Who are the green hats?

An investigation into the motivations of early adopters of business waste reduction practices

Social Change Media
and
Forsyth Communications

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Contents

Executive Summary

Although there have been several recent studies into the barriers and opportunities for environmental improvement in Australian businesses, there has been little research which assists –
• the development of marketing programs directed at businesses, or
• the structural fine tuning of waste reduction programs.

This study aims to fill this gap by analysing the motivations of companies which were 'early adopters' of improved waste management practices.

Important questions include –

What are driving motivations of 'early adopters'?

How to we speak to them in terms and language they will be motivated by?

How do we structure and market programs to maximise their perceived benefits and rewards?

To answer these questions we approached 39 businesses which had been the subjects of waste reduction case studies and questioned senior staff involved in those changes.

The results of this study point to a number of important conclusions on the design of future business waste reduction programs.

1) 'Green vision' is a vital motivator

Waste reduction programs which are marketed solely on the basis of cost savings may be missing their vital 'early adopter' audiences.

'Green image' and/or personally held 'green' values of senior management and staff may be equally if not more important compared to purely economic benefits.

Corporate citizenship, better work environment/productivity, and staff morale are also important lower-level motivators.

It appears that future waste reduction programs may benefit from being 'sold' on a *mix* of personal environmental conviction plus economic benefit, rather than economic benefit alone.

This issue affects the tools, language and imagery used in marketing waste reduction – a shift towards more aspirational, visionary language and imagery is recommended. Bland 'corporate' approaches are likely miss their audience.

2) Being seen to be green is important

The ability of businesses to leverage their participation into a 'greener' public image for their companies is an important motivation and perceived benefit or reward.

The NSW Waste Boards therefore need to give careful consideration to constructing tools or processes which assist companies to market themselves as environmentally conscious corporate citizens.

For instance, in on-going advertising campaigns, in endorsements, or in prominent 'point-of-sale' materials which companies may display to their customers.

3) 'Green' managers and supportive staff make the difference

Virtually all programs had a 'green champion'. In most of these case studies the green champion was the managing director or a senior operations manager.

In only one case was the champion a financial controller.

The personal involvement of senior managers who have a 'greener' vision for their businesses *plus* widespread support from staff appear to be two vital components for the success of waste reduction programs.

4) Selling 'waste reduction' alone may miss the market

Most 'case study' companies have also implemented energy and water conservation programs.

This suggests that 'early adopter' companies do not see waste as a discrete issue, but as one aspect of a general environmental improvement agenda. Waste reduction may therefore be better marketed as an integrated component of a broader environmental improvement package.

This finding supports the concern of many practitioners that the needs of businesses are not being met by the fragmentation of environmental messages and programs between Waste Boards, Sydney Water, energy distributors and the EPA.

Implications for the Northern Sydney Waste Board

The Northern Sydney Waste Board has piloted the Waste Saver program for 2 years in Northern Sydney businesses. Despite problems due to unreliable recycling services, many of these pilot businesses continue to be involved. The challenge is to assess and improve the program.

This study contains the following implications for the design of the Waste Saver program –

a) The 'corporate' style and language used to market the Waste Savers promotions and materials may be missing many potential participants in the vital 'early adopter' audience.

b) The program would benefit from an overhaul of it's language and imagery to become more environmental and aspirational.

c) The program needs to target the most senior managers in an organisation, not the financial controller.

d) The stated benefits need to include an even mix of 'green vision and image' and economic benefits.

e) The program needs to investigate ways to assist each participating business to promote itself as 'green' and a good corporate citizen – this investigation is perhaps best done in the field...talking to participating businesses and being prepared to responding to their needs with new point-of-sale marketing materials and other initiatives.

f) A 'cleaner-production' or 'eco-business' approach may be more effective than a pure reliance on waste minimisation. Waste Savers needs to examine ways to partner with other agencies engaged in marketing environmental improvements for business especially SEDA, Energy Australia, Sydney Water, and Cleaner Production Unit at the NSW EPA.

