



AIR QUALITY STRATEGY FOR OTAGO



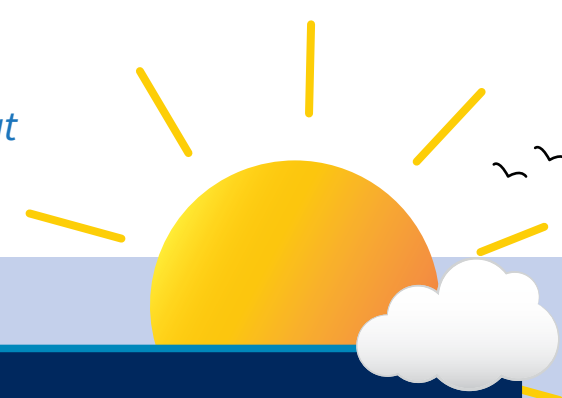
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Otago: Clean Air Everywhere

Ten years ago, the Otago Regional Council developed a plan to manage air quality in Otago. Despite a significant reduction in emissions, the national standards for air quality have not been achieved.

This strategy revisits ORC's approach to effectively address air quality issues and ensure that air is safe to breathe for everyone, and at any time in Otago.



GUIDING PRINCIPLES



DESIRED OUTCOMES

1. Cleaner heating
2. Reduced reliance on outdoor burning
3. No nuisance from emissions
4. No toxic emissions impacting on people and ecosystems
5. Air pollution from traffic and industries is effectively addressed

CONTEXT

Air quality in Otago is very good most of the year. However, areas such as Alexandra, Arrowtown, Clyde, Cromwell, Milton and Mosgiel experience high levels of particulate matters (PM10) in winter when chimney emissions peak.

Research shows that particulate matters affect respiratory and cardiovascular health, especially in the elderly, the very young, and people with pre-existing conditions.

TO ACHIEVE THESE OUTCOMES ORC WILL:



Monitor and research

- Continue monitoring air quality in Otago
- Assess, with the help of Southern District Health Board, the impact of air quality on public health in Otago
- Improve understanding of the connection between housing quality, air quality and human health
- Research the environmental impact of chemical use in Otago



Regulate

- Review policies and rules on emissions from new buildings and outdoor burning within and around urban areas
- Consider coal banning as part of a full review of the *Regional Plan: Air*



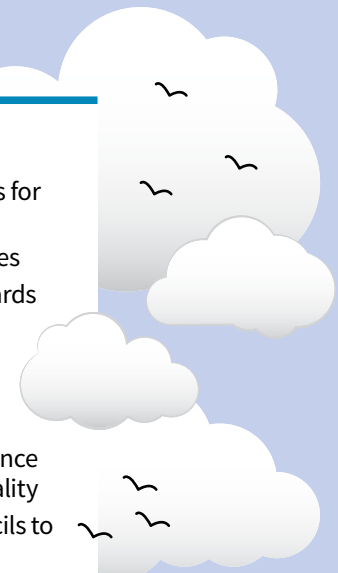
Support local communities

- Involve local communities in developing tailored programs for good air quality
- Provide information on air quality issues and good practices
- Provide financial support to assist with the transition towards cleaner heating, improved energy efficiency and home insulation



Collaborate

- Collaborate with city and district councils to prevent nuisance effects, and manage the effects of urban growth on air quality
- Partner with central government and other regional councils to promote affordable clean heating technologies





CONTENTS

Air quality strategy on a page.....	3	Cleaner heating.....	12
About this strategy.....	5	Reduced reliance on outdoor burning.....	13
Air quality in Otago.....	6	No nuisance from emissions.....	14
Key issues.....	8	No toxic emissions impacting on people and ecosystems.....	15
Delivering good air quality.....	10	Air pollution from traffic and industries is effectively addressed.....	15
ORC’s vision for air quality.....	11	What does ORC propose to do?.....	16



ABOUT THIS STRATEGY

This strategy focuses on air quality for good human health: it provides a reference point and key directions to develop the road map to meet the national standards for air quality (NESAQ 2004), and to give effect to the Regional Policy Statement for Otago.

