



Gold Coast City Council

2020 VISION ON WASTE

GOLD COAST CITY COUNCIL

SEPTEMBER 2002

SOLID WASTE ADVISORY COMMITTEE

*A solid waste management
strategic plan for Gold Coast City*

SINCLAIR KNIGHT MERZ

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FOREWORD

On behalf of Council's Solid Waste Advisory Committee I am pleased to present *2020 Vision on Waste*, Gold Coast's first Solid Waste Management Strategic Plan.

In recent years, there has been an increasing recognition of the impact of traditional waste management practices on the environment. At the same time, emerging technology has enabled some forms of waste to be seen as a valuable resource.

Successfully negotiating the transition from a 'throw-away' society to one that optimises beneficial reuse of resources and responsible solid waste management will require careful planning. *2020 Vision on Waste* is intended to be at the forefront of this planning.

The Advisory Committee recognises that the management of solid wastes for resource recovery will only be achieved through cooperation among all levels of government, industry and the community. In other words, it will require a partnership approach.

In drafting *2020 Vision on Waste*, therefore, the Advisory Committee chose to follow a consultative model. Vital in this regard, has been the feedback obtained from industry and community members during the public waste forums in November 2001 and public exhibition of the Consultation Draft over April and May 2002.

The next stage of the planning process is to begin the challenging task of implementing the Plan – of turning the vision into reality. With continuing cooperation among all levels of government, industry and the community, members of the Advisory Committee are confident the City can meet this challenge, and achieve truly sustainable solid waste management in Gold Coast. We hope you share our optimism and commit to playing your part by becoming an active supporter of *2020 Vision on Waste*, both now and in the future.



Cr Jan Grew
Councillor Division 11 Gold Coast City Council
(Chair – Solid Waste Advisory Committee)

How to enquire further about *2020 Vision on Waste*

This document is the final version of the Solid Waste Management Strategic Plan. Gold Coast City Council welcomes any enquiries relating to *2020 Vision on Waste*. Please direct all such enquiries to:

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EXECUTIVE SUMMARY

2020 Vision on Waste is the Solid Waste Management Strategic Plan for Gold Coast City. It has been prepared to meet the requirements of the *Environmental Protection (Waste Management) Policy 2000*. The over-riding purpose of this Policy is the promotion of more sustainable, integrated management of the State's solid wastes.

2020 Vision on Waste focuses on ways in which Gold Coast City can develop its capacity to be more sustainable and integrated in its approach to solid waste management. Sustainable management of solid waste involves managing resources in ways which provide for current economic, social and environmental needs without compromising the ability of future generations to meet their own needs. A key theme throughout the Plan is to address the perception of the community that waste is an unwanted commodity, and shifting this perception to one where waste is seen as a RESOURCE. This shift may have significant implications for the Gold Coast community, given that some 437 447 tonnes of solid waste was produced in Gold Coast during 2000/01. This figure, which excludes both clean fill material delivered to Gold Coast City Council (GCCC) landfills and the large amounts of inert wastes believed to be received by the City's three private landfills, is only likely to increase as the region's population and economy expands.

2020 Vision on Waste is a wholistic approach to waste management and recognises that the decisions of waste management agencies such as Regional Organisations of Councils (ROCs) and State Government Authorities need to be coordinated. Local authority plans cannot be inconsistent with regional strategies or with state policy and many actions will need both the cooperation of state authorities and regional organisations for their implementation.

2020 Vision on Waste addresses all areas of solid waste management based on the waste management hierarchy of *avoidance, re-use, recycling, energy recovery and disposal*. In this way the City can plan for and support sustainable use of solid waste products as resources. The Plan has seven major sections and two appendices.

- **Section 1. Introduction** provides information on the scope and development of the Plan including the make up of the Solid Waste Advisory Committee (SWAC).
- **Section 2. Background** identifies and describes the legislative requirements under the Queensland Government's *Environmental Protection (Waste Management) Policy 2000*. The City's population growth and economic characteristics together with the current situation in each of the major waste sectors are also discussed. The section concludes by canvassing some key issues that required special consideration by the Plan.
- **Section 3. Working Towards Solutions** describes the particular interpretation of the waste management hierarchy used to develop the Plan.
- **Section 4. The Way Ahead** describes an overall vision for the Plan, including overarching goals and programs in the seven strategic areas of Education, Infrastructure and Services, Market Development, Advocacy and Coordination, Regulatory, Research and Development and Monitoring and Review.
- **Section 5. Waste Streams** details which of the programs contribute to achieving desirable outcomes in one of four waste sectors: Council Generated, Domestic, Commercial and Industrial and Construction and Demolition.
- **Section 6. Summary of Programs** provides a tabulated list of the strategy areas, the programs within them, together with details of how each of the programs contribute to the various waste sectors.
- **Section 7. Action Plans** provides a description of the individual programs, including program overviews, actions, timeframes, responsibilities and funding source details.
- **Appendix A. Data Sources** references the major sources of information used in the document's compilation.
- **Appendix B Consultation Report** summarises the outcomes of the various *2020 Vision on Waste* consultation events including the formation of the SWAC, holding of the public and invitational waste forums series and release of the Consultation Draft for comment.

1. INTRODUCTION

2020 Vision on Waste is the Solid Waste Management Strategic Plan for Gold Coast City. It is a response to the increasingly urgent need both to manage solid waste more strategically for environmental, economic and social reasons and to conform with new legislative requirements under the *Environmental Protection (Waste Management) Policy 2000*.

2020 Vision on Waste addresses all areas of solid waste management: from waste prevention and minimisation to its collection, treatment, resource recovery and final disposal. Liquid, gaseous and other wastes (such as noise) are not covered in this Plan as these either are, or eventually will be, the subject of complementary strategies within Gold Coast City Council (GCCC). In addressing solid waste management issues, *2020 Vision on Waste* is:

- Forward-looking. The Plan establishes a program to manage waste in ways that are economically and technically feasible, environmentally safe and publicly acceptable. In doing so, however, it remains sufficiently flexible to allow for incorporation of new and emerging technologies and/or appropriate responses to be made in the event of changes in the solid waste stream itself.
- Comprehensive. The Plan outlines actions for implementing the Queensland Government's waste management hierarchy of *avoidance, re-use, recycling, energy recovery* and *disposal* and the associated principles of *polluter pays, user pays* and *product stewardship*.
- Collaborative. The Plan enhances Council's capacity to coordinate and cooperate with industry and the community, other tiers of government and neighbouring Councils on solid waste management.

Development of *2020 Vision on Waste* was overseen by the Solid Waste Advisory Committee (SWAC). The Committee was established by Council in August 2001, following a public advertisement for community representatives. The members of the SWAC were:

Cr Jan Grew (Chair – GCCC)
Cr Peter Drake (Deputy Chair – GCCC)
Cr Peter Young (Councillor Member – GCCC)
Ms Colette McCool (Community Services – GCCC)
Mr Adrian Smith (Gold Coast Waste Management – GCCC)
Mr Evan Thomas (Environmental Planning – GCCC)
Mr Michael Yakimoff (Community Services – GCCC)
Ms Lynn Whitfield (Queensland Environmental Protection Agency)
Ms Carole Smith (Gold Coast Tourism Bureau)
Dr Andreas Nata-atmadja (Queensland University of Technology)
Mr Nathan Radley (The Heilbronn Group)
Mr Ben Perkins (Gold Coast and Hinterland Environment Council)
Ms Barbara Hart (Codyhart Consulting Pty Ltd)

Technical support was provided by David Silcox and Elizabeth Baker of Sinclair Knight Merz.

The SWAC was required to have regard for the following criteria when developing *2020 Vision on Waste* for Council:

- i. The principles of Ecologically Sustainable Development;
- ii. The waste management hierarchy and principles as detailed in the *Environmental Protection (Waste Management) Policy 2000*;
- iii. Financial and sustainability impacts on Council, local industries and the community;
- iv. The compatibility of *2020 Vision on Waste* with the proposed Gold Coast Planning Scheme and with integrated waste management planning for the region;
- v. Existing facilities, services, and markets in the region and emergence of new technologies; and
- vi. Predicted population profiles, residential, industrial and commercial development and resulting solid waste generation.

Development of *2020 Vision on Waste* was based on the collection, review and, where appropriate, analysis of available data on solid waste within the City. These data have been summarised in **Section 2** and their sources are presented in **Appendix A**. The broader community was invited initially in November 2001 to provide their perspectives and ideas on this information at a series of six public forums. In addition, two invitation-only forums accessed specialist input from the waste management contractors currently licensed with GCCC and from GCCC officers. A final round of public consultation occurred over April and May 2002 with the release and public exhibition of a *2020 Vision on Waste* Consultation Draft. See the Consultation Report (**Appendix B**) for a summary.

The Solid Waste Management Strategic Plan has considered the time period until 2020. Under the legislation a review of the Plan will be carried out within a period not greater than 5 years.

2. BACKGROUND

2.1 The legislative context

The Queensland Government's *Environmental Protection (Waste Management) Policy 2000 Part 7 Division 1* requires that:

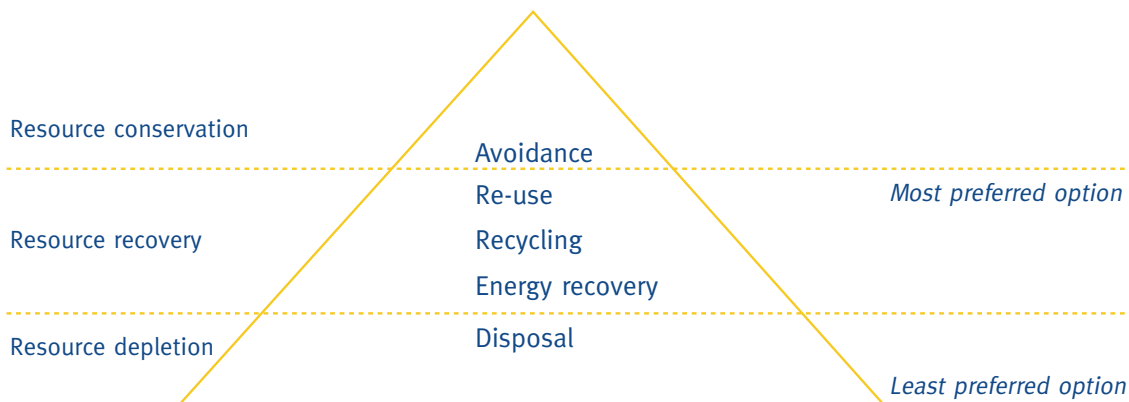
"A local government must prepare and adopt a waste management strategic plan for its area, and start to implement the plan – (a) within 3 years after this policy commences."

Mandatory in the above regard is the local government's consideration of:

"(a) current and predicted information about the following matters relating to its area:

- i. Population profiles;
- ii. Residential, industrial and commercial development;
- iii. Waste generation types and amounts; and
- iv. The services, markets, and facilities relevant to dealing with different types and amounts of waste."

Consideration is also required of the waste management hierarchy which promotes waste avoidance, minimisation and recycling over current waste treatment and disposal practices as a means of obtaining more optimal environmental outcomes (see **Figure 1**). The aim is to decrease the reliance on waste disposal as a means of waste management and increase the importance of those elements situated higher in the hierarchy.



■ **Figure 1: The waste management hierarchy**

In addition to the waste management hierarchy, the Policy prescribes adherence to a number of guiding principles that are acknowledged internationally as being central to sustainable waste management. These key principles are:

- The *polluter pays principle*, which is the principle that all costs associated with the management of waste (including waste minimisation, treatment, disposal and environmental remediation costs) should, if practicable, be borne by the people who generated the wastes;
- The *user pays principle* that all costs associated with the use of a resource should, if practicable, be included in the prices of goods and services (including government services) that result from that use; and
- The *product stewardship principle* that producers, designers and/or importers of products have the ultimate responsibility for minimising any environmental harm resulting from the production/importation, proper use or disposal of such products.

2.2 City characteristics

Gold Coast is attracting increasing numbers of residents, tourists, and industries, all of which have important implications for the management of solid waste. This is because, historically, waste generation types and quantities have been closely linked to demographic and economic conditions.

2.2.1 Demography

Gold Coast's population remains one of the fastest growing in Australia, placing considerable pressure on City infrastructure, including waste management infrastructure, to cater for such growth.

In June 2000, Gold Coast had an estimated permanent population of 405 392, increasing from 380 000 persons in 1998. The population is forecast to increase to 484 320 in 2006. This translates to an increase of about 12 000 - 13 000 persons per year. Longer term, the population in Gold Coast is expected to further expand to about 665 000 people by 2020.

Current trends are indicating that in 40 to 50 years' time, the population in Gold Coast will reach one million residents. The area of influence of Gold Coast is expected to expand to around 2.5 million people during this period.

Gold Coast maintains a diverse and vibrant international character receiving over three million interstate and 855 000 overseas visitors each year. During peak holiday periods, the visitor population is boosted by increased numbers of day-trip visitors. Moreover, the resident population of Gold Coast remains a highly mobile one, due mainly to the high inward migration rate. In 1996 for example, just 36.9% of persons aged 5 years and over were resident at the same address five years before the 1996 Census compared to 45.2% for Queensland and 53.3% for Australia.

The population density of Gold Coast presently stands at 279 persons per km². Areas closest to the coast, including Surfers Paradise, Palm Beach and Coolangatta, are the most densely populated suburbs. Present trends are indicating that the centre of gravity in the City is moving slowly westward.

Areas in the City expected to experience the largest growth include Helensvale, Oxenford, Coomera, Robina and Mudgeeraba.

The fact that the majority of the Gold Coast population still resides, however, in relatively developed areas along the coastal strip, makes finding suitable sites for waste management facilities close to the point of generation especially difficult in these areas. Development is further constrained by environmentally important and sensitive areas. There is, therefore, strong competition between land uses for development, and this will only intensify following adoption of the new Gold Coast Planning Scheme.

