

Ngāpuna Dust Reduction

Operational Plan



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Expected Outcome

The overall outcome of this project is to reduce fine particulate exceedances in Ngāpuna during spring and summer.

What's the problem?

The Rotorua Urban Airshed currently exceeds the allowable ambient limit for fine particulates as set out in the National Environmental Standards for Air Quality (the air standards).

High concentrations of fine particulates can affect health, with the most vulnerable being the elderly, the very young, and those who already have respiratory problems such as asthma.

The Rotorua Air Quality Action Plan (the Action Plan) was developed to address the issue of fine particulates. During winter the main source of fine particulates is solid-fuel burners used for home heating. Implementation of the Action Plan began in July 2009.

Since 2007 high concentrations of particulates have been recorded in Ngāpuna. These concentrations are recorded during weekday afternoons in spring and summer. As most people do not light their solid-fuel burners during this time, this indicates a source other than home heating.

An investigation into the cause of the high concentrations of particulates was carried out during 2008. This was followed up by a survey of 29 sites in the area to identify specific sources of dust. The analysis was completed in August 2010.

As the investigation into the Ngāpuna dust issue was completed after the Action Plan was finalised, no actions to address the summertime exceedances in Ngāpuna were included.

What's the cause?

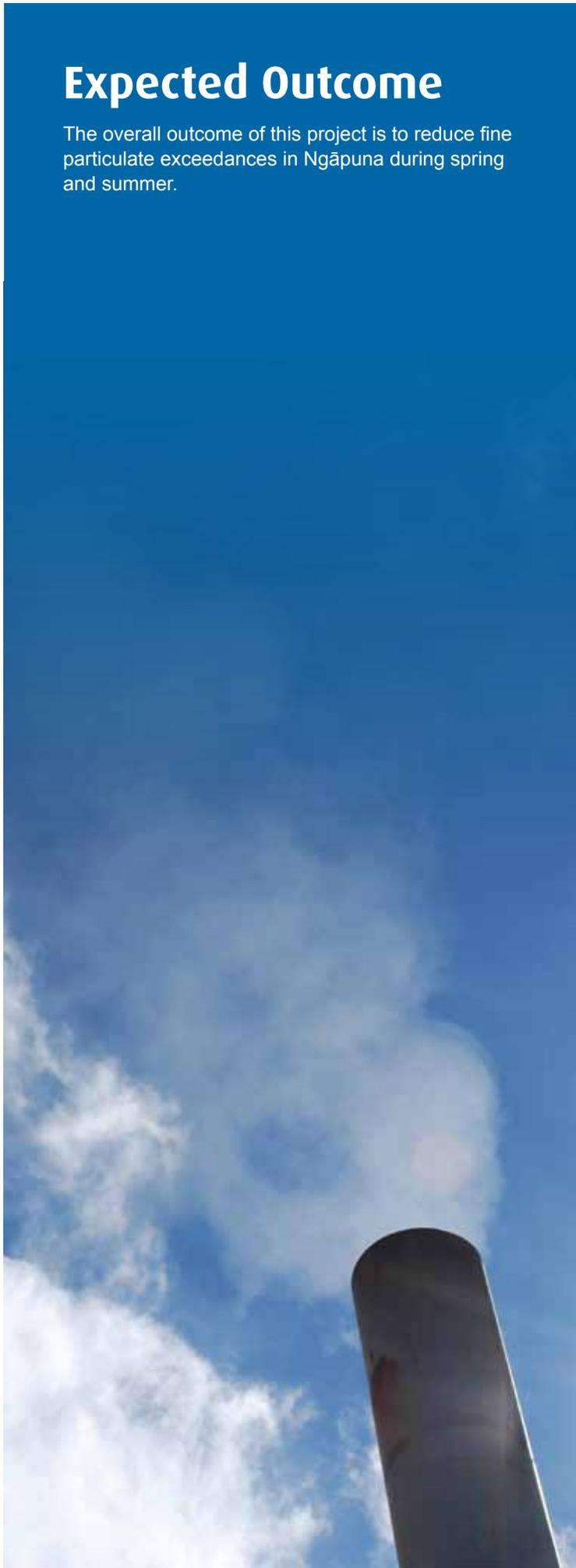
The main cause is dry weather (one or two days with no rain) combined with south-westerly winds. The wind blows across the industrial area and picks up dust from several sources.

This causes nuisance dust which soils surfaces, irritates the eyes and mouth, and is generally an annoyance to those affected by it. A proportion of nuisance dust is fine particulates. To reduce the concentration of fine particulates, we need to reduce the overall amount of dust.

The main sources of dust are:

- Industrial yard dust
- Road dust
- Consented boilers
- Agricultural activities.

The two most significant sources are industrial yard dust and road dust.



Discharges from stacks are not the main source of dust in Ngāpuna.

What's the solution?

A regulatory approach will be used to reduce dust from the various sources in Ngāpuna. This approach uses rules and enforcement tools to change behaviour.