It's a starting point for a series of conversations we plan to have with stakeholders and our community. We imagine that this strategy will evolve as:

- We improve our knowledge about the problems we face

- Our regional stakeholders become more invested in the process
- National air quality legislation is reviewed (due to be completed in 2018)

Air quality supports other important values: discharges to air can impact on important iwi values, such as mahika kai or wāhi tūpuna. They can also affect the quality of our landscapes or the clarity of the night sky.

The ORC will review the management of those values outside of the present strategy.



AIR QUALITY IN OTAGO

Air quality affects everyone in Otago. Poor air quality impacts on our health. We want to fix the problems we have with our region's air quality so everyone can safely breathe at any time of the year.

Air quality is important to everyone. Pollutants released into the air can cause unpleasant smells and poor visibility, and affect our health in many ways.

Air pollution can come from many sources, both natural and human-made. Research has shown us that once inhaled, air pollutants can adversely affect our health, particularly if you are elderly, very young or have an existing respiratory condition.

In 2004 our government developed national standards for air quality to guarantee a minimum level of health protection for all New Zealanders. In Otago we enjoy very good quality air for most of the year. In winter, when we burn wood or coal for home heating, chimney emissions peak. As a result, our ambient (or outdoor) air

quality is often degraded, particularly in areas like Alexandra, Arrowtown, Clyde, Cromwell, Milton and Mosgiel.

Ten years ago ORC developed our first air quality strategy aimed at meeting the national air quality standards. Since then, our communities have worked to reduce emissions in the towns with air quality problems. Despite this, emissions have not reduced enough to meet the national standards or the World Health Organisation standards for human health.

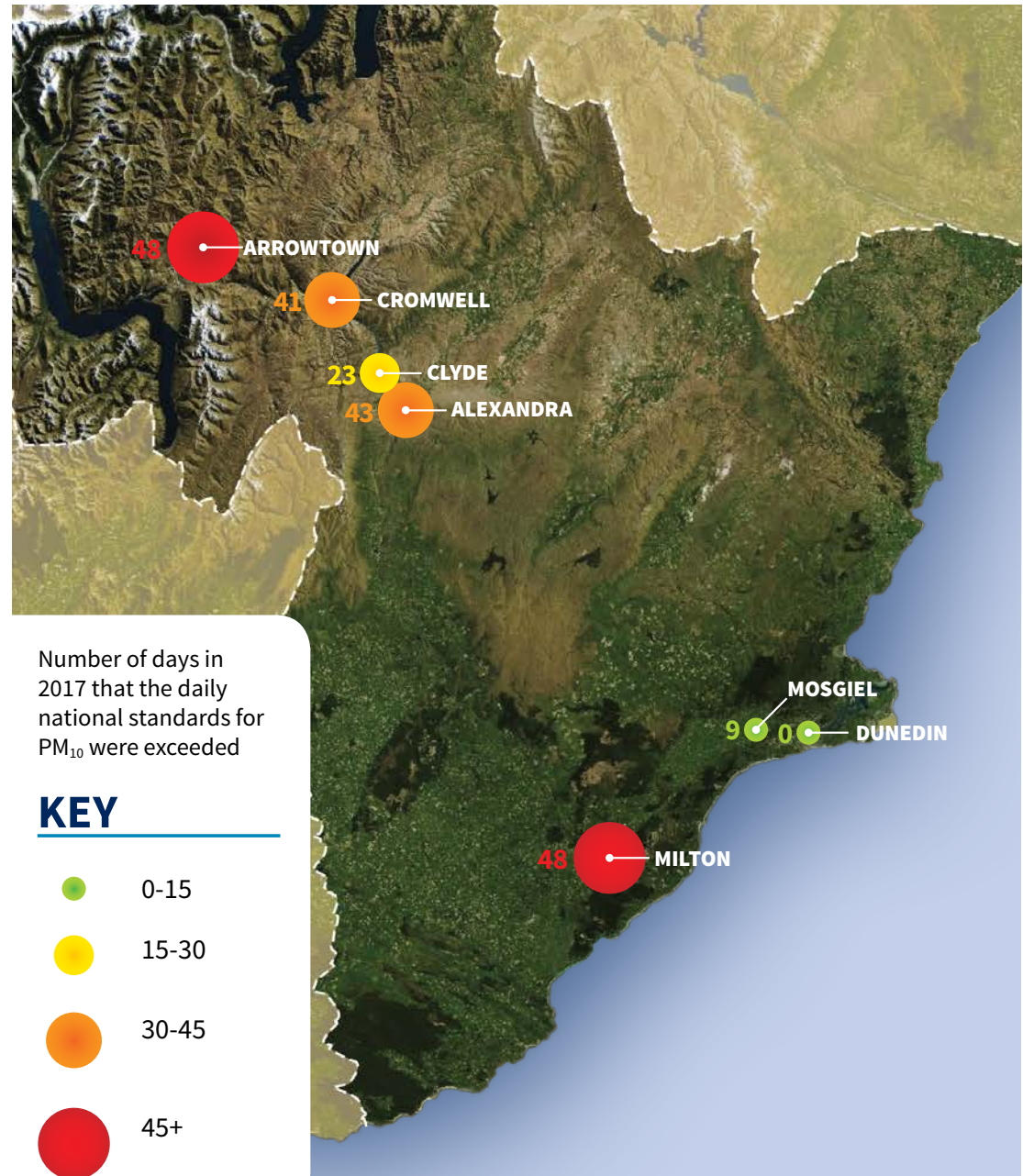
We need to revisit our approach to managing air quality to make sure that we address the issues and our region's air is safe to breathe by anyone at any time.

