas of the Canterbury region where it is degraded or unacceptable.

The term 'target' has been adopted as opposed to 'standard', because of the specific meaning of the term standard in Regional Rules as per section 68 of the RMA.

Regional monitoring data will determine which target is appropriate, taking into account the scale and frequency of any pollution problem, the source of emissions and other factors which influence air quality. The acceptable target is appropriate for protecting air quality for most areas of the Canterbury region where, although there is limited information, the air quality is clean and there are no specific issues. However, in general the rural areas of Canterbury will fit in the "good" category of the RAAQT and in general urban areas, where there are no specific issues or problems, will have "acceptable" air quality in terms of the RAAQT.

Monitoring undertaken by Environment Canterbury indicates there are areas where the acceptable or even alert target of the RAAQT cannot be met. To date (2001), monitoring has identified these areas of poor or degraded air quality as being: Rangiora, Kaiapoi, Christchurch, Ashburton and Timaru. Policy AQL9(b) identifies that where this occurs a specific management regime is required, for example, ~~as is proposed~~ for Christchurch under Objective AQL3. As knowledge of the air quality in other urban areas is obtained, then specific management regimes will be proposed, if these are warranted. This will entail the development of new objectives, policies and methods to be included in this chapter of the ~~Proposed~~ NRRP.

Policy AQL9 Applying Regional Ambient Air Quality Targets (RAAQT)

- ~~(a) Avoid, remedy or mitigate any discharge on its own or in combination with other discharges, so it does not cause the existing ambient air quality to be degraded, by:~~
- ~~(i) ensuring for:~~
- ~~(1) areas of pristine air quality meeting the 'excellent' RAAQT, defined in Schedule AQL1; and~~
- ~~(2) areas where the ambient air quality does not meet the 'acceptable' RAAQT, defined in Schedule AQL1; and~~
- ~~(3) for all permitted activities;~~
- ~~(4) that the design ground level concentration from the discharge does not exceed the 'good' RAAQT, multiplied by 0.75 unless all potential interactions with other sources are not significant; and~~
- ~~(ii) ensuring that in all other cases the design ground level concentrations from the discharge does not exceed the acceptable RAAQT, multiplied by 0.75 unless all potential interactions with other sources are not significant; and~~
- (b) Specify clean air zones and specific management regimes for improving ambient air quality in those areas where monitoring identifies that the 'alert' target of the RAAQT is already exceeded, giving priority to Christchurch and Timaru.

Cross Ref:
Policy AQL12

Explanation and principal reasons

Policy AQL9(a) recognises that where existing air quality is at levels better than the good Regional Ambient Air Quality Target (RAAQT), such as in the majority of the region's rural areas, then Policy AQL9 seeks to maintain air quality at the existing level and avoid degradation of ambient air quality. The policy also recognises that isolated point source discharges cause localised impacts, but usually do not have a significant impact on the ambient air quality of the wider area.

Policies AQL9(a) (i) and (ii) identify design ground level concentrations for discharges outside of clean air zones. These criteria provide clear guidance for the interpretation of the results of dispersion modelling undertaken as part of resource consent applications.

Policy AQL9(b) recognises that specific management regimes are required to improve air quality in those areas where there is poor or degraded ambient air quality, such as in Christchurch and Timaru.

Policy 1(a) of Chapter 13 of the RPS identifies that priority shall be given to improving ambient air quality in Christchurch and Timaru. The Christchurch Clean Air Zones are specifically addressed under Objective AQL3.

At a future date, it is proposed to address winter air pollution problems, of varying severity, in Timaru, Ashburton, Kaiapoi and Rangiora. It is evident so far that all these areas have a wintertime air pollution problem. However, investigations and monitoring are still progressing. Timaru, Ashburton, Kaiapoi and Rangiora all have winter air pollution problems of varying severity. Investigations and monitoring have been undertaken and are still progressing in these areas as well as in other towns in the Canterbury region. Results from these investigations and monitoring will be used to determine such management regimes as are appropriate to improve air quality in these areas.

Investigations and monitoring ~~have been and are still~~ are to be being undertaken in other urban areas of Canterbury. They ~~will begin~~ began in Kaikōura and Waimate in 2002, in Geraldine, Fairlie and Lyttelton in 2003, and ~~in other areas from~~ in 2004.

Methods

The methods used or to be used to implement Policy AQL9 are:

Method AQL9(a) Investigation and Implementation

Environment Canterbury will undertake investigations into the extent of wintertime air pollution within urban townships with Canterbury in the following priority:

- (i) Timaru.
- (ii) Ashburton, Rangiora and Kaiapoi.
- (iii) Other urban townships.
- (iv) This process will involve the following steps:
 - (1) ongoing ambient air quality and meteorological monitoring at sites that are representative of peak, residential and remote areas;
 - (2) preparation of an emissions inventory, which identifies key sources and how they change over space and time;
 - (3) atmospheric dispersion modelling studies and exposure assessments to determine the spatial extent and frequency of areas where pollution levels exceed target values and their impacts;
 - (4) analysis of current trends and projection for future trends in emissions;
 - (5) analysis of the options for improving air quality and their cost effectiveness; and
 - (6) determining community views on the desirable level of air quality and the options for improving it.

Method AQL9(b) Regional rules

Environment Canterbury will apply Regional Rules AQL13 to AQL27, AQL34, AQL57 and AQL69 in Section 3.3 to control the discharge of contaminants from activities that may affect maintaining the RAAQT.

Method AQL9(c) Resource consents

Resource consents shall be granted for discharges identified as a controlled activity in Regional Rule AQL16 and AQL26, and may be granted for as discretionary activities in Regional Rules AQL17, AQL18, AQL19, AQL27, AQL34, AQL57 and AQL69. In the processing of applications for resource consent regard shall be given to the RAAQT and the setting of design ground level concentrations in accordance with Policy AQL9.

Regional Rules AQL17, AQL18, AQL19, AQL27, AQL34, AQL57 and AQL69 shall affect, under section 130 of the RMA, the exercise of existing resource consents for discharges of contaminants. When these rules become operative, Environment Canterbury may serve notice, under Section 128 of the RMA, on the holders of all such resource consents of its intention to review the conditions of their resource consent, where in Environment Canterbury's opinion, it is appropriate to do so in order to enable the standards and terms set by the rule to be met. The holders of resource consents shall comply with the standards and terms of Regional Rules AQL17, AQL18, AQL19, AQL27, AQL34, AQL57 and AQL69 from the date at which the new conditions on their resource consent commences under section 116 of the RMA.

Method AQL9(d) Compliance and enforcement

Environment Canterbury may apply for enforcement orders, issue abatement notices and use other enforcement mechanisms in Part XII of the RMA, where the effects of any discharge adversely affect ambient air quality. Such effects may arise out of a breach of the rules set out in the Proposed NRRP, or a breach of resource consent conditions. It is appropriate for Environment Canterbury to take such enforcement action as necessary to prevent a recurrence of any discharge, or to mitigate the effects of any discharge.

Method AQL9(e) Response to complaints and enquiries

Environment Canterbury will:

- (i) provide a 24-hour pollution hotline to respond to any complaints about poor ambient air quality; and
- (ii) provide a database to record the details of any complaints received about poor ambient air quality and to verify, where practicable, any complaints; and
- (iii) provide a customer services line during office hours to respond to any enquiries about poor ambient air quality; and
- (iv) undertake enforcement of the provisions of the Proposed NRRP where necessary.

Policy AQL10: Precautionary principle approach to hazardous air pollutants

- (a) **When considering applications for resource consents and in adopting any standards apply the precautionary principle approach in assessing any adverse effects on the environment from the discharge of hazardous air pollutants, including those identified in Schedules AQL1, and AQL2 and AQL3 where there is uncertainty about the nature or scope of the effects or if they are unknown but could significantly adversely affect the environment, as is the case with some hazardous air pollutants.**
- (b) **~~Notwithstanding (a), when considering applications for resource consents ensure that the design ground level concentration from the discharge, including background concentrations, does not exceed the values listed in Schedule AQL3.~~**

Explanation and principal reasons

Hazardous air pollutants are gaseous, aerosol or particulate pollutants which are present in air and which are hazardous to human, plant or animal life, and which are listed in Schedules AQL1, and AQL2 and AQL3. Schedule AQL1 lists priority hazardous air pollutants and Schedule AQL2 lists hazardous air pollutants for which no NAAQG or RAAQT have been established.