Note on the Waste Saver brand: Points d) and f) create a challenge for the Board in how to continue marketing the Waste Saver brand, which this study suggests may be both too narrow and too negative to prove attractive to early adopters. (This may be borne out in the difficulty of recruitment to the program to date).

We recommend that the Waste Saver brand, though continuing in use, be downplayed as a signature only, with a greater visual emphasis an aspirational term such as 'EcoBusiness' or 'EcoSmart business'.

Introduction

Although government programs fostering improved environmental management in Australian business have been around for several years, it is still fair to say that the marketing of these programs is in it's infancy.

We are aware of only one relatively sophisticated marketing program, that of the Sustainable Energy Development Authority (it's *Energy Smart Business* program). The other Australian programs are in the early stages of implementation (EcoRecycle Victoria's *WasteWise* Business program, Northern Sydney Waste Board's *Waste Saver* program), or have focused mainly on the development of resources and experimental pilots (NSW EPA's *Cleaner Production* program), or research and case studies (Environment Australia's *Cleaner Production* program).

For the most part, business environmental programs have been promoted on a 'bottom-line' argument (ie. 'it's all about cost savings') and the programs have often been targeted in an ad hoc way at whoever (in a company) would listen.

However, sensitive targeting is one of the most vital issues in the design and marketing of business waste reduction programs.

- Who (in a company) should be targeted?

- What kind of benefits are mostly likely to attract them?

- How can their needs be satisfied?

- How can they be rewarded?

- What language and arguments are likely to be the most influential?

The numerous published case studies generally do not supply this kind of information.

In fact, although there has been increasing research into the environmental motivations of business in recent years (see Appendix 3) there has been little practical research into the marketing of change and the psychology of adoption. Without an understanding of these issues it is impossible to design future programs with assurance.

Modelling business change

The general literature on technology adoption provides a useful psychological model – the innovation adoption curve (see box below). This model segments an audience into psychographic categories based upon their propensity to take up technologial innovations.

The innovation adoption life cycle
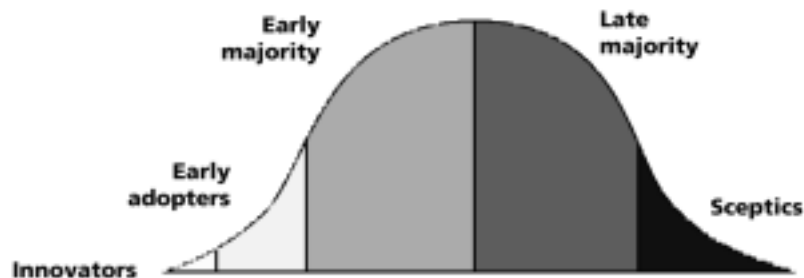
Innovators – environmental champions, committed, ideological, lead the way, imaginative, energetic, evangelical, the test-bed for innovations and a vital presence in a successful waste minimisation program.

Early adopters – open to change, visionary, imaginative, looking for a strategic leap forward in their business, quick to make connections between innovations and the vision for their business, want quick results, less cost-sensitive than other groups – willing to invest and take risks, like to hear "state-of-the-art".

Early majority – pragmatists, comfortable with environmental ideas, but need to see the proof of benefits, influenced by other pragmatists, want proven better ways of doing what they already do, need strong support systems and sense of sustained partnership, want easy solutions with minimum discontinuity, in for the long haul, not risk takers, like to hear "industry standard".

Late majority – conservative pragmatists, follow the mainstream and established standards, hate risk but don't want to be left behind, not comfortable with environmental ideas.

Sceptics – 'brown bombers' act to block environmental improvements. Their arguments need to be taken seriously – often they identify real problems which need to be solved before majority groups can accept the innovation.

– adapted from *Crossing the Chasm*, Geoffrey A. Moore

The Waste Boards have commenced their work at a time when 'innovators' have already led the way by applying innovative waste reduction practices in a small proportion of businesses.

'Early adopters' are, logically, the next to follow – and it is clear that the largest corporations have already responded to changing market and

regulator expectations by adopting significant environmental improvements (e.g. BP-AMOCO, BHP, Lend Lease and many others). However the great bulk of small, medium and medium-large enterprises have yet to systematically adopt such practices.