Objectives for ambient air quality

Air quality in Otago is primarily assessed against the National Environmental Standards for Air Quality (2004), but also against the Regional Plan: Air for Otago’s regional goal levels, and the World Health Organisation’s guidelines.

In Otago, the focus is on small airborne particulate matters, measured as PM₁₀ and PM_{2.5} (particulate with a diameter smaller than respectively 10 and 2.5 micrometers). For good human health, concentration of those airborne particle should not exceed the following:

	PM ₁₀	PM _{2.5}
National Environmental Standards	<ul style="list-style-type: none"> No more than one 24-hour period exceeding 50 micrograms PM₁₀/m³ in a 12-month period (standard) No more than 20 micrograms PM₁₀/m³ as an annual average concentration (guideline) 	<i>No standard or guideline</i>
Regional Goal levels	<ul style="list-style-type: none"> No more than one 24-hour period exceeding 35 micrograms PM₁₀/m³ in a 12 month period (warning levels) 	<i>No goal</i>
World Health Organisation Guidelines	<ul style="list-style-type: none"> No more than one 24-hour period exceeding 50 micrograms PM₁₀/m³ in a 12 month period (standard) No more than 20 micrograms PM₁₀/m³ as an annual average concentration (guideline) 	<ul style="list-style-type: none"> No more than one 24-hour period exceeding 25 micrograms PM_{2.5}/m³ in a 12 month period (standard) No more than 10 micrograms PM_{2.5}/m³ as an annual average concentration (guideline)



KEY ISSUES

ISSUE	EFFECT	DESIRED OUTCOME
<p>Our communities rely heavily on burning wood and coal to heat our homes</p> <p>Wood/coal fires and burners are the heating of choice for many Otago households.</p> <p>Home-heating smoke emissions are the source of most of our air pollution. The amount of pollution created is influenced by:</p> <ul style="list-style-type: none">• How many households use fires/burners in an area• The type of burner used and how efficient it is• How the burner is operated and maintained• What type of fuel is used and how much <p>This issue is also influenced by the:</p> <ul style="list-style-type: none">• Frequency of inversion layers in Central Otago• Higher cost of clean fuels, such as electricity• Age of houses in Otago, with many old and badly insulated• Rapid growth of towns situated in areas where temperature inversions occur e.g. in Central Otago and Queenstown Lakes districts	<p>People are exposed to harmful levels of air pollutants in some of our towns.</p> <p>We can achieve clean air throughout Otago if cleaner heating options are widely adopted in our communities.</p> <p>We know that continuing to use solid fuel burners (that meet current national wood burner design standards) will not deliver clean enough heating. Our communities will need to go a step further and choose low-impact heating.</p> <p>Low-impact heating includes:</p> <ul style="list-style-type: none">• Ultra-low emission burners• Electricity or gas heating• Pellet fires• Emission control devices• Other innovative low-emission heating options	<p>Adopt cleaner heating</p> <p>Short-to-medium term goal: we want to support our communities to reduce the emissions coming from current heating to levels that are as low as possible.</p> <p>Long-term goal: we want to help our communities move towards using low-impact heating so health guidelines are met.</p>