The Ministry for the Environment recommends that a precautionary approach be adopted for managing hazardous air pollutants, and their release into the environment be avoided. This is an appropriate response in circumstances where there is scientific uncertainty or ignorance about the nature or scope of environmental harm, as in the case with hazardous air pollutants.

~~Schedule AQL3 defines modelling design ground level concentration for priority hazardous air pollutants. A clear distinction is established between modelling design concentrations and airshed criteria. Background concentrations shall be taken into account when applying the values listed.~~

Cross Ref:
Policy AQL8

Methods

The methods used or to be used to implement Policy AQL10 are:

Method AQL10(a) Investigation

Environment Canterbury will undertake investigations into the concentrations of priority hazardous air pollutants, listed in Schedule AQL1, that are present in ambient air in Christchurch.

Method AQL10(b) Regional rules

Environment Canterbury will apply Regional Rules AQL1 to ~~AQL74~~ AQL73 in Section 3.3 to control the discharge of hazardous air pollutants from activities.

Method AQL10(c) Resource consents

Resource consents may be granted for discharges identified as controlled or discretionary activities. In the processing of applications for resource consents regard shall be given to the hazardous air pollutants identified in Schedules AQL1 and AQL2. ~~Particular regard will be had of the design ground level concentrations in Schedule AQL3.~~

Regional Rules AQL17, AQL18, AQL19, AQL27, AQL34, AQL57 and AQL69 shall affect, under section 130 of the RMA, the exercise of existing resource consents for discharges of contaminants. When these rules become operative, Environment Canterbury may serve notice, under Section 128 of the RMA, on the holders of all such resource consents of its intention to review the conditions of their resource consent, where in Environment Canterbury's opinion, it is appropriate to do so in order to enable the standards and terms set by the rule to be met. The holders of resource consents shall comply with the standards and terms of Regional Rules AQL17, AQL18, AQL19, AQL27, AQL34, AQL57 and AQL69 from the date at which the new conditions on their resource consent commences under section 116 of the RMA.

Method AQL10(d) Compliance and enforcement

Environment Canterbury may apply for enforcement orders, issue abatement notices and use other enforcement mechanisms in Part XII of the RMA, where the discharge of hazardous air pollutants has adverse effects. Such effects may arise out of a breach of the rules set out in the ~~Proposed~~ NRRP, or a breach of resource consent conditions. It is appropriate for Environment Canterbury to take such enforcement action as necessary to prevent a recurrence of any discharge, or to mitigate the effects of any discharge.

Policy AQL11: Set emission standards for enclosed burners

Require all discharges of contaminants to air from enclosed burners installed after 1 January 2004 to meet the following standards:

- (a) emission of less than 1 gram of total suspended particulate (TSP) per kilogram of fuel burned; and
- (b) thermal efficiency of 65% or greater.

Explanation and principal reasons

Emission inventories undertaken in Canterbury to date have shown that domestic solid fuel burning devices are the main contributors to poor ambient air quality. It is therefore prudent that the least polluting technology be installed. Such technology is available.

Policy AQL11 allows only enclosed burners meeting certain low emission standards to be installed from January 1, 2004 anywhere in Canterbury. An efficiency standard is included to ensure appliances do not need to burn more fuel to achieve the required room temperature in a dwelling.

A list of devices that meet the standards can be obtained from Environment Canterbury.

*Cross Ref:
Policies AQL2*

Methods

The methods used or to be used to implement Policy AQL11 are:

Method AQL11(a) Information and promotion

Environment Canterbury will produce and disseminate information and educational material to advise of the requirements of Policy AQL11 and Rule AQL2.

Method AQL11(b) Regional rules

Environment Canterbury will apply Regional Rules AQL1 and AQL2, in Section 3.3 to control emissions from enclosed burners. As part of Rule AQL2 Environment Canterbury will authorise or approve those devices that meet the standards specified in Policy AQL11 and will publish a list of those devices that meet the standards.

Method AQL11(c) Resource consents

Resource consents may be granted for some situations under Rule AQL4 for enclosed burners not complying with the standards outlined in Policy AQL11.

Method AQL11(d) Continue to use the provisions of Section 369(11)(b) of the RMA to prohibit or authorise small scale fuel burning devices

By operation of Section 369(11)(b) of the RMA, the Transitional Regional Plan is deemed to include a rule allowing Environment Canterbury to authorise or prohibit the use and installation of any class of fuel-burning equipment, clean air zones identified in the Clean Air Zone (Christchurch) Order 1977 (as amended) and the Clean Air Zones (Canterbury Region) Order 1984 (as amended). Environment Canterbury will use this provision in the RMA to test whether appliances comply with the emission standards of Policy AQL11.

Method AQL11(e) Compliance and enforcement

Environment Canterbury may apply for enforcement orders, issue abatement notices and use other enforcement mechanisms in Part XII of the RMA, where the discharge of contaminants from enclosed fuel burners has adverse effects. Such effects may arise out of a breach of the rules set out in the Proposed NRRP, or a breach of resource consent conditions. It is appropriate for Environment Canterbury to take such enforcement action as necessary to prevent a recurrence of any activity, or to mitigate the effects of any activity.

Method AQL11(f) Territorial authorities

~~Territorial authorities in carrying out their functions under the Building Act 1991 shall:~~

- ~~(i) ensure that only enclosed burners meeting the requirements of Rules AQL1, AQL2 or AQL3 are granted building permits; or~~
- ~~(ii) advise people who seek a building permit for a small scale fuel burning device not meeting the requirements of Rules AQL1, AQL2 or AQL3 that resource consent is required from Environment Canterbury pursuant to Regional Rule AQL4 for use of enclosed burners, or oil or gas burning heating devices, and open fires, and ensure only such consented small scale fuel burning devices are granted building permits.~~

Cross Ref:
Policies

AQL2,
AQL9 &
AQL19

Policy AQL12: Set emission standards for large scale fuel burning devices

Require the adoption of the best practicable option to prevent or minimise the adverse effects on the environment from the discharge to air of primary air pollutants identified in Schedule AQL1, from the combustion of fuel in large scale fuel burning devices located outside the Christchurch Clean Air Zones 1 and 2.

Explanation and principal reasons

Policy AQL12 recognises that within the Christchurch Clean Air Zones 1 and 2 there are already elevated concentrations of PM₁₀ above the alert target in the Regional Ambient Air Quality Targets (RAAQT). A specific management regime has therefore been adopted for the Christchurch Clean Air Zones 1 and 2. Because large-scale fuel burning equipment contributes to a small percentage of this problem, specific direction has been provided for large scale fuel burning equipment.

Outside of the Christchurch Clean Air Zones 1 and 2 it is appropriate that discharges of PM₁₀ from large scale fuel burning equipment shall be minimised or prevented by the adoption of the best practicable option.

Section 70(2) of the RMA states that before the Council ~~adopts~~ includes a rule in a plan requiring the adoption of the best practicable option to prevent or minimise any actual or likely adverse effects on the environment of any discharge of a contaminant, the Council ~~must~~ shall be satisfied that having regard to:

- (a) the nature of the discharge and the receiving environment; and
- (b) other alternatives, including a rule requiring the observance of minimum standards of quality of the environment; ~~and~~
- (c) the inclusion of that rule is the most efficient and effective means of preventing or minimising those adverse effects on the environment.

Having considered these matters, Environment Canterbury is satisfied that it has met the requirements of Section 70(2) of the RMA. Further consideration of Environment Canterbury's reasoning for including best practicable option requirements in the Proposed NRRP is contained in the "Section 32 Report".

Methods

The methods used or to be used to implement Policy AQL12 are:

Method AQL12(a) Information and promotion

Environment Canterbury will produce and disseminate information and educational material and co-ordinate as appropriate with territorial authorities and other agencies to:

- (i) improve energy efficiency of combustion processes of large scale fuel burning devices;
- (ii) encourage use of alternatives to carbon-based fuels.

Method AQL12(b) Regional rules

Environment Canterbury will apply Regional Rules AQL22 to AQL27 in Section 3.3 to control fuel burning devices in the Canterbury region outside the Christchurch Clean Air Zones 1 and 2.