2.2.2 Industrial and economic base

Tourism related activities dominate industrial activity in the Gold Coast area. Accommodation, cafes and restaurants, property and business services and construction are all also strongly represented. In relative terms, however, the fastest growing industry sectors are health and community services, communication services, cultural and recreational services and property and business services.

On average one-fifth of Gold Coast's population are visitors. During peak holiday periods, this proportion increases. The impact of tourism on the City's waste management system is considered to be significant. Although not completely known, experience elsewhere suggests food wastes and associated packaging are likely to be among the major wastes generated by tourists and day-trippers to the Gold Coast.

Medical and biotechnology industries are continuing to grow and are becoming an increasingly important contributor to the Gold Coast economy. They bring with them a variety of waste management issues, particularly with respect to clinical and related wastes.

Manufacturing also raises a range of waste management issues. This is a key employment sector, with food and beverage manufacturing and the marine manufacturing and components industries being the more significant.

Building on Gold Coast's increasing technological base and specific environmental management needs, the City is projected to also further develop its environment industries. Included among these Industries are resource recovery for beneficial reuse, waste treatment technology development, waste minimisation and cleaner production.

2.3 Gold Coast's solid waste

The quantities, types and sources of the materials disposed in the City are an important aspect of waste management planning. The information available relates to solid waste collected kerbside or that deposited at one of GCCC's five landfills, ten transfer stations or four rural bin stations. There are three licensed private landfills believed to be accepting significant quantities of inert wastes (primarily construction and demolition materials) but for which little public data is available. The available data also does not take into account possible cross border migration of wastes. Commercial generation, transfer and disposal of inert (i.e., non-putrescible) wastes are not fully reported to the State at this time since there are limited regulatory requirements for the private sector to provide this information.

Putrescible waste refers to waste that will rot, for example, food scraps. Clean fill refers to materials such as sand and soil.

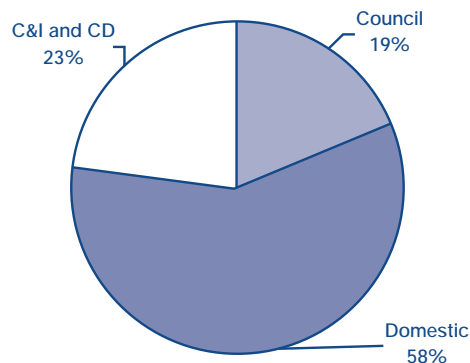
In 2000/01 a total of 437 447 tonnes (excluding clean fill) of solid waste was handled by GCCC's waste management facilities at an overall cost of \$27 320 720. This equates to 1.1 tonnes of solid waste per capita per year. Of the total amount, approximately 13% was diverted from landfill through recycling, mulching and other waste diversion methods.

Table 1 lists the total tonnage of waste (including recycling) received by GCCC in 2000/01.

Recycling Source	Tonnes	Percentage of waste received
Waste received at GCCC landfills (excluding clean fill)	391 399	89.5%
Recyclables via GCCC kerbside recycling scheme	17 058	3.9%
Waste received at GCCC transfer stations	28 990	6.6%
Total	437 447	100%

■ **Table 1: Total tonnage of waste handled by GCCC (including recycling)**

Solid waste is generated from a mix of Domestic (i.e., household), Commercial and Industrial (C&I), Construction and Demolition (C&D) and Council sources. Of these, the domestic sector accounts for the largest percentage of waste in the City (58%) (**Figure 2**).



■ **Figure 2: Gold Coast solid waste stream by contributing sector.**

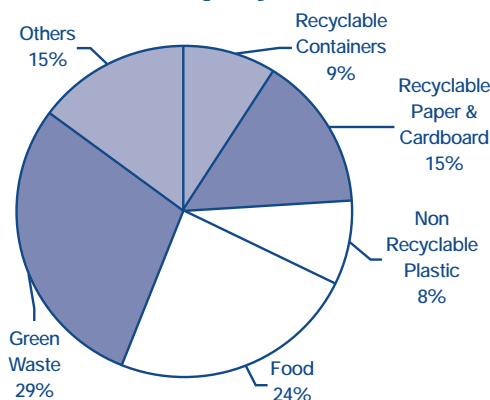
A breakdown of the sectors and their respective percentages of waste follows.

2.3.1 Domestic

The most comprehensive data available for the Domestic waste stream is derived from a waste audit conducted for GCCC in October 2000. It found the average weight of garbage generated per household in the City had risen from 10.9kg per week in 1997 to 14.0kg per week in 2000, representing an increase in weight of 28.6%.

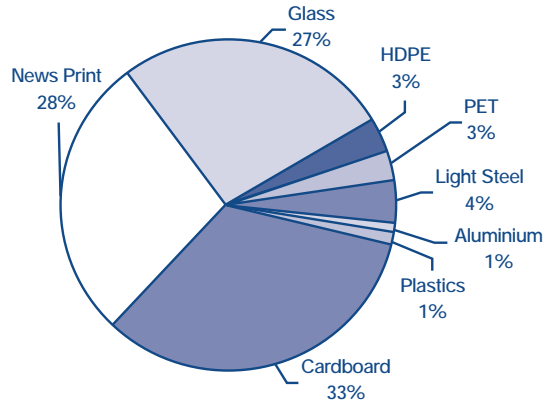
Organic materials accounted for approximately 53% of the disposed Domestic waste stream. This represents a lost opportunity for recovering what could otherwise be a valuable resource for the City.

The composition of the Domestic waste stream is shown in **Figure 3**.

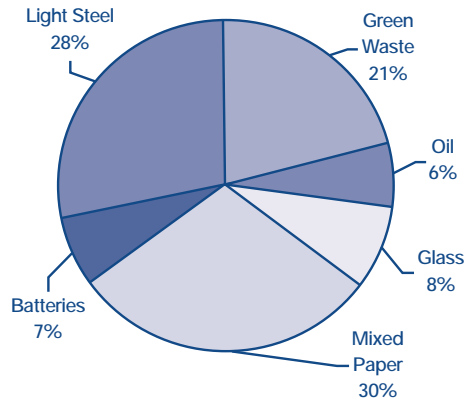


■ **Figure 3: Composition of the Domestic waste stream**

A small percentage of the overall Domestic waste stream is diverted through kerbside recycling or the removal of recyclables at transfer stations. The composition of kerbside recycling collection is shown in **Figure 4**. The composition of recyclable material taken to transfer stations is shown in **Figure 5**.

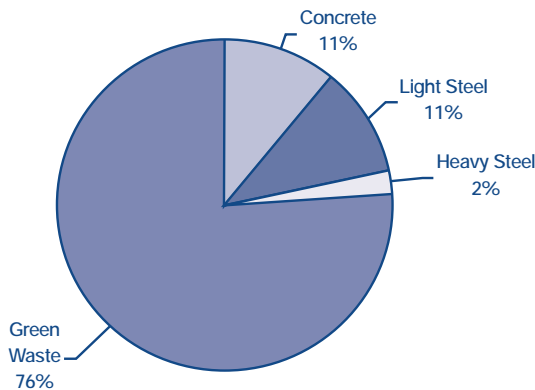


■ **Figure 4: Composition of kerbside recyclable collection**



■ **Figure 5: Composition of Domestic recycled material taken to transfer stations.**

The amount of Domestic recyclable materials being taken to landfill solely by householders is not known. The recyclables being delivered to landfills can be sourced from domestic, commercial or industrial premises. **Figure 6** illustrates the relative percentage of different recyclable materials being delivered to landfill by individuals rather than by collection services.



■ **Figure 6: Relative composition of recyclables taken directly to GCCC landfills.**

2.3.2 Commercial and industrial (C&I)

There has not been any detailed waste stream analysis of C&I wastes (which include clinical and related wastes) conducted specifically for Gold Coast.

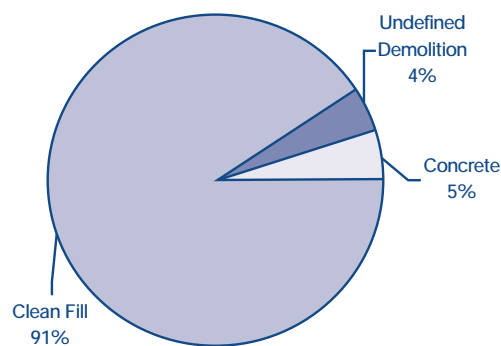
Indicative data from other sources suggest that over one third are putrescible wastes. Timber waste and clean fill each could be expected to contribute ten percent, with slightly lower concentrations of plastics and paper and cardboard. Other components are likely to be metals, glass, textiles, ceramics and rubber (Source: Inner Sydney Waste Board Strategic Plan, 1997.)

Data concerning clinical and related wastes is largely unavailable and highly variable, with estimates varying from 6 tonnes per week to 5.4 tonnes per year. This situation should change in future reporting years following the introduction in Queensland of mandatory tracking of hazardous wastes in July 2002.

2.3.3. Construction and demolition (C&D)

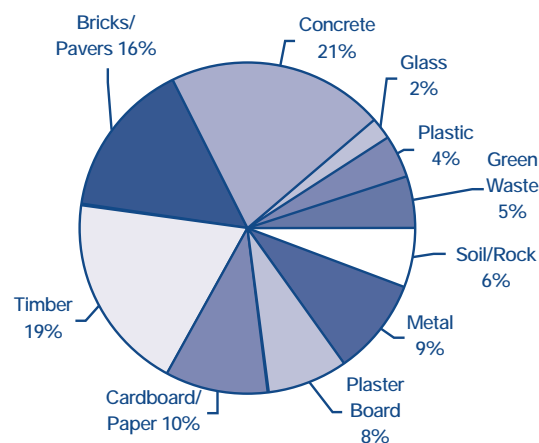
C&D waste is to a certain extent included within the C&I waste stream.

An approximate percentage breakdown of the C&D waste delivered to GCCC landfills is illustrated in **Figure 7**. The quantities delivered to the private landfills within the City or to other landfills outside the City are not known.



■ **Figure 7: Construction and demolition waste delivered to GCCC landfills.**

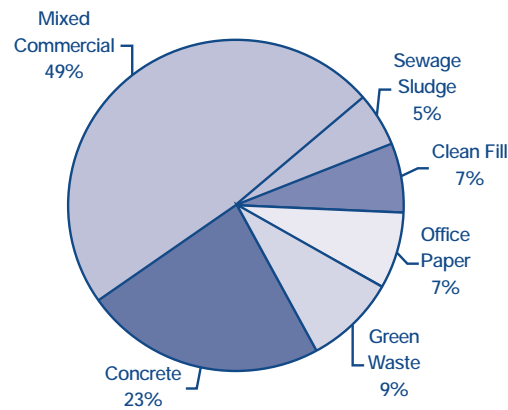
Owing to the manner in which solid waste disposal data is currently recorded in Gold Coast, the precise composition of this C&D material is not known. An indicative composition is provided in **Figure 8**. (Source: Environmental Protection Agency, Draft for Comment Construction and Demolition Waste Study, November 2000).



■ **Figure 8: Indicative composition of construction and demolition waste going to landfill.**

2.3.4 Council

Among the major GCCC generated wastes are mixed commercial, concrete and green waste. No comprehensive data are presently kept of the specific composition of Council's own waste stream: what is known is illustrated in **Figure 9**.



■ **Figure 9: Composition of Council generated waste.**

2.4 Key issues

The future quantity of waste to be dealt with by the Plan over the next 20 years is dependent on a variety of factors, including:

- Population growth;
- Lifestyle and consumption patterns;
- Government initiatives;
- Economic activity;
- Diversion rates;
- The use of existing disposal facilities; and
- The role of the private sector in the regional waste management system.

As noted previously, Gold Coast's population is expected to exceed 665 000 by 2020. In addition, Gold Coast has a visitor population of approximately 70 000 at any one time and receives around 6 million day trip visitors per year. The average waste generation rate is presently 1.1 tonnes per person (includes residents and visitors). Of this, 13% is currently diverted from landfill (recycling figure excludes stockpiled materials awaiting beneficial reuse). Kerbside recycling accounts for approximately 4% of the total diversion from landfill. Based on these figures and assuming the same diversion rate, the amount of waste to be dealt with annually in Gold Coast by 2020 is conservatively estimated to be 636 405 tonnes (less clean fill). This equates to an increase of approximately 68% over current quantities.

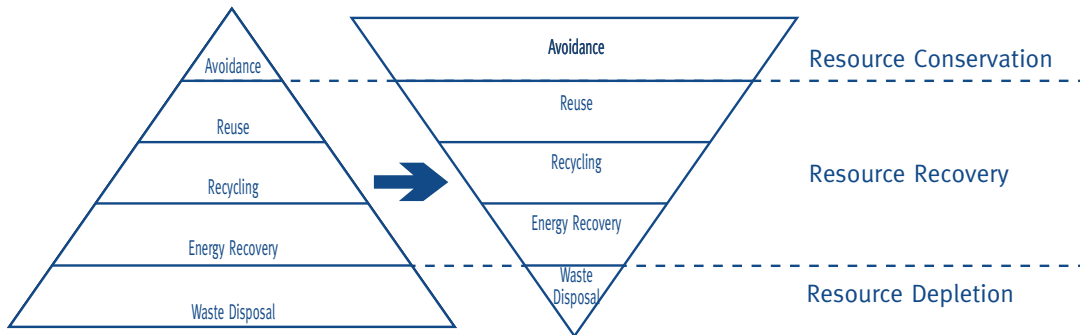
One issue that is particularly relevant to Gold Coast's future waste management needs is its aging building infrastructure. As this infrastructure approaches the end of its economic life, it can be expected that there will be a considerable increase in both demolition and construction wastes.

Another factor is the unsustainable nature of current landfill practices. While landfills can be made to be more sound from an environmental perspective and are expected to continue to have a role as the final option, they are becoming harder to site, more difficult to justify to affected residents, and more costly in terms of maintenance and remediation. Further weakening the legitimacy of current landfill practices in Queensland is the State Government's embracing of the waste management hierarchy, which promotes diversion prior to landfill as being highly desirable.

