Community Attitudes Survey

Presented to

EMRC

August 2009

The Presentation

- The Survey process
- What was discovered –
  - Broad Waste Mgt Attitudes
  - Attitudes Towards technologies
  - Attitudes Towards Location
- What it means

The Project Objectives

- Not an expert assessment.
- Aim was to understand community sentiment about possible sites, technologies and site/technology options.
- The two main themes:
  - Views about acceptability of technology options based on their basic features.
  - Views about acceptability of what technology goes on what site.

The Survey Process

- Two stages of telephone survey
- Stage 1: a random dial survey of residents of the six council areas
  - target of n=125 in each, weighted to reflect the true population distribution and profile
  - actual sample n=849
  - survey error of +/- 3.5% overall and +/- 8.5% for each council area.
- Stage 2 sent respondents an information pack followed by a call-back interview
  - completed with n=450
  - survey error +/- 4.6%.
  - included 25 from a list if 37 people from the ’06 consultation programme.

Broad Attitudes Towards Waste Management

What happens to household waste?

Table T4.2 What happens to the household waste?

Table T4.2

	W1 '05	W2 '06	TOTAL	COUNCIL PRECINCT					
				Bassendean	Bayswater	Belmont	Kalamunda	Mundaring	Swan
	N=823 %	N=609 %	N=849 %	N=139 %	N=147 %	N=150 %	N=135 %	N=139 %	N=139 %
Goes to landfill /The Tip	48	51	54	54	54	46	48	63	57
Some is recycled	24	29	28	35	37	25	29	24	22
Composting of green waste	0	4	5	5	17	1	3	1	2
Composting of organic wastes	0		1	1	2	1	3		
Incineration			0		1		1		
Other			2	3	3	4	5	2	1
Don't know	47	40	34	29	32	37	37	27	36
TOTALS	**119**	**125**	**127**	**132**	**148**	**119**	**127**	**121**	**119**
NOT ESTABLISHED			**2**	**4**	**1**	**5**	**2**	**4**	**1**

**Note: Due to multiple responses, the above figures may not add up to 100%*

- Note: Increased Awareness of Landfill and fall in "Don't know"

Awareness of the Waste Management process. (Unprompted)

- Approx 9 in 10 (87%) believe it important to minimise the environmental impact of household waste.
  - This is down slightly; 93% to 95% in previous surveys
- The proportions reporting that it important to minimise the environmental impacts of landfill went down from 74% to 69% and now 61%.
- We believe this due to increased focus on greenhouse gas and perceived lack of connection between council tips and greenhouse gas emissions.

People More willing to pay for The environment

- 50% prepared to pay an extra $50 to improve environmental outcomes of tip management (similar to previous survey results)
- 86%prepared to pay something (up from 77% in 2006)

Satisfaction with council steps

Table 4.2.2 Satisfaction with council steps to reduce environmental impact of household rubbish

Table T4.2.2	W1 '05	W2 '06	TOTAL 2009	COUNCIL PRECINCT					
				Bassendean	Bayswater	Belmont	Kalamunda	Mundaring	Swan
	N=823 %	N=609 %	N=849 %	N=139 %	N=147 %	N=150 %	N=135 %	N=139 %	N=139 %
Very satisfied	14	14	15	13	26	11	11	4	16
Quite satisfied	42	48	37	46	42	43	32	37	34
Neither one nor the other	22	15	24	24	18	22	29	29	24
Quite dissatisfied	8	4	7	5	4	4	7	12	8
Very dissatisfied	2	1	2	2	1	2	2	2	2
Don't know / Can't say	12	17	13	6	9	12	18	12	15
TOTALS	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
NET SATISFIED	**56**	**61**	**52**	**59**	**68**	**55**	**42**	**42**	**50**
NET DISSATISFIED	**10**	**6**	**8**	**7**	**5**	**6**	**8**	**13**	**10**
NOT ESTABLISHED			**2**	**4**	**1**	**5**	**2**	**4**	**1**

- Note: Is there a higher Expectation of Action?