ISSUE	EFFECT	DESIRED OUTCOME
Outdoor burning is still common in Otago to remove green waste and diseased material, and to manage pasture.	Outdoor burning adds to the overall pollution levels in an area. It produces smoke that can be a nuisance for residents and visitors.	Reduce reliance on outdoor burning.
Some people do not manage their discharges to air properly and this can impact on their neighbours. Earthworks, roads and other land uses can generate dust.	Residents and visitors can be affected by nuisance smoke, smells or dust. Dust can add to the overall pollution levels in an area.	No nuisance from emissions and dust.
Chemical spraying is widely used in Otago to manage pests.	Airborne chemicals can have toxic impacts beyond their intended purpose. Pesticide drift can affect neighbouring crops and ecosystems and some pesticides are damaging to important ecosystem services such as pollinators.	Toxic emissions do not cause harm to people or ecosystems.
Even though they are not a major source of pollution in the region, emissions from industries and from traffic need to be managed.	Industrial and traffic emissions add to the overall pollution levels in an area.	Air pollution from traffic and industries is effectively addressed.

DELIVERING GOOD AIR QUALITY

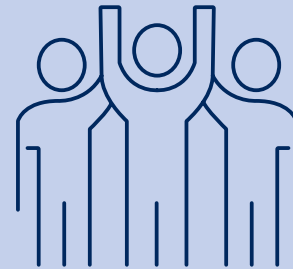
Several principles underpin ORC's air quality strategy. These will guide decisions as we implement the strategy and help to ensure its success.



LOCALLY FOCUSED

ORC will:

- Develop local air quality programmes that consider the local context/needs



COMMUNITY CENTERED

ORC will:

- Engage local communities in finding practical solutions
- Harness the community's pride and energy
- Support communities and individuals to reduce pollution



HOLISTIC

ORC will:

- Liaise with other agencies to integrate our energy policies, urban development, building design, and air quality programs
- Manage all sources of emissions
- Use a mix of regulatory and non-regulatory tools



COLLABORATIVE

ORC will:

- Share our knowledge and resources with other regional councils and central government
- Work alongside territorial authorities, iwi, industries and community groups to enhance the effectiveness of our air quality programs
- Seek synergies with existing programs, especially for housing improvements and energy efficiency

ORC'S VISION FOR AIR QUALITY



VISION

Otago: Clean Air Everywhere

GOAL 1

Air quality is improving in problem areas

GOAL 2

Air remains clear everywhere else

Outcome 1

Adopt cleaner heating

Outcome 2

Reduce reliance on outdoor burning

Outcome 3

No nuisance from emissions and dust

Outcome 4

Toxic emissions do not cause harm to people or ecosystems

Outcome 5

Air pollution from traffic and industries is effectively addressed

More detail on each of the five outcomes is outlined on the following pages.

Outcome 1

Cleaner heating

No smelly or smoky chimneys

We will focus our efforts on the problem areas (i.e. polluted areas, offensive emissions and vulnerable populations) and support people to reduce their emissions. We'll do this by working alongside community groups, agencies and local councils to offer effective assistance, while still requiring that our regional rules be complied with.

We will develop local air quality programs in areas with air pollution issues.

These programs will:

- Combine and align education/information and rule enforcement activities
- Involve the local community, local councils and other potential partners (e.g. suppliers and other businesses) in designing solutions tailored to their communities.

Upgrades to low impact heating

ORC will support transition to low impact heating by:

- Supporting monitoring and research in low impact heating and informing people about their options
- Promoting upgrades to low impact heating through information, education, and targeted financial assistance
- Advocating, promoting and supporting what will facilitate the uptake of low impact heating (e.g. home insulation or cheaper electricity). ORC will work with other regional councils, with central government and with industries.