Another key concern to be addressed by *2020 Vision on Waste* is the relative lack of reliable waste data. Related to this problem is the difficulty associated with providing workable definitions of different types of wastes. Consistent definitions will assist with the collection of long-term rigorous data, which in turn will assist in the monitoring, review and continuous improvement of waste management practices.

3. WORKING TOWARDS SOLUTIONS

2020 Vision on Waste is structured within the principles of the waste management hierarchy. The focus of the Plan is to move from a dependence on disposal to an emphasis on resource conservation and recovery (see **Figure 10**). Resource conservation is a direct way of reducing the demand for and hence depletion of natural resources. Resource recovery is about capturing the value of waste products through using re-use, recycling and energy recovery strategies, thereby supporting resource conservation efforts and minimising resource depletion.



■ **Figure 10: The inversion of the waste management hierarchy.**

The Plan endeavours to ensure that resource conservation and recovery are more attractive options than traditional forms of disposal to landfill.

Simple definitions of these terms are provided below.

Resource conservation

Avoidance Preventing the generation of or reducing the amount of waste generated.
Example: less packaging.

Resource recovery

Reuse Re-using waste without first substantially changing its form.
Example: demolition materials and second-hand clothing.

Recycling Treating waste that is no longer useable in its present form and using it to produce new products.
Example: plastics, composting, crushed concrete and aluminium cans.

Energy recovery Recovering the energy content of waste.
Example: incineration and gasification to produce electricity.

Resource depletion

Waste disposal Disposal of waste.
Example: landfill.

4. THE WAY AHEAD

4.1 A vision

GCCC's corporate vision is stated as:

Naturally the world's best place to be ... because we will create a city that is recognised internationally for the quality, diversity, and sustainability of its lifestyle, economy, and environment. The Gold Coast's future will be secure as Australia's most desirable place to live and favourite place to visit.

The vision for *2020 Vision on Waste* complements and contributes to the corporate one:

Naturally the world's best solid waste manager ... because we will change the solid waste management focus from collection and disposal to resource conservation and recovery and thus contribute to sustainable use of natural resources to enhance our lifestyle, economy and environment for current and future generations.

4.2 Overarching goals

The goals, which Gold Coast City will strive to achieve through implementation of *2020 Vision on Waste*, lie in seven strategic areas. These are listed below (in no particular order):

Education

Broad community commitment to the principles and practices of resource conservation and recovery.

Infrastructure and Services

World class waste management infrastructure and services.

Market Development

Successful assistance and marketing programs that increase demand for recycled products and materials.

Advocacy and Coordination

A leader in strategic alliances and partnerships providing effective advocacy for best practice waste management for local industry and the community.

Regulatory

Exemplary waste management regulation.

Research and Development

Innovative research and development partnerships providing new and sustainable waste management technologies and practices.

Monitoring and Review

Continuous improvement through monitoring, review and reporting of waste management achievements.

4.3 Strategic program areas

Each of the Plan's overarching goals is in turn supported by a suite of strategic programs of action that provide direction on how to reach each of these goals. These programs are briefly described below, (again in no particular order):

4.3.1 Education

Goal

Broad community commitment to the principles and practices of resource conservation and recovery.

Description

Reducing resource depletion and increasing resource conservation and recovery depend on increasing awareness, improving understanding and changing behaviours throughout the community. The community includes the householder, the visitor, those involved in industry and GCCC itself.

Education has to occur across all age groups and community sectors. While the benefits may appear to be long-term, education also can deliver short and medium term positive outcomes. In order to be effective, the means and content of educational initiatives need to reflect contemporary perspectives and to reinforce the underlying principles of resource conservation and recovery.

2020 Vision on Waste includes 8 programs within the education area. A number of education actions will be used to achieve outcomes in each waste sector (see **Section 5**). Action plans are provided in **Section 7**.

4.3.2 Infrastructure and services

Goal

World class waste management infrastructure and services.

Description

Waste management practices can be heavily influenced by the availability of services and infrastructure within both the public and the private sectors. Infrastructure and services development over the period of this Plan will be dependent on emerging resource recovery technologies and environmental business opportunities, together with the community's understanding and willingness to embrace positive change.

Partnerships between Council, industry and the community with regard to the financing and efficient and economic use of waste infrastructure and services will be established within a stable and transparent framework that provides mutual benefit to all parties concerned.

2020 Vision on Waste includes 10 programs within the infrastructure and services area. A number of infrastructure and services actions will be used to achieve outcomes in each waste sector (see **Section 5**). Action plans are provided in **Section 7**.

4.3.3 Market development

Goal

Successful assistance and marketing programs that increase demand for recycled products and materials.

Description

Several principles within the waste management hierarchy apply directly to market development, including user pays and polluter pays. Markets can be given economic signals and incentives/disincentives that support the development of particular waste management practices or outputs. Markets can be developed and supported through specific actions, such as purchasing policies and changes to materials standards.

There are links between market development actions and the outcomes from education and infrastructure and services activities. Increasing awareness of the availability and suitability of resources available through the waste management and recovery process can stimulate increased demand for these products.

2020 Vision on Waste includes 3 programs within the market development area. A number of market development actions will be used to achieve outcomes in each waste sector (see **Section 5**). Action plans are provided in **Section 7**.

4.3.4 Advocacy and coordination

Goal

A leader in strategic alliances and partnerships providing effective advocacy for best practice waste management for local industry and the community.

Description

GCCC proposes to work with industry and look for ways to support their initiatives, both for waste minimisation and for industry development. Active coordination and collaboration with other levels of government and with other local governments in the region will also facilitate positive waste management outcomes for Gold Coast.

2020 Vision on Waste includes 5 programs within the advocacy and coordination area. A number of advocacy and coordination actions will be used to achieve outcomes in each waste sector (see **Section 5**). Action plans are provided in **Section 7**.

4.3.5 Regulatory

Goal

Exemplary waste management regulation.

Description

A sound and effective regulatory framework is necessary to support the positive changes in waste management practices towards resource conservation and recovery and protection of the environment.

Regulation may occur at source, in line with the principle of product stewardship, at point-of-use and re-use, and at disposal. Regulatory actions can occur within Council's jurisdiction of planning and development policies. Council can also act as a supporter for regulatory action and reform at other government levels.

2020 Vision on Waste includes 6 programs within the regulatory area. A number of regulatory actions will be used to achieve outcomes in each waste sector (see **Section 5**). Action plans are provided in **Section 7**.

4.3.6 Research and development

Goal

Innovative research and development partnerships providing new and sustainable waste management technologies and practices.

Description

Concepts such as "ecologically sustainable development" will remain little more than concepts unless the research and development process can develop alternatives to current solid waste management/treatment systems. Fostering development of new and improved technologies that limit the use of non-renewable resources and generate and recover useable solid waste materials remains critical therefore.

2020 Vision on Waste includes 2 programs within the research and development area. A number of research and development actions will be used to achieve outcomes in each waste sector (see **Section 5**). Action plans are provided in **Section 7**.

4.3.7 Monitoring and review

Goal

Continuous improvement through monitoring, review and reporting of waste management achievements.

Description

Monitoring and review initiatives are essential to track progress towards resource conservation and recovery goals. Measurable targets and actions for data collection and analysis are components of this strategic area. The monitoring and review process will assist Council to map progress on and make adjustments to its strategic solid waste management initiatives.

2020 Vision on Waste includes 2 programs within the monitoring and review area. These programs will be used to assess progress in reaching the goals for each waste sector (see **Section 5**). Action plans are provided in **Section 7**.

5. WASTE STREAMS

5.1 Council generated

The actions relating to the wastes from Council’s operations are shown in **Table 2**. Many of the actions affecting the waste from Council’s operations relate also to the other waste streams. Actions that specifically target Council include public place recycling, a Council operations waste management plan and guidelines for waste management planning for special events such as festivals and concerts.

Strategy	Program	Program Number
Education	Communication and promotion	1
	Council officer training/liaison	2
	Cross regional community education	3
Infrastructure & Services	Public place recycling	12
	Contaminated soil and dredging	14
Market Development	Multi-lateral market development	19
	Resource exchange register	20
	Purchasing policies	21
Advocacy & Coordination	Cross regional coordination	22
	Industry waste reduction responsibility	23
	Gold Coast Waste Management: review of business unit	26
Regulatory	Waste management plans special events	27
	Review of planning controls & regulatory instruments	28
	Council operations waste management plan (WMP)	29
	Fees and levies (user pays principle)	30
	Legislative reform	31
	Litter control and illegal dumping strategies	32
Research & Development	Ecologically sustainable development research	33
	Research/trials projects	34
Monitoring & Review	Determination of Key Performance Indicators (KPIs)	35
	Data gathering, analysis and reporting	36

■ Table 2: Council programs

5.2 Domestic

The actions for the Domestic sector (**Table 3**) focus on education as well as demonstration of the ways in which householders can engage in resource conservation and recovery. The key initiatives include a green waste promotion plan and collection services for household hazardous waste and white/electronic goods.

Strategy	Program	Program Number
Education	Communication and promotion	1
	Council officer training/liaison	2
	Cross regional community education	3
	Waste Awards Scheme	6
	Green waste promotion	8
Infrastructure & Services	Long term putrescible waste treatment and disposal facility	10
	White goods and electronic goods collection	13
	Domestic collection services	15
	Household hazardous waste collection	16
	Transfer facilities network review	17
	Sharps collection/disposal	18
Market Development	Multi-lateral market development	19
Advocacy & Coordination	Cross regional coordination	22
	Industry waste reduction responsibility	23
	Container labelling	25
	Gold Coast Waste Management: review of business unit	26
Regulatory	Fees and levies (user pays principle)	30
	Legislative reform	31
	Litter control and illegal dumping strategies	32
Research & Development	Ecologically sustainable development research	33
	Research/trials projects	34
Monitoring & Review	Determination of Key Performance Indicators (KPIs)	35
	Data gathering, analysis and reporting	36

■ Table 3: Domestic programs

5.3 Commercial and industrial (C&I)

The actions for the C&I sector (Table 4) focus on working with industry to develop waste management planning as an integral part of doing business. The key initiatives include a waste audit manual and assistance with the development of waste management plans. There is also an award scheme to recognise the efforts this sector makes in resource conservation and recovery initiatives.

Strategy	Program	Program Number
Education	Communication and promotion	1
	Council officer training/liason	2
	Cross regional community education	3
	Industry technical assistance program & seminar series	4
	Waste Audit Manuals	5
	Waste Awards Scheme	6
	C&D and C&I Waste auditing & planning demonstration projects	7
Infrastructure & Services	Development of resource recovery facilities	9
	Long term putrescible waste treatment and disposal facility	10
	C&D and C&I waste audit service	11
	White goods and electronic goods collection	13
	Sharps collection/disposal	18
Market Development	Multi-lateral market development	19
	Resource exchange register	20
	Purchasing policies	21
Advocacy & Coordination	Cross regional coordination	22
	Industry waste reduction responsibility	23
	Container labelling	25
	Gold Coast Waste Management: review of business unit	26
Regulatory	Regulatory waste management plans special events	27
	Review of planning controls & regulatory instruments	28
	Fees and levies (user pays principle)	30
	Legislative reform	31
	Litter control and illegal dumping strategies	32
Research & Development	Ecologically sustainable development research	33
	Research/trials projects	34
Monitoring & Review	Determination of Key Performance Indicators (KPIs)	35
	Data gathering, analysis and reporting	36

Table 4: Commercial and Industrial programs

5.4 Construction and demolition (C&D)

The actions for the C&D sector (Table 5) focus on developing ways in which to maximise the beneficial re-use of materials resulting from construction and demolition activities. Some of the key initiatives include waste auditing and best practice manuals and the push for development of specifications for recycled construction and demolition products.

Strategy	Program	Program Number
Education	Communication and promotion	1
	Council officer training/liaison	2
	Cross regional community education	3
	Industry technical assistance program & seminar series	4
	Waste Audit Manuals	5
	Waste Awards Scheme	6
	C&D and C&I Waste auditing & planning demonstration projects	7
Infrastructure & Services	Development of resource recovery facilities	9
	C&D and C&I waste audit service	11
	Contaminated soil and dredging	14
Market Development	Multi-lateral market development	19
	Resource exchange register	20
	Purchasing policies	21
Advocacy & Coordination	Cross regional coordination	22
	Industry waste reduction responsibility	23
	Specification for recycled C&D products	24
	Gold Coast Waste management: review of business unit	26
Regulatory	Review of planning controls & regulatory instruments	28
	Fees and levies (user pays principle)	30
	Legislative reform	31
	Litter control and illegal dumping strategies	32
Research & Development	Ecologically sustainable development research	33
	Research/trials projects	34
Monitoring & Review	Determination of Key Performance Indicators (KPIs)	35
	Data gathering, analysis and reporting	36

■ Table 5: Construction and Demolition programs

6. SUMMARY OF PROGRAMS

The programs within each of the strategic areas and their input into each waste stream area are listed in **Table 6**. See **Section 7** for details of each program.

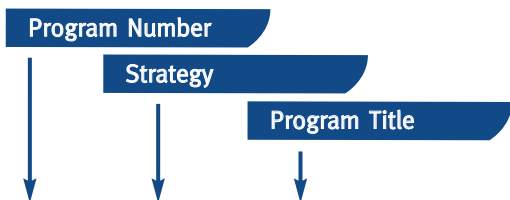
Note: The abbreviations refer to the waste streams 'D' = Domestic; 'C&I' = Commercial and industrial; 'C&D' = Construction and demolition; 'C' = Council generated.