The first task of the Waste Boards is necessarily to target 'early adopters' – those businesses whose owners and managers have the imagination and business vision to be amenable to investing in environmental improvement.

Only when waste reduction solutions have been tried, proven, and standardised through trials with early adopters, will it be possible to move into the 'majority' segments. The weakness of present waste management solutions (in professional advisory services, and in collection and processing infrastructure) mean that it is likely to be some time before solutions are sufficiently mature to be marketed to the more resistant and pragmatic 'majority' audiences.

What then are the characteristics of 'early adopters'? How do we speak to them in terms and language they will be motivated by? How do we structure and market programs to maximise their perceived benefits and rewards?

The purpose of this study is to provide some answers to these questions.

Analysis of printed case studies

In recent years there have been scores of 'case studies' – pilot programs where environmental improvements have been implemented with the assistance of professional consultants or agency staff, often externally funded.

Our research commenced with a study of 35 of these published case studies. Although this 'desk study' was enlightening, the emphasis was overwhelmingly on quantifiable results rather than recording the perceptions, needs and motivations of key company staff. Issues of motivations, rewards and leadership were either not reported or reported so inconsistently that no general conclusions were possible.

The results of this study are summarised in Appendix 2.

Analysis of research literature

A strong research literature on business environmental performance improvement has appeared in recent years (see Appendix 3 - bibliography). This literature is summarised as Appendix 4, by way of a focus on the NSW EPA's important *Business and the Environment* study (1997) and incorporating details from other studies.

From the point of view of environmental marketing, the following conclusions can be drawn from this literature –

1) 'Green' positioning is a valuable commodity, especially for those businesses which market directly to the public (e.g. food and hospitality). This positioning may be with customers, staff, industry and/or government.

2) Bottom-line benefits are a vital marketing tool, *and* they must be quantified. Meanwhile the genuine costs of change must be neutral or minimal. Several studies made it clear that positive financial incentives, such as small grants, may be effective tools in encouraging change by business.

3) The 'green' values of staff and managers are important elements in the business change equation. Recognising, supporting and building on these values ares likely to be a vital element in the success of future programs.

4) For SME's, the complexity of information plus 'no time' means that small businesses must necessarily depend on face-to-face involvement by skilled advisers, rather than 'paper resources'. This is also a conclusion of the 1999 Veritas Consultants study with major business associations. [1] This conclusion has important implications for the design and resourcing of services for SMEs.

> ## Drivers – *the views of business associations*
>
> In Nov 1999, Veritas Consultants (Peter Shmigel) asked major NSW business associations to rank the key drivers of environmental improvements, and obtained the following list, in order –
>
> • 'the bottom line (primarily opportunities to reduce operating costs)
> • corporate citizenship
> • public perceptions
> • environmental reporting
> • legislation, and;
> • workplace morale/environment.

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[1] In the Nov 1999 Veritas Consultants discussions with major NSW industry associations, participants emphasised "face-to-face" liaison and "hands on" advice provision" as essential elements of a successful industry education program. "Most C&I stakeholders see the Regional Waste Boards as essentially isolated and "not out there" with industry and business at senior management level. They strongly prefer face-to-face liaison as opposed to the dissemination of material."

Goals of this study

In order to examine the motivations of early adopters, we carried out one-on-one telephone interviews with key staff involved in the implementation of waste reduction programs in 39 businesses which have been the subject of published case studies.

The issues we focused on were –

- What motivated the company to take up the improvements?

- Who was the champion? (What kind of person were they? How did they see the benefits?)

- What were the ingredients for success?

- How were 'success' and 'benefit' understood in the company?

- Is the program continuing? If so, why? If not, why not?

Methodology

The internet was scanned for case studies of waste minimisation programs by business in Australia over the last 10 years. Most of the case studies were from NSW and Victoria, although there were also a few from the other states.

Researchers then rang the organisation mentioned in each case study. In some cases, a contact name was published in the case study; in other cases it was a matter of tracking down the most senior person who was involved in the implementation of the program.

Results

Q1. How many people does your organisation employ?

