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# 5.0 METHODS OF IMPLEMENTATION

## 5.1 Introduction

This section of the plan contains methods to assist the Gisborne District Council to carry out its functions to control the discharge of contaminants to air. This section details non-regulatory methods, but includes that regulation is one of the methods the Plan uses. However, the rules are contained in Chapter 6.

## 5.2 Monitoring and Research

AMBIENT AIR QUALITY

### 5.2.1 Adopt the Ambient Air Quality Guidelines (1994) (Appendix 1) as the principal guidelines for assessing and measuring ambient air quality in the Gisborne Region

Principal reasons for method: The Ambient Air Quality Guidelines (AAQG) provide nationally assessed indicators and levels to apply to the Gisborne Region. Specific guidelines assist in providing measurable levels to determine the present ambient air quality and assess changes over time.

### 5.2.2 Monitor and gather information on the ambient air quality of the Gisborne Region. The following ambient air quality indicators will be given priority when monitoring:

a) Particulate / visibility;

b) Sulphur oxides ($SO_x$);

c) Nitrogen oxides ($NO_x$); and

d) Carbon monoxide (CO)

Principal reasons for method: State of Environment or ambient air quality monitoring has been specifically stated as a method in this Plan because of the lack of data on air quality across the region and the need to keep track of changes in air quality and the effects and sources of contaminants. Ambient air quality monitoring in the Region may indicate areas where air discharges are having adverse effects and that also require the development of management strategies.

Monitoring of the individual and cumulative effects of discharges is required to assess whether the objectives of the Plan are being achieved.

### 5.2.3 Undertake a review of air quality monitoring needs within 4 years of this Plan becoming operative that:

a) Reviews areas of concern in terms of monitoring targeting;

b) Assesses the applicability of the ambient air quality indicators and the specified levels used for monitoring ambient air in the Gisborne District and makes alterations as necessary; and

c) Assesses the need for further research and programmes to be undertaken in the following areas:

   i. sources of emissions (including consideration of an update of the regional emissions inventory);

   ii. the influence of meteorology and topography (including resourcing these areas, developing a meteorological database to record information about meteorological conditions, patterns and fluctuations in the Gisborne Region);

   iii. discharge of contaminants not covered by the Ambient Air Quality Guidelines (including whether there is a need to include any identified contaminants in the monitoring programme); and

   iv. monitoring sites (including the need to expand or further develop these sites)

Principal reason for method: This method sets out the current and future strategies for monitoring ambient air quality in the Gisborne Region. It recognises that, at present, monitoring is being undertaken that is contributing to the regionally applicable information. However, it is necessary to review the current monitoring programme to assess and identify areas of concern, select ambient air quality indicators and ensure appropriate site selection. This is to ensure consistency with national initiatives regarding ambient air quality monitoring and to develop a monitoring strategy that selects the most appropriate priorities for the Gisborne Region. Until this assessment is complete, monitoring of particulate matter, carbon monoxide, sulphur dioxide, nitrogen oxide, smoke and visibility will continue. At present it is perceived that these indicators are of the most concern to the Region.

Further emissions inventories may be necessary to provide knowledge of the sources and distribution of discharges of contaminants to air and a greater understanding of current contributors and possible future changes to the level of discharges.

Increased understanding of the meteorological conditions in the Gisborne Region will assist in the prediction of the effects of individual discharges and the cumulative effects of all discharge of contaminants to air on the ambient air quality of Gisborne. Developing a meteorological database will assist in recording and interpreting data.

There may also need to be an expansion of the monitoring of discharges in terms of type of contaminants monitored and sites they are monitored from.

### 5.2.4 Provide for input from Tangata Whenua into monitoring programmes and research initiatives relating to the management of air quality in the Gisborne Region by:

a) Consulting iwi when making decisions concerning monitoring priorities; and

b) Enabling iwi to participate in developing and implementing research initiatives

Principal reasons for method: Section 6 (e), 7(a) and 8 of the Resource Management Act recognise the important role Maori have in managing natural and physical resources, including the air resource. This role will be enabled and encouraged through this method.

DISCHARGES

### 5.2.5 Where appropriate, to require those undertaking the discharge of contaminants to air to keep records about the nature and timing of discharges for:

a) Odorous discharges;

b) Discharges of agrichemical spray;

c) Discharges from industrial or trade premises; and

d) Fertiliser usage, actively promoting the use of the Code of Practice for Fertiliser Use

Principal reasons for method: Keeping records of discharges of odorous contaminants and agrichemical sprays will assist in determining location, timing, nature and effects of these discharges. Requiring those undertaking the discharge to keep records is efficient and effective. Over time these records also assist the council in establishing the cumulative effects of the discharge.