Strategy	Program	No.	D	C&I	C&D	C
Education	Communication and promotion	1	✓	✓	✓	✓
	Council officer training/liaison	2	✓	✓	✓	✓
	Cross regional community education	3	✓	✓	✓	✓
	Industry technical assistance program & seminar series	4		✓	✓	
	Waste Audit Manuals	5		✓	✓	
	Waste Awards Scheme	6	✓	✓	✓	
	C&D and C&I waste auditing & planning demonstration projects	7		✓	✓	
	Green waste promotion	8	✓			
Infrastructure & Services	Development of resource recovery facilities	9		✓	✓	
	Long term putrescible waste disposal capacity	10	✓	✓		
	C&D and C&I waste audit service	11		✓	✓	
	Public place recycling	12				✓
	White goods & electronic goods collection	13	✓	✓		
	Contaminated soil and dredging	14			✓	✓
	Domestic collection services	15	✓			
	Household hazardous waste collection	16	✓			
	Transfer facilities network review	17	✓			
	Sharps collection/disposal	18	✓	✓		
Market Development	Multi-lateral market development	19	✓	✓	✓	✓
	Resource exchange register	20		✓	✓	✓
	Purchasing policies	21		✓	✓	✓
Advocacy & Coordination	Cross regional coordination	22	✓	✓	✓	✓
	Industry waste reduction responsibility	23	✓	✓	✓	✓
	Specification for recycled C&D products	24			✓	
	Container labelling	25	✓	✓		
	Gold Coast Waste Management: review of business unit	26	✓	✓	✓	✓
Regulatory	Regulatory waste management plans special events	27		✓		✓
	Review of planning controls & regulatory instruments	28		✓	✓	✓
	Council operations waste management plan	29				✓
	Fees and levies (user pays principle)	30	✓	✓	✓	✓
	Legislative reform	31	✓	✓	✓	✓
	Litter control and illegal dumping strategies	32	✓	✓	✓	✓
Research & Development	Ecologically sustainable development research	33	✓	✓	✓	✓
	Research/trials projects	34	✓	✓	✓	✓
Monitoring & Review	Determination of Key Performance Indicators (KPIs)	35	✓	✓	✓	✓
	Data gathering, analysis and reporting	36	✓	✓	✓	✓

■ Table 6: Programs

7. ACTION PLANS

Legend



1 Education – Program title

AVOID	✓✓✓
RE-USE	✓✓✓
RECYCLE	✓✓
ENERGY RECOVERY	✓
DISPOSAL	

Key to waste hierarchy	
Not relevant to the program	no tick
Minor element of program	✓
Substantial element or program	✓✓
Major element of program	✓✓✓

A description of the program.

- STRATEGY:** Indicates the strategy by which an outcome will be achieved.
- PROGRAM TITLE:** Captures the activity proposed.
- PURPOSE:** States the intent of the program.
- DESCRIPTION:** Provides an overview of the activities making up the program.
- WASTE STREAM:** Indicates the waste stream/s affected by the program.
- TARGET:** Indicates desirable program outcomes.
- MONITORING:** Indicates the ways in which progress towards targets will be measured.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Description of individual tasks	Period in which action is to be achieved. Short term refers to the period before the first review of the Plan in 2007/8; medium term to approximately 2012/13; and long term is the duration of the Plan - to 2019/20			Party responsible and (Parties with significant input into the Action)	Source of funds for the Action

Key to Abbreviations

CBO	Community Based Organisations	CG	Commonwealth Government
EPA	Queensland Environmental Protection Agency	GCCC	Gold Coast City Council
IND	Industry	LGAQ	Local Government Association of Queensland
OC	Other Councils (adjacent to Gold Coast)	QH	Queensland Health
SCH	Education Queensland (schools)	SROC	South East Queensland Region of Councils
TAFE	Colleges of Technical and Further Education	UNI	Universities

PROGRAM 1

1 Education – Communication and Promotion

AVOID ✓✓✓ RE-USE ✓✓✓ RECYCLE ✓✓✓ ENERGY RECOVERY ✓ DISPOSAL ✓

PURPOSE: To promote awareness and understanding of *2020 Vision on Waste* and associated program initiatives to all levels of the Gold Coast Community and encourage ongoing involvement in their implementation.

DESCRIPTION: Ongoing, effective communication to all stakeholders about solid waste issues and their solutions will be crucial to the success of local waste education programs aimed at changing personal attitudes and behaviours and engendering wide support for improvements in the existing solid waste management system.

The components of the Communication and Promotion program include:

- a comprehensive promotional strategy capable of both reaching and responding to the diverse needs of the Gold Coast Community;
- a *2020 Vision on Waste* newsletter for distribution to key stakeholders via established community, business and professional networks; and
- appropriate reference committees, waste groups and/or strategic alliances for ongoing two way communication on waste issues.

WASTE STREAM: All.

TARGET: An increased level of awareness, understanding and acceptance of waste as a resource and of participation in sustainable waste management practices.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Develop Council's communication strategy and promotional material for industry and community audiences	X			GCCC (EPA, CBO)	GCCC
Launch <i>2020 Vision on Waste</i> Action Plan and suite of promotional information/pamphlets	X			GCCC (EPA, CBO)	GCCC
Extend promotional material for special events recycling and marketing opportunities with key stakeholder groups	X			GCCC (EPA, IND, CBO)	GCCC, IND
Waste Sculpture Project		X		GCCC (SCH, IND, CBO)	GCCC, IND
Further development of promotional material for special events, resource recovery and marketing opportunities	X	X	X	GCCC (SCH, IND)	GCCC, IND

PROGRAM 2

2 Education – Council Officer Training/Liaison

AVOID ✓✓✓ RE-USE ✓✓✓ RECYCLE ✓✓✓ ENERGY RECOVERY ✓✓ DISPOSAL ✓✓

PURPOSE: To increase the proportion of GCCC officers with the knowledge and skills necessary to serve as effective change agents for *2020 Vision on Waste*.

DESCRIPTION: GCCC Officers will be crucial to the successful implementation, monitoring and review of the Plan. It is therefore essential that officers have a thorough understanding of resource conservation and recovery concepts and industry practices.

Training requirements and options for the following occupational groups within GCCC will be identified:

- Environmental Health Officers – waste plans of premises, collection services and wet/dry waste services;
- Planners – Environmental and specifically waste management issues affected by planning regulations (e.g., domestic collection access arrangements and siting of facilities);
- Waste Officers – operational waste management issues;
- Waste Projects Officers – Council officer education, industry and community education and liaison;
- Council Engineers – waste minimisation and resource recovery on Council Engineering projects;
- Parks Officers – waste minimisation and resource recovery on Council Parks projects; and
- Purchasing Officers – preferential purchasing of items that are recyclable, re-useable or made from recycled materials.

WASTE STREAM: All.

TARGET: A developed skill base used internally by Council officers and externally by industry and the community.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Identify training requirements for Council Staff	X			GCCC	GCCC
Develop generic training programs within Council	X			GCCC (EPA, IND)	GCCC
Conduct training with bi-annual review		X	X	GCCC	GCCC

PROGRAM 3

3 Education – Cross-Regional Community Education

AVOID ✓✓✓ RE-USE ✓✓ RECYCLE ✓✓ ENERGY RECOVERY ✓✓ DISPOSAL ✓

PURPOSE: To support and assist in the design and implementation of regionally consistent, broad based waste education and promotion campaigns.

DESCRIPTION: This program relates to development of educational materials and campaign strategies at a regional and/or state level to maximise available expertise and resources and to encourage full participation in solid waste initiatives.

GCCC will work with other Councils, levels of government and industry associations to ensure consistency, wherever possible, of educational messages and to take advantage of expertise and resources.

GCCC’s existing community and school education programs will continue to evolve with updates of educational material occurring as new cross regional initiatives come on line.

WASTE STREAM: All.

TARGET: Integration of waste education and promotion activities/messages across regions.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Design concept for Cross-Regional Community Education program to encourage waste reduction and resource recovery	X			SROC (EPA, SCH, CBO)	GCCC, SROC
Detail design, programming and implementation (newspaper, TV, talkback radio, other)	X			GCCC, EPA, SROC	GCCC, EPA, SROC, IND
Continue with education programs for Primary Schools and establish separately for Secondary Schools via curriculum and projects	X			GCCC, SROC (EPA, SCH)	GCCC, SROC
Implement and review annually	X	X	X	GCCC, SROC (EPA, SCH)	GCCC, SROC

PROGRAM 4

4 Education – Industry Technical Assistance Program and Seminar Series

AVOID ✓✓✓ RE-USE ✓✓✓ RECYCLE ✓✓✓ ENERGY RECOVERY ✓✓✓ DISPOSAL

PURPOSE: To raise industry awareness and understanding of waste management issues and opportunities.

DESCRIPTION: Whilst the broader education process may occur at a state or cross-regional level there is a need for a more hands on approach to educate and assist local industry. When it can be demonstrated to industry that waste management and resource conservation options are available locally, there is a greater likelihood that such options will be supported and adopted.

A seminar series, designed to keep local industry stakeholders up to date with waste management practices will provide a forum for the discussion of local and regional waste management issues as they affect industry and the GCCC’s progress in achieving the Plan’s targets. This will increase local industry’s knowledge of and participation in waste minimisation and resource recovery activities.

WASTE STREAM: C&I, C&D.

TARGET: Increased participation in waste minimisation and resource recovery activities by local businesses and industry.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Identify education needs for C&D, C&I, and domestic waste sectors/streams		X		GCCC (EPA, IND)	GCCC, EPA
Development of seminar program for each waste sector/stream		X		GCCC (EPA, IND, UNI)	GCCC, IND
Ongoing development and implementation of programs for each waste sector/stream with tri-annual review		X	X	GCCC (EPA, IND)	GCCC, IND

PROGRAM 5

5 Education – Waste Audit Manuals

AVOID ✓✓✓ RE-USE ✓✓✓ RECYCLE ✓✓✓ ENERGY RECOVERY ✓✓ DISPOSAL ✓

PURPOSE: To provide the C&D and C&I sectors with practical waste auditing and planning resources.

DESCRIPTION: The C&D Waste Audit Manual is intended to provide developers and builders with a self help guide to reduce waste, promote resource recovery and prepare waste management plans. It will focus on design, demolition and construction and fit out stages of projects and identify approaches to minimisation, reuse and recycling of materials, ranging from purchasing to materials recovery.

The C&D Waste Audit Manual will be supported by an industry best practice code that is endorsed by the construction and demolition industry.

The C&I Waste Audit Manual will provide a resource for small businesses and industries to do their own in-house waste audits, to consider alternative approaches to cleaner production and to develop a waste management plan within the context of their own business environments.

The C&I Waste Audit Manual will reflect the range of industry types relevant to the Gold Coast. It will contain best practice/model plans to enable C&I waste generators to prepare their own waste plans.

The Audit Manuals will contain common sense ideas on how to characterise the waste being generated correctly. Experience elsewhere suggests that in many cases owners/managers are surprised by the amounts of waste actually being generated, how much it is costing them and consequently the cost savings that are achievable.

WASTE STREAM: C&D, C&I.

TARGET: Improved access to self-help information for C&D and C&I sectors aimed at increasing waste reduction and avoidance business practices.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Develop draft C&D and C&I waste audit manuals for a range of industry types		X		GCCC, IND (EPA, TAFE)	GCCC, IND
Trial industry use of draft waste audit manuals, review field results and finalise format for manuals (incorporating best practice examples)		X		GCCC (IND, TAFE)	GCCC
Staged publication and promotion of manuals for C&D and C&I sectors		X	X	GCCC (IND, EPA, TAFE)	GCCC
Review of C&D and C&I manuals by sector survey (alternate years)			X	GCCC (IND, EPA, TAFE)	GCCC

PROGRAM 6

6 Education – Waste Awards Scheme

AVOID ✓✓✓ RE-USE ✓✓ RECYCLE ✓✓✓ ENERGY RECOVERY DISPOSAL

PURPOSE: To publicise and reward waste management excellence in the C&D, C&I and Domestic sectors.

DESCRIPTION: As producers of significant quantities of waste, the C&D industry can play a significant role in implementing resource conservation and minimisation measures. The C&D waste award will recognise businesses in this sector that develop innovative programs to reduce the amount of waste produced. City-wide promotion through press releases to local media will give awardees public recognition for their efforts and can be used later to further their own marketing strategies.

The C&I Waste Awards will highlight the sector’s achievements in waste reduction and resource recovery targets and acknowledge and publicise environmental responsibility and excellence. Such an award is of considerable commercial value to local and small business due to the publicity it provides and it is considered that numerous industry associations would want to be involved.

The Community Waste Award will recognise and reward those in the residential community who have made a considerable effort to reduce waste in a number of specified domestic waste categories. Included among these categories, will be a specific award for garden waste minimisation achievements.

The categories and criteria for each of the above awards will be developed in conjunction with relevant industry and community representatives. The results of the awards will be promoted widely to demonstrate practical resource conservation and resource recovery measures.

WASTE STREAM: C&D, C&I, Domestic.

TARGET: Increased recognition for businesses, organisations and individuals undertaking waste minimisation.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Establish criteria for City waste awards in accordance with industry associations’ Codes of Practice			X	GCCC (IND, EPA, CBO)	GCCC
Seek and judge entries from industry associations and general industry for award recognition			X	GCCC (IND, EPA, UNI, CBO)	GCCC
Annual awards (includes contribution to existing regional awards)	X	X	X	GCCC (IND, SROC, CBO)	GCCC
Review awards scheme			X	GCCC	GCCC
Awards scheme presentation and promotion			X	GCCC (IND, EPA)	GCCC, IND

PROGRAM 7

7 Education – C&D and C&I Waste Auditing and Planning Demonstration Projects

AVOID ✓✓✓ RE-USE ✓✓ RECYCLE ✓✓✓ ENERGY RECOVERY ✓✓ DISPOSAL ✓

PURPOSE: To achieve improvements in waste reduction in the C&D and C&I sectors.

