A5
objectives & policies

objective
A5-1 Air quality

The maintenance, and the enhancement where it is degraded, of Nelson's ambient air quality, and the avoidance, mitigation or remediation of any adverse effects on the environment of localised discharges into air.

Reasons

A5-1.i There has been strong support for addressing air quality issues in Nelson, through submissions on the Regional Policy Statement and the Issues and Options paper that preceded it, Council's regular surveys of residents, the 2002 'Clearing the Air' discussion document, and through formal and informal complaints to the Council about various air emissions. The objective covers ambient (overall) air quality, as well as localised air quality effects. In combination with the policies that follow, it aims to see air quality improved where it is degraded, and at least maintained where air quality is currently of an acceptable or better standard. The localised effects of discharges in part may relate to the nature of the area in which the discharge is occurring. The amenity expected in industrial or rural zones, for example, is different to a main street retail area or a residential zone. Industrial and rural areas are 'working zones', where a higher level of effect is expected and tolerated. However, where an ambient standard has been imposed, it applies to all areas, unless any areas or activities have been exempted.

policy
A5-1.1 Iwi relationship with ancestral resources

The air resource should be managed in a way that recognises and provides for the relationship of tangata whenua and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga.

Explanation and Reasons

A5-1.1.i This policy reflects the requirements of the Resource Management Act in regard to matters of national importance. It acknowledges the importance of recognising Iwi values in managing the air resource. Some cultural practices such as hängï and ahi kaa need to be provided for to ensure that customary practices continue.

Methods

A5-1.1.ii Consultation on air quality issues, especially those relating to the relationship of tangata whenua with their ancestral lands, water, sites, waahi tapu and other taonga.

A5-1.1.iii Representation from tangata whenua when determining policy to address air quality issues.

A5-1.1.iv The inclusion of tangata whenua perspective in planning and policy documents relating to air quality.

A5-1.1.v Inclusion of identified tangata whenua environmental performance indicators in developing air quality monitoring networks.

A5-1.1.vi Rules that allow for the ongoing use of customary practice that would not otherwise be permitted including allowing the practice of ahi kaa in papakäinga developments.

A5-1.1.vii Protection of medicinal plants (rongoa) and other native flora and fauna from the adverse effects from trade and industrial air discharges.

policy
A5-1.2 Treaty principles and kaitiakitanga

Management of the air resource that takes into account the principles of Te Tiriti O Waitangi[1](Treaty of Waitangi) and has particular regard to kaitiakitanga.

Explanation and Reasons

A5-1.2.i The Resource Management Act requires the principles of Te Tiriti O Waitangi to be taken into account. The principles are declared by the Courts and the Waitangi Tribunal and will continue to evolve. The principles include, among others: the partnership principle, which requires that iwi and the Council interact with reason and respect; the principle of rangatiratanga (tribal self regulation) of the resources of tangata whenua; and the principle of active protection of resources of importance to tangata whenua, in accordance with tangata whenua cultural and spiritual values.

A5-1.2.ii Kaitiakitanga means the exercise of guardianship; and, in relation to a resource, includes the ethic of stewardship based on the nature of the resource itself. The role of kaitiaki is an obligation that is handed down from one generation to another. The policies of this Plan are intended to support the tangata whenua in exercising their role as kaitiaki or guardians of their resources.

[1] Maori text of Treaty of Waitangi

Methods

A5-1.2.iii Ongoing consultation between the Council and tangata whenua on air quality issues

A5-1.2.iv Consideration of kaitiakitanga and the principles of Te Tiriti O Waitangi when air discharge resource consents are considered.

policy

A5-1.3 Ambient air quality targets

a) Nelson's ambient air quality will be managed in accordance with the Ministry for the Environment Ambient Air Quality Guidelines 2002, consistent with the guideline values in Table A5-1 and the air quality categories in Table A5-2, and with the National Environmental Standards for air quality[2] (the ambient air quality standards of which are reproduced in Table A5-3), and

b) Where for any contaminant, ambient air quality is worse than the 'Alert' category in Table A5-2, it will be a priority to enhance that air quality to an 'Alert' level or better within any timeframe specified by the NES, or where no timeframe is specified, as soon as practicable and no later than 8 years after the exceedance is first reported, and

c) Where for any contaminant, ambient air quality is worse than the 'Acceptable' category in Table A5-2, air quality should be progressively enhanced to an 'Acceptable' level or better, and

d) Where for any contaminant, ambient air quality is 'Acceptable' or better, no further degradation of the existing ambient air quality that is more than minor will be allowed.

Explanation and Reasons

A5-1.3.i Under this policy Nelson's ambient air quality will be managed in accordance with national guidelines and standards set by the Ministry for the Environment. The Ministry for the Environment's Ambient Air Quality Guidelines set guideline values for a range of key air contaminants. These are set out in Table A5-1, and are the minimum requirements that outdoor air quality should be in order to protect human health and the environment. A number of the MfE guidelines have been implemented as mandatory standards in the form of National Environmental Standards, which are regulations under the Resource Management Act. The guidelines and standards are concerned with the cumulative impacts of discharges into air from human activities and natural processes. These values will be used to promote or maintain good ambient air quality for the region through the detailed methods provided in A5-1.3.v to A5-1.3.x.

A5-1.3.ii These guideline and standard values are **not** to be used as 'pollute up to' levels in the region. The main reason for this is that if pollution approaches the guideline or standard value then air quality is comparatively poor and represents a risk to health and the environment.

[2] as defined in A2-59A. Abbreviated to NES.

A5-1.3.iii The Air Quality Categories in Table A5-2 were developed by the Ministry for the Environment as a framework to guide management responses to ambient air of differing qualities in order to prevent adverse environmental effects. The Ministry's 2002 Guidelines state that in general the top of the 'acceptable' category range (66% of the guideline level) is appropriate to maintain and protect air quality in most areas of New Zealand. Air quality at levels above 66% of the Guideline can be considered under the Guidelines as 'degraded', where it is necessary to consider action to maintain or reduce air emissions into an airshed. This Plan adopts this approach. The Air Quality Categories are also useful to apply to monitoring data as they provide an early warning that pollution levels may be increasing. It is acknowledged that these guideline values and air quality categories may change over time and Nelson City Council will review these values and alert levels as necessary.