Currently discharges to air are regulated by the Bay of Plenty Regional Air Plan (the Air Plan) under the Resource Management Act, 1991. Under the Air Plan small scale activities are permitted activities and do not require a consent, provided there is no objectionable or offensive effect beyond the boundary.

The dust in Ngāpuna can be considered to be objectionable and offensive. However, no clear-cut offender has been identified by the investigation as the single source of the dust. The issue is caused by the cumulative effect of several activities and sites.

It is impractical and unreasonable for the Regional Council to carry out enforcement action on every site that is potentially contributing to the dust issue.



Dry weather and wind combine and disturb dust on site.



Dust on public roads is a source of the issue.

A new action for inclusion in the Rotorua Air Quality Action Plan was approved by the Regional Council. The action is to reduce spring/summer emissions from yard and road dust in Ngāpuna.

The method of implementation selected by the Regional Council is to implement a three staged education-enforcement approach. This approach targets the community with the appropriate compliance/enforcement response as set out in Appendix 1.

Stages proposed are as follows:

- Stage 1 (2012) Awareness raising and voluntary reductions
- Stage 2 (2013) Light-handed enforcement
- Stage 3 (2014) Active enforcement.

The emphasis is on Stage 1, progressing to enforcement action only if necessary.



Regular watering of sites is one way to reduce dust.

Stage 1

Awareness raising and voluntary reductions

Stage 1 aims to raise awareness of the dust issue and target each source of dust with specific actions to voluntarily reduce emissions.

Industrial yard dust

Dust from industrial yards is the main source of dust in the Ngāpuna area.

There are several sources of industrial yard dust which include:

- Stockpiles
- Unsealed yards
- Vehicle movements

Some sites have methods in place to reduce dust such as covered stockpiles, the use of sprinklers and water carts, sealed yards, and reduced vehicle speeds.

The dust problem continues each year, indicating that these methods are not being used effectively or by enough sites to reduce dust events in the area.

Overall, identification and control of potential dust sources on these sites is poor. Very few sites have a dust management plan in place.

The Bay of Plenty Regional Council will work with industry to identify potential sources of dust and encourage a reduction in emissions.

Action: Encourage and assist with dust management plans for industrial sites.

Road dust

Road dust comes from both the public roads and from privately owned roads within the sites.

The Rotorua District Council pays a contractor to sweep the public roads in Ngāpuna. The contractor sweeps the road every fortnight, which is insufficient during spring and summer when dust becomes a problem. Increasing the frequency of this sweeping may help with reducing dust in the area.

Some sites have expressed an interest in allowing the road sweeping contractor access to their yards. Extending the coverage of street sweeping to include industrial sites may also reduce dust in the area.

Action: Increase the frequency of sweeping of public accessways.

Investigate road sweeping of industrial sites.

Agriculture

Agricultural sources are not a significant source of dust in Ngāpuna. There have been some isolated incidents where agricultural practices have led to nuisance dust and high levels of fine particulates.

Action in this area focuses on cooperation with landowners.

Action: Work with owners of agricultural land to educate and encourage better practices to minimise dust.

Community awareness

Boiler stacks are often the most obvious source of dust. The public may therefore incorrectly believe that the boilers are the main cause of the dust issues in Ngāpuna.

Also, following public awareness campaigns regarding the overall issue of dust in Rotorua, there may be a higher level of anxiety and awareness regarding the adverse health effects of dust.

Increasing community awareness through communications and awareness campaigns educates the public on the real issue, and assures them that something is being done to solve the problem.

Action: Develop and implement a communications plan to raise awareness of the issue in Ngāpuna.

Other sources

Other sources of dust are consented boilers, background sources, and domestic fires.

Consented boilers are not a significant source of dust during spring and summer in Ngāpuna. Actions to reduce and minimise emissions from these boilers are already being implemented under the Rotorua Air Quality Action Plan.

The Regional Council has successfully worked with these industries to minimise emissions from the consented boilers. Monitoring of consent conditions is a function that the Regional Council already carries out. No additional actions aimed at consented boilers are proposed in this project.

Domestic fires are a problem in winter and are addressed by regulations and incentives being implemented under the Rotorua Air Quality Action Plan.

Background sources are more difficult to address. However they do not contribute a significant proportion of the dust therefore no action is currently proposed to reduce emissions from this source.

Plan review

Once actions are completed, the operational plan will be reviewed to determine if further action is necessary



Rotorua on a clear day.

Stage 2

Light-handed enforcement and information

Our enforcement role begins when we have reasonable grounds to believe that there has been a dust disturbance from a site that has caused a nuisance or contributed to elevated levels of particulates in the area.

Key roles for the Regional Council in its compliance and enforcement role are:

- Provide information to the Ngāpuna community
- Identify incidents of non-compliance
- Carry out enforcement action when non-compliance is occurring.

It is expected that most sites will cooperate and make voluntary changes to their dust management practices. The compliance approach for those sites is to provide education, encouragement and assistance. For those cases where voluntary reductions do not occur, enforcement action will be necessary.

Stage 2 involves the use of enforcement tools such as complaint investigations and written warnings for offenders. At this stage enforcement is light-handed without significant penalties being imposed.