DESCRIPTION: This program is designed to expand the interaction between GCCC and local businesses for the purposes of waste minimisation by providing specific encouragement for the development of waste management plans in Gold Coast's diverse C&D and C&I sectors.

GCCC proposes to identify and work with interested local businesses on a series of waste management planning demonstration projects. Building on **Program 5**, these projects would be designed to walk businesses through the waste auditing and planning process highlighting the user-friendliness of both the C&D and C&I waste audit manuals and the benefits of implementing effective waste minimisation practices.

WASTE STREAM: C&D, C&I.

TARGET: Increased waste avoidance and resource recovery by target industries within C&I and C&D sectors.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Identify and secure the participation of a range of C&D and C&I partners in a series of waste auditing/planning projects		X		GCCC (EPA, IND, TAFE)	GCCC, IND
Trial voluntary waste audits/plans at selected industry sites using waste audit manuals and methodologies developed in Program 5		X	X	GCCC (IND)	GCCC
Evaluate demonstration projects, document suitable case studies and feed results into waste audit manual review and promotion processes			X	GCCC (EPA, IND, TAFE)	GCCC

PROGRAM 8

8 Education – Green Waste Promotion

AVOID ✓✓✓ RE-USE ✓✓ RECYCLE ✓✓ ENERGY RECOVERY DISPOSAL

PURPOSE: To increase householder awareness of, and participation in, low cost green waste management practices.

DESCRIPTION: The program examines the on-site management of domestic green waste and is designed to educate householders, through practical demonstration, how they can minimise green garden waste.

Guidelines will be produced to show how, through careful planning, the amount of domestic waste can be significantly reduced. The use of native plants will be identified, along with composting and water management practices. The guidelines will cover the range of garden types in the city, ranging from large landscaped suburban allotments to small town house gardens.

WASTE STREAM: Domestic.

TARGET: Beneficial re-use of green waste.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Prepare guidelines to reduce garden green waste in home gardens	X			GCCC (IND, EPA, CBO)	GCCC
Develop educational material for home composting, worm farming, and other methods to suit varying space and lifestyle needs within the region	X			GCCC (IND, SCH, EPA, CBO)	GCCC
Development of case studies	X			GCCC (IND, EPA, CBO)	GCCC
Annual Promotion of case studies and program review	X	X	X	GCCC (IND, EPA, CBO)	GCCC, IND

PROGRAM 9

9 Infrastructure and Services – Development of Resource Recovery Facilities

AVOID RE-USE ✓✓ RECYCLE ✓✓✓ ENERGY RECOVERY ✓ DISPOSAL

PURPOSE: To ensure that the current and future infrastructure needs of the resource recovery industry are identified and met.

DESCRIPTION: In order to recover materials from the C&D and C&I waste streams economically and efficiently, it is crucial that there be suitable retrieval facilities located in reasonable proximity to where waste is generated. This is because in many instances little or no source separation of wastes can be achieved at the site of generation.

The intent of this program is, therefore, to assist in the development of Resource Recovery Facilities for the C&D and C&I waste streams in line with the priorities identified in GCCC’s regional economic development strategy.

WASTE STREAM: C&D, C&I.

TARGET: Increased opportunity for economically viable recycling.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Seek expressions of interest and identify suitable existing facilities and suitable sites for establishing new facilities	X			GCCC (IND, EPA, SROC)	GCCC
Negotiate future operating agreement with Owners	X			GCCC (IND, SROC)	GCCC
Facilitate establishment of facilities	X	X	X	GCCC (EPA, IND, SROC)	GCCC

PROGRAM 10

10 Infrastructure and Services – Long Term Putrescible Waste Disposal Facilities

AVOID RE-USE RECYCLE ✓ ENERGY RECOVERY ✓✓ DISPOSAL ✓✓✓

PURPOSE: To secure a long term and sustainable solution for the management of putrescible solid wastes for Gold Coast.

DESCRIPTION: GCCC has an obligation to ensure that disposal capacity is available for the residual wastes that require disposal after appropriate waste minimisation strategies have been applied. One of the most difficult of these residues is the putrescible waste from the domestic and commercial/industrial sectors.

The outcomes of a recent commercial expressions of interest process, involving neighbouring councils, suggest scope exists for Gold Coast to pursue an alternative waste treatment solution for the future management of its putrescible solid wastes, which reduces the City’s reliance on landfill.

GCCC will continue to examine and validate, in association with its project partners, the environmental, economic and social viability of the various alternative treatment technologies/solutions available.

WASTE STREAM: C&I, Domestic.

TARGET: Viable long-term arrangements for treatment and residual disposal of putrescible waste.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Continue with the identification, assessment, and selection of suitable long term alternative waste treatment technologies and facility locations	X			GCCC (OC)	GCCC
Assess/validate options and negotiate long term alternative waste treatment contract	X			GCCC (OC)	GCCC
Award Contract	X			GCCC (OC)	GCCC
Ongoing review of contract and technologies	X	X	X	GCCC (OC)	GCCC

PROGRAM 11

11 Infrastructure and Services – C&D and C&I Waste Audit Service

AVOID ✓✓✓ RE-USE ✓✓ RECYCLE ✓✓✓ ENERGY RECOVERY ✓✓ DISPOSAL ✓

PURPOSE: To promote waste audit services for small to medium size businesses in the C&D and C&I sectors.

DESCRIPTION: To assist small to medium sized business premises to carry out a waste audit and implement a waste minimisation plan, a service linking them with waste audit/waste management planning providers will be developed. The program will also promote industry sponsorship from industry associations for waste auditing and planning.

The Audit Service would build upon the C&D and C&I manuals and templates and best practice examples (covered in **Programs 5 and 7**), as well as the information and data gleaned from the series of award schemes to be held in these sectors.

WASTE STREAM: C&D, C&I.

TARGET: Increased awareness and use of waste auditing services by target businesses as a means for achieving positive environmental and commercial outcomes.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Assess feasibility of Waste Audit Service to C&D sector during development of C&D trials and manual		X		GCCC, IND (EPA, SROC)	GCCC
Assess feasibility of Waste Audit Service to C&I sector during development of C&I trials and manual		X	X	GCCC, IND (EPA, SROC)	GCCC
C&D Waste Audit Service			X	GCCC (IND)	GCCC
C&I Waste Audit Service			X	GCCC (IND)	GCCC

PROGRAM 12

12 Infrastructure and Services – Public Place Recycling

AVOID RE-USE RECYCLE ✓✓✓ ENERGY RECOVERY ✓ DISPOSAL

PURPOSE: To provide opportunities for recycling in public places.

DESCRIPTION: This program is designed to extend recycling behaviour from domestic to public place areas.
Public place recycling is a strong part of the education message. It raises awareness of recycling activities. Gold Coast has a valued tourist industry and many visitors are accustomed to recycling. This program highlights GCCC's commitment to providing a clean, environmentally friendly face to visitors and locals.

WASTE STREAM: Council generated.

TARGET: Environmentally sustainable management for litter in public places.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Review Council's report on public place recycling	X			GCCC	GCCC
Implement Council's decision on public place recycling	X	X	X	GCCC	GCCC

PROGRAM 13

13 Infrastructure and Services – White Goods and Electronic Goods Collection

AVOID RE-USE ✓✓ RECYCLE ✓✓✓ ENERGY RECOVERY DISPOSAL ✓

PURPOSE: To increase the re-use and recycling of white goods and electronic goods.

DESCRIPTION: This program is designed to establish a white goods and electronic goods collection service throughout the region.

Potential exists to repair and reuse many white goods and electronic appliances or to simply recycle these items for their scrap value.

The first stage of this program will be to review any current services provided either by Councils in the region or by private or community not-for-profit operators to better identify the nature and extent of the market opportunities that are available.

WASTE STREAM: Domestic, C&I.

TARGET: Beneficial re-use of targeted goods increased.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Review existing services and determine the feasibility of a coordinated South-East Queensland regional service being developed in cooperation with other Councils	X			GCCC, SROC (IND CBO)	GCCC
Identify suitable existing organisation(s) for re-use and recycling facilities		X		GCCC (IND, CBO)	GCCC
Introduce collection of white goods/electronic goods in accord with the Council's strategies		X		GCCC	GCCC
Facilitate improved operation of collection system		X	X	GCCC (SROC)	GCCC
Upgrade white goods/electronic goods collection services if necessary		X	X	GCCC (SROC, IND)	GCCC

PROGRAM 14

14 Infrastructure and Services – Contaminated Soil and Dredging

AVOID ✓ RE-USE ✓✓ RECYCLE ✓ ENERGY RECOVERY DISPOSAL ✓✓✓

PURPOSE: To ensure proper treatment and disposal methods continue to be employed for contaminated soil and dredged material.

DESCRIPTION: A major attraction to residents in Gold Coast is the availability of access to water frontage, either on natural rivers or via constructed channels. To maintain navigable rivers and channels maintenance dredging is periodically required. In most cases the dredged material is uncontaminated and can therefore be readily used as fill material. In other cases the dredged material may be contaminated or potentially acid forming soils, in which case appropriate treatment and disposal methods must be implemented.

GCCC will coordinate with the relevant State Government Departments to ensure proper treatment and disposal of contaminated or potentially contaminated dredged material from within its area. It is envisaged that a similar level of coordination would occur, again with the relevant State Government Departments, to address the issue of contaminated soils derived from land excavations within the Gold Coast area.

WASTE STREAM: C&D, Council generated.

TARGET: Coordinated treatment and disposal of contaminated soils and dredged material.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Set up coordination committee	X			GCCC (EPA, IND, DT)	GCCC
Coordinate treatment and disposal of contaminated soils and dredged material	X	X	X	GCCC (EPA, IND, DT, SROC)	GCCC

PROGRAM 15

15 Infrastructure and Services – Domestic Collection Services

AVOID RE-USE RECYCLE ✓✓✓ ENERGY RECOVERY ✓✓ DISPOSAL ✓

PURPOSE: To ensure the provision of whole-of-city domestic waste collection services.

DESCRIPTION: Several areas within the City are not serviced with domestic waste or recycling collection services. The premises within these areas dispose of their waste at the nearest transfer or rural bin station.

Through this program, GCCC will continue to examine opportunities for the equitable provision of recycling and waste collection/disposal services to all residents of the City.

WASTE STREAM: Domestic.

TARGET: Whole of city coverage for collection services.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Review expansion of Domestic Collection to areas currently not serviced	X			GCCC (CBO)	GCCC
Review expansion of Recycling Collection to areas currently not serviced	X			GCCC (CBO)	GCCC

PROGRAM 16

16 Infrastructure and Services – Household Hazardous Waste Collection

AVOID ✓✓ RE-USE ✓✓ RECYCLE ✓✓ ENERGY RECOVERY ✓ DISPOSAL

PURPOSE: To reduce inappropriate disposal of household hazardous waste and increase recovery rates.

DESCRIPTION: The household hazardous waste program is aimed at reducing landfill disposal of certain household hazardous products. The removal of hazardous waste from the domestic waste stream is proposed to be handled by:

- emphasising public awareness and education through promotion of the resource exchange register which identifies markets for recovered hazardous waste;
- working in with existing facilities such as service stations (oil), hardware stores (paints), chemists and hospitals (pharmaceuticals) which may already be engaged in the collection of certain household hazardous wastes; and
- reviewing the scope and nature of current arrangements for receiving household hazardous wastes at Council's own facilities with the view to establishing convenient local drop off sites within the City for receipt of other household chemicals and materials (i.e., paints, pesticides, fertilisers, etc). Exploration of private/public sector partnership arrangements would be expected to figure strongly in such a service review.

WASTE STREAM: Domestic.

TARGET: Reduced disposal of household hazardous waste to landfill.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Investigate with industry, community and other Councils household hazardous waste service options	X	X		GCCC (OC, CBO, IND, EPA, QH)	GCCC
Based on investigations, establish new and/or promote existing hazardous chemical and pharmaceutical drop off schemes	X	X		GCCC (IND, OC)	GCCC
Ongoing review and/or expansion of household hazardous waste schemes and facilities		X	X	GCCC (OC, CBO, IND, QH)	GCCC, IND

PROGRAM 17

17 Infrastructure and Services – Transfer Facilities Network Review

AVOID RE-USE RECYCLE ✓✓✓ ENERGY RECOVERY DISPOSAL

PURPOSE: To ensure an efficient and adequate network of transfer facilities for the Gold Coast.

DESCRIPTION: GCCC presently maintains a network of 14 solid waste transfer facilities throughout the City comprising of 10 waste transfer stations and 4 rural bin stations and has another 5 waste transfer stations planned.

It is vital that the waste transfer system in Gold Coast continues to evolve to accommodate regional growth as well as the changing needs and expectations of the City’s diverse customers.

Usage patterns at all Council owned transfer facilities will be investigated to determine the cost effectiveness of existing services. GCCC will evaluate whether the usage patterns indicate that facilities should be closed or the hours of operation modified, and if there is a demonstrated need to expand the materials collected. The investigation will also review ownership and design options for new and existing transfer facilities.

WASTE STREAM: Domestic.

TARGET: Effective waste transfer network established.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Review transfer station usage (both current and projected) as well as cost effectiveness and report on findings/options	X	X		GCCC	GCCC
Initiate staged implementation of review outcomes and review progress periodically	X		X	GCCC	GCCC

PROGRAM 18

18 Infrastructure and Services - Sharps Collection/Disposal

AVOID RE-USE RECYCLE ENERGY RECOVERY DISPOSAL ✓

PURPOSE: To coordinate and provide improved opportunities for safe and responsible disposal of used needles and syringes.

DESCRIPTION: The safe and efficient collection and disposal of needles and syringes (i.e., sharps) has become a major problem in some communities. With the high tourist and transient population in GCCC the issue of public place collection of used sharps needs to be addressed.

In this program, GCCC will continue to implement and monitor performance of its Safe Sharps Disposal Strategy. The Strategy's three aims are to:

- Act upon inappropriate disposal;
- Inform and raise awareness; and
- Promote coordination of responses.