Small sized business (1-10)	5
Medium sized business (11-50)	9
Large sized business (51 +)	25
Total:	39

Note: The over-representation of large businesses reflects the prejudice of pilot programs to date, which have overwhelmingly focused on large corporations.

Q2. What sector does your organisation work in?

hospitality	4
education	3
media	1
building	2
Auto services	4
Health	3
Food wholesale	1
Manufacturing	13
Aluminium smelting	1
Import and distribution	1
Retail	5
Wool scouring	1

Note: The over-representation of manufacturing reflects the tendency of 'cleaner production' programs to focus on manufacturing. The small number of building industries reflects our decision to focus principally on the commercial and industrial (C&I) sector. In fact a large number of published case studies do exist for the construction and demolition (C&D) sector, however it was beyond the resources of this project to obtain a reasonable sample from both sectors.

Q3. Why did your organisation become involved in waste minimisation?

Environmental concern, including staff pressure on mgmt to be more green	13
To increase life cycle of equipment	1
To be more efficient/productive	6
Industry needs to be seen as 'squeaky clean'	1
To be responsible community citizen	7
Economic savings	13
Threat of pollution fines/penalties	3
Attended waste saver seminar	1
Strategic marketing (consumer demand)	2
Regulations//legislation	5

Approached by external organisation/consultant, including waste audit by government body	10
To raise profile of company/industry leader	3
Closure of local tip	1
Fundamental business ethic	1
In-house audit	1

The most significant motivations were, in order of most significance:

1. Economic & environmental (13)
2. Approached by external organisation/consultant (10)
3. To be a responsible corporate citizen (7)
4. To be more efficient/production (6)

There are a great range of possible motivations. And perhaps it is the combination of several different motivations that creates enough impetus to act. Nevertheless it is notable that economic considerations are balanced by environmental concerns. The high value given to corporate citizenship and the recognition of production efficiency both support the view that 'early adopters' are more outward looking and more forward looking than other companies.

Importantly, being approached by an external organisation was a significant motivator in itself. This might be a reflection of the sample case studies often being generated by government programs (e.g. Cleaner Production).

This finding might also reflect that businesses respond best to personal meetings with experts. Indeed other studies have found that personal meetings with experts are the most effective way of communicating with business.

One might assume that those organisations that implemented a waste program as a result of an external approach, would be more likely to discontinue the program after a period of time. However, this was not found to be the case in this research.

Q4. Possible motivations for starting waste minimisation

	Not at all	Slightly	mod	very	extreme	n/A
Economic savings	5	1	7	9	13	
Environmental responsibility	2		7	13	16	
Increasing industry practice	18	1	9	4	6	
Consumer expectations	18	6	6	6	1	
Green image for the organisation	5	2	8	13	12	
Improved	11	3	4	10	9	

productivity/efficiency/quality						
Improved work environment	10	4	5	12	7	
Improved staff morale	6	6	7	10	6	2

Note: Question 4 not applicable to one organisation. Therefore the total sample for this question was 38.

By combining the 'very' and 'extremely' categories, it can be seen that the most significant motivations here were, in order of most significance:
1. Environmental responsibility (29)
2. Green image for the organisation (25)
3. Economic savings (22)

In this question, it appears that both environmental responsibility and a green image are *more* important than economic savings which is a different finding than in Q3. Perhaps these findings are more accurate because the closed nature of question forced interviewees to make a choice. Conversely, perhaps the same closed nature of the question, forced people to give a more 'socially desirable' response than they did in Q3.

This question also shows both 'increasing industry practice' (18) and 'consumer expectations' (18) as being much less significant as motivators. Interestingly, 'consumer expectations' as insignificant seems to contradict the finding of 'green image' as very significant. This hints that 'green' image may be a vision that transcends consumer demand – these companies may be prepared to be leaders, rather than followers of consumer expectations.

Perhaps an even more pertinent question is DO consumers have expectations of businesses regarding their environmental practices? If consumers do have such expectations, then this needs to be made clear to businesses, as the majority are obviously not currently aware of this factor.   For example, survey results of consumer expectations could be sent to relevant businesses.