A5-1.3.iv It should be noted that these guideline and standard values are **ambient** guideline values. The Ministry for the Environment's Ambient Air Quality Guidelines 2002 state that *'the ambient values are not designed to be used to assess the environmental and health impacts of individual discharges to air'.* Specific guidance and evaluation criteria for assessing air discharges and dispersion modelling ought to be consulted for this (see www.mfe.govt.nz).

Methods

A5-1.3.v Rules to regulate and manage discharges to air.

A5-1.3.vi Rules to prohibit certain discharges.

A5-1.3.vii Require modelling of discharges and likely effects on ambient concentrations, where necessary for resource consent applications.

A5-1.3.viii Monitoring of ambient levels of contaminants to measure compliance with the policy (taking account of year-to-year weather variability).

A5-1.3.ix Use of non-regulatory methods, including advocacy, education, assistance and incentives where appropriate as a supplement or alternative to regulatory measures.

A5-1.3.x Review of the Air Plan as needed to reflect changes in national guidelines and standards, and best practice, or where ambient monitoring shows a need for changed provisions.

A5-1.3.xi Methods under A5-1.4 to manage emissions from domestic fires, outdoor burning, transport, and industrial and trade sources, insofar as they are appropriate to apply to discharges other than PM_{10} (see also methods under A5-1.9).

Table A5-1: Ambient Air Quality Guidelines

Ministry for the Environment, May 2002

Contaminant	Guideline Value	
	Value	Averaging time
Carbon monoxide (CO)	30 mg/m^3 10 mg/m^3	1-hour 8-hour
Fine Particle (PM_{10})	50 μg/m^3 20 μg/m^3	24-hour Annual
Nitrogen dioxide (NO_2)	200 μg/m^3 100 μg/m^3	1-hour 24-hour
Sulphur dioxide (SO_2) [2]	350 μg/m^3 120 μg/m^3	1-hour 24-hour
Ozone (O_3)	150 μg/m^3 100 μg/m^3	1-hour 8-hour
Hydrogen sulphide	7 μg/m^3	1 hour
Lead (Pb)[3]	0.2 μg/m^3	3 month moving average, calculated monthly
Benzene (year 2000)	10μg/m^3	Annual
Benzene (year 2010)	3.6μg/m^3	Annual
1,3-Butadiene	2.4μg/m^3	Annual
Formaldehyde	100μg/m^3	30 minutes
Acetaldehyde	30μg/m^3	Annual
Benzo(a)pyrene	0.0003μg/m^3	Annual
Mercury (inorganic) [3]	0.33μg/m^3	Annual
Mercury (organic)	0.13μg/m^3	Annual
Chromium VI [3]	0.0011μg/m^3	Annual
Chromium (other forms)	0.11μg/m^3	Annual
Arsenic (inorganic) [3]	0.0055μg/m^3	Annual
Arsine	0.055μg/m^3	Annual

Notes to Table A5-1:

1. All values apply to the gas measured at standard conditions of temperature (0ºC) and pressure (1 atmosphere).
2. The sulphur dioxide guideline values do not apply to sulphuric acid mist.
3. The guideline values for metals are for inhalation exposure only; they do not include exposure from other routes such as ingestion. These other routes should be considered in assessments where appropriate.

Table A5-2: Air Quality Categories

(Based on Ministry for the Environment Ambient Air Quality Guidelines, May 2002).

Category	Measured Value	Comment
Action	Exceeds the guideline/standard value.	Exceedances of the guideline/standard are a cause for concern and warrant action if they occur on a regular basis.
Alert	Between 66% and 100% of guideline/standard value.	This is a warning level, which can lead to exceedances if trends are not curbed.
Acceptable	Between 33% and 66% of guideline/standard value.	This is a broad category, where maximum values might be of concern in some sensitive locations, but generally at a level not requiring urgent action.
Good	Between 10% and 33% of guideline/standard value.	Peak measurements in this range are unlikely to affect air quality.
Excellent[a]	Less than 10% of guideline/standard value.	Of little concern: If maximum values are less than a 10th of the guideline/standard, average values are likely to be much less.

[a] The 'excellent' category should not be applied to PM_{10} because the level of detection of most monitoring methods is not accurate enough.

Table A5-3 Ambient Air Quality Standards

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

Contaminant	Threshold Concentration	Permissible Excess
Carbon monoxide	10 mg/m^3 expressed as a running 8-hour mean	One 8-hour period in a 12-month period
Nitrogen dioxide	200 µg/m^3 expressed as a 1-hour mean	9 hours in a 12-month period
Ozone	150 µg/m^3 expressed as a 1-hour mean	Not to be exceeded at any time
PM_{10}	50 µg/m^3 expressed as a 24-hour mean	One 24-hour period in a 12-month period
Sulphur dioxide	350 µg/m^3 expressed as a 1-hour mean	9 hours in a 12-month period
	570 µg/m^3 expressed as a 1-hour mean	Not to be exceeded at any time

objectives and policies

policy

A5-1.4 Fine particle pollution

a) A mid-term target for ambient PM_{10} levels will be, at a minimum, compliance with the Ministry for the Environment 'Alert' Air Quality Category (relative to the guidelines and standards in Policy A5-1.3) by:

For Airshed A:

i) 1 September 2016 with not more than 3 exceedances in a 12 month period of the 24-hour mean NES [3] up to and including 31 August 2020, and

ii) 1 September 2020 onwards, not more than 1 exceedance in a 12 month period,

3 as defined in A2-59A.

For Airshed B:

1 September 2016 onwards, with not more than 1 exceedance in a 12 month period,

or sooner if practicable, towards ultimate compliance or better with the 'Acceptable' air quality category as in Policy A5-1.3 by 2025.