People Focus on Waste Reduction rather than Waste Processing

- Focus group discussion about reducing environmental impact produced suggestions on how to reduce waste volumes and increase recycling.
- Almost zero consideration of the way waste is managed.
- This may need managing. Lack of understanding that the main environmental waste problem is organic waste that cannot be recycled.

Unprompted question of what council should do to reduce Environmental Damage

Table 4.2.2.1 (Unprompted options council could consider to reduce environmental impact*)

Table T4.2.2.1

	TOTAL 2005	TOTAL 2006	TOTAL 2009	2009 Stage One Results					
				Bassendean	Bayswater	Belmont	Kalamunda	Mundaring	Swan
	N=609 %	N=823 %	N=849 %	N=139 %	N=147 %	N=150 %	N=135 %	N=139 %	N=139 %
Increase recycling	27	**16**	**26**	29	23	25	27	31	27
Green waste pick up wheelie bin & supply mulch to residents	6	**8**	**6**	12	4	3	4	5	8
Educate residents on recycling / disposal	10	**4**	**12**	14	9	13	16	11	10
More Household composting	9	**4**	**8**	11	6	8	13	10	6
Bulk/kerbside/skip bins/ better collections	3	**4**	**3**	0	1	3	3	5	3
Provide separate bins for each type of recycling	1	**2**	**0**	0	0	0	0	0	0
New tech resource recovery systems	5	**2**	**5**	4	4	4	5	7	5
Reduce landfill	5	**1**	**4**	3	2	3	7	3	5

patterson MARKET RESEARCH

Acceptance of need to reduce landfill, but lack of understanding of effective means

- PMR OBSERVATION
- "There is in a sense a need for a paradigm shift from **waste reduction** to **waste processing** as the means by which the environmental impact can be minimised".

Resource Recovery should be clearly identified as additional to recycling

- In the focus groups the talk about the resource recovery facility was confused with the notion that somehow or other it would stop the recycling program.
- It seemed very important (to those who had an interest in the environment) that people recycled as much as they could.

A desire for Council to be at the leading edge of Management of Waste

- Focus groups showed clear majority support for Council to be “doing something” to reduce landfill impacts.
- This needs to be efficient – cost is an issue.
- “I wouldn’t mind (extra costs), as long as I knew that the money Council is using is not being wasted or spent inefficiently”.

Assessment of the 5 technologies

- Respondents asked to indicate Support for or Opposition to the five technologies under consideration.
- The results showed high support and low levels of opposition.

The Information Packs

- Necessarily a brief overview of the key features of the technologies
- Detailed technical specifications not available until the expression of interest process – perhaps even the full tender process - completed.

Net Support for the 5 technologies

- 64% Anaerobic Digestion
- 59% Gasification
- 55% Pyrolysis
- 48% Plasma
- 35% Combustion.

