

Regional Waste Management

Should the idea be buried?

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Text only version

Whilst still an emerging trend in Australia, Regional Waste Management is likely to be embraced by many Local Governments in both city and country areas alike. This trend is being driven by tightening of environmental protection legislation Australia wide and will likely result in the progressive closure of many local government operated landfills over coming years.

In it's simplest form, Regional Waste Management encompasses 'resource sharing' where groups of Council's band together to collectively access equipment or expertise of another, or to develop collective tendering / purchasing. At it's highest level, Regional Waste Management may include, 'infrastructure sharing' where council's as a primary example could access the landfill of another Council in favour of operating their own facility.

Regional Waste Management is a concept which, politics aside, must be carefully considered if Council's truly believe they have the best interests of their residents in mind. In some instances limitation of corporate risk, due diligence, ecological sustainability and environmental protection concerns are important reasons for embracing Regional Waste Management strategies.

However, more often than not, the primary factor is overall cost savings achievable through, (as an example), closure of an environmentally hazardous landfill in favour of a waste transfer station where material collected is transported and disposed of outside of the boundaries of the Local Government area in which it is generated. Conversely, the same example may present benefits for the receiving Council through increased landfill income.

Ultimately, the intent of Regional Waste Management is such that improved practices can be implemented to benefit all parties and ensure impacts from waste are controlled.

Waste Management History

Until a few generations ago, waste was not a major problem in Australia, mainly because people did not produce much waste and there were plenty of places to dispose of what was produced. Any waste that could not be reused, refilled, recycled, burnt, given away or fixed was taken to Council landfill sites ('tips').

These 'tips' were usually old quarries, land depressions or gullies and when filled were often left with little or no site remediation works to minimise environmental impacts.

Forces Driving Changes in Waste Management

Over the last 30 years, many changes have occurred which have resulted in far increased waste generation. This increase has followed changes to our way of living meaning that:

- Supermarkets have largely replaced the small shops and home delivery, especially for food, leading to increases in packaging and the use of non-refillable containers.
- There has also been a greater acceptance of disposable products (eg tissues), convenience foods and takeaway food & drinks with disposable packaging.
- More efficient manufacturing practices have meant that the cost of household appliances and tools has decreased, so that it is now cheaper to buy a new product than fix a broken one.
- Most pets are fed on packaged pet food rather than family scraps.
- With concerns over air pollution, many Councils have banned backyard incinerators.

According to Environment Australia, Australians generate almost 18 million tonnes of waste a year. This is about 950 kg per person per year. In 2000, the total cost to collect and dispose of all this waste was about \$800 million.

Considerations for Councils

Regulatory authorities have strict requirements concerning the ongoing operation of existing waste disposal sites. Landfill licensing with underpinning expectation for progressive upgrading of infrastructure and operational procedures (to protect environmental values) has resulted in skyrocketing landfill operational costs for many local governments. For many small Council's, this could result in landfill costs increasing from around \$50 per cubic metre of space to well in excess of \$200/m³ just to cover operating and infrastructure costs. Obviously, this sort of cost passed on to users would be prohibitive.

Likewise, as current landfill space is expended, Council's may endeavour to supply alternate disposal locations. Again, Regulatory authorities impose strict controls over the formation and management of new landfill sites to protect public health and the environment around the sites. Therefore, it is often difficult and expensive for Councils to establish new facilities.

There are now ever increasing decisions by Councils to progressively close existing landfills or progressively phase out current facilities once capacity has been reached. Instead, plans to build a network of waste transfer station/s to store waste prior to being transported to a disposal point in another Council area are rapidly becoming the norm. This trend can be observed in other countries as

well. For example, in the United States, similar considerations have lead to the steady decrease in the number of landfills —from 8,000 in 1988 to 1,967 in 2000.

In many instances, a local government may have no suitable site available to establish a new facility within its boundaries, due to a range of factors such as geography, environment, transport routes, existing land uses etc. Often the only choice to Councils with no available landfill sites is Waste Transfer. This may increase the cost to a city or shire of disposing of their waste, or may offer a cost effective alternative to operating many small landfills which require costly upgrading to reach compliance with regulatory requirements.

In both instances Councils would need to fully consider disposal options and costs associated with alternatives such as Waste Transfer Networks this is where embracing of a Regional Waste management initiative may provide the greatest benefits.