The findings of Q4 confirm that companies with a high public profile, particularly retail organisations, tended to see 'green image' as very or extremely important. The desire to avoid adverse publicity could be just as significant. Smaller companies tend not to be the target of environmental activists and media scrutiny to the same extent. Note that Kodak, an Olympic Partner in the 2000 'green' games, is lifing its waste management game in Australia to avoid any adverse publicity.

Differences in the motivations between different types of organisations show that any promotional campaigns need to have a 'toolkit' of different motivators depending on the type of organisations being targeted.

Q5. How did the organisation find out about the actions it could take to reduce waste?

Own research and/or invention	17
Local council	3
Advice from waste contractors/service providers	6
Waste board/waste consultant e.g. Waste Saver Seminar	10
State university (e.g. RMIT)	1
State Environment body	2
Employed environ. officer to audit/research	3
Industry association study of hotel practice	1
Industry awareness/other organisations	2
Info and advice from parent company	2

The two most common methods, in order of most frequency are:
1. Own research and/or invention
2. Waste board/waste consultant e.g. waste saver seminar

The fact that the most frequently cited method was 'own research' indicates that most organisations did not feel able to access relevant external expertise. This suggests that many of the organisations involved in this study might better be classed as 'innovators' rather than 'early adopters' (see the innovation adoption box above).

Many of the companies which were interviewed needed to address a specific technological issue in order to save waste had to do their own research because their needs were so specific and so unique. For example, one power station has pioneered using treated effluent from their local STP to generate power. One important function of a Waste Board program could be to set up a network whereby these innovative companies can pass their knowledge on to other organisations in their field.

Q6. How successful was your program?

Not at all successful	1
Slightly	
Moderately	6
Very	15
Extremely	17

The vast majority of interviewees thought their waste minimisation program was either very or extremely successful. This is very encouraging,

although it may be more a reflection of the fact that most of the interviewees were found through **successful** case studies on the internet.

Note that, given that most of the organisations considered their program successful, the overall findings of this research regarding motivations and aids to success are well worthy of replication.

Why was it successful? (open question)

Improved efficiency	2
Environmental protection e.g. increased recycling/ reduced hazardous waste	14
Increased life cycle of equipment	1
Use (and sale) of entire raw material	1
System still in place/ongoing	2
Cost savings	11
Publicity for company/positive image	3
Given competitive edge to company	3
Industry recognition: e.g. industry award/best practice/environmental accreditation/used as training resource and for research	8
Owner was convinced to invest $43 million in new technology	1
Helped to motivate staff (initially)	1

The most frequently cited criteria were in order of most frequency:
1. Environmental protection (14)
2. Cost savings (11)
3. Industry recognition (8)

It's interesting that industry recognition rated here, but not in Questions 3 and 4. Perhaps industry recognition is only perceived as a collateral, rather than motivating, benefit.

Q7. When you assessed how successful the program/project was, how important were:

	Not very	slightly	mod	very	extrem ely	N/A
Economic savings	7	1	7	10	13	
Environmental responsibility			4	14	20	
Green image for company	4	2	8	14	10	
Improved productivity/effic.	10	2	6	12	7	1
Improved work environment	7	2	11	11	6	1
Improved staff morale	6	2	7	13	8	2

Note: Q7 was not applicable to one organisation. Therefore the sample for this question was 38 businesses.

Combining the very and extremely categories, shows Environmental responsibility (34) and Green image (24) were more frequent criteria for success than Economic savings (23) alone.

Note that industry recognition, which was such a significant factor in Q6 was not given as an option in this question. In retrospect, it should have been included as an option. However, the notion of 'green image' does imply recognition in the eyes of the public rather than by industry peers.
Q8. Is the wm program still in operation?

Yes	33
No	3
Partially	3

This suggests that the 'trial and case study' strategy adopted by many environmental management agencies is sound (a more cynical view may be that only successful case studies every get written up and published).