Assessment of the 5 technologies

Table T4.4 Technology Preferences

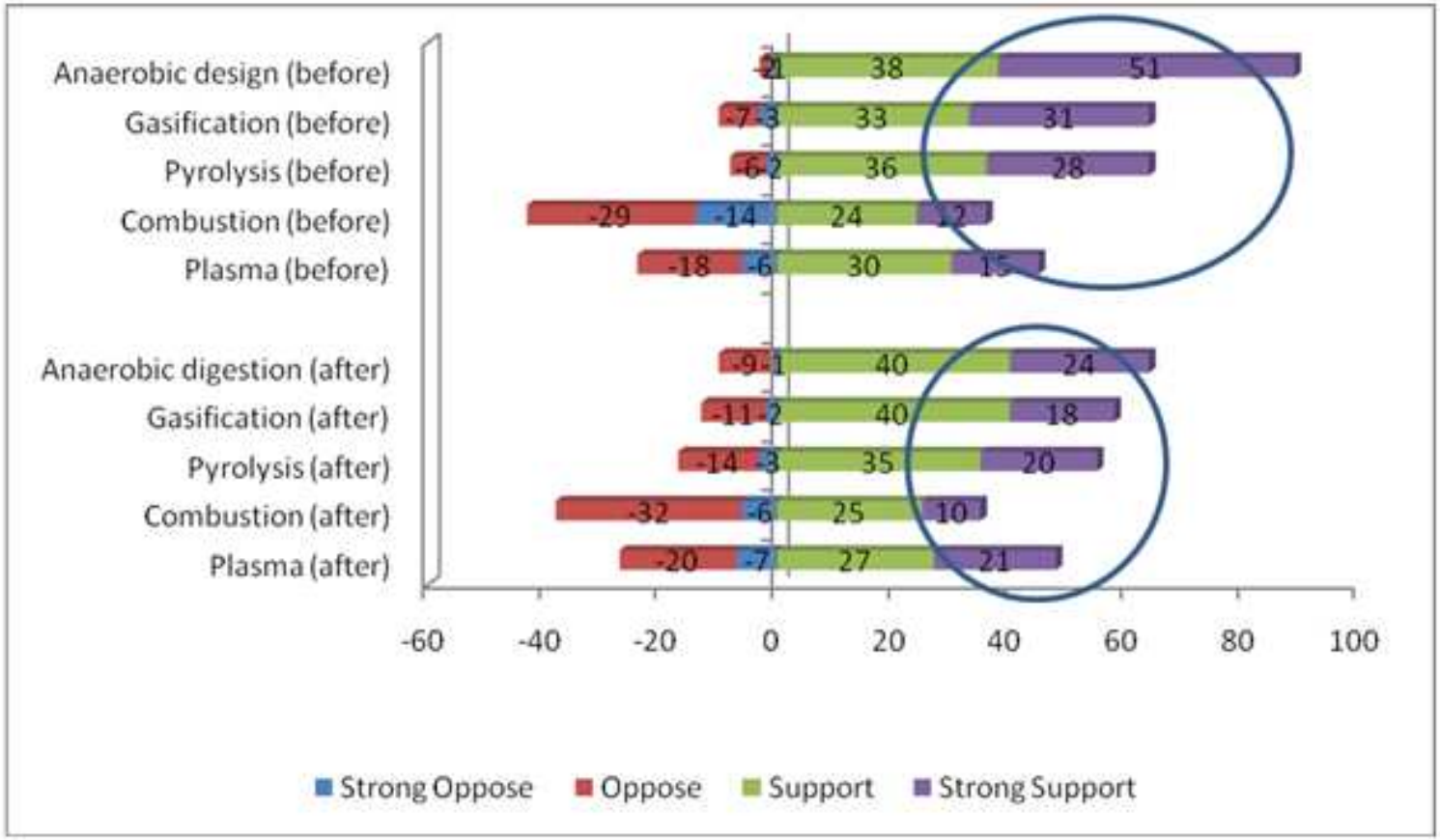
Table T4.4

	STAGE TWO AFTER INFO PACK		
	NET OPPOSE	NEITHER support Nor oppose	NET SUPPORT
	N=425 %	N=425 %	N=425 %
Anaerobic Digestion	10	24	64
Gasification	13	26	59
Pyrolysis	17	26	55
Combustion	38	26	35
Plasma	26	24	48

patterson MARKET RESEARCH

Exposure to the features reduced differences in preference

Figure 4.4 Comparison of Support/ Opposition before and after exposure to the information pack.



Anaerobic Digestion

Table T4.5.1 Support/oppose Anaerobic Digestion after info provided

Table T4.5.1

	TOTAL	COUNCIL PRECINCT						PRIOR EXPOSED
		Bassendean	Bayswater	Belmont	Kalamunda	Mundaring	Swan	
	N=450 %	N=75 %	N=79 %	N=74 %	N=73 %	N=73 %	N=72 %	N=25 %
Strong oppose	1	1		5		1	2	4
Oppose	9	16	7	7	14	12	6	8
Feel neutral about it	24	15	26	19	28	17	25	12
Support	40	42	53	37	33	25	44	24
Strong support	24	22	11	30	22	45	24	52
Don't know	1	4	3	2	2			
TOTALS	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
NET OPPOSE	**10**	**17**	**7**	**12**	**14**	**13**	**8**	**12**
NET SUPPORT	**64**	**63**	**64**	**67**	**55**	**69**	**67**	**76**