Method AQL12(c) Resource consents

Resource consents may be granted for activities which discharge contaminants into air from large scale fuel burning devices. These may involve discharges into air, which are specified as controlled activities under Regional Rule AQL26 or discretionary activities under Regional Rule AQL27.

Regional Rules AQL26 and AQL27 shall affect, under section 130 of the RMA, the exercise of existing resource consents for discharges of contaminants. When these rules become operative, Environment Canterbury may serve notice, under Section 128 of the RMA, on the holders of all such resource consents of its intention to review the conditions of their resource consent, where in Environment Canterbury's opinion, it is appropriate to do so in order to enable the standards and terms set by the rule to be met. The holders of resource consents shall comply with the standards and terms of Regional Rules AQL26 and AQL27 from the date at which the new conditions on their resource consent commences under section 116 of the RMA.

Method AQL12(d) Compliance and enforcement

Environment Canterbury may apply for enforcement orders, issue abatement notices and use other enforcement mechanisms in Part XII of the RMA, where the discharge of contaminants to air from the combustion of fuel in large scale fuel burning devices outside the Christchurch Clean Air Zones 1 and 2 have adverse effects. Such effects may arise out of a breach of the rules set out in the Proposed NRRP, or a breach of resource consent conditions. It is appropriate for Environment Canterbury to take such enforcement action as necessary to prevent a recurrence of any discharge, or to mitigate the effects of any discharge.

Objective AQL3 Objective for ambient air quality in Christchurch
In the Christchurch Clean Air Zones 1 and 2, improve current poor winter ambient air quality so that by the year 2012 there is a reduction in the concentration of PM₁₀ to less than 50 µg/m³ (24 hour average), with no more than one annual exceedence (averaged over three years), so as to reduce nuisance effects and adverse effects on human health.

Explanation and principal reasons

The Christchurch Clean Air Zones 1 and 2 are identified on Maps AQL(A) and Maps AQL1 to AQL24.

Christchurch's excessive concentrations of PM₁₀ are associated with numerous health problems. These range from minor irritation of the eyes and nose to exacerbation of existing respiratory and cardiac problems among small children and the elderly. PM₁₀ in Christchurch is associated with a 1% increase in "all-cause" mortality for every 10 µg/m³ increase in PM₁₀ and a 4% increase in respiratory mortality. This equates to between 40 and 70 'premature' deaths each year. Further, economically it contributes to lost workdays through illness and impairs Christchurch's image as a clean city.

The World Health Organisation and other agencies acknowledge that studies have been unable to identify a 'no observable adverse effects level' for PM₁₀. This means that whatever the target is for PM₁₀, greater than zero, there is a chance that someone may suffer adverse health effects if exposed, particularly people whose health is already compromised.

A first stage target of 50 µg/m³ (24-hour average) with one annual exceedence (averaged over three years) has been adopted for PM₁₀ in Christchurch. The Ministry for the Environment has proposed this as the national guideline level with no exceedences. It is also the level adopted for the Australian National Environmental Protection Measures, the Canadian National Ambient Air Quality Objectives, and by the United Kingdom Expert Panel on Air Quality Standards and the Californian Environmental Protection Agency. The target of 50 µg/m³ (24-hour average) will achieve a standard of ambient air quality more protective of human health for Christchurch residents.

The benefits of achieving the 50µg/m³ (24 hour average) target for PM₁₀ (with one exceedence averaged over three years) include (but are not limited to):

- (a) reduced numbers of premature deaths (estimated to be currently between 40-70 per annum) to 34; and

- (b) reduced hospitalisations (estimate to be currently between 75-100 per annum) to 61; and
- (c) reduced restricted activity days (estimated to be currently between 300,000 and 600,000 per annum) by 60%; and
- (d) reduction in lost work days; and
- (e) reductions in medication use; and
- (f) potentially improved visibility; and
- (g) improved perception of Christchurch as a clean and healthy city, and hence increased business confidence and tourism; and
- (h) reduced nuisance effects associated with smell, smoke and materials soiling.

The date of 2012, specified in Objective AQL3, is dictated by the speed at which policies and methods of implementation are put into practice to reduce emissions of PM₁₀. To hasten the date that the target of 50 µg/m³ (24 hour average) will be achieved by, will mean that the dates contained in Policies AQL14 to AQL16 will need to be brought forward.

Achievement of the target by 2012 is also based on the following assumptions:

- (a) only emissions inside the Christchurch Clean Air Zone 1 contribute to ambient air quality monitored in that area; and
- (b) there is no contribution from other sources (e.g. dust, sea spray, outdoor burning); and
- (c) emissions from transport decrease at projected rates, and emissions from industry increase in absence of additional controls. It is estimated that the contribution from transport and industry will be 12% of the 1996 emissions at 2021; and
- (d) Environment Canterbury does not approve applications for installation of solid fuel burners not meeting the low emission standards; and
- (e) a 1 g/kg burner (ie meeting the standards of Policy AQL11) operates at 3 g/kg in real time operative conditions; and
- (f) fuel use/household is 15 kg/night (average); and
- (g) there is a linear decrease in the use of open fires from 2002 (of 15,445 open fires in the 25 suburb area) to zero in 2008; and
- (h) no more than 42% of households with open fires replace them with complying burners (those meeting the standards of Rule AQL2) prior to 2008; and
- (i) no more than 56% of houses with existing non-complying enclosed burners install complying enclosed burners (those meeting the standards of Rule AQL2); and
- (j) the relationship between emissions and concentrations is linear; and
- (k) Environment Canterbury undertakes extensive public information and education campaigns; and
- (l) Environment Canterbury implements the proposed Clean Air and Energy Efficiency Incentives programme.

There is some uncertainty within these assumptions; hence in achieving the 50 µg/m³ (24 hour average) for PM₁₀ target Environment Canterbury has decided to allow for one annual exceedence (averaged over three years) as a first stage or interim target. To meet the target of 50 µg/m³ (24 hour average) for PM₁₀ a substantial reduction in wintertime concentrations is required from the current average of 30 nights of exceedences per year to one exceedence. This reduction in concentrations equates to a 74% reduction in emissions of PM₁₀.

In the long term, following a review of this chapter of the ~~Proposed~~ NRRP in 2013, Environment Canterbury's target for PM₁₀ is 50 µg/m³ (24 hour average) with no annual exceedences is to be addressed. This review will also address other air quality targets based on Ministry for the Environment guidelines, such as for PM_{2.5}, benzo(a)pyrene, dioxin and benzene.

Accordingly, in reaching the target identified in Objective AQL 3, Environment Canterbury is mindful of not precluding its ability to meet the requirements of Objective AQL2.

Policy AQL13 Permit replacement of existing solid fuel burners only

Ensure the number of dwellings using solid fuel as a means of heating in the Christchurch Clean Air Zone 1 does not increase by:

- (a) assisting and encouraging people to install cleaner forms of heating (including flued gas, electricity, and diesel), and assisting and encouraging significant increases in the energy efficiency of dwellings; and
- (b) prohibiting from 1 January 2003 the installation of small scale solid fuel burning appliances in:
 - (i) new dwellings or buildings; and
 - (ii) dwellings or buildings that currently do not have small scale solid fuel burning devices; and
 - (iii) extensions and alterations to dwellings or buildings that currently do not have small scale solid fuel burning devices.

Explanation and principal reasons

At present (1999), only 13% of new houses install solid fuel burners.

Policy AQL13 recognises that if those houses not using solid fuel or new houses yet to be built start using solid fuel then the $50\mu\text{g}/\text{m}^3$ (24 hour average) target for PM_{10} , contained in Objective AQL3, will be further away than it is at present. The policy therefore seeks from 1 January 2003 to permit replacement of existing solid fuel burners only.

This policy AQL13(b) is likely to have a total net present cost of between \$34m to \$67m. These mainly relate to increased energy costs. However, it is considered that those houses affected by this policy currently have sufficient heating without using solid fuel and new houses can be designed so they are not reliant on solid fuel heating.

Closely linked to preventing an increase in the number of dwellings using solid fuel heating, is the promotion of energy efficient design guidelines and standards for dwellings. Persuading people to install cleaner forms of heating (including flued gas, electricity and diesel) is therefore also an important message promoted by Policy AQL13(b).

Methods

The methods used or to be used to implement Policy AQL13 are:

Method AQL13(a) Information and promotion

Environment Canterbury will produce and disseminate information and educational material to promote energy efficiency and the use of flued gas, electricity, diesel heating and other forms of clean heating that do not involve the burning of solid fuels.

