



PART G

Project Justification and Conclusion



G.1 Ecological Sustainability

G.1.1 Introduction

The Proponent's management plan requires it to undertake council activities with regard for the principles of ecologically sustainable development. In general the ecologically sustainable development concept promotes reducing, re-using and recycling of wastes. The Project is consistent with the continued efforts of the Proponent to encourage community waste reduction, recycling and greater recognition of wastes as resources. This project is set in the context that the Ophir Road facility has only another four years of landfill life, from the date of this application.

This project is the only available opportunity to deliver food and garden waste diversion and provide recycling capacity regionally. The Central West regional councils need to take advantage of this.

An assessment of the Project with regard to the principles of ecologically sustainable development is presented in the following section.

G.1.2 Principles of Ecologically Sustainable Development

Clause 6 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* lists the principles of ecologically sustainable development as:

- a) **The precautionary principle**, namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by:
 - (i) Careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and
 - (ii) An assessment of the risk-weighted consequences of various options.
- (b) **Inter-generational equity**, namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.
- (c) **Conservation of biological diversity and ecological integrity**, namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration.
- (d) **Improved valuation, pricing and incentive mechanisms**, namely, that environmental factors should be included in the valuation of assets and services.

An assessment of the Project against these principles is provided below.

G.1.2.1 Precautionary principle

A range of environmental investigations, as described in sections B.5 and C.4 of the Environmental Assessment, have been undertaken as part of the development of the Project and the environmental assessment process, to ensure that potential impacts are understood with a high degree of certainty. The assessment of the potential impacts of the Project is considered to be consistent with the precautionary principle. It is considered that the assessments that have been undertaken are consistent with accepted



scientific and assessment methodologies, and have taken into account relevant statutory and agency requirements.

The Project has evolved to avoid impacts where possible and to reflect the findings of the studies undertaken. A number of safeguards have been proposed to minimise potential impacts. These safeguards would be implemented during construction and operation of the Project. No safeguards have been postponed as a result of lack of scientific certainty. The selected construction contractor(s) would be required to prepare a construction environment management plan prior to commencing construction. This requirement would ensure that the Project achieves a high-level environmental performance.

G.1.2.2 Principle of inter-generational equity

It is recognised that the construction of the Project has the potential to lead to some environmental and social disturbance. This includes some disturbance during road upgrades and construction activities at each site. However, the potential for environmental and social disturbance as a result of construction has to be balanced against the long-term benefits of providing essential waste management infrastructure for the region and improving resource recovery.

The Project would redirect approximately 58% (from 18%-20% currently) of waste from landfill into a potential use with a higher resource value through a combination of improved recycling and processing of food/garden organics. Recovering recyclable materials from a waste stream, that would otherwise have gone to landfill conserves raw material resource such as iron ore, bauxite and fossil fuels (used for production of steel, aluminium and plastics), and saves trees due to recovery of paper and cardboard. This is a direct benefit to future generations.

Recycling also captures the embodied energy contained within the recyclates – significantly reducing the energy demand that would be required to manufacture using virgin materials.

The Project would also deliver improved diversion of paper, cardboard and timber from the C&I waste stream and timber from the C&D stream through differential landfill gate pricing to encourage source separation of C&I wastes and increased landfill gate pricing for C&D waste to encourage source separation of recyclable materials.

Diversion of food/garden organics as well as paper, cardboard and timber from landfill saves methane emissions that would otherwise have been generated from their anaerobic decomposition in landfill. Methane is a potent greenhouse gas with a global warming potential 21 times greater than carbon dioxide. Implementation of the Project would reduce the greenhouse gas emissions from the food and garden organics waste stream. This is also a direct benefit to future generations.

Production of marketable compost by the food and garden organics enclosed tunnel composting plant at the Euchareena Road Site reduces the need for chemical fertilisers, which improves water quality in rivers and streams. Its use may also improve the water retention ability of soils which reduces the need to water plants / crops. This preserves water resources for future generations.