WASTE STREAM: Domestic; C&I.

TARGET: Reduction of inappropriate disposal of used sharps.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Continue with implementation of GCCC decision on Draft Safe Sharps Disposal Strategy	X	X	X	GCCC (EPA, QH CBO)	GCCC
Review Strategy's effectiveness and revise actions accordingly	X	X	X	GCCC	GCCC

PROGRAM 19

19 Market Development - Multi-Lateral Market Development

AVOID RE-USE RECYCLE ✓✓✓ ENERGY RECOVERY ✓ DISPOSAL

PURPOSE: To increase demand for recycled products.

DESCRIPTION: This program supports the development of markets for recycled and environmentally friendly products. This is a high priority area, because recycling fails if markets for these recycled products are not developed. Market development involves many key stakeholders, and the market viability of a recycled material is related to its value per weight and transport costs.

Whilst the overall development of markets is a cross regional issue there are a number of specific classes of materials and sources of those materials that justify a South-East Queensland region specific approach with reinforcement across other regions. A Queensland Waste and Secondary Resource Industry Development Strategy (QWIDS) has been produced by the Department of State Development and the Environmental Protection Agency (EPA). The strategy aims to develop a competitive industry that encourages resource conservation and recovery for the ultimate betterment of the environment.

This program seeks to link with the aims and actions of QWIDS. Market development activities will be assessed on a priority and opportunities basis and will be undertaken in concert with other Councils and industry.

WASTE STREAM: All.

TARGET: An improved local market for recycled products.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Identify opportunities for market development that complement state and national initiatives in consultation with key stakeholders	X	X		GCCC (EPA, IND, UNI, CBO)	GCCC, IND
Undertake and support Local Market development campaigns with industry associations and local companies	X		X	GCCC (EPA, IND)	GCCC, IND
Ongoing identification of opportunities and implementation and review of progress		X	X	GCCC (IND, UNI)	GCCC, IND

PROGRAM 20

20 Market Development – Resource Exchange Register

AVOID RE-USE ✓✓ RECYCLE ✓✓ ENERGY RECOVERY ✓✓ DISPOSAL

PURPOSE: To encourage greater reuse/exchange of recycled materials.

DESCRIPTION: Often materials with value are discarded as waste due to a lack of a system that can identify regional uses for these materials. The establishment of the Resource Exchange Register by the EPA and the Local Government Association of Queensland (LGAQ) has provided the means to allow industry and the public to offer and seek particular secondary materials for re-use or recycling rather than seeing them consigned to landfill as waste.

The resource exchange register covers a wide range of materials, predominantly from the C&D and C&I sectors.

GCCC will actively promote the use of the resource exchange register. When doing so it will be important for GCCC to identify and develop materials markets (as per **Program 19**), and become involved in the development of specifications or standards for recycled products (as per **Program 24**). This will in turn help to promote confidence in the use of recycled products and greater market stability.

WASTE STREAM: C&D, C&I, Council generated.

TARGET: Increased participation in the Register.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Promote Resource Exchange Register to Council, businesses and the community	X			GCCC (LGAQ, CBO)	GCCC
Ongoing promotion and assistance with local updates of Register	X	X	X	GCCC (LGAQ, CBO)	GCCC

PROGRAM 21

21 Market Development – Purchasing Policies

AVOID ✓✓ RE-USE ✓✓ RECYCLE ✓✓✓ ENERGY RECOVERY DISPOSAL

PURPOSE: To increase recycled product markets through adoption of comprehensive purchasing policies.

DESCRIPTION: Government purchasing of recycled and recyclable content products can play a significant role in closing the recycling loop by creating demand for low environmental impact or “green” materials. In addition, government agencies through their purchasing practices can set an example for the private sector to use government standards and specifications.

GCCC’s existing Purchasing Policy incorporates green procurement provisions. Initial efforts under this program will therefore be targeted at promoting greater awareness and understanding of the Policy among Council staff as well as improving compliance levels. In association with the resource exchange register (**Program 20**) and the development of specifications for recycled C&D Products (**Program 24**), GCCC’s purchasing policies can eventually be expanded upon and promoted to the wider community.

WASTE STREAM: C&D, C&I, Council generated.

TARGET: Increase in recycled products purchased by Council.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Promote Purchasing Policies throughout GCCC	X	X	X	GCCC	GCCC
Develop model purchasing policy guidelines for various industry types in the C&D and C&I sectors	X	X		GCCC (IND)	GCCC
Ongoing development/promotion of purchasing guidelines and policies		X	X	GCCC	GCCC

PROGRAM 22

22 Advocacy and Coordination – Cross Regional Coordination

AVOID ✓✓ RE-USE ✓✓ RECYCLE ✓✓ ENERGY RECOVERY ✓✓ DISPOSAL ✓✓

PURPOSE: To promote cooperative waste planning/implementation activities.

DESCRIPTION: To promote more integrated solid waste management, the City will need to phase in a number of additional programs that are of regional significance. Many of these will require planning or implementation funds, Regional Organisations of Councils (ROCs) can help secure and allocate under their auspices. Both SouthROC and SEQROC have commissioned extensive solid waste planning studies that have identified common issues, such as education.

GCCC supports regional dialogue and the exploration of partnerships in the management of solid waste and will continue to identify potential cooperative efforts in this area through periodic review of its programs, participation in state sponsored waste industry development programs and ongoing membership of the SouthROC and SEQROC organisations.

WASTE STREAM: All.

TARGET: Demonstrated cooperation among regional Councils on waste management issues.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Continue to work with Regional Organisations of Councils to identify and review cross regional solid waste issues and develop appropriate collaborative responses	X	X	X	GCCC, SROC	GCCC

PROGRAM 23

23 Advocacy and Coordination – Industrial Waste Reduction Responsibility

AVOID ✓✓✓ RE-USE ✓✓✓ RECYCLE ✓✓✓ ENERGY RECOVERY DISPOSAL ✓

PURPOSE: To achieve extended producer responsibility for total product life cycle.

DESCRIPTION: GCCC has an important role in advocating for the development of Industry Waste Reduction Programs to achieve increased producer responsibility for products of concern to the community. As many industries operate on at least a State level GCCC will need to work with other Councils to develop priorities for advice to the EPA and relevant industries. GCCC will promote the concern of the local community to address relevant industries such as the packaging industry.

Industry needs to take responsibility for the whole life cycle of their products. GCCC will therefore be advocating for initiatives which reduce, return or recycle packaging products. This may include lobbying for initiatives such as container deposit schemes.

WASTE STREAM: All.

TARGET: Widespread adoption and implementation of Industry Waste Reduction Plans (IWRPs).

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Submissions to EPA, State Government and Federal Government to regulate for best practice industry waste management	X	X	X	GCCC, EPA (IND SROC)	GCCC
Involvement with development of Industry Waste Reduction Plans (IWRPs)	X			GCCC (EPA, SROC, IND)	GCCC, IND
Continue representations to gain introduction of best practice	X	X	X	GCCC (EPA, SROC, IND)	GCCC
Ongoing involvement with development of IWRPs	X	X	X	GCCC (EPA, SROC, IND)	GCCC

PROGRAM 24

24 Advocacy and Coordination – Specification for Recycled C&D Products

AVOID RE-USE RECYCLE ✓✓✓ ENERGY RECOVERY DISPOSAL

PURPOSE: To encourage the use of recycled materials through performance based specifications.

DESCRIPTION: Specifications and standards need to be established for low value waste products, especially those that are derived from the C&D sector. Standards need to be based on performance criteria so that recycled products can compete more evenly with new products.

By encouraging performance based criteria many markets become available for recycled products. The Waste Management Association of Australia (New South Wales Branch) in association with the Institute of Public Works Engineering have published a Draft Specification for Supply of Recycled Material for Roads, Drainage and Fill.

GCCC will investigate existing specifications developed for recycled products and develop usage policies. GCCC will seek to work with government agencies, other Councils, Standards Australia and the C&D industry to facilitate development and agreement upon appropriate specifications and standards.

WASTE STREAM: C&D.

TARGET: Amended specifications enabling increased use of recycled materials in construction activities.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Review Specifications/Standards/Codes for construction works for impediments to the use of recycled products with Industry and Government Agencies including Standards Australia	X	X	X	GCCC (IND, SROC, UNI)	GCCC, IND
Determine priorities according to construction volume and identify changes in Specifications/Standards/Codes that are required	X			GCCC (SROC, IND, UNI)	GCCC, IND
Lobby for changes in Specifications/Standards/Codes	X			GCCC (SROC, IND, EPA)	GCCC, IND
Development of relevant Specifications/Standards/Codes	X			GCCC (EPA, IND, SROC, UNI)	GCCC, IND
Ongoing development of Specifications/Standards/Codes	X	X	X	GCCC (EPA, IND, SROC, UNI)	GCCC, IND EPA

PROGRAM 25

25 Advocacy and Coordination – Container Labelling

AVOID ✓ RE-USE ✓ RECYCLE ✓✓✓ ENERGY RECOVERY DISPOSAL

PURPOSE: To promote consumer choices that will minimise solid waste generation.

DESCRIPTION: When encouraging consumers to engage in sustainable purchasing behaviour, it is important that sufficient product information be available to assist them in making more environmentally responsible choices.

GCCC recognises that the selection and labelling of consumer products is a national issue. GCCC will make representations, therefore, to the appropriate State and Federal bodies for the introduction of clearer labelling. In the longer term, such requirements should ensure product packaging is either reusable or recyclable.

WASTE STREAM: Domestic, C&I.

TARGET: Adoption of national labelling guidelines.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Lobby for clearer product labelling guidelines nationally				GCCC (CBO, SROC, EPA, IND)	GCCC, IND
Negotiate with State Government and key Stakeholders	X			GCCC (EPA, IND)	GCCC, IND
Assist in the publicising and implementation of an improved national labelling system		X	X	GCCC (EPA, IND, CBO, SCH)	GCCC, IND

PROGRAM 26

26 Advocacy and Coordination – Gold Coast Waste Management: Review of Business Unit

AVOID ✓ RE-USE ✓ RECYCLE ✓ ENERGY RECOVERY ✓ DISPOSAL ✓

PURPOSE: To ensure consistency and integration in the provision of waste management activities and initiatives within GCCC.

DESCRIPTION: Each of the GCCC Directorates is currently responsible for the management of their own solid waste. The Gold Coast Waste Management business unit is currently responsible for the provision of domestic waste collection, kerbside collection and the operation of the transfer stations and landfills, together with other ancillary waste management services.

To be effective, initiatives proposed under *2020 Vision on Waste* will need to be implemented in a coordinated and timely manner both inside and outside GCCC. GCCC will conduct a full review of Gold Coast Waste Management’s activities with a view to establishing the lead agency or agencies within Council with responsibility for waste management planning, implementation and advocacy.

WASTE STREAM: All.

TARGET: A coordinated approach to waste management within the City.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Review structure of Gold Coast Waste Management with a view to amending its role and responsibilities and report to Council	X			GCCC	GCCC
Implement Council’s decision	X			GCCC	GCCC

PROGRAM 27

27 Regulatory – Waste Management Plans Special Events

AVOID ✓ RE-USE RECYCLE ✓✓✓ ENERGY RECOVERY DISPOSAL ✓

PURPOSE: To minimise waste generated at special events.

DESCRIPTION: Presently, recycling services are either unavailable or often not used effectively at Gold Coast special events or at other public venues, which create significant quantities of packaging and food waste.

GCCC will develop a whole-of-city policy and/or system for recycling at special events held throughout the Gold Coast.

GCCC will also investigate, and if appropriate develop, a program for special event recycling that could include provision of temporary recycling containers, education programs for event staff, and removal of recyclables for processing. This program might:

- operate on a full cost recovery basis, whereby organisers of such events would cover the cost of the recycling service; or
- could be funded by GCCC and included in the overall recycling/events budget; or
- could operate with a combination of the two approaches.

GCCC will also consider developing a Local Law and/or policy that will require source separation of recyclable materials from the waste stream at special events and public venues in the City.

WASTE STREAM: C&I, Council generated.

TARGET: Participation in waste management planning for special events commonplace.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Produce Generic Waste Management Plans (WMPs) and requirements in association with event organisers	X			GCCC (IND, EPA,CBO)	GCCC, CBO
Trials with event organisers to provide and implement event specific strategies in association with industry	X			GCCC (IND, EPA, CBO)	GCCC, IND
Require Special Events WMPs for approval by GCCC	X			GCCC (IND, CBO)	GCCC
Monitor compliance and review guidelines	X	X	X	GCCC (IND, EPA, CBO)	GCCC, CBO

PROGRAM 28

28 Regulatory – Review of Planning Controls and Regulatory Instruments

AVOID RE-USE ✓✓ RECYCLE ✓✓✓ ENERGY RECOVERY ✓ DISPOSAL

PURPOSE: To ensure a consistent and proactive approach to the creation of planning controls and other regulatory instruments relating to solid waste management and the built environment.

DESCRIPTION: An appropriate legislative and policy framework comprising of both legal sanctions and financial incentives is essential if waste generators are to have sufficient incentive to implement waste minimisation measures. GCCC has identified the need to review planning and policy controls, affecting the operation of solid waste management and associated development activities within the City. In particular, consideration is to be given to the interpretation of the *Integrated Planning Act 1997* with regard to the establishment of temporary resource recovery and recycling operations for the C&D sector.

Moreover, GCCC will consider establishing improved regulatory requirements that encourage more sustainable waste management practices, through reviews of its existing policy and practices.

Review and formalisation of GCCC development assessment procedures and planning guidelines (to possibly require submission of waste minimisation plans) will also be considered. These issues will be examined in conjunction with industry, other Councils and relevant government agencies (e.g., EPA).

WASTE STREAM: C&D, C&I, Council generated.