Method AQL13(b) Financial incentives and assistance

Environment Canterbury will implement a 'clean air and energy efficiency' financial incentives and assistance programme to:

- (i) subsidise the costs of replacing enclosed burners; and
- (ii) subsidise the costs of home energy efficiency improvements; and
- (iii) provide targeted support to lower income households to enable them to replace enclosed burners.

Method AQL13(c) Regional Energy Strategy

The Regional Energy Strategy is one of the primary methods identified in the RPS for giving effect to the energy outcomes sought by Environment Canterbury. The Regional Energy Strategy outlines regional options for “*moving to a more sustainable regional energy system*”. The Regional Energy Strategy focuses on domestic heating as one of its core activities. It will promote “clean heating” and energy efficiency. As part of the Regional Energy Strategy, Environment Canterbury will:

- (i) advocate to the Energy Efficiency and Conservation Authority for the adoption of “best practice” insulation standards for dwellings to reduce the amount of contaminants discharged in the process of heating dwellings as a result of increased energy efficiency bringing lower heating demands;
- (ii) work with the Energy Efficiency and Conservation Authority, Community Energy Action, the Christchurch City Council, the Department of Building and Housing and other interested groups in the promotion of measures designed to minimise the need for heating and reduce the cost of heating through the adoption of energy efficiency measures and the selection of appropriate home heating methods;
- (iii) provide information about:
 - (1) choices of heating and heat conservation methods;
 - (2) energy efficiency options; and
 - (3) incentives available to the public to change to cleaner, more efficient methods of home heating and fuel use.

Method AQL13(d) Regional rules

Environment Canterbury will apply Regional Rule AQL9 in Section 3.3 to prohibit in the Christchurch Clean Air Zone 1, the installation of small scale solid fuel burning appliances in: new dwellings or buildings; dwellings or buildings that currently do not have small scale solid fuel burning devices; and extensions and alterations to dwellings or buildings that currently do not have small scale solid fuel burning devices.

Method AQL13(e) Compliance and enforcement

Environment Canterbury may apply for enforcement orders, issue abatement notices and use other enforcement mechanisms in Part XII of the RMA, where there is a discharge of contaminants to air from small scale solid fuel burning appliances that have been prohibited in Regional Rule AQL9. It is appropriate for Environment Canterbury to take such enforcement action as necessary to prevent a recurrence of any discharge, or to mitigate the effects of any discharge.

Method AQL(13)(f) Territorial authorities

~~The Christchurch City Council in carrying out its functions under the Building Act 1991 shall not issue a building permit, from the date of notification of the Proposed NRRP, for the installation of small scale solid fuel burning appliances in: new dwellings or buildings; dwellings or buildings that currently do not have small scale solid fuel burning devices; and extensions and alterations to dwellings or buildings that currently do not have small scale solid fuel burning devices.~~

Policy AQL14: Prohibit open fires

- (a) In the Christchurch Clean Air Zone 1, prohibit from 1 January 2006 the use of open fires, except as provided for in Policy AQL17.
- (b) In the Christchurch Clean Air Zones 1 and 2, prohibit after 1 June 2002 ~~from the date of notification of the Proposed NRRP~~ the installation of a new open fire.

Explanation and principal reasons

Open fires were not officially approved for use in Christchurch under the Clean Air Act 1974 and have not been permitted for installation since 1982. Nevertheless, in 1999 there were 17,300 open fires in use in Christchurch on a typical winter's ~~day-night~~. On such nights, open fires burning coal and wood contribute approximately 42% of domestic heating emissions of PM₁₀ for all of Christchurch (remembering domestic heating emissions make up 90% of PM₁₀ concentrations). Emissions from open fires are anywhere between four and seven times greater than those from an appliance meeting the 1 g/kg criteria (open fires using wood 12 g/kg, coal 21 g/kg, modern enclosed burner 3 g/kg).

Policy AQL14(a) recognises that in order to achieve a reduction in emissions it is clear that, as a first principle open fires should be prohibited from use. The use of open fires is not decreasing at significant rates and they will not naturally cease to be operated.

In addition to this, open fires are a very inefficient form of heating. ~~They produce little useful heat.~~ They have an average operating efficiency of at most 15%. In extreme cases, the chimney draws more heated air than the fire produces and the "heating" device may have a negative 10% operating efficiency.

Open fires are also an ~~very~~ expensive form of heating. The cost per kWh of useable heat energy for open fires in Christchurch is 26 cents for wood burning and 28 cents for coal. This is compared with 6 cents per kWh for a heat pump or enclosed wood burner and 12 cents per kWh for a plug in heater. (See report by Greer & Bicknell - 2001:39).

The date of 1 January 2006 is provided to allow sufficient transition away from the use of open fires. Further, the provisions of section 105(1)(d) of the RMA mean that the regional rule implementing this policy will not have effect until the rule is operative. The date of 2006 is set with this in mind.

To ensure that no new open fires are installed in the Christchurch Clean Air Zones 1 and 2, Policy AQL14(b) ~~is was~~ proposed. Thus the current ban on installation that applies to the majority of the Christchurch Clean Air Zone 1 under the Transitional Regional Plan now extends to the Christchurch Clean Air Zone 2. It seeks to maintain the status quo of emissions from the rural parts of the Christchurch airshed, which contribute to Christchurch's wintertime air pollution problem.

The prohibition of open fires would result in a net present value benefit of between \$218m and \$395m. This benefit is made up of costs of fuel savings, a reduction in hospital admissions and restricted activity days. A prohibition on open fires is the most cost efficient option of achieving Objective AQL3.

Methods

The methods used or to be used to implement Policy AQL14 are:

Method AQL14(a) Information and promotion

Environment Canterbury will produce and disseminate information and educational material to:

- (i) advise of the requirements of Policy AQL14; and
- (ii) promote energy efficiency (including the benefits of insulation) and the use of flued gas, electricity, diesel heating and other forms of clean heating that do not involve the burning of solid fuels.

Method AQL14(b) Financial incentives and assistance

Environment Canterbury will implement a 'clean air and energy efficiency' financial incentives and assistance programme to:

- (i) subsidise the costs of replacing open fires; and
- (ii) subsidise the costs of home energy efficiency improvements; and
- (iii) provide targeted support to lower income households to enable them to replace open fires.

Method AQL14(c) Regional Energy Strategy

The Regional Energy Strategy is one of the primary methods identified in the RPS for giving effect to the energy outcomes sought by Environment Canterbury. The Regional Energy Strategy outlines regional options for "*moving to a more sustainable regional energy system*". The Regional Energy Strategy focuses on domestic heating as one of its core activities. It will promote "clean heating" and energy efficiency. As part of the Regional Energy Strategy, Environment Canterbury will:

- (i) advocate to the Energy Efficiency and Conservation Authority for the adoption of "best practice" insulation standards for dwellings to reduce the amount of contaminants discharged in the process of heating dwellings as a result of increased energy efficiency bringing lower heating demands;
- (ii) work with the Energy Efficiency and Conservation Authority, Community Energy Action, the Christchurch City Council and other interested groups in the promotion of measures designed to minimise the need for heating and reduce the cost of heating through the adoption of energy efficiency measures and the selection of appropriate home heating methods;
- (iii) provide information about:
 - (1) choices of heating and heat conservation methods; and
 - (2) energy efficiency options; and
 - (3) incentives available to the public to change to cleaner, more efficient methods of home heating and fuel use.

Method AQL14(d) Regional rules

Environment Canterbury will apply Regional Rules AQL7, AQL9 and AQL10 in Section 3.3 to prohibit the discharge of contaminants to air from combustion of fuel in open fires.

Method AQL14(e) Compliance and enforcement

Environment Canterbury may apply for enforcement orders, issue abatement notices and use other enforcement mechanisms in Part XII of the RMA, where there is a discharge of contaminants to air from open fires as identified in Regional Rules AQL7, AQL9 and AQL10. It is appropriate for Environment Canterbury to take such enforcement action as necessary to prevent a recurrence of any discharge from an open fire.