Airshed C is expected to maintain its current compliance, subject to Policy A5 - 1.3 d).

b) Discharges to air from all sectors producing fine suspended particles (domestic, transport, industrial or trade) shall be managed to support the achievement of these ambient targets, and the implementation of Policy A5-1.3.

c) In order to achieve the mid-term target in (a), the following reductions in PM_{10} emissions (relative to 2001 levels) are required across the Urban Area:

i. At least 70% from domestic heating, and

ii. At least 98% from outdoor burning, and

iii. At least 10% from industrial and trade sources (in aggregate), except in any area with a high concentration of industrial and trade discharges where higher percentage reductions may be required to achieve the target, and

iv. A reduction in emissions from the transport sector.

d) Greater or lesser reductions may be required in certain parts of the city to achieve the mid-term target, while recognising the potential contribution of contaminants from one airshed to another (interconnectedness of many airsheds), and also the reductions required to meet the longer term target of compliance or better with the 'Acceptable' air quality category.

Explanation and Reasons

A5-1.4.i Fine particle pollution (PM_{10}) is the only air contaminant measured to date that regularly breaches the guideline/standard values established in Policy A5-1.3. Winter pollution highs measured at the St Vincent Street monitoring site reach levels more than three times the national standard of 50µg/m^3. Daily values of PM_{10} when averaged over the entire year also exceed the annual guideline level in Table A5-1. Monitoring at Victory School, Tahunanui and Stoke indicates PM_{10} daily peaks in the order of 87%, 83% and 67% of the St Vincent Street site, and regular wintertime exceedances of the PM_{10} guideline level[4] [5].

[4] See 'Clearing the Air – a strategy for change. Discussion document on reducing particle air pollution in urban Nelson', Nelson City Council, November 2002.

[5] 'Nelson State of the Environment Report, Air and Noise,', Nelson City Council, 2001.

A5-1.4.ii The known high levels of PM_{10} mean that a special policy focus is required for PM_{10}, and that a staged, more achievable target is needed as a stepping-stone to reducing both daily and annual levels so that they comply with Policy A5-1.3. The policy requires action from all sectors to help achieve these targets. Note that with industrial emissions, the percentage reduction contemplated in the policy is an aggregate for all industrial discharges in the city (or airshed), rather than individual sources. In calculating the percentage reduction needed from each source consideration will need to be given to a range of factors (including Policy A5-1.4A), but particular regard needs to be had to the quality of the existing discharge and operation so that dischargers who have made improvements since the Air Plan was notified are recognised.

A5-1.4.iii The $PM_{2.5}$ sub-fraction of PM_{10} (fine particles less than one quarter the diameter of PM_{10} particles) is of growing concern in terms of its health effects. Research in urban Nelson indicates that over three quarters of the PM_{10} may be in the finer $PM_{2.5}$ size fraction[6], although there are indications that the proportion of $PM_{2.5}$ may rise through winter when domestic wood fire use peaks[1]. Domestic wood fires are a major source of $PM_{2.5}$, and as much as 96% of the PM_{10} measured from domestic home heating is the smaller $PM_{2.5}$. The policies and methods set out in this Plan to reduce discharges of PM_{10} will also reduce ambient $PM_{2.5}$.

A5-1.4.iv The last part of the policy recognises that air contaminants can flow from one area to another. For example, from hill areas to valleys or flats by means of downhill drainage (katabatic winds), or from one part of the city to another. It also recognises that the density and nature of discharges will vary, for example between older and newer housing areas, between residential and industrial areas, and depending on the meteorology and geography of an area. This means that greater or lesser reductions in PM_{10} may be required in some locations.

A5-1.4.v See also Policy A5-1.7 (Adverse effects - discharge of contaminants).

policy

A5-1.4A Existing large-scale fuel burning activities

In airsheds that breach the National Environmental Standard for Air Quality for fine particles (PM_{10}), when considering resource consent applications for existing discharges to air from large-scale fuel burning appliances, particular regard will be had to the social and economic benefits of allowing the activity to continue and the level of existing investment in it, provided that granting consent:

i. is consistent with the NES, and

ii. improvements to the discharge (or as set out in Policy A5-1.4B)) will occur which support achievement of the NES and air plan targets.

[6] 'Nelson Emissions Inventory', E Wilton and J Simpson, Nelson City Council, October 2001

Explanation and Reasons

A5-1.4A.i Under the Air Plan rules, the vast majority of the existing sites discharging PM_{10} will require discretionary resource consent to continue operating. Applications for discretionary activities can be turned down where there are breaches of the air quality standards. This creates considerable uncertainty for existing activities, particularly where there are significant employment and economic implications.

A5-1.4Aii 'Existing discharges' includes those which operated on "existing use rights" (section 20A of the Resource Management Act 1991) before this Plan became operative, as well as those activities with existing resource consents. This policy acknowledges the new regulatory regime creates uncertainty for existing dischargers. The policy attempts to provide greater certainty for existing discharges while ensuring the targets set down in the National Environmental Standard for Air Quality and in the Air Plan are achieved. However the NES, as gazetted September 2004, constrains the granting or renewal of any discharge consents beyond 2013 if air quality still breaches the NES.

policy

A5-1.4B PM_{10} offsets

a) In considering authorisations involving new discharges of PM_{10} into airsheds that breach, or are close to breaching, the National Environmental Standard for Air Quality for fine particles (PM_{10}), regard will be had to any legally-binding arrangements (offsets) the applicant or proponent has in place with existing dischargers in the same airshed to reduce the net discharges of PM_{10}.

In doing so, regard will be had to:

- ***i the relative physical and chemical composition of the 'offset' and proposed new discharge, and***
- ***ii the timing of the respective discharges, and***
- ***iii the location of the offset relative to the new discharge, and***
- ***iv the likelihood of the claimed benefits from the offset arising, and***
- ***v the legal enforceability of the proposal, and***
- ***vi the requirements of the NES, and***
- ***vii the effect of the proposal on the rate of air quality improvement needed to achieve the NES and the Air Plan targets.***

b) While the above model was developed for PM_{10}, a similar approach, as appropriate, will be applied to the discharge to air of other contaminants into airsheds that breach or are close to breaching the National Environmental Standard for Air Quality for that contaminant.