Q9. How significant were the following in the discontinuation of the wm program?

	not very	slightly	mod	very	extremely
Expense	3				
Competing business priorities	2	1			
Problems w. recycling contractors					3
Resistance to cultural change	2				1
Lack of info and expertise	3				
Key staff leaving organisation	2				1

Problems with recycling contractors was the most frequently cited reason for discontinuing the waste program. Although it is a very small sample of 3, this problem has been highlighted in anecdotal in feedback from Northern Sydney Waste Board and Illawarra Waste Management staff, and appears to be one of the most serious obstacles to effective implementation of waste management programs, especially for SMEs.

Q 10. Did management consider that the wm program lead to a significant reduction of waste?

Yes	35
No	4
Why not? • not monitored • difficult to measure • more responsible treatment of waste rather than reduction • only small amounts	1 1 1 1

Q 11. Did management consider that the program reduced operational costs for the organisation?

Yes	24
No	14
Why not? • Disposal & labour costs • Production costs already so high (oil drilling) that wm minimal effect • Not monitored • Not a goal • Increased costs now but greater productivity & more business due to clean/green image	1 1 1 1 1
N/A	1

Q 12. What helped make the program a success (or not)?

Cheap to implement new system	1
Persistence of staff in pursuing change	2
Community embraced recycling	1
Implementing correct technology	4
Proactive external consultant and lots of handholding	3
Initial grant meant company suffered no financial stress	1
Good internal analysis/planning/goals	6
Supportive owner - willing to let general manager experiment	1
Mgmt/Senior staff involved/supportive of program/sincere	10
Involvement/support of all staff	12
Exceptional environment officer	1
Support of entire environment management team	1
Exposure within industry	1
Education/training/communication with staff	9
Making it simple	7
Visibility	1
External awards	1
Internal awards/sense of achievement	3
Associated activities e.g. tree planting	1
Supported with money and resources	2
threats of legal action	1
Efficient service provider/good relationship with suppliers	3
Raised image of company	1
Support from waste board	1
Political climate encouraged/pressured	1
Systems aesthetically pleasing	1
Wm made part of everyday activities	1
Wm built into staff performance goals	1
Quick to see results	1
Wm embedded into company procedures - not just program	1
Not very successful because a small organisation with mainly casual employees - difficult to use them re. wm	1
N/A	1

There was a range of factors seen to help a waste minimisation program
be successful. The most frequently cited were:
1. Involvement/support of all staff (12)
2. Management/senior staff involved, supportive and sincere (10)
3. Education/training/communication with staff (9)

Again, the relevance of these helping factors depends on the type of waste program introduced. If the waste program was mainly about the introduction of a new piece of technology, for example, then it was not so important that all staff be involved.

Q 13. Which staff were involved in the program?

	Not very	Mod.	V Involved
Operations manager/technical manager			12
Managing Directory/General manager			10
Assistant General Manager/Deputy Managing Director			4
Technical services staff			1
Board			1
Environmental and Health /Safety Coordinator			4
Assistant operations manager			3
State Director/branch manager/store manager			2
All staff			17
Environment management group			1
Risk manager			1
Financial controller			1
Nurse educator			1
Upper management			1

The most frequently cited staff involved in the waste minimisation program were:
1. All staff (17)
2. Operations/technical manager (12)
3. Managing director/general manager (10)

These findings suggest that waste minimisation campaigns and approaches should be directed first to the Managing Director/General Manager and/or Operations/Technical Manager. See Recommendation 5. Even better, the individual person to be approached should be decided after research and discussions with the company.

It's interesting that this question found that the Occupational Health and Safety officer was often given some responsibility for environmental programs. Perhaps waste educators could learn from how OH & S has been promoted within business so that it is now an integral part of any business culture.

Q 14. Was there one person you would describe as the driver of the program within the organisation?

Yes	33
No	5
Not answered	1

If you answered yes, who was that person?

Managing Director/General manager	10
Assistant General Manager	2
Operations manager	8
Assistant operations Manager	2
Environment officer	2
Environment group/committee	2
Risk manager	1
State/branch/store manager	4
Financial controller	1
Occupational Health and Safety officer	1

Most waste minimisations programs had a driver or champion. This was most frequently found to be the Managing Director (10) , followed by the Operations Manager (8).