Method AQL14(f) Territorial authorities

The Christchurch City Council in carrying out its functions under the Building Act 1991 shall not issue a building permit for the installation of open fires after 1 June 2002 ~~from the date of notification of the Proposed NRRP.~~

Policy AQL15 Phase out older style enclosed burners in the Christchurch Clean Air Zone 1

In the Christchurch Clean Air Zone 1 prohibit from 1 January 2008 or 15 years after the date of installation, whichever is the later date, the discharge of contaminants to air from the combustion of any fuel in any enclosed burner not meeting the standards of Policy AQL11, except this shall not apply to those enclosed burners identified in Policy AQL17.

Explanation and principal reasons

Policy AQL15 recognises that older enclosed burners are more polluting than 'new generation' models provided for in Policy AQL11 and seeks to promote cleaner methods of home heating.

Tighter emission criteria and technological advances mean that, in general, modern solid fuel burners emit considerably less suspended particulate than older models. Accelerating the phase-out of older burners will reduce overall emissions.

Most of the operating burners in Christchurch do not meet the 1 g/kg emission standard.

Waiting for natural replacement will not result in sufficient reductions. The policy will bring forward reductions in emissions and in a manner that is certain, because it is known more precisely when a burner will no longer be used.

15 years has been chosen on the basis of a number of estimates, which identify the average life of a burner to be between 12 and 20 years. This is in recognition that the life of a burner can vary depending on the frequency of operation, the manner in which it is operated and whether only appropriate fuels have been burnt in it.

A mandatory phase-out time means that both the costs and emission reductions associated with the accelerated phase-out of enclosed burners are relatively small. This is because most of the burners would be replaced anyway so this policy has relatively little financial impact. However, the key benefit associated with this policy is the reduction in uncertainty associated with meeting the air quality target, as the replacement of old burners will be compulsory rather than voluntary. The mandatory phase-out of high emission appliances adds certainty to achieving the desired outcome by ensuring households do not continue to use enclosed burners beyond the burners' useful life.

It recognises that many householders may be unaware of the age of their burner and thus provides that age is to be determined by reference to official records maintained by the Christchurch City Council. In those instances where the householder has failed to obtain a building permit or consent to authorise the installation of the burner in question, the phase-out deadline would be 1 January 2008.

The total net benefit of this policy is a net present value cost of \$55m to \$98m.

Methods

The methods used or to be used to implement Policy AQL15 are:

Method AQL15(a) Information and promotion

Environment Canterbury will produce and disseminate information and educational material to:

- (i) advise of the requirements of Policy AQL15; and
- (ii) promote energy efficiency (including the benefits of insulation) and the use of flued gas, electricity, diesel heating and other forms of clean heating that do not involve the burning of solid fuels.

Method AQL15(b) Financial incentives and assistance

Environment Canterbury will implement an 'clean air and energy efficiency' financial incentives and assistance programme to:

- (i) subsidise the costs of replacing older style enclosed burners; and
- (ii) subsidise the costs of home energy efficiency improvements; and
- (iii) provide targeted support to lower income households to enable them to replace older-style enclosed burners.

Method AQL15(c) Regional Energy Strategy

The Regional Energy Strategy is one of the primary methods identified in the RPS for giving effect to the energy outcomes sought by Environment Canterbury. The Regional Energy Strategy outlines regional options for "*moving to a more sustainable regional energy system*". The Regional Energy Strategy focuses on domestic heating as one of its core activities. It will promote "clean heating" and energy efficiency. As part of the Regional Energy Strategy, Environment Canterbury will:

- (i) advocate to the Energy Efficiency and Conservation Authority for the adoption of "best practice" insulation standards for dwellings to reduce the amount of contaminants discharged in the process of heating dwellings as a result of increased energy efficiency bringing lower heating demands;
- (ii) work with the Energy Efficiency and Conservation Authority, Community Energy Action, the Christchurch City Council and other interested groups in the promotion of measures designed to minimise the need for heating and reduce the cost of heating through the adoption of energy efficiency measures and the selection of appropriate home heating methods;
- (iii) provide information about:
 - (1) choices of heating and heat conservation methods; and
 - (2) energy efficiency options; and
 - (3) incentives available to the public to change to cleaner, more efficient methods of home heating and fuel use.

Method AQL15(d) Regional rules

Environment Canterbury will apply Regional Rule AQL11 in Section 3.3 to prohibit the use of older style enclosed burners in the Christchurch Clean Air Zone 1.

Method AQL15(e) Compliance and enforcement

Environment Canterbury may apply for enforcement orders, issue abatement notices and use other enforcement mechanisms in Part XII of the RMA, where there is a discharge of contaminants to air from enclosed burners that have been identified in Policy AQL15. It is appropriate for Environment Canterbury to take such enforcement action as necessary to prevent a recurrence of any discharge.

Cross
Ref:
Policies
AQL13 to
AQL15

Policy AQL16 Reduce the number of small scale solid fuel burners in the Christchurch Clean Air Zones 1 and 2

In the Christchurch Clean Air Zones 1 and 2 reduce the number of small scale solid fuel burning devices meeting the standards of Policy AQL11, used on a typical winter's night by:

- (a) assisting and encouraging people currently using solid fuel heating to install cleaner forms of heating (including flued gas, electricity and diesel), and assisting and encouraging significant increases in the energy efficiency of dwellings; and**
- (b) seeking voluntary curtailment of solid fuel burning during periods of high pollution potential.**

Explanation and principal reasons

Policy AQL16 promotes voluntary/non-regulatory measures to phase out solid fuel as a source of heat in dwellings. These measures shall be read in conjunction with Policies AQL13 to AQL15.

To meet the air quality target for PM₁₀ of 50µg/m³ (24 hour average) it is estimated that the airshed of Christchurch (Christchurch Clean Air Zone 2) could, on a typical winter's night, sustain the discharges to air from approximately 38,000 solid fuel burning appliances, meeting the standards identified in Policy AQL11. However, this is based on a number of assumptions listed in the explanation and principal reasons to Objective AQL3.

In 1999 there were over 60,000 households in the Christchurch territorial authority area (equivalent to the Christchurch airshed) using solid fuel burning as their main source of heating on a typical winter's night. If all these households were to install solid fuel burners meeting the standards identified in Policy AQL11, Objective AQL3 would not be met.

Accordingly, encouraging people to insulate their home better and to install cleaner forms of heating is a first step and can occur through providing financial incentives. Providing financial incentives has successfully been employed in Christchurch and overseas in the past to promote changes in heating habits. To this end it will be used to change the way people heat their home, to cleaner forms of heating (including flued gas, electricity and diesel), which would result in reduced PM₁₀ emissions.

Persuading people to install cleaner forms of heating is also an important message promoted by Policy AQL16(a). People need to be aware of the implications of their actions.

Policy AQL16(b) seeks voluntary curtailment of solid fuel burning on nights of high pollution potential. Mandatory curtailment on such nights is unlikely to be legally enforceable. However, on a voluntary basis the curtailment of burning on nights of projected high pollution may have some benefits in raising people's awareness about air pollution.

Noting this, recent scientific information about the effects of PM₁₀ on people's health, has indicated evidence that a stricter ambient air quality target may be more appropriate than the interim target adopted in Objective AQL3. The WHO has adopted no standard for PM₁₀ recognising that there is no observed safe level at which adverse effects can be set. The Ministry for the Environment has signalled its intention to develop an ambient air quality guideline level for PM_{2.5} of 25µg/m³ and has set it as an interim monitoring level. 95% of PM₁₀ concentrations in Christchurch are of the fine PM_{2.5} fraction and burning solid fuel to heat homes is the main combustion source of this. To reduce emissions to meet a tighter standard for PM_{2.5} would require prohibiting all small scale solid fuel burners in Christchurch.

Several factors affect the maximum "allowable" number of burners in Christchurch. These include the size of the area under consideration, the absolute contributions to PM₁₀ loadings from sources other than home heating, ie, industry and transport, and the numbers and emissions performance

of burners still operating at the time we are interested in determining compliance with the guideline. The latter factor depends on the rate at which burners in each emissions category are phased out of operation. In turn that depends on both the policy measures adopted, and the home heating choices of householders in response to changing community attitudes and in anticipation of regulatory requirements, such as the banning of various types of fuel-burning equipment.

All of these factors mean that any calculations of maximum allowable burner numbers must be referenced to a particular point in time, a specific area, a particular set of policy measures, and assumptions about home-heating behaviour.

Uncertainty surrounding these factors has resulted in Environment Canterbury deciding to regularly review the provisions of this chapter.