Explanation and Reasons

A5-1.4B.i In airsheds that exceed the National Environmental Standards for Air Quality, or which would exceed the NES if a new discharge were added, the NES constrains the granting of discharge consents. One way for new discharges potentially to be allowed, or for existing discharges to increase in size, is by means of 'offsets'. An 'offset' requires the would-be new discharger to gain the agreement of existing dischargers within the same airshed to reduce their discharge(s) in order to 'make room' for the new or expanded discharge. There needs to be a net improvement in air quality, however, so that the trend-line continues downwards towards the NES and air plan targets.

A5-1.4Bii For offsets to be acceptable the approach needs to be consistent with the NES, and contribute towards achievement of the NES and air plan targets. The consideration of such offsets can be complicated. Care needs to taken to ensure offset arrangements do not inadvertently hinder the achievement of the statutory targets e.g. by 'capturing' air quality improvements that already are occurring, such as through public air quality improvement programmes. Care needs to be taken to avoid double counting potential air quality benefits. The applicant therefore needs to demonstrate that the benefits will in fact be real.

A5-1.4Biii Another key issue is whether the composition of the contaminants being removed is similar to that replacing it; are they of a similar size, type and chemical composition? Also, is there a relationship between the location of the contaminant being taken out and the area affected by the new discharge? What about the timing? Will the offsets benefits occur before the effects of the new discharges start? Do the benefits and the new adverse effects match in the time of day, or of week or of the year?

A5-1.4Biv Only when the outcome of the above considerations is favourable should the 'offset' provisions be used.

A5-1.4Bv The policy also provides that a similar approach be adopted for other contaminants that are subject to the NES, once a track record in successfully using offsets has been developed for PM_{10}. This phased approach has been adopted because the use of offsets is not necessarily straight forward, and a level of knowledge and skill in their implementation needs to be developed.

Note: The NES should be consulted in relation to all 'offsets' as in some situations the NES may restrict their use.

Methods (Domestic)

A5-1.4.vi Rules to prohibit the use of existing open fires within the Urban Area after 1 January 2008 ('Urban Area' is defined in Chapter A2).

A5-1.4.vii Rules, effective from the notification of this Plan, to allow the use of new solid fuel appliances in the Urban Area only where they meet certain defined standards in

relation to the emission of fine particles, and of thermal efficiency.

A5-1.4.viii Rules, effective from the notification of this Plan, to regulate the allowable fuels, the moisture content of wood, and to prohibit the burning of certain fuels and substances, and to regulate the production of 'offensive and objectionable' smoke and odour from any appliance.

A5-1.4.ix Rules, effective from the notification of this Plan, to prohibit within the Urban Area use of solid-fuel enclosed appliances and open fires in any new house or building, or in any house or building not having a solid-fuel fire prior to the notification of this Plan.

A5-1.4ixA Operate a complaints and an enforcement policy with respect to fires that produce excessive smoke, or emissions that are offensive or objectionable.

A5-1.4.x In Council community housing, remove open fires, replace with suitable energy efficient heating appliances, and ensure adequate insulation and energy conservation measures are in place, and advocate to Housing Corporation of NZ to do the same in its rental units.

A5-1.4.xi Provide full financial assistance to low-income house owners and those with high needs, and partial assistance to landlords with low-income tenants, to help with the transition required by the phase-out of open fires, including for replacement appliances and improved insulation of houses.

A5-1.4.xiA Promote and investigate with Central Government a financial assistance and/or incentive scheme to accelerate the replacement of enclosed solid fuel burners installed in owner-occupied and rental housing prior to the notification of this Plan. The scheme should address both the replacement of burners, and insulation and other measures to improve the energy efficiency of the houses.

A5-1.4xiB Advocate to Central Government the adoption of an energy efficiency rating system for houses.

A5-1.4.xii Investigate bulk discounts for insulation upgrades and replacement heaters to be available for other groups not eligible for direct financial assistance, including the rental-housing sector.

A5-1.4.xiii Provide information to the public on:

a) The air quality problem and what the public can do to assist.

b) Cleaner home heating alternatives.

c) Energy efficiency and conservation measures for older and new homes, subdivision layout and design to reduce heating requirements.

d) The correct sizing of solid fuel appliances to suit the house, the correct operation of fires and burners, including the importance of dry wood.

e) The correct time to purchase wood, and how it should be stored so as to be suitably dry for use in domestic fires.

f) Keeping vegetation trimmed to allow sunlight access to homes.

A5-1.4.xiv Accelerate the rate of improvement in air quality where possible, ahead of that otherwise projected, by:

a) The timing of the availability of the financial assistance scheme in A5-1.4.xi, and programmes in Council's own rental housing, to bring about earlier phase-out of open fire use.

b) Use of the information campaign in A5-1.4.xiii, and use of any bulk concessions secured under A5-1.4.xii, to encourage earlier replacement of open fires and older solid fuel appliances, and to encourage greater uptake of non-solid fuel appliances (where appropriate to people's circumstances), as well as greater uptake of housing insulation.

A5-1.4.xv Work with wood merchants to adopt a voluntary 'code of conduct' on wood dryness prior to sale.

A5-1.4.xvi Checking of appliances for sale to ensure models comply with the emission and other standards, and match the 'as tested' model.

A5-1.4.xvii On-the-ground compliance monitoring of domestic heating emissions, with provision of advice and information initially, followed by enforcement action where necessary (enforcement orders, abatement notices or infringement fees).

A5-1.4.xviii Advocacy to central government to increase the minimum required standard of insulation required by the Building Code.

A5-1.4.xviiiA Consider the possible use of economic instruments as a management tool to improve air quality.

A5-1.4.xviiiB Advocate for and support reliable, reasonably-priced sources of energy which have no or low PM_{10} emission for Nelson.

Methods (Outdoor Burning)

A5-1.4.xix Rules to prohibit open burning within the urban area, except by resource consent for very large sites in particular circumstances and in respect of small fires used for traditional craft purposes.

A5-1.4.xx Rules within the High Density Small Holdings Area to prohibit open burning on sites smaller than 1ha, and to regulate burning by resource consent on larger sites.