Indeed given that most of the waste minimisation programs were successful, having a senior champion may be one of the factors needed to ensure such success.

As in Q13, this suggests that any approaches by waste educators should begin by identifying the senior company 'champion' who is most likely to be the Managing Director and/or Operations Manager. See Recommendation 6.

What do you think was their motivation for being the driver?

Economic savings	8
Environmental consciousness/vision	15
Seemed like the 'right' thing to do	3
Desire to be industry leader	2
Customer expectations	2
Strategic marketing	2
personal/ job challenge	5
recognition/leadership	2
new knowledge and competencies	1
Involved in purchasing	1

| Enthused by agency | 1 |
| Efficiency | 2 |

The most significant personal motivation for the driver/champion of the program was environmental consciousness/vision (15), followed by economic savings (8).

From a rudimentary analysis of the data, there doesn't seem to be a correlation between position and motivation e.g. not all the operations managers said that finances and efficiency were their personal motivation.

The difference in importance between environmental consciousness and economic savings in this question is greater than in the findings of Q3 and Q4. Perhaps a greater degree of 'social desirability' entered these answers, given that the interviewee was usually talking about themselves and their own motivations rather than the company's motivations.

Q 15. Did your organisation get outside support for this wm program?

Yes	29
No	9
N/A	1

If, yes, from who?

Clean Incentives Scheme, EPA Vic	2
University/academic institution	2
Government body e.g. EPA	7
Local waste contractor/service provider	3
External consultant	12
Local waste board	3
Internet	1

These findings confirm the importance of the external consultant in encouraging waste minimisation in businesses.

What level of support did your industry association provide for the wm program?

This question not answered by at least half respondents, therefore invalid.

Q 16. Apart from waste minimisation, has your company engaged in other environmental actions?

Yes	31
No	7
Not answered	1

Most of the organisations had been involved in other environmental actions.

If yes, what type of environmental actions?

Water conservation	14
Energy efficiency	21
Reduction of air pollution	5
Hazardous chemical reduction	5
Recycling	2
Land rehabilitation	1
CFC reduction	1
Geothermal systems	1
Tree planting	1
Student training/mentoring	1
Stormwater protection	1
SEDA program	1
Sediment erosion control	1
Gas conservation	1
Worm farming	1
Endangered species	1

It is obvious that most of the businesses interviewed were involved in more than just waste minimisation. The most frequently cited other environmental actions were energy efficiency (21) and water conservation (14). This may reflect the fact that these two resources are closely linked to costs.

17. Does your company have a written Environment Policy?

Yes	27
No	12

18. Does your company have an Environment Management Plan?

Yes	25
No	14

19. Does your company have a senior person with specific responsibility for environmental management?

Yes	21
No	18

Q 17, 18, 19 reflect the fact that most of the organisations interviewed had more than 50 people. Only large companies tend to have written policies and dedicated environment officers.

On speculation, it seems that once waste minimisation practice is enshrined in policy it tends to be maintained whereas the continuation of waste minimisation in smaller companies might depend more on the enthusiasm of a driver or champion.

Appendix 1

Comments from the interviewers

The impressions and conclusions of the individual interviewers were obtained in order to add colour and emphasis to the data.

1) Susan Forsyth - project leader

1. A blanket approach to promoting waste minimisation in business will not work. There are too many differences in motivations, types of waste programs and criteria for success. Approaches and programs need to based on the individual needs of companies or at least on the researched needs of a group of similar companies.

For example, this research has found that high profile organisations, especially retail ones, respond more to the desire to create a green image. Within any target group of businesses, research needs to be done into which are the prime motivating factors (environment, cost or image) for each business. Or perhaps businesses could self-select which motivators are more important to them e.g. they could choose which of three seminars (one emphasising environment, one emphasising cost and the other image) is most relevant to them.

2. Government funded audits, seminars and other waste minimisation campaign strategies aimed at businesses should be encouraged.

3. Research should be done into consumer expectations of environmental practices by businesses. If the result confirms that consumers do have such expectations, then this information needs to be made more clear to businesses.