#### 5.2.5.1 To require that, where appropriate, dispersion models are used to assess the potential effects of discharges to air

Principal reasons for method: Modelling provides a useful technique for assessing the actual and potential adverse effects discharges of contaminants to air may have on the natural environment. It allows for the calculation of risk of the discharge of the contaminant being hazardous to people and the environment and the prediction of how changes in processes and controls will affect air quality. Regional air modelling can be used to predict the interaction of sources with each other as well as the cumulative impact of the sources on air quality.

**5.2.5.2 Assessment of odour will be undertaken in accordance with the following:**

a) Assessment will be undertaken by a Council Officer with a calibrated nose taking into account the FIDOL factors — frequency, intensity, duration, offensiveness and location and considering the key consideration outlined in 6.2.4:

b) In circumstances where the discharge is deemed offensive and objectionable the discharger would be required to take whatever action is necessary to avoid, remedy and mitigate adverse effects of the discharge;

c) Provision will be made for further assessment where dischargers dispute the Council Officer's assessment using one or more of the following:

   i. Assessment by more Council Officers;

   ii. Asking people living and working in the area to keep a diary that notes details of any offensive or objectionable odours;

   iii. Promoting the use of community working groups and other means of consultation between the affected community and the discharger;

   iv. Using the services of an independent consultant to carry out an investigation and/or public survey;

   v. Using the services of the Council's odour panelists who have all had their noses calibrated by olfactometry and are deemed to have an average sense of smell; and

   vi. Undertaking an odour assessment using an olfactometer;

a) In circumstances where the discharge continues to be offensive or objectionable, enforcement action pursuant to the Resource Management Act 1991 may be undertaken in any of the following ways:

   i. Abatement notice;

   ii. Infringement notice;

   iii. Enforcement order; and

   iv. Prosecution

Principal reasons for method: This method specifically sets out Council's approach to the assessment of odour complaints in the Gisborne Region. The FIDOL factors are an internationally recognised approach to the assessment of odour. Frequency, intensity, duration, offensiveness and location are considered to be the factors that specifically influence the significance of adverse odour effects. Olfactometry is a scientifically recognised technique used for measuring odour concentration or intensity based on the concept of odour units.

Due to the potentially subjective nature of odour and the range of factors that can potentially influence an odour event, a mechanism needs to be included in the plan to provide for alternative assessments of odour. Odour is created by chemicals in the air so wind direction, wind speed, turbulence, temperature and humidity can affect the transport of smell and consequently an odour event may occur episodically rather than continuously. The human nose provides the best method for the detection of odour due to its sensitivity to odour events and its ability to measure unpleasantness. Such aspects of odour would not be picked up by a non-human instrument.

**5.2.5.3 Where appropriate the Council will use the Workplace Exposure Standards in the assessment of noxious and dangerous levels of contaminants. In assessing noxious or dangerous levels in terms of human health concerns, the concentration of any contaminant specified in the Workplace Exposure Standards (Occupational Safety and Health Service, 1994) should not exceed 1/30th of the time weighted average standard on the adjacent property or public land**

Principal reasons for method: This method specifically outlines the process a Council Officer would employ in the assessment of what is considered noxious and dangerous in terms of human health. The method is an established approach for assessing acceptable levels of contaminants that have no specific standards attributed to them to ensure that human health is not adversely affected.

## 5.3 Advocacy and Education

### 5.3.1 Develop, promote and disseminate guidelines and advice on practices and measures to prevent, minimise or reduce the adverse effects from the discharge of contaminants to air from the following discharge sources:

a) Abrasive blasting, including:
   i. encouraging the use of wet abrasive blasting as an alternative to dry blasting, where practicable;
   ii. providing information on the potential adverse effects of abrasive blasting; and
   iii. actively promoting the Abrasive Blasting Code of Practice;

b) Domestic burning, open burning and incineration of domestic and garden waste, including:
   i. encouraging alternatives to burning such as waste reduction, recycling and reuse of household waste and composting of garden waste;
   ii. encouraging efficient and effective installation, use and maintenance of domestic incinerators and heating including good operating and maintenance practices; and
   iii. providing information on materials that should not be burnt due to the discharge of harmful contaminants;