A5-1.4.xxi Subsidise home compost bins and home worm farms, provide recycling scheme for paper and cardboard, and provide a collection or mulching service for green waste for low-income households affected by the transition to the ban on outdoor burning.

A5-1.4.xxii Promote recycling, waste reduction, and composting.

A5-1.4.xxiii Work with Tasman District Council towards developing a regional composting facility.

Methods (Transport)

A5-1.4.xxiv Advocate strongly and consistently to central government, and encourage Transit NZ to do the same, regarding:

a) new emission standards on used-imported and on new vehicles,

b) emission screening of the existing vehicle fleet at time of Warrant of Fitness testing,

c) use of Nelson as a pilot for any emission screening trial, and Council assistance in such,

d) improved fuel specifications,

e) early introduction of low sulphur diesel in Nelson,

f) enforcement by Nelson Police of the '10 second smoky' rule (Traffic Regulations),

g) labelling of all vehicles at time of sale, to show the estimated fuel consumption.

A5-1.4.xxv Implementation of programmes in the Nelson Regional Transport Strategy, including:

a) use of planning tools to reduce the need to travel,

b) promoting energy efficiency (less fuel burnt) in the land transport network,

c) public awareness and information to motorists to reduce vehicle emissions,

d) investigating running NCC fleet on alternative fuels (LPG, electric, etc) and encourage other fleet operators to do the same,

e) investigation of the viability of alternative fuel public transport,

f) preparing and implementing a comprehensive public transport strategy (including addressing barriers to use, marketing and promotion),

g) implementing the adopted Nelson City Cycling Strategy,

h) preparing and implementing a comprehensive pedestrian strategy (promote walking, improve links and safety etc),

i) increasing vehicle occupancy rates e.g. promoting car-pooling,

j) require as a condition of contract that all contractors working for the Council operate well-maintained, properly tuned vehicles that do not emit excessive smoke.

Methods (Industrial and Trade)

A5-1.4.xxvi Rules to allow discharges from small-scale or relatively 'clean' combustion processes subject to complying with certain conditions.

A5-1.4.xxvii Rules requiring all other existing or new combustion processes to obtain a resource consent.

A5-1.4.xxviii Rules regulating other activities that generate fine particles, including setting standards for discharges.

A5-1.4.xxix Advocacy with central government to assist in reducing emissions from state institutions such as schools, tertiary institutes and hospitals.

A5-1.4.xxx Work with industry groups, industries and other large emitters to develop and achieve emission reduction targets.

A5-1.4.xxxi Use of resource consent process to achieve appropriate emission reductions from trade and industrial dischargers.

A5-1.4.xxxii Provide to resource consent applicants air quality and meteorological data on airsheds within Nelson, and also provide free of charge a calibrated set of meteorological data for use in dispersion modelling.

A5-1.4.xxxiii Develop and provide for resource consent applications, involving large-scale fuel burning appliances, an information guide detailing the Plan and other regulatory requirements. The information guide will also indicate the amount of information and level of detail that is expected to accompany consent applications.

A5-1.4.xxxiv Consider the possible use of economic instruments as a management tool to improve air quality.

policy

A5-1.5 Solid fuel fire numbers (small-scale solid fuel appliances and open fires)

a) In order to achieve the targets in Policy A5-1.4, no increase in the total number of solid fuel fires (as at the date of notification of this Plan) should occur within the Urban Area, and in the worst polluted airsheds, reductions by up to 30% should occur (excluding low emission pellet burners).

b) These numbers will be reviewed if new generation solid fuel burners become commercially available which can be shown in actual operation to be consistently and significantly below an emission level of 1.5g of PM_{10} emissions per kilogram of fuel burnt.

c) As part of the review, regard will be had to:

i. the expected emissions from the new burners when operated under real life conditions, and

ii. the progress the City is making towards the air quality targets in Policy A5-1.4, and

iii. any new national air quality guidelines or standards released or in preparation, and

iv. whether an increase in burner numbers would still allow the achievement of current or likely future air quality targets.

Explanation and Reasons

A5-1.5.i Computer modelling indicates that the Nelson Urban Area (defined in Chapter A2) cannot accommodate the approximately 8000 solid fuel fires that existed in 2001. In order to be confident of achieving both the 'straight line path' and the 2013 targets set in the National Environmental Standards, solid fuel fire numbers will have to reduce in the worst affected areas by 30% (and to provide greater confidence, by as much as 50%). This means that while 50% to 70% of existing fires can be replaced with low emission burners meeting an emission standard of 1.5g of fine particles per kilogram of wood burnt, the remainder will need to be encouraged to switch to other cleaner heating options such as electric heat pumps, flued gas, diesel-fired heaters or certain cleaner pellet burners. This will need to occur as a result of a mix of education, normal market preferences, and use of incentives. Experience with Nelson's 'Clean Heat-Warm Homes' scheme and Environment Canterbury's 'Clean Heat' programme, shows that many people choose to opt out of solid fuel. When a free replacement heater is offered, as many as 70-80% will choose electric heat pumps or flued gas. When a partial subsidy is offered, the number choosing to stay with solid fuel is higher, but there still is a substantial movement towards cleaner options.

A5-1.5.ii Once the stock of open fires and enclosed appliances that existed at the time of Plan notification is replaced by low emission solid fuel burners or 'clean heat' options, the reductions in emissions level off. Beyond that point, if the total number of new burners, even low emission ones, were allowed to increase beyond replacement levels,

air quality would gradually worsen again. This is because each extra new burner adds a small but significant amount of additional PM_{10} to the air. It is for this reason that the first part of the policy aims to limit total solid-fuel fire numbers to those existing at the time of plan notification. Modelling indicates, however, that the lowest-emitting pellet burners could be allowed into new homes or those existing homes without a current solid fuel fire, without having a significant effect on ambient air quality. The total number of such fires being installed will have to be monitored, however, to ensure that the cumulative effect of these new installations does not begin to impact on air quality. If it were to do so, the rules in the Air Plan may need to be reviewed.