Overview of Regional Waste Management

The first, is resource sharing. Resource sharing is simply shared use of staff or equipment, management expertise, collective tendering / purchase techniques etc across one or more Council's to improve waste management within each member Council. This type of relationship can be as simple or complex are deemed necessary by each of the member Councils.

An example of successful collective tendering is the Northern Inland Regional Waste group of Council's awarding of a tender to remove scrap metals from landfill sites in each of the 19 member council areas. Prior to such a contract, many smaller councils were not receiving any monetary return (and in some cases were actually being charged) to have stockpiles of scrap metals removed from their sites. Subsequently, tenders were released which required the Contractors to agree to service all sites for all members and also resulted in monetary payments to the smaller councils. Similar results were achieved with green waste processing.

The Second area of Regional Waste Management is 'infrastructure sharing' where one or more Council's transfer waste to a landfill in another local government area.

Several examples of this occur in the Sydney metropolitan area and also northern NSW and have resulted from a Council determining that it is not in a financial or environmental position to continue operating its own facility.

Some benefits of infrastructure sharing:

1. Positive Outcomes

- Eliminates duplicated infrastructure

- Normally provides a large scale engineered site with much greater environmental controls in place
- Increased waste into a site can result in greater economics for operation (i.e. economy of scale)
- Increased landfill income
- Politics and kudos
- Reduces environmental risk for generator
- Can allow closure and remediation of hazardous site sooner and eliminate the need for potentially costly upgrade of existing sites
- Long term disposal agreements may allow generator to accurately budget for disposal costs
- Eliminates planning issues/ costs associated with attempts to initiate a new / replacement site

2. Negative Outcomes

- Requires major change to replace landfill with transfer station or suitable collection method which is sometimes quite costly
- Uses landfill space of receiving Council at a faster rate thus a replacement site may be required earlier also
- Conversely, exiting equipment may need to be replaced to accommodate increased waste volumes
- Waste transfer costs may increase overall disposal cost
- Politics (each interest group will have a differing view)
- May increase environmental risk for receiver
- May require disposal site to be upgraded accordingly
- No fall back available once sites are closed permanently. Costly to re-open (if at all possible)
- Generally commits a Council for long period which may prove costly if alternate waste disposal option emerge in time

It must be noted that these are simple generic matters. Actual weighting or relevance of each will vary dependant upon individual circumstances.

Infrastructure sharing EXAMPLE

TAMWORTH CITY COUNCIL / PARRY SHIRE COUNCIL

The relationship between Tamworth and Parry Council's is one that lends itself to Infrastructure Sharing extremely well due to geographic and demographic reasons. As such, a hypothetical view of how Regional Waste Management and infrastructure sharing can be explored.

Strategic Information

Parry Shire Council covers an area of approximately 4,386 sq. km surrounding the Tamworth City Council much like a doughnut and has a population of approximately 13,000 residents. The Shire boundary extends from the Nandewar Ranges in the north to Werris Creek in the south, Melville Ranges in the west to

Woolbrook and Niangala in the east. Accordingly, the large area and relatively low population (and therefore monetary income from property rates) places further pressures in relation to supply of waste management services.

Parry Shire Council operates eight (8) landfills and one (1) transfer station. Collectively these sites receive approximately 10 000 tonnes of domestic waste per annum. Several of the sites are fast approaching their volumetric capacities or, would be unlikely to comply with EPA benchmarks for Landfill operations if long term use was planned. Upgrading of these sites is considered financially non-viable.

By comparison, Tamworth City Council covers an area of only 184 square kilometres with a population of approximately 36,000 and operates a single EPA licensed landfill which has an estimated capacity to accommodate waste disposal from both Council areas for 35 - 54 years. Figure.1 shows the geographical relationship of the two Council areas. Figure 2 shows a simplified representation of landfill locations and travel routes in relation to the 'Central' Tamworth landfill. These existing landfill sites could be readily converted to accommodate waste transfer stations of suitable scale in order to minimise any impact to current landfill users.

Summary

It can be seen from these figures that a regional landfill is logistically possible should the two Council's concerned choose to formulate such an arrangement. This arrangement is probably the simplest existing example of infrastructure sharing in regional waste management available and will likely be further explored by both Council's in coming years.

Conclusion

Given trends observed in Australia and overseas, this type of waste management restructuring will continue, but must be assessed on a case by case basis. Politics aside, the improved management of waste is likely only to be achieved in Australia with at least some acceptance of the importance of regional waste management either through full scale infrastructure sharing on lesser scale, resource sharing between councils.

Sources

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