Reasons for Support of Anaerobic Digestion (Amongst 64%)

- 24% reliable technology / environmental friendly / safest
- 23% marketable compost / recycles organic materials / reused in soil
- 21% reduces landfill / greenhouse gas emissions
- 10% “it’s natural”
- 8% low health risk (no air pollution)
- 7% consumes less energy / no heating or incineration
- 5% produces minimal odours
- 5% the technology has track record in Australia
- 4% produces electricity
- 3% efficient use of waste – creates products

Reasons for Opposing Anaerobic Digestion – (Amongst 10%)

- 20% smells / odour
- 19% queries over the marketable products (compost)
- 9% requires separation of organic materials / non organic waste not treated
- 8% a slow process
- 5% cost ineffective
- 4% technology still unknown / unproven

Gasification

Table T4.5.2 Support/Oppose Gasification

Table T4.5.2

	TOTAL	COUNCIL PRECINCT						PRIOR EXPOSED
		Bassendean	Bayswater	Belmont	Kalamunda	Mundaring	Swan	
	N=450 %	N=75 %	N=79 %	N=74 %	N=73 %	N=73 %	N=72 %	N=25 %
Strong oppose	2	2	3	1		5	1	4
Oppose	11	20	11	12	8	17	9	20
Feel neutral about it	26	24	19	28	21	24	31	24
Support	40	43	45	36	46	33	39	20
Strong support	18	9	17	19	20	21	19	20
Don't know	1	3	3	1	3	0	0	4
TOTALS	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
NET OPPOSE	**13**	**22**	**14**	**14**	**8**	**22**	**10**	**24**
NET SUPPORT	**59**	**51**	**62**	**55**	**67**	**54**	**58**	**40**

patterson MARKET RESEARCH

Reasons for Support of Gasification (Amongst 59%)

- 28% it would reduce landfill
- 17% it produces electricity (gas)
- 12% efficient / more advantages than disadvantages
- 12% reduction in greenhouse gas emissions
- 9% proven technology
- 9% able to make electricity and fuel by-products'
- 7% low risk of water pollution / minimal health risks
- 6% minimal amount of energy used to keep it running
- 6% low cost in capital and operations
- 4% low risk of odours
- 3% char can be used as a solid fuel / nutrient.

Reasons for Opposing Gasification (Amongst 22%)

- 20% the amount of energy used to keep it running
- 10% the cost factor
- 11% organic waste must be cleaned
- 3% an unproven technology.

Pyrolysis

Table T4.5.3 Support/Oppose Pyrolysis

Table T4.5.3

	TOTAL	COUNCIL PRECINCT						PRIOR EXPOSED
		Bassendean	Bayswater	Belmont	Kalamunda	Mundaring	Swan	
	N=450 %	N=75 %	N=79 %	N=74 %	N=73 %	N=73 %	N=72 %	N=25 %
Strong oppose	3	1	3	1		9	4	4
Oppose	14	17	15	12	8	20	13	16
Feel neutral about it	26	25	17	30	35	19	28	24
Support	35	39	46	33	38	23	31	28
Strong support	20	18	16	23	15	29	23	24
Don't know	1	1	1	1	1		1	0
TOTALS	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
NET OPPOSE	**17**	**17**	**18**	**13**	**8**	**29**	**17**	**20**
NET SUPPORT	**55**	**57**	**61**	**56**	**54**	**52**	**54**	**52**

Reasons for Support of Pyrolysis (Amongst 55%)

- 24% efficient use of the waste / good bi-products
- 24% “produces electricity/gas”
- 23% reduces landfill
- 23% reduces greenhouse gas/good for the environment
- 17% advantages outweigh disadvantages overall
- 9% used in other countries around the world / proven
- 5% doesn’t produce odours

Reasons for Opposing Pyrolysis (Amongst 17%)

- 41% unknown technology / not proven in Australia
- 25% process requires too much energy in the first place
- 17% disposal of by-products
- 17% risk of pollution
- 15% too expensive to set up and run.