The Project incorporates increased resource recovery measures over the 2005 proposal and the landfill footprint has been minimised. In addition a significant portion (42.3 ha) of the remaining cleared land will be designated for ongoing agricultural use and that a 13.6 ha area of cleared land at the northern part of the property would be dedicated to improving biodiversity and designated as a rehabilitation corridor. The final landform also allows some agricultural production at the site after closure of the landfill.

Furthermore, the high quality compost output from the enclosed tunnel composting facility would be



suitable for application to farmlands in lieu of chemical fertilisers. The Proponent proposes to make this compost available at no cost for two years to local farmers and contribute to enhanced agricultural productivity in surrounding areas. This has a benefit to future generations.

In addition, the Project would improve local employment potential and contribute to economic growth in the region and provide an important facility with minimal impact on the local visual environment.

G.1.2.3 Conservation of biological diversity and ecological integrity

Ecological studies have been undertaken to identify potential adverse impacts on flora and fauna. These specialist studies have found that in both the short and long term, the biodiversity of the Ophir Road and Euchareena Road Sites would be conserved and maintained. Furthermore, in the case of the Euchareena Road Site, the biodiversity and ecological integrity of the site would be improved as a greater diversity of vegetation would be established through the proposed remnant woodland enhancement, planting of the rehabilitation corridor and planting of native flowering flora in other areas.

At the Euchareena Road Site, it is proposed that the landfill footprint would be in the order of 12 ha and a further 8 ha would be required for operating buildings, the compost maturation area, roadways etc. However 89.6 ha of the 109.6 ha of cleared land would be used for purposes other than waste management. Approximately 42.3 ha would be designated for ongoing agricultural use and 13.6 ha of cleared land would be dedicated to improving ecological diversity. In addition, further plantings would be undertaken to enhance the existing sparse western and northeastern woodlands which would improve ecological integrity.

G.1.2.4 Improved valuation and pricing of environmental resources

The assessment has identified the environmental and other consequences of the Project and identified mitigation measures where appropriate to manage adverse impacts. The construction and operation of the Project would be in accordance with relevant legislation and the construction and operation environmental management plans. Requirements imposed in terms of implementation of these measures would result in an economic cost to the Proponent. The implementation of mitigation measures would increase both the capital and operating costs of the Project. This signifies that environmental resources have been given appropriate valuation.

The design for the Project has been developed with an objective of minimising potential impacts on the surrounding environment. This indicates that the design for the Project has been developed with an environmental objective in mind.

The economic costs of the Project, including environmental works and management, will be reflected in rates, gate fees and pricing of products (such as compost and recyclables).



G.2 Justification of the Project

G.2.1 Overview

The justification for the Project is based on a number of factors:

- ▶ The Project is consistent with the strategic direction for waste management in NSW and the Proponent's corporate objectives and strategic drivers;
- ▶ The Project provides a unique opportunity to implement alternative waste technologies in the Central West Region;
- ▶ The Project would assist in satisfying regional demand for landfills for residuals that exceed accepted standards set by the NSW EPA (DECCW) for regional facilities;
- ▶ The Project would enable other regional councils to reduce waste management costs and access alternative waste technologies at reasonable cost;
- ▶ The sites are environmentally suitable for the proposed use;
- ▶ The Project uses proven and affordable technologies that best matches the Orange situation; and
- ▶ Provides opportunities for regional cooperation.

These factors are summarised below.

G.2.2 The Strategic Direction for Waste Management in NSW

The Project would deliver outcomes consistent with state legislation and strategies for sustainable waste management. These include the *Waste Avoidance and Resource Recovery Act 2001*, the *Waste Avoidance and Resource Recovery Strategy 2007*, and the *Sydney Metropolitan Strategy*.

The Project aligns with the philosophy of viewing waste as a resource – and recovering resources in their highest net resource value state. The recovery of resources in this manner creates value from the waste stream.

It is estimated that up to 58% of waste that the Project would process each year, would be diverted from landfill. Optimised operations and differential charging for mixed and segregated wastes would improve this diversion rate in future years.

G.2.3 The Proponent's Corporate Objectives and Strategic Drivers

The Proponent is committed to the principles of waste avoidance and resource recovery through its own *Environmental Sustainability Action and Management Plan 2009-12* and through NetWaste. The Proponent is committed to providing environmentally sound and sustainable waste management solutions that improve resource recovery, and reduce the quantities of waste being disposed to landfill.