A5-1.5.iii In terms of other types of burners, it is recognised that the technology of solid fuel appliances is also developing rapidly. There are a number of appliances commercially available that when tested under the Australia/New Zealand Standard (AS/NZS) show emissions that are well under the 1.5g/kg mandated in this Plan. The AS/NZS methodology tests emissions under reasonably ideal conditions. The tests for some or all kinds of appliances may not always reflect the actual level of emissions from such appliances when they are used in real life. This difference between the AS/NZS test results, and 'real life' emissions was allowed for in the computer modelling used to develop this Air Quality Plan.

A5-1.5.iv Parts b) and c) of this policy recognise that if the latest or new generation burner technology can be demonstrated to produce consistently low emissions, even when used under 'real life' conditions, then the limitation on total burner numbers within urban Nelson could potentially be relaxed. The onus should be on the appliance manufacturers or importers to provide independent and reliable information to allow the Council and the community to make that judgement. In considering whether to relax the 'cap' on burner numbers, the Council would have to have regard to how well air quality was tracking towards the air quality targets, how reliable the test information is, and other factors including any new national air standards or guidelines.

Methods

A5-1.5.v Use of rules to control the replacement of fires and burners existing prior to Plan notification, and rules to prohibit the use of fires or burners in new houses, or houses that did not use solid fuel at the time the Plan was notified.

A5-1.5.vi Use of rules to set standards for pellet burners installed in new houses, or houses that did not use solid fuel at the time the Plan was notified.

A5-1.5.vii Education, and use of the financial incentive schemes as noted under A5-1.4.xiv to encourage greater uptake of non-solid fuel options when fires are replaced.

A5-1.5.viii Use of plan change procedures when required, having regard to the above criteria, and at the cost to the applicant for any private plan changes.

policy

A5-1.6 Open fires and small-scale solid fuel burning appliances – resource consents

Having regard to any cumulative effects on achieving the ambient air quality target, and the public's confidence in the integrity and consistency of the administration of the Plan, allow by resource consent very limited departure from the rules in the following circumstances:

a) burner emission and thermal efficiency standards for solid-fuel burners, provided equivalent or better emission levels relative to the standards in the Plan can be shown (taking account of both emissions and thermal efficiency), and

b) stack specifications for solid-fuel burners, provided the adverse effects of the stack and discharge can be adequately avoided, remedied or mitigated, and

c) use of open fires in significant heritage buildings used by the public, where the interior of the building has heritage significance and the open fire is integral to this, and

d) the replacement of open fires and burners that were not lawfully approved at the time the Plan was notified, provided that it can be demonstrated to the satisfaction of the Council that the fire or burner was actually installed prior to Plan notification, and at that date was operable.

e) the ongoing use of certain enclosed burners beyond the compulsory phase-out date if the burner is expressly designed and used for cooking or central heating, is thermally efficient, produces low PM_{10} emissions, and its continued use is integral to the functioning and comfort of the house.

Explanation and Reasons

A5-1.6.i The rules that implement the PM_{10} reduction policies are restrictive in terms of the emissions standards for new solid fuel burning devices, their testing and installation. It may be necessary in some circumstances to depart from these standards, for example in relation to a practicable chimney height and location, and this policy provides guidance for when this may be appropriate. While the emission-testing regime is mandated in the Plan, there may from time-to-time be alternative testing procedures that the Council may wish to recognise, if they can be shown to deliver equivalent or better outcomes. This may relate to a recognised overseas testing protocol, or perhaps to allow the flexibility to depart in some minor way from the AS/NZS standard in Appendix AQ2, provided the environmental outcomes sought be the Plan are not compromised.

A5-1.6.ii Open fires and some enclosed burners can be significant features in certain heritage buildings. The ongoing use of open fires beyond the 2008 phase-out date or, where applicable, the enclosed burner phase-out date, can be allowed in some heritage buildings by resource consent. This is limited to 'significant' heritage buildings. The

policy states that for all the exemptions there should be *"very limited departure from the rules"*. As well as being on both the Group A heritage list and the Historic Places Trust register, the building needs to be used by the public, and the open fire or burner and its continued use (since there is no requirement in this Plan to remove unused fires), needs to be integral to the heritage character of the building. In addition, the limited departure may relate only to use of the open fire or burner on a certain number of occasions, or under certain restrictions. This provision is not seen as providing a general exemption for any private heritage home on the Council's Group A list and the HPT register. A large number of exemptions from the rules could undermine the achievement of the air quality targets, and create potential inequities between owners of heritage and non-heritage buildings.

A5-1.6.iii The limit on any growth in the total numbers of solid-fuel fires in Policy A5-1.5 is achieved through a 'grandparenting' provision. This means that if a property had a 'lawfully approved' (see definition, Chapter A2) and operable open fire or other small-scale solid fuel burning appliance at the time of notification of this Plan, then there is an ongoing right to replace that fire or burner, provided the replacement meets the emission standards and other relevant rules in this Plan. For most enclosed burners 'lawfully approved' will generally mean that there is a building consent or permit for the installation, and this will clearly establish whether the appliance existed at the time of notification of the Plan (or was in the process of being approved or installed). Some appliances may not have a building consent, but there may be reliable evidence that the appliance existed in the property in question prior to plan notification e.g. a reliable building inspection or pre-purchase report. This policy provides guidance for granting of any exemption by resource consent in cases where the normal 'grandparenting' requirement is not met. Again the policy provides for limited departure from the rule, and at the Council's discretion, guided by the policy.

Method

A5-1.6.iv Consideration of special cases by resource consent.

policy
A5-1.7 Adverse effects - discharge of contaminants

Discharges of contaminants to air should avoid, remedy or mitigate any adverse effects beyond the site of the discharge, having particular regard to:

a) Impacts on ground level concentrations and ambient air quality, and on surrounding activities, and

b) Adverse effects on human health, and

c) Adverse effects on cultural and amenity values, and

d) Adverse visual effects, and impacts on visibility, and

e) Impacts on water quality, and on other natural resources including ecosystems, and

f) The production of objectionable, noxious or offensive odour, dust, particles or other effects, and

g) Adverse abrasive or corrosive effects, and

h) The actual or potential cumulative effects of the discharge in combination with other discharges, and

i) Any likely effect on the environment of not allowing the discharge, and

j) The sensitivity of the receiving environment (including reverse sensitivity).