Regional Council staff on site to discuss options.

Stage 3

Active enforcement and information

In the case of more serious and/or ongoing incidents, action will escalate quickly to Stage 3, which includes active enforcement options such as infringement notices and prosecutions.

The purpose of enforcement action is to penalise those who continue to create a dust issue in the area, and encourage better dust management practices for the future. Enforcement action also reassures those who make an effort that we will take appropriate action against those who do not try to change.

Education and information continues through this stage.

Implementation timeline

The timeline for this project is three years as set out in the table below, with all actions set for completion by June 2014.



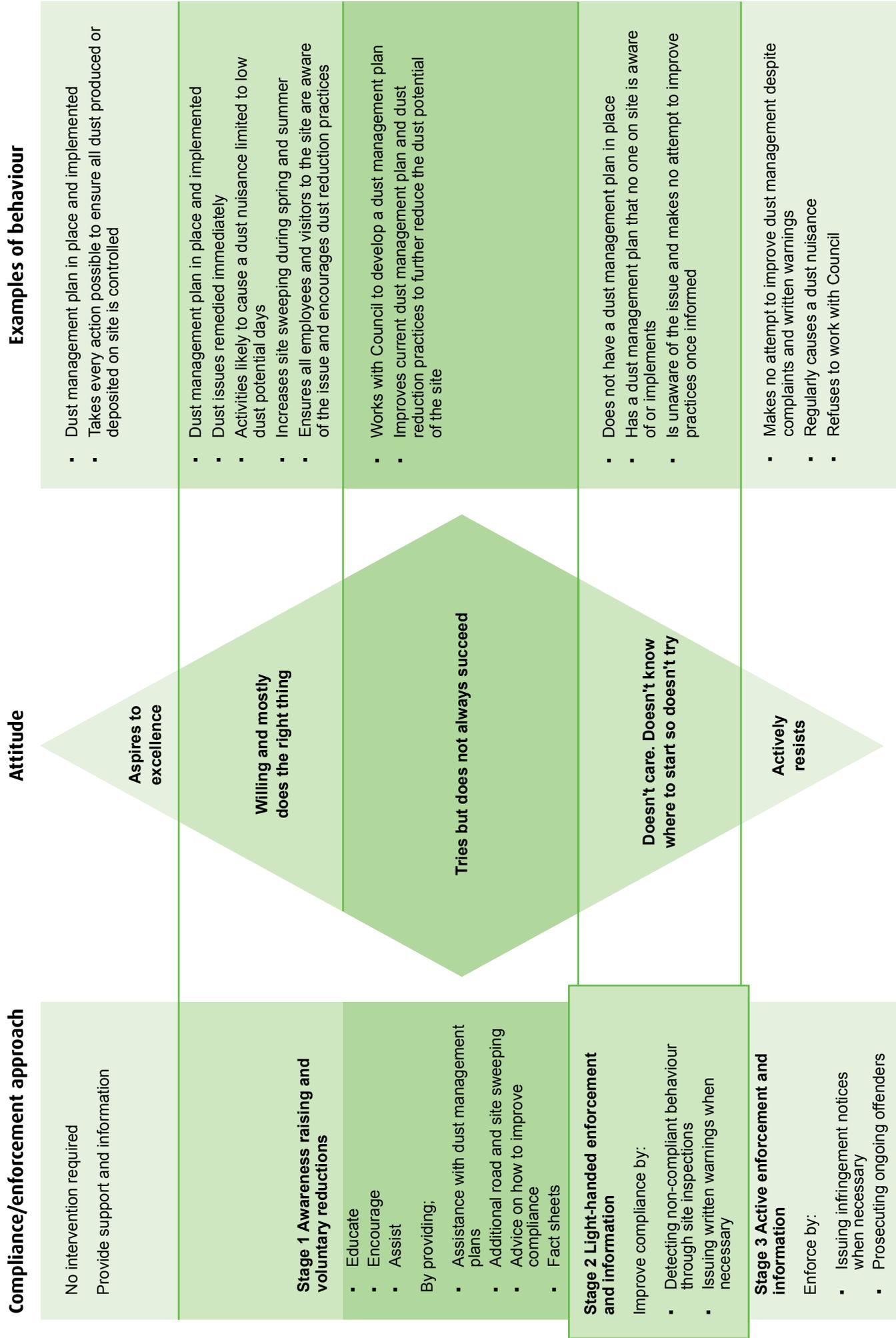
Vehicle movements disturb dust.

Year 1: July 2011 - June 2012	Year 2: July 2012 - June 2013	Year 3: July 2013 - June 2014
Dust management plans consulted and drafted	Dust management plan implementation by industries	
Additional road sweeping investigated	Road sweeping frequency and coverage increased	
Develop communications plan	Implementation of communications plan	
Cooperation with agricultural landowners	Light-handed enforcement	Active enforcement
		Plan review



Uncovered loads and dusty sites contribute to the dust nuisance.

Appendix 1: Education - enforcement continuum



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