EXECUTIVE SUMMARY

There are a number of options available to Local Governments for the collection and disposal of organic wastes – including putrescible wastes (kitchen food scraps) which make a significant contribution to the total organic waste currently going to landfill. All governments in Australia are aiming to reduce the total material going to landfill by 50%. Many of the current options proposed and endorsed by Local Governments for achieving these targets are not substantiated by reasonable scientific evidence.

This study was undertaken in an attempt to compare a number of alternatives and try to rank them. The results are summarised below:

1. Food Waste Disposers (FWD)

The principal arguments proposed against the use of these kitchen appliances have to do with the additional loads which they would present to the sewage treatment plants.

This study examined the impacts of food waste disposal units (FWD) and compost bins used in the Ashmore suburb of the Gold Coast City in Queensland. The calculations related to FWD units are based on a maximum 100% penetration of the market. This means that all households would have such devices installed, and all kitchen food scraps would be diverted from the normal waste management practice (Wheelie Bin/Landfill) to the sewer and sewage disposal plant.

Hydraulic Load. It was shown that the increase in flow would only amount to 0.4% of the existing flow. This must be considered to be trivial.

Solids Load. The increase in sludge production as a result of the installation of FWDs is more considerable, and would add 18.1% of the existing production.

Organic Carbon (BOD) Load. The increase of BOD was shown to be 16.5% of the existing load.

Effect on the Treatment System. Based on the most pessimistic circumstances (Plants presently at full load capacity) the aeration tanks would have to be increased in size by 16.5%.

Nutrient Removal (N&P). The incremental nutrient load resulting from 100% use of FWDs would amount to 3.0% total N, and 4.6% total P.

Water consumption would increase by approximately 4 litres/household/day and electricity consumption by less than 3 kWh/household/year (costing approximately $0.26/household/year).

Summary

Hydraulic Load	+ 0.4%, negligible
Sludge	+ 18%
Activated Sludge	Zero to + 16.5% increase in aeration tank volume
Nutrient Removal	Very slight increase in load

2. Compost Bins and Tumblers

Studies of different design home composting units included in the "Compostabin" design promoted by the Brisbane City Council, and 3191 "Sunshine tumblers".

These studies were instigated to evaluate the production of methane, carbon dioxide and leachate. These issues have not been addressed adequately before various councils have promoted compost bin use. The "Self Evident" value of these devices has not been subjected to any scientific scrutiny.