Plasma

Table T4.5.5 Support/Oppose Plasma

Table T4.5.5

	TOTAL	COUNCIL PRECINCT						PRIOR EXPOSED
		Bassendean	Bayswater	Belmont	Kalamunda	Mundaring	Swan	
	N=450 %	N=75 %	N=79 %	N=74 %	N=73 %	N=73 %	N=72 %	N=25 %
Strong oppose	7	6	7	1	9	14	4	12
Oppose	20	15	22	14	19	22	20	24
Feel neutral about it	24	19	25	28	19	16	29	8
Support	27	33	21	28	33	23	28	28
Strong support	21	21	22	26	18	25	18	24
Don't know	1	4	1	2	0	0	0	0
TOTALS	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
NET OPPOSE	**26**	**21**	**29**	**15**	**28**	**36**	**24**	**36**
NET SUPPORT	**48**	**54**	**44**	**54**	**51**	**48**	**46**	**52**

Reasons for Support of Plasma (Amongst 48%)

- 24% “good technology” / no health risk / low risk
- 23% produces electricity / is environmental friendly / reduces greenhouse gas
- 14% efficient use of waste products
- 12% more effective than other methods / especially metal, glass and recycling activities
- 12% reduces landfill
- 7% lower costs.

Reasons for Opposing Plasma (Amongst 26%)

- 25% the cost (expensive)
- 17% high turnover of liners in the burner
- 14% dangerous high operating temperature / a lot of energy involved in the operation
- 25% the technology is unknown / unproven
- 11% the process requires too much energy / excessive heat required.

Combustion

Table T4.5.4 Support/Oppose Combustion

Table T4.5.4

	TOTAL	COUNCIL PRECINCT						PRIOR EXPOSED
		Bassendean	Bayswater	Belmont	Kalamunda	Mundaring	Swan	
	N=450 %	N=75 %	N=79 %	N=74 %	N=73 %	N=73 %	N=72 %	N=25 %
Strong oppose	6	10	3	4	8	10	6	12
Oppose	32	30	33	32	38	31	30	44
Feel neutral about it	26	27	30	25	23	19	27	8
Support	25	24	23	29	25	25	24	20
Strong support	10	7	9	10	5	15	13	12
Don't know	1	1	1	1	0	0	0	0
TOTALS	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
NET OPPOSE	**38**	**40**	**35**	**35**	**46**	**41**	**35**	**56**
NET SUPPORT	**35**	**32**	**32**	**39**	**30**	**40**	**37**	**32**

patterson MARKET RESEARCH

Reasons for Support of Combustion (Amongst 35%)

- 16% good technology
- 16% meets high emission standards
- 13% it produces electricity / energy
- 13% reduces landfill
- 12% there is a cost benefit (appealing)
- 11% reduces greenhouse gas
- 8% low risk of water pollution

Reasons for Opposing Combustion (Amongst 38%)

- 44% cost
- 27% requires a lot of land
- 13% not enough benefits to justify the high temperature issues
- 12% possible explosion
- 11% question if emission standards adequate
- 7% problems over the disposal of the ash
- 5% it doesn't recover recyclable materials
- 3% the technology is unproven in Australia

Summary of Attitudes towards Technologies

- A preference for “the familiar” with anaerobic digestion being the most favoured (creates compost).
- However, clear majority support for all except combustion and plasma (but almost 2 to 1 support for plasma).
- The focus group work showed initial strong support for Pyrolysis, Gasification and Plasma due to the perceived capacity to handle a wider range of waste materials.
- But this overturned by the better greenhouse gas outcome by Anaerobic Digestion

Summary of Attitudes towards Technologies

- Lack of understanding and lack of full trust – not of deliberate deception, but of technical understanding.
- Part of the concern over safety was lack of confidence that Ash and Char outputs would be benign.
- “There’s always something they (experts) don’t know about.”
- Some concern that reduction in Landfill volumes would create smaller volume of more toxic materials in the air or landfill (groundwater).

