



Ground Floor 47 Kishorn Road
APPLECROSS WA 6153 Australia
PO Box 843A Canning Bridge WA 6153
T (08) 9316 2322
F (08) 9316 9117
E answers@marketresearch.com.au
W www.marketresearch.com.au

***COMMUNITY ATTITUDES
TOWARDS RESOURCE RECOVERY
TECHNOLOGIES.***

PREPARED FOR: THE EASTERN METROPOLITAN REGIONAL COUNCIL

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1.0 SNAPSHOT

This report is based on a multi-faceted research project encompassing a two stage phone survey and several focus discussion groups conducted amongst adult residents of the six council areas that make up the EMRC. The research programme was undertaken by Patterson Market Research on behalf of the EMRC.

The quantitative component included an initial quota controlled random dial survey of the six council precincts, followed by a second stage call back (or on-line self completion) survey of the initial participants.

The programme also included a suite of three focus discussion groups, one each held with residents in suburbs nearby the Hazelmere and Red Hill potential sites for the proposed facility. A third group was drawn from residents within the EMRC catchment, without regard to location with respect to the two potential sites (i.e. spread across the six council precincts). Additionally a meeting was held with members of the Red Hill Community Liaison Group.

2.0 RESEARCH APPROACH

2.1 **OBJECTIVES**

The overall objective of the research was to **take a snapshot of community sentiment about possible sites, technologies and site/technology options**, leading to an output where this information can be used by Council to make appropriate decisions.

The two main questions to be addressed are:

- Views about acceptability of technology options.
- Views about acceptability of what technology goes on what site.

2.2 **METHOD**

The survey program was devised as a multi faceted research project, encompassing both quantitative and qualitative elements. Given the complexity of the issues under consideration, it was recognised that any quantitative assessment of the technologies and possible site options under consideration would need to be supported with the provision of some information to respondents. Accordingly, the quantitative survey component was conducted in two stages.

2.2.1 QUANTITATIVE RESEARCH

Stage One involved an initial telephone survey of 849 adults across the six councils of the EMRC, using a quota-controlled random dial telephone survey program. This provided a theoretical sample error of $\pm 3.5\%$ at the 95% confidence level.

To allow for the adequate communication of the main attributes of the five technologies under consideration, respondents from Stage One who elected to participate in the follow-up Stage Two survey, were sent an Information Pack. The Information Pack outlined the core elements of each of the five technologies, and provided a map of the location of the two possible sites under consideration for the final facility.

The Stage Two interview probed respondents' attitudes towards the five technologies, and sought to gain some insight into the reasoning for their attitudes towards each of the technologies. Respondents were also asked to consider the acceptability of each of the five technologies and either of the Red Hill or Hazelmere potential sites for the resource recovery facility.

A total of 450 Stage Two surveys were completed, providing a theoretical survey error for this component of $\pm 4.6\%$ at the 95% confidence level.

The Stage Two component included 25 completed questionnaires from a list of 37 people who had been involved in the information forums of 2005 – 2006.

2.2.2 QUALITATIVE RESEARCH (FOCUS GROUPS)

Three focus groups were facilitated by Patterson Market Research which aimed to gather views around the technology and site options.

Two groups consisted of residents from suburbs nearby the Hazelmere and Red Hill potential sites. A third group was drawn from residents across the region.

An additional meeting was held with members of the Red Hill Community Liaison Group to capture their views and concerns.

2.3 QUESTIONNAIRE AND INFORMATION PACK

The questionnaires used for the survey program were designed by Patterson Market Research, in consultation with key representatives from the EMRC. The content of the Information Pack was developed by the Eastern Metropolitan Regional Council, with input from Patterson Market Research.

3.0 KEY FINDINGS

3.1 LITTLE CHANGE IN BROAD ATTITUDES SINCE 2006

The survey components that were repeated from the 2006 survey showed little change in attitudes across most measures. However, there does appear to be an increased awareness that household waste is deposited in a landfill tip site. This response as the ultimate fate of household waste has increased from 48% to 51% and now 54% over the three survey waves from 2005, 2006 and to the current survey. There does not appear to have been any material movement in the proportion reporting that “some of the waste is recycled”, which approximates three in ten. About a third of respondents simply indicate that they don’t know what happens to their household waste, but this proportion has fallen progressively from 47% to 40% and now 34% over the three survey iterations.