TARGET: Planning and policy measures in place.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Review Waste Management Planning Policy for inclusion as an acceptable solution within the GCCC Planning Scheme	X			GCCC (IND, EPA)	GCCC
Implement changes as required	X			GCCC (IND, EPA)	GCCC
Review regulatory controls periodically		X		GCCC	GCCC

PROGRAM 29

29 Regulatory – Council Operations Management Plan

AVOID ✓✓✓ RE-USE ✓✓✓ RECYCLE ✓✓✓ ENERGY RECOVERY ✓✓ DISPOSAL ✓✓

PURPOSE: To set an exemplary role in waste management and reduce Council waste to landfill.

DESCRIPTION: To attain community and industry support for waste management reforms, GCCC must lead by example through instituting responsible management of its own waste stream.

Relatively little is known in detail of the characteristics of GCCC's waste stream or of the minimisation and recovery opportunities that might be available. A cross-directorate team will be formed to develop a Council Operations Waste Management Action Plan for the approval of Council. To assist the team and individual Directorates in this regard, Gold Coast Waste Management will commission a waste audit of GCCC's various operations and develop generic waste plans for piloting.

WASTE STREAM: Council generated.

TARGET: Cost savings achieved through waste minimisation.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Set up cross-directorate team to characterise Council's waste stream	X			GCCC	GCCC
Cross-directorate team to develop operations Waste Management Plan and carry out internal Waste Audits and develop Action Plans	X			GCCC	GCCC
Implement Action Plans	X	X	X	GCCC	GCCC

PROGRAM 30

30 Regulatory – Fees and Levies (User Pays Principle)

AVOID ✓✓✓ RE-USE ✓✓ RECYCLE ✓✓ ENERGY RECOVERY ✓ DISPOSAL ✓✓✓

PURPOSE: To provide incentives for waste minimisation and to provide funds for waste management programs.

DESCRIPTION: A major incentive to minimise waste generation is the User Pays Principle - the more you generate, the more you pay.

Before a true user pays system can be considered, the true cost to the community must be determined. The cost must be a full life cycle costing taking into account all environmental and social impacts. GCCC will consider commissioning a life cycle costing analysis of its waste management activities.

Based on this analysis, GCCC will consider the practicality and social impact of a more stringent user pays system. Such a user pay system might be based on a defined unit of quantity (volume or weight). The fees and levies revenue generated by such a system might then be dedicated to the funding of programs within the solid waste management strategic plan.

WASTE STREAM: All.

TARGET: Equitable waste management pricing structure in place.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Investigate fees and levies (user pays principle) and report to Council	X			GCCC (CBO, IND, EPA)	GCCC
Public communication and implementation of Council's decision	X			GCCC (CBO, IND, EPA)	GCCC

PROGRAM 31

31 Regulatory – Legislative Reform

AVOID ✓ RE-USE ✓ RECYCLE ✓ ENERGY RECOVERY ✓ DISPOSAL ✓

PURPOSE: To lobby for improvements to waste management legislation.

DESCRIPTION: As a majority of the responsibility for solid waste management has been devolved to Local Government, Local Authorities are one of the most important groups to provide feedback to State and Federal agencies about the issues associated with the existing waste management legislative framework.

Waste management legislation impacts on the economics and effectiveness of resource conservation and recovery initiatives at State, Regional and Local levels.

GCCC will lobby at the State and Federal levels for legislation that supports local resource conservation and recovery initiatives.

WASTE STREAM: All.

TARGET: Amended legislation that advocates cooperation in waste management service provision.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Prepare submission to the Queensland State Government for amendment of relevant legislation	X	X		GCCC (EPA, IND, UNI)	GCCC
Lobby State and Commonwealth Governments	X	X		GCCC (EPA, IND, UNI)	GCCC
Review progress and amend program accordingly		X	X	GCCC (EPA, IND, UNI)	GCCC

PROGRAM 32

32 Regulatory - Litter Control and Illegal Dumping Strategies

AVOID ✓✓ RE-USE RECYCLE ENERGY RECOVERY DISPOSAL ✓✓

PURPOSE: To minimise the adverse impacts of litter/illegal waste dumping.

DESCRIPTION: Pollution from litter is a major detractor to the quality of Gold Coast’s environment and potentially, therefore, to the health of its citizens and visitors. With the high tourist and transient population in Gold Coast and ready availability of remote areas for illegal dumping, the issue of litter control and prevention needs to be addressed.

Experience interstate suggests that programs are likely to be most successful when focussed on:

- Converting general anti-littering messages to target specific audiences;
- Promoting aggressive enforcement against littering and illegal dumping;
- Addressing infrastructure and servicing needs of specific sectors;
- Liaising with the local community to increase awareness of litter and illegal dumping problems and their impacts and developing multi-sectoral partnerships to implement litter reduction; and
- Creating physical environments that are clean, well designed and safe.

GCCC will establish and sponsor a series of litter and illegal dumping taskforces, similar to those developed in Victoria and New South Wales, to investigate litter/illegal dumping problems and develop and implement strategies aimed at their avoidance and management.

WASTE STREAM: All.

TARGET: Reductions in the incidence of littering and illegal dumping.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Support existing litter and illegal dumping initiatives	X	X	X	GCCC (CBO, EPA,IND)	GCCC, EPA
Establish litter and illegal dumping prevention taskforce(s) to implement strategies and report to Council	X	X	X	GCCC (CBO, EPA,IND)	GCCC, EPA
Implement Council’s decisions	X	X	X	GCCC	GCCC

PROGRAM 33

33 Research and Development – Ecologically Sustainable Development Research

AVOID ✓✓✓ RE-USE ✓✓ RECYCLE ✓✓ ENERGY RECOVERY ✓✓ DISPOSAL ✓

PURPOSE: To support ecologically sustainable waste management research.

DESCRIPTION: GCCC recognises that in order to achieve a comprehensive reduction in waste, the environmental impact of the whole of life of a product or material needs to be assessed. Many issues need to be addressed when assessing environmental impact from cradle to grave.

Contributions to this research will allow objective long-term decisions to be made regarding avoidance, reuse, recycling, energy recovery and even disposal. Much of the research will be undertaken by universities and industry.

GCCC considers this to be a cross regional issue and will co-operate and contribute with other Councils, however pursuing waste management initiatives will not be solely dependent on the involvement of other Councils.

WASTE STREAM: All.

TARGET: Accessible and up-to-date information on waste management practices.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Establish data base on latest research and information on waste management best practice, in cooperation with other Councils	X			GCCC (EPA, SROC, UNI, IND)	GCCC, IND
Prioritise potential applications of best practice for Gold Coast	X			GCCC (EPA, SROC, UNI, IND)	GCCC, IND
Disseminate information	X			GCCC (EPA, SROC, UNI, IND)	GCCC, EPA

PROGRAM 34

34 Research and Development – Research/Trial Projects

AVOID ✓ RE-USE ✓✓✓ RECYCLE ✓✓✓ ENERGY RECOVERY ✓✓✓ DISPOSAL

PURPOSE: To provide limited support for research into the feasibility and potential outcomes of new relevant waste technologies.

DESCRIPTION: This program is designed to provide funds to co-sponsor trials with industry associations and individual companies in South East Queensland where new approaches or technologies are being undertaken. This support to the C&D and C&I sectors will provide some incentives and allow GCCC to become actively involved with projects, as well as be in a position to keep up to date and to promote new advances in technology.

GCCC will establish strategic alliances with industry and other government bodies to extend the value of GCCC funds by seeking additional funds from these bodies. The allocation of funds would be determined by GCCC in conjunction with industry representatives after consultations with other Councils to avoid unnecessary duplication of research projects.

Priority projects will be those in the domestic, C&D and C&I waste streams which deal with the particular circumstances of the Gold Coast.

WASTE STREAM: All.

TARGET: Incubation of best practice waste management solutions.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Investigate and initiate limited Research and Development (Trial Projects) Grants Scheme	X	X	X	GCCC (EPA, UNI, IND)	GCCC, IND, CG

PROGRAM 35

35 Monitoring and Review – Development of Key Performance Indicators (KPIs)

AVOID ✓ RE-USE ✓ RECYCLE ✓ ENERGY RECOVERY ✓ DISPOSAL ✓

PURPOSE: To determine Key Performance Indicators (KPIs) for each program for the purpose of monitoring, evaluating and reporting on program progress.

DESCRIPTION: Each program needs KPIs established so that progress towards meeting program targets can be measured and monitored. KPIs are essential for the dynamic development and implementation of each program.

KPIs will change over the lifetime of a program to suit changing circumstances and priorities.

GCCC will establish a technical committee to develop KPIs for each program in consultation with appropriate stakeholders. Progress will be measured against the KPI's and reported to Council and the community at appropriate intervals as determined in the development of the KPIs themselves.

WASTE STREAM: All.

TARGET: Timely preparation of KPIs for each program.

MONITORING: Number of programs with KPIs developed.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Establish committee to determine KPIs	X			GCCC	GCCC
Review KPIs and monitor against targets	X	X	X	GCCC	GCCC

PROGRAM 36

36 Monitoring and Reviewing - Data Gathering, Analysis and Reporting

AVOID RE-USE RECYCLE ✓✓ ENERGY RECOVERY ✓✓ DISPOSAL ✓✓

PURPOSE: To develop data collection, retrieval, and management systems as well as reporting requirements to inform solid waste planning and evaluate progress towards achievement of stated goals and program targets.

DESCRIPTION: It is imperative that both strategic and operational waste management planning are informed by the most current and accurate data available. Consequently, there is a need for both baseline and ongoing data collection to improve understanding of the solid waste stream and, thus, its management.

GCCC will review its waste management information systems and data survey requirements to develop a publicly available, comprehensive and integrated database to support its ongoing waste management operations and planning.

Monitoring of the Plan’s progress and review will necessitate development of specific information and reporting protocols. Under this component of the program, GCCC would establish tools to capture and evaluate the results of all Plan initiatives and to use the results to inform future practice.

WASTE STREAM: All.

TARGET: Up to date collection and interpretation of waste management information and data.

MONITORING: As per KPIs developed in **Program 35**.

Actions	Completion Target			Responsibility & (Participants)	Funds From
	Short	Medium	Long		
Baseline waste characterisation audits for each waste stream	X			GCCC	GCCC
Development of data collection, retrieval and management systems	X			GCCC (EPA, SROC)	GCCC
Annual review of results and statistics	X	X	X	GCCC (EPA, SROC)	GCCC

APPENDIX A DATA SOURCES

A variety of information necessary for waste management planning was utilised in the preparation of this Solid Waste Management Strategic Plan, including:

- Demographic and socio-economic information;
- Current and projected solid waste generation, recycling and residual disposal; and,
- Existing and proposed city waste management facilities, services and minimisation practices.

The current document has largely been compiled on the basis of an analysis and collation of secondary data from the following major sources:

- Strategic Plan - Inner Sydney Waste Board, 1997;
- SouthROC Regional Waste Management Study, July 1999 – Sinclair Knight Merz;
- Waste Audit for GCCC October 2000 – A Prince Consulting Pty Ltd;
- Construction and Demolition Waste Study (Draft for Comment) prepared for EPA - Duggan & Hede Pty Ltd, November 2000;
- Australian Bureau of Statistics (ABS) – data provided in **Section 2** has been collated by GCCC's Economic Development and Major Projects and Planning, Environment and Transport Directorates, 2001;
- Waste reporting from GCCC's Gold Coast Waste Management Business Unit, 2000/01;
- Performance Plan Gold Coast Waste Management 2001/2002;
- Gold Coast City Council Waste Management Section Annual Survey of Resident Satisfaction 2001 – The Competitive Option; and
- Report on South East Queensland Regional Solid Waste Management Study prepared for SEQROC, June 2002 – Maunsell Australia Pty Ltd.

2000/01 has been chosen as the baseline year for the compilation of the waste statistics as it formed the last full financial year before the preparation of the Plan. For some sources of information, however, figures for this period were simply not available.

APPENDIX B 2020 VISION ON WASTE - CONSULTATION REPORT

Introduction

Consultation with the community has formed an integral part of the Gold Coast City Council's *2020 Vision on Waste* Plan. Throughout the project, the consultation objectives have been to:

- gather information from the community and significant 'waste' stakeholders about current waste issues;
- inform the community of the importance in finding solutions to the Gold Coast's future waste problems; and
- foster ownership amongst the community for the creation of future solutions and strategies.

The consultation process consisted of three key elements: the formation of a Solid Waste Advisory Committee (SWAC), a series of public and invitational forums, and the release of a Consultation Document.

The Solid Waste Advisory Committee (SWAC) was comprised of representatives appointed after an advertised expression of interest. The SWAC membership is detailed in **Table 1**.

Organisation	Name	Role/Affiliation
Gold Coast City Council	Councillor Jan Grew Councillor Peter Drake Councillor Peter Young	Chairperson Deputy Chairperson Councillor Member
	Ms Colette McCool	Director Community Services
	Mr Evan Thomas	Environmental Planning/SEETAG Representative
	Mr Adrian Smith	Gold Coast Waste Management
	Mr Michael Yakimoff	Policy Project Officer Community Services
Local Tourism	Ms Carole Smith	Gold Coast Tourism Bureau/Hotel & Motel Assoc.
Environment/Conservation	Mr Ben Perkins	Gold Coast & Hinterland Environment Council
Waste Management Industry	Mr Nathan Radley	The Heilbronn Group
Small Business	Ms Barbara Hart	CodyHart Consulting
Community/Not-For-Profit	Dr Andreas Nata-atmadja	Queensland University of Technology
Queensland Government	Ms Lynn Whitfield	Environmental Protection Agency

■ **Table 1: Membership of the Solid Waste Advisory Committee**

The SWAC met regularly throughout the plan development process. Meeting dates were as follows:

- 27 August 2001
- 9 October 2001
- 11 December 2001
- 5, 18 February 2002 & 1 March 2002 (adjourned meetings)
- 25 June 2002
- 9 July 2002
- 20 August 2002

The SWAC operated under the Local Government Act, and was established by Council to specifically advise on the development and implementation of a Solid Waste Management Strategic Plan for the City.