Methods

The methods used or to be used to implement Policy AQL16 are:

Method AQL16(a) Information and promotion

Environment Canterbury will:

- (i) Produce and disseminate information and educational material to promote energy efficiency (including the benefits of insulation) and the use of flued gas, electricity and diesel heating;
- (ii) Seek media support to strengthen the profile of Environment Canterbury's announcement of high pollution alerts, including the message not to use solid fuel burners where alternative forms of heating are available on days of poor ambient air quality.

Method AQL16(b) Financial incentives and assistance

Environment Canterbury will implement a 'clean air and energy efficiency' financial incentives and assistance programme to:

- (i) subsidise the costs of replacing enclosed burners; and
- (ii) subsidise the costs of home energy efficiency improvements; and
- (iii) provide targeted support to lower income households to enable them to replace enclosed burners.

Method AQL16(c) Regional Energy Strategy

The Regional Energy Strategy is one of the primary methods identified in the RPS for giving effect to the energy outcomes sought by Environment Canterbury. The Regional Energy Strategy outlines regional options for "*moving to a more sustainable regional energy system*". The Regional Energy Strategy focuses on domestic heating as one of its core activities. It will promote "clean heating" and energy efficiency. As part of the Regional Energy Strategy, Environment Canterbury will:

- (i) Advocate to the Energy Efficiency and Conservation Authority and to the Department of Building and Housing for the adoption of "best practice" insulation standards for dwellings to reduce the amount of contaminants discharged in the process of heating dwellings as a result of increased energy efficiency bringing lower heating demands.
- (ii) Work with the Energy Efficiency and Conservation Authority, Community Energy Action, the Christchurch City Council and to the Department of Building and Housing and other interested groups in the promotion of measures designed to minimise the need for heating and reduce the cost of heating through the adoption of energy efficiency measures and the selection of appropriate home heating methods.
- (iii) provide information about:

- (1) choices of heating and heat conservation methods; and
- (2) energy efficiency options; and
- (3) incentives available to the public to change to cleaner, more efficient methods of home heating and fuel use.

Policy AQL17 Provide exemptions for heritage buildings or in emergency situations in the Christchurch Clean Air Zone 1

In the Christchurch Clean Air Zone 1 allow the discharge of contaminants to air from any small scale solid fuel burning device:

- (a) located in a heritage building meeting all the following criteria:**
 - (i) located in a building that is listed as a heritage building in Appendix 1 of Part 10, Volume 3 of the Christchurch City Plan; and**
 - (ii) located in a building that is regularly open to the public as of right; and**
 - (iii) the device is integral to the experience of visiting the building; and**
 - (iv) the device and chimney are original features of the building; and**
 - (v) the device and chimney are essential components of the architectural integrity of the building and are of the same genre as the style of the building; or**
- (b) in emergencies where electricity is cut off for an extended period; or**
- (c) for a temporary period of time, where the device fails to comply with Regional Rules AQL 1 to AQL 11, for people who may find it difficult to cope with the provisions of the rules.**

Explanation and principal reasons

Policy AQL17 provides exemptions for when solid fuel burning appliances not meeting the standards in Policy AQL11 may discharge contaminants to air.

Policy AQL17(a) sets the criteria by which discharges to air from open fires, pot bellies, coal ranges or other similar historic fuel burning devices are allowed in recognised heritage buildings. Those buildings meeting the criteria are identified in Schedule AQL4. There is no requirement as part of the ~~Proposed~~ NRRP to demand the removal of chimneys or fireplaces in historic buildings. It is recognised that there are many cleaner burning alternatives including gas and diesel which will fit into existing fireplaces without much disruption and that these have a similar appearance to open fires. Wherever possible they shall be installed in preference to retaining the older device.

The policies of the ~~Proposed~~ NRRP seek to prevent solid fuel from being burned in those instances that result in unacceptable emissions of PM₁₀ to air. A truly effects-based approach would not provide any exceptions as the effect of a discharge from an open fire in a heritage building compared to that in a non-heritage building is the same. Nevertheless, the desire to retain authentic appearance in some historic buildings in Christchurch shall be provided for to allow people to observe the buildings in a manner that is befitting of the authenticity of the building.

Policy AQL17(b) provides an exemption in those emergencies where electricity supply is disrupted for long periods. It is not intended as allowing exemptions where intentional electricity or gas disconnection has occurred. Environment Canterbury considers this amounts to an exemption to the provisions of section 330 of the RMA, in accordance with section 18(2) of the RMA. The policy shall therefore provide security of heating supply in those cases of real emergency.

Cross Ref:
Policies
AQL14,
AQL15 &
AQL16

Policy AQL17(c) recognises that there will be some exceptional circumstances which prevent some households from being unable to comply with the provisions of the Regional Rules. For example, some households may not be able to cope with the requirements because of severe financial hardship. In such instances Environment Canterbury will not move immediately to enforcement of the provisions of the plan, but will endeavour to assist those affected to meet the requirements of the rules within a reasonable timeframe.

Methods

The methods used or to be used to implement Policy AQL17 are:

Method AQL17(a) Regional rules

Environment Canterbury will apply Regional Rule AQL8 in Section 3.3 to provide an exemption for heritage buildings meeting the criteria of Policy AQL16(a).

Method AQL17(b) Compliance and enforcement

Environment Canterbury may apply for enforcement orders, issue abatement notices and use other enforcement mechanisms in Part XII of the RMA, where there is a discharge of contaminants to air from small scale solid fuel burning appliances that have not been identified in Policy AQL17. Such effects may arise out of a breach of the rules set out in the Proposed NRRP. It is appropriate for Environment Canterbury to take such enforcement action as necessary to prevent a recurrence of any activity, or to mitigate the effects of any activity.

Policy AQL18

Mitigate adverse financial, social and health effects of clean air policies in the Christchurch Clean Air Zone 1

In the Christchurch Clean Air Zone 1 mitigate the adverse financial, social and health effects on individuals from the implementation of Policies AQL14, AQL15, AQL16 and AQL17 by facilitating mechanisms so that clean heating (including flued gas, electricity and diesel) and improved insulation are available to all households, especially low income households.

Explanation and principal reasons

There is an underlying concern that the existing problem of poor and inadequate heating of some households would be aggravated by the implementation of the Proposed NRRP. Problems of ill health or even death from hypothermia may increase. This is because some households, particularly low-income households, may cease heating their homes at all. Others, such as tenants in private rented accommodation may also have limited options if landlords fail to replace existing highly polluting heating sources with approved heating.

When open fires and enclosed burners are progressively phased out, some households will be unable to meet the costs of replacement. Also continuing running costs for some households may be higher than they are at present, especially if they have sources of cheap or free firewood or coal.

It is considered that assistance to those that can't afford to change is inextricably linked to any implementation of measures to prohibit open fires and older style small scale fuel burning devices.

It is in the interest of the entire Christchurch community that a change to cleaner heating is facilitated. Without incentives to change, the period over which the community will continue to breathe poor quality ambient air will be prolonged.

Methods

The methods used or to be used to implement Policy AQL18 are:

Method AQL18(a) Financial incentives and assistance

Environment Canterbury will implement a 'clean air and energy efficiency' financial incentives and assistance programme into:

- (i) subsidise the costs of replacing older style enclosed burners; and
- (ii) subsidise the costs of home energy efficiency improvements; and
- (iii) provide targeted support to lower income households to enable them to replace older-style enclosed burners.

Method AQL18(b) Regional Energy Strategy

The Regional Energy Strategy is one of the primary methods identified in the RPS for giving effect to the energy outcomes sought by Environment Canterbury. The Regional Energy Strategy outlines regional options for "*moving to a more sustainable regional energy system*". The Regional Energy Strategy focuses on domestic heating as one of its core activities. It will promote "clean heating" and energy efficiency. As part of the Regional Energy Strategy, Environment Canterbury will:

- (i) advocate to the Energy Efficiency and Conservation Authority for the adoption of "best practice" insulation standards for dwellings to reduce the amount of contaminants discharged in the process of heating dwellings as a result of increased energy efficiency bringing lower heating demands;
- (ii) work with the Energy Efficiency and Conservation Authority, Community Energy Action, the Christchurch City Council and other interested groups and in particular those community groups who may not have an understanding of energy efficiency and energy conservation methods in the promotion of measures designed to minimise the need for heating and reduce the cost of heating through the adoption of energy efficiency measures and the selection of appropriate home heating methods;
- (iii) provide information about:
 - (1) choices of heating and heat conservation methods, and
 - (2) energy efficiency options; and
 - (3) incentives available to the public to change to cleaner, more efficient methods of home heating and fuel use.
- (iv) actively inform and involve community groups in recruiting households to meet the requirements of Chapter 3. These groups will include those providing community welfare assistance and others such as Refugee Resettlement Support, The Pacific Trust Canterbury, Budget Advisory Service, the Waltham Community Centre, the Phillipstown Community Centre, Rowley Resource Centre, Delta Community Support Trust, Welfare advocates, the Methodist Mission, St Vincent de Paul, Nga Maata Whaka, He Oranga Pounamu, Hauroa Matauroha, the Maori Women's Welfare League, Ngāi Tahu Development Corporation, Nga Hau E Wha and others."