Explanation and Reasons

A5-1.7.i As with Policy A5-1.3, this policy relates to all contaminants discharged to air. It also includes PM_{10}, notwithstanding the above policies specific to that contaminant.

A5-1.7.ii While Policy A5-1.3 relates to primarily ambient (overall) air quality, this policy addresses mainly localised effects of discharges. The split between ambient and local, however, is not absolute. What is a localised effect and what is an effect on the overall air quality can be a continuum. Clause i) of the policy requires consideration of the broader environmental effects that might result if a discharge to air were not to be allowed e.g. whether there might instead be effects on water or land. Clause j) relates to the nature of the receiving environment e.g. if there are sensitive receptors nearby; or alternatively if the receiving environment is more tolerant of the proposed discharge (this might be the case in a rural area where appropriately managed air discharges may be part of normal land management practices, and where urban levels of amenity cannot be expected). 'Reverse sensitivity' is the effect of the existence of sensitive activities on other activities in their vicinity, particularly by leading to restraints in the carrying out of those activities. This is most appropriately addressed during land-use planning processes (such as zoning and subdivision processes), but may also be relevant when assessing the effect of a discharge to air on the surrounding environment.

Methods

A5-1.7.iii Rules to permit certain discharges subject to conditions to address adverse effects.

A5-1.7.iv Rules that set general conditions for all permitted discharges relating to odour, dust, smoke, and hazardous contaminants.

A5-1.7.v Rules requiring resource consents for discharges with the potential to have adverse effects.

A5-1.7.vi Rules to prohibit certain discharges.

A5-1.7.vii Use of guidelines and codes of practice to encourage best practice, and use of these where appropriate to assess consent applications and set conditions.

A5-1.7.viii Use of relevant Ministry for the Environment guidelines, and protocols or criteria in this Plan, to aid enforcement of odour, dust and smoke rules, and resource consents.

policy
A5-1.8 Location factors

a) In considering the location, quantity and type of discharges of contaminants to air, regard should be had to meteorology (both localised and more widespread), topography and any sensitive receptors, ecosystems or activities, and

b) Land use planning decisions, including planning techniques, should have regard to the actual or potential effects of discharges to air on ambient air quality, and seek to reduce localised effects on other activities and the potential for reverse sensitivity, and

c) In considering urban form, settlement pattern, and subdivision design, regard should be had to potential impacts on ambient air quality, particularly from home heating and transport, and

d) In considering existing discharges at locations not previously regulated but now regulated by this Plan, regard should be given to the social and economic implications of any required mitigation measures, in addition to the health benefits arising from improved air quality.

Explanation and Reasons

A5-1.8.i A number of factors can influence the suitability of sites for certain discharges to air. These can include the nature of nearby activities that may be adversely affected by the discharge, prevailing winds, the topography of the area, the ability of pollutants to be dispersed, where dispersed contaminants end up, and the nature and type of the proposed discharge.

A5-1.8.ii Clause b) of the policy recognises that land use planning decisions and conditions on them, and the techniques used, can influence air quality through effects arising from the land use activity. This influence of land use planning can be through physically separating incompatible activities by use of buffer distances or zoning, or by anticipating future growth and potential conflicts and addressing this in land use planning. Other methods include declining certain land use consents with associated adverse impacts on air quality, placing appropriate conditions in consent decisions, or other techniques to avoid, remedy or mitigate any adverse effects of air discharges. 'Sensitive receptors', such as schools, residential areas or places of ecological or cultural value, may be particularly vulnerable. The reverse can also apply. 'Reverse sensitivity' relates to the problem of existing, lawfully established industries or activities being adversely affected by the encroachment of new, more sensitive activities (such as housing) that may unreasonably fetter the operation of the existing activity.

A5-1.8.iii Clause c) of the policy relates to the influence that the layout, design and operation of the City can have on air quality. This can relate to the need for people to make vehicle trips, the accessibility of the city for cycling, walking and public transport, and the location and

orientation of residential sections to capitalise on heating by the sun rather than by burning fuels.

A5-1.8.iv Clause d) of the policy deals with existing discharges that were not previously regulated. In considering the type and speed of implementation of mitigation measures that may be imposed, regard should be had to the affordability and practicality of the proposed measures along with the environmental benefits that would result. Note that Section 104 (2A) of the RMA also requires that when considering an application affected by Section 124 (renewal of consent) the consent authority must have regard to the value of the investment of the existing consent holder.

Methods

A5-1.8.v Assessment through the resource consent process for air discharges.

A5-1.8.vi Consideration and recognition as part of any application, recommendation or other statutory process with respect to land use planning.

A5-1.8.vii Consideration and recognition in the development and implementation of the Long-term Council Community Plan, other strategic plans, and in any changes or reviews of the Nelson Resource Management Plan.

A5-1.8.viii Use of physical separation of incompatible activities, through zoning, buffer areas, covenants or similar mechanisms.

A5-1.8.ix Develop and implement subdivision design guides to maximise solar access to building sites, and facilitate pedestrian and cycle access.

policy
A5-1.9 Air quality information

Information and knowledge regarding ambient air quality and its management will be actively improved, so as to provide a better understanding of air quality issues and their potential management, and of trends in air quality over time.

Explanation and Reasons

A5-1.9.i For a city of its size, Nelson has very good information regarding the quality of its air. However, air monitoring is expensive, and it is not possible to monitor the full range of potential contaminants at a full range of sites. The Council is committed to an active programme to continue expanding its knowledge of air quality, so as to facilitate improvements in air quality where it is degraded, and to identify any deterioration in other areas or the levels of other contaminants, so that corrective action can be taken.

Methods

A5-1.9.ii Year-round monitoring of ambient levels of PM_{10} at reference sites in each airshed where the NES standard is likely to be breached, supplemented by periodic monitoring at selected sites around the City. Comparative monitoring of $PM_{2.5}$ from time to time, or as recommended or required by national guidelines or standards.

A5-1.9.iii Monitoring of ambient levels of other selected indicator contaminants, with NO_x, CO, and benzene being priority contaminants, and others as assessed on the basis of likely risk. Monitoring of air quality indicators significant to tangata whenua.