Greenhouse Gas a strong motivator

- Effectiveness assessments produced strong consideration for alternatives to A.D. (apart from combustion) however ultimate considerations driven primarily by:
  - SAFETY
  - Minimisation of greenhouse gas emissions
  - Construction and ongoing operation at minimal (reasonable) cost to ratepayers
  - Effectiveness in reducing landfill volumes
  - Proven examples of facility.

“When Things Go Wrong”

- Safety was not a simple issue
- Provision of safeguards and treatment processes not adequate:
- “that’s all very well when it works”, but “what happens when it breaks down?”
- “everybody felt that if asbestos was safe until it wasn’t”
- The focus groups’ wariness of the thermal technologies influenced by the potential for very high temperatures to be unleashed.

“When 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”.**
- There is a need for very clear “fail safe” procedures regardless of the technology chosen.
- “This hasn’t broken down in x number of years” not adequate

LOCATION

- “Not in my back yard” from people nearby each of the potential sites
- But a preference for Red Hill, regardless of technology.
- “Red Hill is where it’s always been”

LOCATION - Question Options for each Technology

- Prefer Red Hill
- Prefer Hazelmere
- Either is acceptable
- Neither location is acceptable

Location

Table T4.6 Acceptability of Technologies at available sites

	Acceptability of Red Hill and Hazelmere for the 5 technologies				
	RED HILL	Hazelmere	Either OK	Net Red Hill	Net Hazelmere
	N=425 %	N=425 %	N=425 %	N=425 %	N=425 %
Anaerobic Digestion	56	9	28	84	37
Gasification	56	13	23	79	36
Pyrolysis	56	9	22	78	31
Combustion	58	8	19	77	27
Plasma	53	10	23	76	33

- Note: Minimum Red Hill acceptance 3 out of 4

PMR OVERVIEW

- Broadly, the community accepts the need to reduce landfill
- Expects that the EMRC would be able to come up with an acceptable solution
- Accept that the general community do not have technical expertise to make the assessments
- PROVIDED an adequate technical assessment by experts who are independent from the technology providers. (Cynical view of biased assessments)
- The benefits and reasons for the choices MUST be clearly communicated to them

PMR OVERVIEW

- Significant issue over potential harm in the event that things “don’t go as planned”.
- Nonetheless, apart perhaps from the combustion technology, any one of the remaining four **could** be accepted by the community provided **technically sound** and **valid** arguments could be presented in its favour.
  (See Slide 19 for low levels of opposition)
- The results are more about the amount of effort that the EMRC will need to go to in winning community support

patterson MARKET RESEARCH

PMR OVERVIEW

- Statements that the process that is chosen “is designed to achieve its outcome without risk to the community or the environment” will not be adequate.
- The choice will need to demonstrate that in the event of things “going wrong”, it still presents a “nil” risk to the community and the environment.

PMR RECOMMENDATION

- Keep information flowing
- A group of concerned citizens can quickly develop a very negative mindset
- Consipiracy theories always ready to emerge
- Explain selection processes
- Explain reasons for choices

PMR RECOMMENDATION

- Fund independent assessments of the technology.
- DO NOT LEAVE AN INFORMATION VACUUM;

SOMEONE WILL FILL IT

- Better that Someone is the EMRC

Feedback from the Red Hill Community Liaison Group

- Meeting with Red Hill Community Liaison Group.
- Concerns of the group included:
  - That the EMRC were planning to build a large incinerator at Red Hill
  - No consideration was being given to the environment and health consequences
  - Residue from the process would be highly toxic
  - The complete lack of communication and consultation on the project from the EMRC

Feedback from the Red Hill Community Liaison Group

- Due to lack of information from the EMRC, the group conducted their own research
- Will require work to recover their trust
- Clear and ongoing communication about the project is vital
- Information would do a lot to prevent opposition to ANY waste processing technology.

Questions?