It appears that in the current survey, slightly less respondents believe it is important that council minimises the environmental impacts of household waste than in previous survey waves. This may be a reflection of the community’s heightened sense of importance of the reduction of greenhouse gases. In other words, in the overall environmental picture, the emergence of greenhouse gas reduction has over shadowed the importance of council minimising the environmental impacts of landfill sites. Nonetheless, almost nine out of ten (87%) believed it is at least quite important that council minimises the environmental impacts of landfill sites. This proportion has moved marginally from 93% to 95% and now 87% over the three survey waves. The proportions rating the importance of minimisation of the environmental impacts of landfill sites has fallen progressively from 74% to 69% and 61%.

3.1.1 PREPAREDNESS TO PAY FOR BETTER ENVIRONMENTAL OUTCOMES

There has been an increase in the proportion of respondents that were prepared to pay something extra to reduce the environmental impact of the landfill. In 2006, 77% were prepared to pay something, and in the current survey, this increased to 86%. This is a statistically significant movement.

3.1.2 FOCUS ON WASTE REDUCTION RATHER THAN WASTE TREATMENT

When asked what their council could do to reduce the environmental impact of landfill respondents focused almost exclusively on improvements in recycling and education of households about waste minimisation and recycling. The implication is that when the community thinks about the ways of reducing the environmental impact of landfill sites, their response is to reduce the volume of material going into the site (either by diversion to recycling or by reducing the amount of waste generated at the household to start with) **rather than any means by which the waste should be managed once it arrives in the system.**

There is little awareness that since the introduction of recycling programmes, the landfill volume is largely non-recyclable vegetable matter. There is a need for a paradigm shift in

community thinking from **waste reduction** to **waste processing** and **resource recovery** as the means by which the environmental impact can be minimised.

3.2 ATTITUDES TOWARDS THE FIVE TECHNOLOGIES

In Stage One of the survey, respondents were asked to indicate their reaction to the five possible technologies for the resource recovery solution before they had seen the Information Pack, and then again in Stage Two of the survey after they had sighted the information about each of the technologies. The data shows a clear preference for anaerobic digestion being the most favoured process by which the EMRC should manage the household waste stream. However, there was clear majority support for anaerobic digestion, gasification and pyrolysis, and approximately two to one in support rather than opposition for plasma in spite of the fact that the level of support for plasma did not quite reach 50% of the sample. More people opposed than supported the combustion technology.

The level of support for the five technologies ultimately rested at:

Technology	Level of support
Anaerobic Digestion	64%
Gasification	59%
Pyrolysis	55%
Combustion	35%
Plasma	48%

It is important to recognise that in each instance there was a proportion of “don’t know” or “neither support or oppose”, resulting in the “net opposed” proportions being relatively small in each case, except for the “combustion” option which produced a higher proportion opposed (38%) than in support (35%).

3.2.1 GREENHOUSE GAS A POWERFUL MOTIVATOR

The information provided to survey respondents omitted the very strong performance of anaerobic digestion in terms of delivering reduction using greenhouse gas emissions, however this information was introduced to the focus groups. It was felt that the marked difference in greenhouse gas reduction between anaerobic digestion and the other technologies may influence respondents to choose that technology without more complete consideration of the full range of attributes of each technology.

Indeed, whilst the greater diversion rate from landfill provided support for technology such as gasification and pyrolysis, once it emerged in the focus groups that the anaerobic

digestion process had a materially greater impact in reducing greenhouse gas emissions, sentiment swung very strongly behind that technology.

The discussions about the technologies also showed high interest in the effectiveness of the alternatives in terms of the waste reduction, and the outputs (marketability, environmental safety and perceived community risk). With the exception of combustion, the general sentiment expressed in the focus groups was that provided the costs were reasonable, and the effectiveness of the technology was proven (or at least showed significant promise of delivering a technologically superior outcome), they would not necessarily oppose any of the (remaining four) technologies. The default position being that they would accept EMRC recommendations on their merits. This acceptance however needs to be supported by clear and unbiased information about the reasons for the choice,

The feedback from the focus groups indicated that the most important “deliverables” in justifying a particular technology (in order, but not with a great difference in intensity):

- safety for the community
- minimisation of greenhouse gas emissions
- construction and ongoing operation at minimal cost to ratepayers
- effectiveness in reducing volumes going to landfill
- examples of successful applications elsewhere in the World

3.2.2 SAFETY – “WHEN THINGS GO WRONG”

Feedback in the focus groups was that there was clear assumption and expectation that the EMRC would select a technology that was safe in its operation. This was a “given” which underpinned all other attitudes towards the facility that would be created. However, the safety for the community and the environment were not merely in the operation of the facility. It was also quoted in terms of what would happen “when things don’t go as planned”.