c) Agrichemical usage, including:
   i. making information available on alternatives to their use and integrated pest management programmes;
   ii. promotion of the safe and responsible use of agrichemical sprays including the type and use of equipment and measures to reduce spray drift; and
   iii. actively promoting the use of the NZS8409:2004 Code of Practice for the Management of Agrichemicals;

d) Advocacy to the general public encouraging the use of forms of transport other than private motor vehicles such as walking, cycling and public transport;

e) Discharge of particulate from yard operations, vehicle loads, construction, earthworks and farming activities; and

f) Offensive or objectionable discharges of odour, including:
   i. encouraging good management practices, control technologies and landuse planning (buffers and site planning); and
   ii. actively promoting the use of the Pig Farming Code of Practice

Principal reasons for method: This method may be used either in conjunction with regulation, as in the case of abrasive blasting or agrichemicals, or as an alternative to regulation such as with domestic sources and transport sources.

In this case, these sources are difficult to regulate and altering people's attitudes and behaviour may be a more effective approach than regulating.

The use of codes of practice can also assist in promoting good practice. Guidelines and codes of practice are particularly valid where they can be enforced by an industry based regulatory body or producer board. Industrial guidelines and codes of practice, such as those prepared by the New Zealand Pork Industry Board or the New Zealand Agrichemical Education Trust, may in time replace the need for rules and regulations in some industries.

**5.3.2 Provide information to the public about air quality management in the Gisborne Region and types of discharges to air to improve knowledge and understanding, including:**

a) The ambient air quality guidelines and why they are important for the management of the air resource in the Gisborne Region; and

b) Agrichemical use in Gisborne including the types of agrichemicals used, and when, how and why they are used

Principal reasons for method: Providing information to the public about the ambient air quality guidelines will give them a greater understanding and acceptance of programmes for managing air quality in the Gisborne Region.

Educating the public about the effects of certain discharges and measures that can reduce these effects may lead to changes in attitude and therefore improvement of the air resource.

## 5.4 Liaison

INDUSTRY and ORGANISATIONS

**5.4.1 Liaison with organisations, landuser groups and industry with respect to:**

a) Encouraging and assisting, where appropriate, with the preparation, dissemination and implementation of guidelines, codes of practice, information programmes and similar initiatives where these will contribute to achieving the objectives of the Plan;

b) Seeking advice and assistance from industry and organisations about general air quality management issues in the Gisborne Region and providing information updates; and

c) Prompting industries and organisations to encourage operators and users to undertake appropriate training and gain the appropriate qualifications. In particular, this liaison will include:

i. encouraging agrichemical users to gain the appropriate training, including GROWSAFE certification or equivalent qualification; and

ii. encouraging the appropriate training of operators of fuel burning equipment

Principle reason for method: Input and involvement from industry and other organisations is important both for Council to gain information and to ensure industry can guide all operators towards achieving the objectives of the Plan.

LOCAL GOVERNMENT

**5.4.2 Liaison with relevant individuals and organisations within local government to integrate air quality management with other functions undertaken by the Gisborne District Council and with adjoining local authorities carrying out functions such as landuse planning, roading, powers under other legislation and air quality management in adjoining regions as outlined below.**

**5.4.2.1 Landuse Planning**

a) Encouraging the implementation of the following landuse planning mechanisms through the Combined Regional Land and District Plan:

i. recognition of existing uses in terms of air discharges, including provisions to address reverse sensitivity particularly in relation to the application of agrichemicals in rural and industrial areas and odorous activities; and

ii. provision of separation distances or buffers between generally incompatible uses or zones, where appropriate, giving particular consideration to:

- areas of widespread application of agrichemicals and existing surrounding sensitive areas; and

- odorous activities and built up residential or amenity areas and rural dwellings

#### 5.4.2.2 Roading

a) Liaison with roading authorities to encourage measures to avoid, remedy or mitigate adverse effects of the operation, location and use of the roading network in the Gisborne Region, particularly:

   i. consideration of air quality issues when undertaking maintenance, improvement or extension work on the Region's roading environment, particularly in terms of the effects of motor vehicle emissions on the environment;

   ii. measures to reduce central city vehicle congestion and improve traffic flow;

   iii. increases in the efficiency and use of cycling and pedestrian infrastructure, including investigating the installation of cycle lanes and cycle tracks; and

   iv. including appropriate objectives, policies and methods in the Gisborne Regional Land Transport Strategy and other relevant roading documents to address air quality management issues, particularly in regard to the management of unsealed roads in the Region

#### 5.4.2.3 Adjoining Local Government Authorities

a) Regular communication with neighbouring regional authorities to encourage and develop greater integration and consistency with regards to air quality management and to facilitate information exchange.