Low impact heating in all new homes

We will work with local councils and central government to ensure the legislation is consistent and requires low-impact heating to be installed in all new homes (especially in problem areas and areas where urban growth creates air pollution risks).

We'll encourage new housing developments to look at offering appropriate community heating systems.

Outcome 2

Reduced reliance on outdoor burning

Reduced rural burning

We will work towards outdoor burning being limited to appropriate areas and times via rules in our Regional Air Plan. We'll work with industries to help promote developing and adopting acceptable alternatives to outdoor burning.

We will also work with local councils to make it easier to dispose of green waste and diseased material appropriately. This will include developing clear messages and policies for waste minimisation and dischargers.

We will support councils, industries and people leading initiatives that make appropriate waste disposal easier.

No burning of offensive waste

People will still need to avoid creating emissions when they are burning offensive waste. We will work to raise community awareness of the rules around this and the appropriate waste disposal methods.

Outcome 3

No nuisance from dust and emissions

Reducing outdoor burning (including in cities)

We will tighten up the rules on the use of outdoor fires in our region's cities and residential areas. We'll work with suppliers/industry to make sure adequately-designed outdoor fires are installed in these areas.

Dust is effectively controlled

We will advocate for effective dust control provisions in district plans.

New activities are not a nuisance

We will advocate for adequate controls in district plans and other relevant legislation to prevent nuisance activities, while continuing to respond to any complaints we receive about nuisances.

Outcome 4

Toxic emissions do not cause harm to people and ecosystems

Toxicity risks are understood

We will monitor new research on the impact of chemical use and work to raise awareness in our communities about chemical risk.

Harmful chemicals are used sparingly, in a targeted and controlled way

We will support and promote changes to the way people use harmful chemicals and inform our communities about less harmful alternatives that are available.

Outcome 5

Air pollution from traffic and industries is effectively addressed

Lower traffic emissions

We will promote greater choices in transport modes and the provision of public transport and walking and cycling paths. We will continue our conversations with territorial authorities on policies on low emissions vehicles.

Industrial discharges are well controlled

We will continue to actively manage industrial discharges through plans and consents, and by keeping up-to-date with industry standards and best practices.



WHAT DOES ORC PROPOSE TO DO?

As part of public consultation, you have identified key problems and opportunities for us to address and take.

Your suggestions include:

- Widening our approach to ensures air quality achieves Kāi Tahu’s aspirations and supports their values; as well as important amenity values such as clear skies
- Working for the reduction of traffic emissions in Otago.

Other suggestions were made on the implementation of this strategy, including:

- Implementing the strategy earlier than proposed
- Continuing or strengthening the Clean Heat Clean Air program
- Banning coal for the purpose of domestic heating
- Enforcing the Air Plan rules more actively.

We will take those suggestions into account as part of our next annual plan process.

Monitoring and Research

	TASKS	TIME
Continue monitoring air quality in Otago, including: <ul style="list-style-type: none"> • Particulate matters in key Otago towns • Emissions in key Otago towns • Screening other pollutants of concern 		Ongoing Ongoing Every 5 years Every 5 years
Assess, with the help of SDHB, the impact of air quality on public health in Otago		From 2019
Improve understanding of the connection between housing quality, air quality and human health		Within 2 years

Emissions from domestic heating

Supporting transition towards cleaner heating

TASKS	TIME
Involve local communities in developing tailored programs for good air quality	From 2020
Provide information on air quality issues, and good practices	Ongoing
Provide financial support to assist with the transition towards cleaner heating	Ongoing
Partner with central government and other regional councils to promote affordable clean heating technologies	From 2020

Low impact heating in new homes

Review policies and rules on emissions from new buildings within and around urban areas	Within 3 years
Collaborate with city and district councils to manage the effects of urban growth on air quality	From 2020

Outdoor burning

TASKS	TIME
Review policies and rules on outdoor burning within and around urban areas	Within 3 years

No nuisance from emissions

TASKS	TIME
Collaborate with city and district councils to prevent nuisance effects from emissions	From 2020

Toxic emissions do not cause harm to people or ecosystems

TASKS	TIME
Research the environmental impact of chemical use in Otago	Within 10 years