A5-1.9.iiiA Monitoring as required (on the basis of likely risk) to determine the local effects on air quality of contaminants from point sources (e.g. industrial localities, roads) especially near sensitive land uses (such as schools, the City Centre).

A5-1.9.iiiB Develop a monitoring strategy for air contaminants, taking account of the NES, the requirements of this Plan, sensitive receptors, and the likely risk to health, and make this publicly available.

A5-1.9.iv Update the Nelson Emissions Inventory at least 5 yearly.

A5-1.9.v Develop and implement procedures to track types and numbers of solid-fuel heaters installed.

A5-1.9.vi Use of the Council's files to retain and disseminate on request information on any energy rating or efficiency assessment of any house, or other property information relevant to air emissions.

A5-1.9.vii Undertake research or studies on specific contaminants or issues as required, and develop appropriate management strategies.

A5-1.9.viiA Maintain an active watching brief with respect to emerging research on fine and ultra-fine particles, regularly evaluate the implications of this on the Air Plan strategy, and advocate to the Ministry for the Environment the need for ongoing research and assessment on the effects of fine and ultra-fine particles.

A5-1.9.viiB Maintain an active watching brief with respect to any potential adverse effects on air quality that may arise from fuel swapping e.g. increases in other air pollutants.

A5-1.9.viii Regular reporting on air quality, and public reporting of any breaches of the National Environmental Standards as required under that NES.

A5-1.9.ix Collaborate with others for the emissions testing of solid-fuel heaters under less than ideal conditions (i.e. 'real world' usage).

A5-1.9.x Provide to the public and resource consent applicants air quality and meteorological data on airsheds within Nelson, and also provide free of charge a calibrated set of meteorological data for use in dispersion modelling.

policy
A5-1.10 Cross-boundary effects

To work closely with adjoining local authorities to manage any actual or potential cross-boundary transmission of air contaminants that may adversely affect the other's territory.

Explanation and Reasons

A5-10.1.i Air, including any contaminants in it, can move across council boundaries. It is therefore important that the Council work closely with its neighbouring councils, Marlborough District and Tasman District, to try to minimise such effects.

Methods

A5-1.10.ii Regular liaison at staff and councillor level on air quality issues with cross boundary effects, and invite involvement of neighbouring councils on working parties or committees to address such issues, and seek reciprocal arrangements.

A5-1.10.iii Advise affected councils at an early stage of any potential resource consent applications with potential cross boundary effects, and ensure formal notification of any subsequent consent application.

A5-1.10.iv Sharing of information and expertise on air quality.

policy
A5-1.11 Global air issues

To support national initiatives with respect to the discharge of greenhouse gases and ozone depleting substances.

Explanation and Reasons

A5-1.11.i As explained in Chapter A4 (Issues) there are international protocols in place for the management of both greenhouse gases, and ozone depleting substances. The New Zealand Government is a signatory to both protocols and has developed national strategies towards implementing its obligations within New Zealand. The Government at various times has indicated that it does not want local councils cutting across these strategies. The Resource Management (Energy and Climate Change) Amendment Act 2004 which came into force on 2 March 2004 prevents regional councils when making rules in plans and considering consent applications, from having regard to effects on climate change from the discharge to air of greenhouse gases. The Act does allow regional councils to consider effects of air discharges on

climate change: a) where necessary to implement a National Environmental Standard, or b) where a renewable energy source enables a reduction in the discharge to air of greenhouse gases in absolute terms or relative to a non-renewable energy source. While local councils have an important role to play in these national initiatives, it needs to be within the overall national strategies.

Methods

A5-11.1.ii Methods relating to other policies that increase energy efficiency, conserve the use of energy and reduce greenhouse gas emissions: e.g. land use planning, promotion of housing insulation, guide for subdivision layout and design, implementation of methods within the Regional Land Transport Strategy, and the Council's parks and reserves as CO_2 'sinks'.

A5-11.1.iii Management of Council's landfill to minimise greenhouse gas impacts.

A5-11.1.iv Have regard to the ozone depleting potential of the gases used in heat pumps in any Council sponsored programmes that replace open fires or burners with heat pumps.

A5-11.1.v Advocacy and submissions to central government with respect to greenhouse policy and revisions of policy with respect to ozone depleting substances.

A5e environmental results anticipated and performance indicators

The following results are expected to be achieved by the above objective, policies and methods. The means of monitoring whether this Plan achieves the necessary outcomes are also detailed below.

Anticipated Environmental Results	Indicators	Data Source
A5e.1 Steady improvement in levels of PM_{10}, both winter peaks and annual daily average (taking account of climatic variation), including declining PM_{10} emissions from home heating fires and industrial and trade sources, and at least no increase in overall vehicle emissions.	a) Measured downward trends in ambient particulate levels (taking account of year to year climatic variation). b) Trends in ambient air quality. c) Numbers of fires and wood burners being replaced with cleaner heating methods. d) Number and quality of industrial and trade discharges. e) Computer modelling of vehicle emissions. f) Profile of emissions from local vehicle fleet.	Ambient air monitoring results. Emission Inventory. Building consent information on replacement of solid fuel fires with solid fuel fires. Discharge monitoring and modelling required for resource consent applications and as conditions of consent. Vehicle traffic counts, and emissions modelling. Possible pilot emission screening of Nelson vehicle fleet with Ministry of Transport.
A5e.2 Outdoor burning in the Urban Area limited to a few activities on large sites, with minor effects.	a) Number of illegal fires. b) Number of resource consents granted for burning. c) Uptake in subsidy for compost bin/worm farms.	Council complaints register. Resource Consent applications.
A5e.3 Improved local air quality and amenity.	a) Number of smoke, agrichemical spray, dust, odour and related complaints received. b) Measurement against relevant guidelines or standards.	Council complaints register. Council compliance monitoring of consents. Resource consent applications.
A5e.4 No appreciable degradation in ambient air quality for range of key pollutants.	a) Measured levels in ambient air of particular pollutants.	Ambient monitoring of priority pollutants.