#### 5.4.2.4 Powers Under Other Legislation

a) Co-ordination and consideration of air quality issues in the use of the powers of legislation such as the Health Act 1956, Rural Fires Act 1977 and Building Act 1991 to control the effects of combustion

Principal reasons for method: Government organisations have responsibility for managing adverse effects of discharges to air. In order to achieve integrated management it is important for the Gisborne District Council to liase with other agencies responsible for managing the effects of discharges to air.

Local government has a number of roles in relation to air quality management. The District Plan under the Gisborne District Council has the potential to include landuse mechanisms to control the effects from air discharges, which may improve management of air quality.

As transport sources contribute significantly to air discharges in the Gisborne Region, liaison with roading authorities is essential in managing the air resource. Increasing the efficiency of the roading network and setting transport priorities will reduce the effects of transport related discharges. District authorities also possess powers under other legislation that also provide control over air discharges, such as under the Health Act, Rural Fires Act and Building Act. It is important to liaise in relation to ensuring the integrated management of regional and district functions.

TANGATA WHENUA

### 5.4.3 Promote and encourage regular liaison between Tangata Whenua and Council in relation to appropriate facets of air quality management. This could include liaison relating to:

a) Air discharge permits and effects of particular discharges on places and sites of significance to Tangata Whenua; and

b) Any research undertaken regarding effects of discharges to air on other resources in the Gisborne Region, particularly places and sites of significance to Tangata Whenua

Principal reasons for method: Section 6(e) of the Act requires the recognition and provision for the relationship of Tangata Whenua and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga. Section 7(a) requires regard to be had to kaitiakitanga, and section 8 of the Resource Management Act 1991 sets down a duty to take into account the principles of the Treaty of Waitangi. These sections recognise that the Tangata Whenua of the Gisborne Region have a role to play and knowledge to offer in the management of the air resource.

*Note: Refer to waahi tapu schedule, Appendix 2 of the Proposed Combined Regional Land and District Plan, Rural and Urban Maps and Appendices, Post – Decision Annotated Version July 2000.*

## 5.5 National Initiatives

### 5.5.1 To advocate and implement, where appropriate, national government initiatives that improve information and guidance on air quality management in the Gisborne Region as appropriate, including:

a) Further development of the Ambient Air Quality Guidelines to take into account environmental factors other than effects on human health;

b) Methods of providing objective odour assessment including national guidelines for sampling, characterising and measuring odour;

c) The development of national modelling guidelines and maximum ground level concentrations for contaminants commonly found in discharges and for contaminants with potentially significant effects on the environment, including hazardous air contaminants;

d) The establishment of national emission standards for all discharges;

e) The establishment of a compulsory emission testing programme for vehicles as part of warrant of fitness requirements;

f) Review of fuel specifications for motor vehicles; and

g) National legislation and policies relating to the greenhouse effect and depletion of the ozone layer

Principal reasons for method: As information regarding methods and guidelines for assessing and measuring discharges of contaminants is limited in the Gisborne Region, support and advocacy of national initiatives and research in these areas would greatly benefit air quality management.

It is also recognised that some air quality issues are most appropriately dealt with at a national level, as their management may either require considerable resources not available to individual regions or the issue requires consistent application across the whole of New Zealand.

Management of motor vehicle emissions from the national level is essential in order to provide consistent application of requirements. Central government has a wider range of mechanisms at its disposal to reduce emissions from mobile sources, including the possibility of requiring efficient burning engines, the introduction of catalytic converters and the possibility of $CO_2$ taxes. This may be complemented by appropriate regionally based initiatives.

This method recognises that ozone depletion and greenhouse gases are issues requiring nationally co-ordinated approaches. The Gisborne District Council will support and implement, where applicable, any national initiatives regarding these issues.

## 5.6 Regulation

### 5.6.1 Rules within the Plan to avoid, remedy or mitigate the adverse effects from the discharge of contaminants to air

Principal reasons for method: Rules provide a level of certainty that can not always be achieved through other methods. Rules have been applied in circumstances where it is unlikely that adverse effects of discharges to air could be managed by any other method