Whenever technology was quoted as having “scrubbers to remove pollutants” or other devices to ensure the safety of any gas or other emissions from the facility, it was noted that “that’s all very well when it works”, but “what happens when it breaks down?”

Whichever technology is adopted, the EMRC will need to devise and have well publicised strategies for managing the facility and its outputs if things don’t go to plan.

In all of the focus groups, numerous examples were provided of things being “okay to look at to start with”, but which failed upon examination over a long period of time. There were the obvious examples of “everybody felt that if asbestos was safe until it wasn’t”, but also examples of or rather queries about what would happen when aspects of the facility broke

down. It will not be enough to be able to demonstrate that a chemical scrubber for example has adequate capacity to remove any noxious odours or noxious chemicals from any emissions to the atmosphere (or elsewhere). The response from the community would be that it's "all well and good when it works properly", but their concern is what would happen if things go wrong.

There is a sense that ultimately all systems fail, either through human error in design or maintenance or even unforeseeable mechanical failure; the safety issue about the various technologies then becomes one of what happens at that point.

Community support would be much more forthcoming for any of the technologies if the EMRC is able to provide a system of automatic shutdowns if scrubbers or other key components of the system fall into temporary disrepair or in some other way fail to meet their designed outputs.

The feedback indicated that the community would much rather adopt a less effective waste processing system that had less of a risk to the surrounding communities and the environment in the event of the failure of any key components of the system. Reassurances that "this hasn't broken down in x number of years" will not be adequate responses if the **(perceived)** consequence of a breakdown is one of significant damage to the environment or the community itself.

3.3 ATTITUDES TOWARDS LOCATION

The quantitative research showed that Red Hill is the preferred site, regardless of the technology involved. The table below indicates the acceptability of the five technologies at the Red Hill and Hazelmere sites:

Technology	Acceptability at Red Hill	Acceptability at Hazelmere
Anaerobic Digestion	84%	37%
Gasification	79%	36%
Pyrolysis	78%	31%
Combustion	77%	27%
Plasma	76%	33%

Feedback from the focus groups showed that people living nearby the Hazelmere and to a lesser extent the Red Hill sites, would not want the facility located in close proximity to them. However, the sense that "Red Hill is where it's always been" prevailed for almost all technologies, to the effect that there was indication there would be significantly less opposition to the re-development of Red Hill as a waste processing facility (from its current

role as a landfill site) than there would be about the development of a site at Hazelmere. The exception to this generalisation is only in the possible location of one of the thermal technologies that may benefit if it was placed in Hazelmere adjacent to industrial processes that could make use of any excess heat generated from the process. However, the ultimate preference was for Red Hill in each of the technology options.

Provided that the risk to the surrounding community could be shown to be negligible (or even nil), the above comment should not preclude the possibility of the Hazelmere site being chosen provided it is able to be shown as being superior to the Red Hill site in some significant aspect.

3.4 IMPORTANCE OF COMMUNICATION

Feedback from the focus groups and the meeting with the Red Hill Community Liaison Group has highlighted the need for ongoing communication and engagement with the community on the project.

The Red Hill Community Liaison group had a number of concerns about the project which highlights the need for this group to be fully informed, and engaged about the assessment process of the various technologies.

Some focus group participants indicated that they had no prior knowledge of the project prior to receiving the survey, and in spite of the community consultative work conducted through 2005 – 2006, they reported no knowledge at all of the consultative process, or the way in which the alternative technologies would be evaluated.

Simple, clear communication of the EMRC processes will be an absolutely vital aspect of the route from here to the selection and ultimate commissioning of the resource recovery facility for the EMRC. In the focus groups, once the process had been explained to them, and they were reassured that the community survey was not being used to provide evidence of community support for one or another of the technologies, their resistance to discussion of the alternatives softened considerably. They remained concerned that the technologies had not been fully investigated, but were more confident that the process would allow proper scientific technical assessments. They expressed great interest in being kept fully informed of the process.