Cross Ref:
Policies AQL2,
AQL9 &

Policy AQL19 Prevent significant increases in PM₁₀ emissions from large scale fuel burning devices in the Christchurch Clean Air Zones 1 and 2

In the Christchurch Clean Air Zones 1 and 2 prevent significant increases in emissions of PM₁₀, and minimise the adverse effects on the environment, from the discharge of contaminants to air from the combustion of fuel in large scale fuel burning devices.

Explanation and principal reasons

Policies AQL14 to AQL18 seek to reduce emissions from the domestic sector, associated with burning solid fuel on small scale fuel burning devices in Christchurch. To achieve reductions in ambient PM₁₀ concentrations it is important that the industrial sector does not significantly increase its emissions and compromise the gains achieved by reducing emissions from the domestic sector.

Policy AQL19 recognises that emissions from large scale fuel burning devices can be improved and reduced through the adoption of more stringent operating standards and greater improvements in efficiency of fuel use. Although at present total industrial emissions represent only 7% of PM₁₀ concentrations in Christchurch ambient air, total PM₁₀ emissions from this source are projected to increase as industrial growth occurs. Thus, improvements by significant industrial dischargers of PM₁₀ are still required for the long term, to meet and maintain the ambient air quality target for PM₁₀ (50 µg/m³ 24 hour average).

Implementation of Policy AQL19 will require large-scale fuel-burning devices to meet emission standards and limitations, which are more stringent than limits now in place for many existing resource consent holders in this category. These rules rely upon improved operation and increased efficiency of fuel use and, in some cases, the selection of alternative fuels or installation of emission control equipment. Taken together, these measures will markedly reduce existing particulate emission loads from these sources, and help prevent the projected increase in PM₁₀ emissions, if such measures were not imposed.

Methods

The methods used or to be used to implement Policy AQL19 are:

Method AQL19(a) Information and promotion

Environment Canterbury will produce and disseminate information and educational material and co-ordinate as appropriate with territorial authorities and other agencies to:

- (i) improve energy efficiency of combustion processes of large scale fuel burning devices; and
- (ii) encourage use of alternatives to carbon-based fuels.

Method AQL19(b) Regional rules

Environment Canterbury will apply Regional Rules AQL12 to AQL21 in Section 3.3, to control emissions from large scale fuel burning equipment in the Christchurch Clean Air Zones 1 and 2.

Method AQL19(c) Resource consents

Resource consents may be granted for the discharge to air from large-scale fuel burning devices in the Christchurch Clean Air Zones 1 and 2. These may involve discharges into air, which are specified as limited discretionary or discretionary activities.

Regional Rules AQL16, AQL17, AQL18 and AQL19 shall affect, under section 130 of the RMA, the exercise of existing resource consents for discharges of contaminants. When these rules

become operative, Environment Canterbury may serve notice, under Section 128 of the RMA, on the holders of all such resource consents of its intention to review the conditions of their resource consent, where in Environment Canterbury's opinion, it is appropriate to do so in order to enable the standards and terms set by the rule to be met. The holders of resource consents shall comply with the standards and terms of Regional Rules AQL16, AQL17, AQL18 and AQL19 from the date at which the new conditions on their resource consent commences under section 116 of the RMA.

Method AQL19(d) Compliance and enforcement

Environment Canterbury may apply for enforcement orders, issue abatement notices and use other enforcement mechanisms in Part XII of the RMA, where there is a discharge of contaminants to air from large-scale solid fuel burning equipment in the Christchurch Clean Air Zones that are causing adverse effects. Such effects may arise out of a breach of the rules set out in the ~~Proposed~~ NRRP, or a breach of resource consent conditions. It is appropriate for Environment Canterbury to take such enforcement action as necessary to prevent a recurrence of any discharge, or to mitigate the effects of any discharge.

Method AQL19(e) Response to complaints

Environment Canterbury will:

- (i) provide a 24-hour pollution hotline to respond to any complaints about large scale fuel burning devices in the Christchurch Clean Air Zones 1 and 2; and
- (ii) provide a database to record the details of any complaints received about large scale fuel burning devices in the Christchurch Clean Air Zones 1 and 2 and to verify, where practicable, any complaints; and
- (iii) provide a customer services line during office hours to respond to any enquiries about large scale fuel burning devices in the Christchurch Clean Air Zones 1 and 2; and
- (iv) investigate and resolve complaints regarding large scale fuel burning devices; and
- (v) undertake enforcement of the provisions of the ~~Proposed~~ NRRP where necessary.

Cross
Ref:
Policy
AQL3

Policy AQL20 Promote measures to address discharges to air from motor vehicles in the Christchurch Clean Air Zones 1 and 2

- (a) **Promote a nationally co-ordinated initiative to reduce the adverse effects of motor vehicle exhaust emissions. This initiative shall:**
 - (i) **develop national motor vehicle exhaust emission criteria; and**
 - (ii) **encourage the use of transport fuels or energy sources which minimise contaminant discharges to air; and**
 - (iii) **promote the use of vehicle technologies which minimise contaminant discharges to air; and**
 - (iv) **promote the use of efficient and well-maintained vehicles; and**
 - (v) **encourage the use of modes of transport that have low or no emissions.**
- (b) **Promote land use planning that results in land use patterns encouraging less polluting methods of transportation.**
- (c) **Promote traffic management that avoids the occurrence of ambient air quality problems associated with exhaust emissions from motor vehicles.**

Explanation and principal reasons

Policy AQL20 recognises the need for the problem of motor vehicle exhaust emissions to be addressed comprehensively and at the national level. It also recognises the need for localised problems of excessive concentrations of certain contaminants to be addressed through traffic corridor management techniques. It further recognises that land use patterns which encourage less polluting modes of transport can have a significant effect in the long term, though this will need to occur in a manner that takes into account the safe and efficient provision for motor vehicles. It recognises the need for regional advocacy to support both national and local efforts to address motor vehicle pollution.

Christchurch's most significant air pollution problem, elevated wintertime concentrations of PM₁₀, is attributable in only a small part to exhausts from motorised vehicles. Less than 3% of total concentrations of PM₁₀ are associated with the motor vehicle sector and over half of this is attributed to emissions from diesel exhausts. Smoke and fumes from diesel vehicles, and to a lesser extent, poorly maintained petrol vehicles also create nuisance conditions and adverse effects along main traffic routes. Motor vehicle exhaust emissions may contribute to daytime brown haze and reduced visibility in Christchurch. However, further investigation is required to establish the extent to which this is due to motor vehicles as opposed to other causes.

Motor vehicles are known to be responsible for elevated concentrations of carbon monoxide at street level. For example, on the relatively congested Riccarton Road, Christchurch, carbon monoxide measurements taken at street level exceeded national ambient guidelines (10 mg/m³, eight hour average) on 25 of the 79 days monitored in 1996. The one-hour guideline (30 mg/m³) was exceeded on three of the 79 days on six days during a 1993 investigation, and on four days during a 1996 investigation. The guideline was not exceeded in a 2001 investigation. The three monitoring locations were different, so direct comparisons to identify trends of carbon monoxide concentrations could not be made. While these concentrations did not extend beyond street level, carbon monoxide from motor vehicles (and domestic heating) is also a problem in ambient air as demonstrated by ongoing monitoring undertaken at the St Albans monitoring site.