The Project as outlined in this Environmental Assessment implements the Proponent's *Resource Recovery and Waste Management Strategy* with an integrated plan for improved resource recovery and residual management with proposed new operations at the Ophir Road RRC and proposed Euchareena Road RRC. Section A.3.8.2 describes the five core activities that form the Strategy implementation:

- ▶ New residential food/garden organics collection service;



- ▶ Processing of food/garden organics at the Euchareena Road RRC;
- ▶ Recovery of dry recyclable materials at the Ophir Road RRC;
- ▶ Baling of mixed residual waste at the Ophir Road RRC; and
- ▶ Disposal of mixed residual waste at Euchareena Road RRC.

The Project would meet the objectives and Strategy of the Proponent.

G.2.4 Need for Alternative Waste Technologies

The NSW Government has set targets for waste diversion by 2014. Recycling of municipal waste is to be increased from a baseline of 26% of waste to be diverted from landfill, to 66% to be diverted by 2014. However, the total amount of diversion by recovering paper and recyclable containers alone has leveled out. The only way councils will achieve the 66% diversion target is to recover organic components of the waste stream (e.g. food) through an alternative waste management system. This project includes an alternative waste technology (enclosed tunnel composting) to recover food and garden organics from the waste stream.

G.2.5 Suitable Sites

Both sites are zoned for the proposed use. A comprehensive alternative site study was undertaken (as discussed in section E.1) which confirmed the suitability and merit of the Euchareena Road Site for waste processing and disposal.

G.2.6 Proven Technologies

The technologies proposed for the Project are already operating successfully. Baling operations and 'balefills' are currently underway at a number of locations (e.g. South Australia, Ballina). Fully functioning enclosed tunnel composting technologies have been operating in Australia (e.g. Port Macquarie) for a number of years.

G.2.7 Regional Options

The Project components and facility locations have been designed to facilitate access to the AWT to encourage positive regional environmental outcomes. The Project delivers the only regional option for the Central West. No one else has done this or is likely to.



G.3 Conclusions

This Environmental Assessment has considered the potential impacts of the Project. It has been prepared in accordance with the provisions of Part 3A of the *Environmental Planning and Assessment Act 1979* and the requirements of the Director-General of the NSW Department of Planning. The Environmental Assessment has documented the potential environmental impacts associated with the Project, considering both potential positive and negative impacts of the Project, and recommending management and mitigation measures to protect the environment where required.

Environmental investigations were undertaken during the preparation of the Environmental Assessment to assess the potential environmental impacts. These included specialist assessment on issues involving air quality and odour, traffic, noise, greenhouse gas emissions, biodiversity, and heritage.

Overall the Project would:

- ▶ Divert valuable resources from landfill and permit recovery and recycling of resources from the waste stream;
- ▶ Significantly reduce greenhouse gas emissions through:
 - Recovering (for recycling) homogenous streams of plastic, metal and glass; and
 - Avoiding emissions from material that would otherwise be landfilled (from both Orange City and regional LGAs).
- ▶ Reduce disposal to landfill of potential resources and assist the Proponent and potentially other regional councils in achieving their targets for diversion of waste from landfill; and
- ▶ Minimise odour, litter, noise and traffic impacts on the local community.

The Project would also provide benefits through development of a new industry and new employment opportunities in the region.

The Environmental Assessment has examined a number of key issues surrounding the Project, including identification of potential negative impacts. There are no major environmental issues with this project. The main potential impacts requiring normal levels of environmental management are:

- ▶ Air quality and odour;
- ▶ Noise;
- ▶ Traffic and transport; and
- ▶ Surface water.

The Environmental Assessment concludes that many of the potential issues identified would be effectively managed through project design features. To manage other issues, and in some cases eliminate them completely, a number of mitigation and management measures (commitments) that would be undertaken are outlined in section PART F.

Commitments made by the Proponent include the preparation of a construction environmental management and operational environmental management plan to ensure that the mitigation and management measures are developed, implemented and monitored. These plans would also ensure compliance with relevant legislation and any conditions of approval.