The Forums

Eight, two hour forums were held during November 2001. The six public forums were divided into three areas of interest: construction and demolition (C&D), commercial and industrial (C&I), and domestic (D). The two remaining forums were for waste contractors currently licensed with GCCC and for Council officers.

Forum participants were provided with a handout. This included an overview of the Waste Planning process, details of the SWAC, a copy of the presentation slides, and a sheet inviting them to provide contact details to receive a copy of the Consultation Document.

The forum was structured as:

- Formal welcome from a member of the SWAC.
- Presentation: The waste strategy context - Michael Yakimoff (GCCC)
Introduction to [forum specific] waste issues - David Silcox (SKM)
- Break
- Facilitated discussion: Elizabeth Baker (SKM)
- Formal thank you and close

Throughout the discussion notes were entered directly into a computer and projected onto the screen for participants to see. Key points and links were also noted on butcher's paper.

A summary of the forum process and attendance is provided in **Table 2** below. The number of attendees listed excludes the presentation team. Several members of the public and industry representatives attended more than one forum.

Forum	Date/time	Venue	# attended	# requesting consultation document
Construction and Demolition	8 Nov: 10am	Beenleigh	5	2
	14 Nov: 4pm	Robina	13	10
Commercial and Industrial	13 Nov: 10am	Mermaid Waters	10	8
	14 Nov: 10am	Beenleigh	4	2
Domestic	13 Nov: 4pm	Eagleby	4	1
	27 Nov: 6pm	Mermaid Waters	7	3
Licensed Contractors	28 Nov: 2pm	GCCC, Bundall	19	6
Council officers	29 Nov: 2pm	GCCC, Bundall	37	n/a

■ **Table 2: Summary of Forum Process.**

The discussions at the forums were productive, with most participants contributing actively with information, perspectives on issues, and suggestions for the Plan. In most cases, the discussions ranged beyond the theme of the forum to encompass issues and ideas relating to other themes. This was seen as advantageous as cross-links were made between the various aspects of solid waste management.

Input from the forums

A range of issues and suggestions for the Plan were raised and explored during the forums. Most of the issues were common across the forums, regardless of the forum's focus. The inputs from the discussions are readily sifted into seven themes: education, infrastructure and services, market development, advocacy and coordination, regulatory issues, research and development, and monitoring and review.

The comments and suggestions made by participants are summarised below.

Education and Communication

Participants expressed a commitment to ongoing education about waste in general and recycling issues in particular. It was recognised that there are a range of programs being run in schools now, including those offered by GCCC, and that these could be expected to influence the behaviour of the children involved. However, the feeling was that education is also needed for a wider audience.

“People should know what happens to their waste.”

GCCC currently has a leaflet-based program targeting rate-payers. The forum participants argued that the waste message has to be presented continuously but in different ways so that people do not “tune out”. This way the waste message is reinforced over time and across different age groups in the community.

Education of/for industry was also seen as a significant need. In particular, it was said that industry needed education about:

- purchasing policies that facilitated the use of recycled materials;
- avoiding the creation of waste through the manufacturing process;
- waste management planning and/or auditing; and
- the presentation and misleading labelling of potentially recyclable materials to consumers.

Awareness of potentially useful products emerging from the waste stream and/or where to access them was also raised. In general, people were not aware of the Waste Register developed by the Queensland State Government and operated by the Local Government Association of Queensland.

Education of industry was seen as a potential outcome if waste management plans and/or audits were made a more usual part of operating a business. Conversely, education of industry would be needed if waste management plans or audits were required.

The Council was not seen as immune from the need for education about waste issues and the potential for resource recovery within the waste stream.

Another aspect of the education and communication issue was the need to change the overall perception of waste. It was recognised that community perceptions are important if a waste management plan is to achieve sustainable outcomes. Positive responses to innovation and best practice were seen to be part of a process of changing perceptions.

Suggestions from the forums

- Waste Education Officer employed by Council to develop and deliver waste education services to all groups within the community and to industry.
- Focus on working with community and other groups already developing educational materials for a variety of audiences.
- Waste Extension/Liaison Officer employed by Council to work with industries to develop waste management planning and auditing capabilities.
- Professional organisations encouraged to support waste management training as part of the training and/or professional development of members.
- Use waste management planning as a way of developing awareness about waste issues and recycling.
- Development of better mechanisms to raise awareness of resource recycling within Council itself.
- Development/advertising of the Waste Register.
- Waste awards for industries (including manufacturers) that achieve significant waste targets or develop innovative approaches to waste management.
- Use terminology that makes waste a positive thing. Rather than a “Transfer Station” have a “Recycling Park” or a “Resource Recovery Centre”.

Infrastructure and Services

The recurrent theme expressed by participants was the need to support and encourage more sustainable waste management options. Many specific issues were raised, including those noted below. Note that no judgement is made here regarding the accuracy of these points; instead they illustrate community and industry perceptions of waste infrastructure and servicing.

- Limited processing facilities so material is stockpiled or landfilled.
- Inconsistent supply of recycled/reusable materials.
- Local quarries are running out as urban areas encroach.
- Lack of support for and awareness of re-use of wastes within and between industry sectors.
- More encouragement needed for separation at transfer sites.
- Need more sorting space at building sites.
- Lack of knowledge about real quantities of different types of waste.
- Lack of direction regarding toxic solid wastes.
- Lack of direction regarding household hazardous wastes.
- Lack of consistency regarding sharps and the ways in which they can be/are disposed of.
- Lack of consideration of large domestic waste items, for example, white goods.
- Recycling industry needs ways of reducing costs, especially transport costs.
- Recycling industry disadvantaged by landfill system.
- Need to consider economic implications, including employment opportunities and losses, associated with alternate waste management options.

“Support and encourage more sustainable waste management options.”

As noted above, most participants were unaware of the Waste Register despite expressing an interest in being able to access or contribute to resource recovery processes.

Issues associated with green waste were frequently raised across the forums. While there was general agreement that re-use of green waste as mulch or similar was desirable, there was also an acknowledgment that there were safety and legal issues that might prevent this form of resource recovery.

Following on from the ‘education’ theme, people felt that to achieve sustainable waste management outcomes there needed to be a consistent approach taken, regardless of the context (domestic, public, industrial and so on). It was felt that people needed to see that there was recycling available and expected in the home, in the workplace, and in public places.

Suggestions from the forums

- Develop facilities to process recyclables.
- Stockpile materials at transfer stations to build up supply for larger projects wanting to use recyclables.
- Re/labelling of bins.
- Directions at landfill sites for toxic wastes.
- Creation of a waste management precinct.
- House design to incorporate space for double bins to facilitate recycling.
- Green waste to be composted (rather than mulched) and made available for re-use.

Market Development

The predominant theme here was the need to develop and support a market for recycled materials. One means of doing this was the alteration or at least clarification of some of the Australian Standards. Examples discussed included the use of recycled concrete for kerb and channelling, and broken rubble for drainage. Participants indicated a willingness to use, if not an existing use, of such materials but noted that the barrier lay in the interpretation of standards by building inspectors and engineers. It was felt that the inspections were not always consistent from site to site or between different inspectors/engineers.

“There has to be a market, but there also has to be the products.”

The Waste Register was seen as another avenue for developing markets. The point was made that being only available in electronic form was a disadvantage to some builders.

People also felt that market development would occur alongside industry-based education and waste management planning, as people would become more aware of what was available.

Suggestions from the forums

- Lobby for changes to the Australian Standards.
- Support initiatives that support the development of the recycling industry.
- Raise awareness of the Waste Register and make it easier to access.

Advocacy and Coordination

Participants favoured Council taking a more proactive role in stimulating the creation of local recycling markets.

“Council should be an advocate for both resource recovery and market development.”

Suggestions from the forums

Specific areas where participants felt that Council could and should be an advocate for more sustainable waste management included:

- Changes to Australian Standards.
- Implementing purchasing policies within Council that support sustainable waste management industries.
- Assisting industry to develop and implement purchasing policies with similar goals.
- Coordinating or being involved in the coordination between State and local agencies involved in waste management and/or legislation.
- Developing and maintaining mechanisms that support cross-linkages between industries and opportunities for recycling.

Regulatory

While it was recognised that Council had only a limited role when it came to waste management legislation, participants still felt Council could involve itself more in regulatory matters.

“Council should take an active role in addressing regulatory issues.”

Participants supported the formal inclusion of waste management planning into the development control process. However, for this to be effective the process would have to be simple.

Suggestions from the forums

- Attach waste management plans to development applications.
- Simplify the path through the planning and licensing process and link to sustainable waste outcomes.
- Incorporate waste planning into the building code.
- Support EPA in the enforcement of existing regulations.
- Support the development of legislation that has greater capacity to penalise those not complying.
- Work with EPA to “upskill” Council officers to assist with waste management compliance.
- Support the development of a national standard for recycling.
- Develop more consistent and clearer definitions of waste.

Research and Development

The research and development theme was allied with the advocacy theme. Participants wanted the City to access technological and community-based approaches to waste management that were both best practice and best suited to the Gold Coast.

Suggestions from the forums

- Collaboration with research institutions to access funds and conduct research into sustainable waste management.
- Support innovation and industry-based research and development.
- Lead from the front through conducting trials of different approaches to waste planning within Council.

Monitoring and Review

Participants recognised the need to monitor the effects of waste management planning. It was also recognised that a key concern was the difficulty associated with obtaining accurate and complete data about waste streams and their composition.

It was suggested that waste auditing and waste management planning would assist in gathering data to be fed into ongoing planning. It was also suggested that industry and Council could work together more to gather data provided that constructive relationships based on commercial confidence could be developed.

Suggestions from the forums

- Work more closely with industry to gather data.
- Implement waste auditing/planning as a tracking and data gathering and monitoring process.

The Consultation Draft

In April 2002 a Consultation Draft was released for public comment. Those people who had indicated at any stage in the development of the Draft Plan that they wanted to be consulted further were sent a copy (by post or email, as they requested). In addition, advertisements/notifications were placed in the following local newspapers: Gold Coast Sun, Hinterland Sun, Albert & Logan News, Gold Coast Bulletin and Gold Coast Mail. A copy of the Consultation Document was placed in all 16 of the Gold Coast City Council's libraries (including the mobile service) and 8 customer service centres. A feedback sheet was supplied to guide people's input.

The consultation period for the Consultation Draft was from 22 April to 31 May. Eight responses were received. The issues raised in these responses are summarised in **Table 3**.

General comments

- What to do with waste is a problem
- The vision not consistent with the potential of technical change as includes reference to ongoing burial of wastes
- The vision is over-ambitious; should be aimed at a goal to ensure practical management at an economic level of cost
- Education should be principle objective
- Feedback form not helpful for providing comments
- Document comprehensive and reflects Queensland Waste Management Guidelines
- Vision consistent with potential for growth of waste businesses
- Market development provides most outcomes for resources used as it drives market demand, which leads to businesses taking responsibility for educating market about products and investing in R&D and infrastructure.
- The best place to provide sort and recycle facilities is at/adjacent to landfills
- If government leads then private sector follows
- Development of standards/purchasing policies allows for competition on a level basis
- While R&D and trial projects are critical, end goals and objectives must be defined clearly and measured
- Like/agree with the move from disposal to resource conservation/recovery

- A lot of the strategy could come under the heading “Education”
- Agree with the stimuli provided to increase demand for recyclables
- Need to be more fully informed about the SouthROC waste disposal tenders
- Agree with responsibility being placed on producers of waste
- Agree with the development of a user-pays system for waste generation

Issues

- Burial of putrescible material should be short-term and linked to methane production
- Need to emphasise minimal manual handling of organic wastes
- Target for organic waste should be reduction of material to burial by half by 2020
- Research & development is costly and GCCC should rely on best-practice recommendations from other authorities
- Other authorities should determine the content of any advocacy activities
- Education should focus on the problem with the concept of “waste” as negative
- Information on actions, targets, and accountability required
- Need to look at community organisation participation initiatives
- Vital that cost savings resulting from waste minimisation are passed on to the industries who sort/segregate
- Regulation must be in conjunction with reduced disposal fee for sorted material
- KPIs must be followed up with action
- Start up costs for recycling industries is a great restriction
- Don’t lose sight of the practical “hands-on” in the R&D program
- Shift in perception to one of waste as a resource needs to ensure general community does not lose sight of the principle of avoidance
- Educational information needs to be carefully targeted, user-friendly, and repeated to be cost-effective
- There have to be ways to support the environmentally friendly option, otherwise won’t happen and education alone won’t make it happen
- Waste audit manuals need to be applied
- Domestic putrescible (i.e., green/organic) waste should be dealt with on a mass scale rather than small scale education and demonstrations
- Program 9 – Development of Resource Recovery Facilities – long overdue
- Program 12 – Public Place Recycling – a good idea in theory only but is not feasible in practice
- Program 13 – White Goods and Electronic Goods – surely there must be a market for these and other, similar goods

Other suggestions

- The responder has an invention that he feels would be of assistance
- Wet handling of garbage should be trialled - use the term “Refine” instead of “Waste”
- Build partnerships with pharmacies for sharps disposal and include sharps disposal facilities in building codes for new public developments
- Best way to educate industry is by cost: spelling out the savings and other benefits gained through using recycling industries
- Council should consider cost incentives to educate about benefits of using recyclables
- Potential for partnerships and/or trials between recycling industry and Council
- Vic Roads and Brisbane City Council have developed additional standards that could be considered
- Include “If . . . then” statements with the KPIs to ensure action is taken on the data gained through the monitoring process
- The greatest contribution to recycling industries would be an approved home
- There is a place for using worms for the treatment of putrescible wastes
- More emphasis on working with Education Qld to have waste incorporated into curriculum
- Money and legislation are great motivators for behaviour change

■ Table 3: Summary of Responses to Consultation Draft