Environment Canterbury will continue to advocate for national measures with the Ministry of Transport in recognition of its obligation to reduce pollution from motor vehicles in a comprehensive way and on a national scale. Environment Canterbury will encourage measures to reduce motor vehicle exhaust emissions and their impact in the urban areas of the region through the continuation of educational efforts, and through working with the road controlling authorities (i.e. Transit New Zealand and local authorities) on the key area of traffic flow management.

Closely linked to Policy AQL20 is action to be undertaken under Policy AQL3.

Methods

The methods used or to be used to implement Policy AQL20 are:

Method AQL20(a) Advocacy

Environment Canterbury will advocate to:

- (i) Ministry of Transport for implementation of the following measures to reduce motor vehicle exhaust emissions:
 - (1) more rigorous standards for imported vehicles that are "new" to the New Zealand fleet, ensuring that imports are screened for exhaust emission control technology in their country of origin; and
 - (2) review of fuel specifications; and
 - (3) traffic corridor management; and
- (ii) New Zealand Police for increased enforcement of the '10 second rule' for smoky motor vehicle exhaust emissions controlled by the New Zealand Police, through Regulation 28 of the Traffic Regulations 1976.

Method AQL20(b) Information and promotion

Environment Canterbury will:

- (i) prepare or contribute to the preparation of educational material dealing with the efficient operation of motor vehicles to minimise emissions; and
- (ii) promote cycling, walking and other alternatives to cars; and
- (iii) continue to support and encourage public passenger transport.

Method AQL20(c) Investigation

Environment Canterbury will investigate:

- (i) the contribution of motor vehicle exhaust emissions to daytime brown haze/reduced visibility in Christchurch; and
- (ii) concentrations of contaminants at street level resulting from transport emissions; and
- (iii) the relationship between land use patterns and motor vehicle exhaust emissions.

Method AQL20(d) Regional Land Transport Strategy

Environment Canterbury, in accordance with the Land Transport Act 1998, will prepare a Regional Land Transport Strategy. That document will in part address air quality issues and will:

- (i) identify the future land transport needs of the region; and
- (ii) identify the most desirable means of responding to such needs in a safe and cost effective manner, having regard to the effect the transport system is likely to have on the environment; and
- (iii) identify an appropriate role for each land transport mode in the region, including freight traffic, public passenger transport, cycling, and pedestrian traffic; and
- (iv) state the best means of achieving the matters referred to in paragraphs (ii) and (iii).

Method AQL20(e) Non-Statutory Strategies

Environment Canterbury will prepare a non-statutory strategy for the wider Christchurch area in partnership with Ashburton District Council, Banks Peninsula District Council, Christchurch City Council, Hurunui District Council, Selwyn District Council, Waimakariri District Council, the business community, other stakeholders and the public generally. This long-term strategy will address issues affecting the defined study area.

Method AQL20(f) Regional Energy Strategy

The Regional Energy Strategy is one of the primary methods identified in the RPS for giving effect to the energy outcomes sought by Environment Canterbury. The Regional Energy Strategy is to outline regional options for “*moving to a more sustainable regional energy system*”. The Regional Energy Strategy will focus on sustainable transport as one of its core activities.

Method AQL20(g) Territorial authorities

Christchurch City Council in the preparation, variation, change or review of its district plan and through the exercise of its functions shall, to the extent required by the Resource Management Act, take into account the desirability or the need to:

- (i) provide for the implementation of traffic management control measures to reduce traffic congestion; and
- (ii) support and encourage the use of low emission modes such as walking, cycling and public passenger transport and give consideration to these modes at all stages of the planning process including subdivision; and
- (iii) encourage patterns and forms of urban settlement and infrastructure that decrease production of motor vehicle exhaust emissions and decrease the demand for motorised transport; and

- (iv) develop zoning and density provisions which will encourage more public transport, cycling and walking supportive development patterns and environments; and
- (v) review parking requirements and private vehicle parking pricing in areas identified as being public transport nodes or corridors; and
- (vi) develop and utilise design guidelines that direct land use planning away from development which creates dependency upon private motor vehicles, and towards development which is supportive of public transport; and
- (vii) act in a way which is not inconsistent with ~~adopt~~ the provisions of the Canterbury Regional Land Transport Strategy.

Cross
Ref:
Policy
AQL4

Policy AQL21: Restrict discharges to air from outdoor burning in the Christchurch Clean Air Zones 1 and 2

In the Christchurch Clean Air Zones 1 and 2:

- (a) **allow the discharge to air of contaminants associated with any outdoor burning where such discharges occur between September and April inclusive and occur in accordance with Policy AQL4; and**
- (b) **restrict the discharge to air of contaminants associated with any outdoor burning where such discharges occur between May and August inclusive, except where such discharges occur from the burning of vegetative material in the following circumstances, assessed on a case-by-case basis by Environment Canterbury:**
 - (i) **where it is impracticable to remove vegetative material because of unsuitable access, and such vegetative material will result in a fire risk if not removed or will damage structures if not removed; or**
 - (ii) **where the financial implications of the alternatives to burning vegetative material are significant; or**
 - (iii) **when summer fire risk restrictions prevent burning vegetative material during March and April.**

Explanation and principal reasons

Outdoor burning, except for food cooking, has been controlled in metropolitan areas of Christchurch since September 1988 when CCC Bylaw 119A restricted burning in the outdoors except in the months of March, April, September and October. Outdoor burning has the potential to significantly elevate levels of PM₁₀ in Christchurch by up to 33% if no restrictions were in place. There is no justification for allowing it to occur during the winter.

During summer Forest and Rural Fires Act 1977 and the Christchurch City Fires Bylaw 1991 control outdoor burning. The Christchurch City Council Rural Fire Authority is the body charged with the responsibility for monitoring and managing the fire risk and fire hazard.

Policy AQL21(a) clarifies that outdoor burning in summer in the Christchurch Clean Air Zones 1 and 2 will be assessed in accordance with Policy AQL4.

Policy AQL21(b) identifies that notwithstanding Policy AQL4, burning during the winter months in the Christchurch Clean Air Zones 1 and 2 is constrained. Consideration on a case-by-case basis will only be given to extenuating circumstances associated with the disposal of vegetative material identified in Policy AQL21(a) and (b). It recognises the ready availability of cost efficient methods other than burning to dispose of vegetative material in Christchurch Clean Air Zones 1 and 2.

Methods

The methods used or to be used to implement Policy AQL21 are:

Method AQL21(a) Information and promotion

Environment Canterbury will produce information brochures and co-ordinate as appropriate with Christchurch City Council to promote:

- (i) the use of facilities to dispose of wastes that shall no longer be burned; and
- (ii) waste minimisation, including reduction, recycling and reuse of household waste and composting of garden wastes.

Method AQL21(b) Regional rules

Environment Canterbury will apply Regional Rule AQL35 to limit outdoor burning during May, June, July and August in the Christchurch Clean Air Zones 1 and 2.

Method AQL21(c) Resource consents

Resource consents may be granted for outdoor burning in the winter months in the Christchurch Clean Air Zones 1 and 2. Primary regard will be had for the matters in Policy AQL21(b)(i) to (iii).

Method AQL21(d) Compliance and enforcement

Environment Canterbury may apply for enforcement orders, issue abatement notices and use other enforcement mechanisms in Part XII of the RMA, where there is a discharge of contaminants to air from outdoor burning in the Christchurch Clean Air Zones that are causing adverse effects. Such effects may arise out of a breach of the rules set out in the ~~Proposed~~ NRRP, or a breach of resource consent conditions. It is appropriate for Environment Canterbury to take such enforcement action as necessary to prevent a recurrence of any outdoor burning, or to mitigate the effects of any outdoor burning.

Method AQL21(e) Response to complaints and enquiries

Environment Canterbury will:

- (i) provide a 24-hour pollution hotline to respond to any complaints about outdoor burning in the Christchurch Clean Air Zones 1 and 2; and
- (ii) provide a database to record the details of any complaints received about outdoor burning in the Christchurch Clean Air Zones 1 and 2 and to verify, where practicable, any complaints; and
- (iii) provide a customer services line during office hours to respond to any enquiries about outdoor burning in the Christchurch Clean Air Zones 1 and 2; and
- (iv) in association with Christchurch City Council and other authorities that receive complaints, develop and implement a procedure to investigate and resolve complaints regarding outdoor burning and investigate any other methods to jointly address complaints about outdoor burning; and
- (v) undertake enforcement of the provisions of the ~~Proposed~~ NRRP where necessary.