4. Any waste minimisation program aimed at business should ensure:
   • Involvement/support of all staff (12)
   • Management/senior staff involved, supportive and sincere (10)
   • Education/training/communication with staff (9)

5. Waste minimisation program/approaches should be made to the most senior person in the company (i.e. the Managing Director/General Manager) and/or the Operations/Technical Manager.

6. For any waste education campaign/program, research needs to be done on who is currently, or who has the potential to become, an environmental champion. For example, a survey researching individuals' attitudes to the environment and economic savings as well as their personality characteristics such as leadership and determination.

7. Personal meetings with waste experts have been found to be the most effective way to communicate waste issues to business and to motivate those businesses to implement waste minimisation (Deni Greene: Carrots, Sticks and Useful Tools). This researcher talked with several 'champions' who were very inspiring in their combination of environmental concern, business acumen and love of innovation. It is recommended that these speakers, and others, are used to communicate directly with other business people in similar organisations. For example, perhaps a series of seminars or a speaker's bureau could be set up.

2) Emma Kennedy - researcher

Here are some of the main impressions that I gained from doing the case study interviews. Please note that some of the larger companies were not involved in a wm "programme" as such, but have implemented wm actions over the last decade or so. For some, they are now enshrined in company policy. In this case it was more difficult to ascertain the motivations for starting wm, as the person I spoke to may have been far removed from the decision making process.

There appears to be the following general distinctions between large & small companies:

Motivation to adopt wm programmes: In general, desire to avoid adverse publicity/ attract positive publicity seems to be more of a factor in large companies than small businesses. (They also have whole departments devoted to public affairs, whereas smaller companies do not!). Note Kodak, which is an Olympic partner in the 2000 "green" games, is lifting its wm game in Australia in an effort to avoid any adverse publicity.   Smaller companies tend not to be the target of environmental activists (ie, Greenpeace) and media interest to the same extent, so this is not such an issue.

While there may be individuals within larger companies who are "green minded", policy decisions are more likely to be based on market demands and conditions, rather than individual values, in big companies. Ie: Grace Bros / Myer surveyed its customers to find out whether they preferred plastic, or paper bags. While paper bags are potentially more waste-friendly, GB went with plastic, as the survey showed that this is what customers prefer. As customer expectations wax & wane, big companies will respond to that.

In larger companies, there is also a sense of adopting wm as a general push towards quality & excellence in business, rather than from an interest in the environment. This was especially relevant to Aust Auto Air, which bases its whole company philosophy on a commitment to

quality. This in turn becomes a powerful marketing tool for the company.

The power of the individual to adopt wm seems more apparent in a small company. In a large company, even if the staff on the shop floor are interested in wm, if this is not supported by upper management, wm will not prosper. It is unlikely for a large company to adopt wm just because two people have a sense of environmental responsibility (unless you are the body shop). Alternatively, once wm is enshrined into the policy of a large company, it tends to be maintained, whereas the maintenance of wm practices in small companies seems to depend more on the enthusiasm of a "champion".

In larger companies, economic factors are a very powerful motivation to adopt wm. The economies of scale involved mean that adopting wm can lead to very substantial cost savings. For many companies, this is not such a bonus, as wm is often cost neutral or even has a small cost involved.

Other comments:

The degree to which economic factors play a part in adopting wm programmes depends on the type of waste services available and how much they cost. This varies from place to place. If the cost of waste collection goes up, then this is more likely to become a motivating factor.

It's difficult to separate one motivation from another – often one motivation (ie. Cost savings) only becomes relevant if other factors are in place (ie. adequate wm services & facilities).

It is also difficult to distinguish PR speak from realities when talking to bigger companies. Sometimes you can sense that they are aware that they are being put on show and are keen to make a good impression (this really indicates the importance of public opinion to bigger companies). Some companies were quite defensive – a possible sign that their environmental policies have been adopted in response to public outcry / criticism.

Government legislation also plays a factor in business decisions to adopt wm.

3) Tracey Baglin - researcher

There were two trends I noticed –

1) Service providers [ie. waste contractors] were often totally inadequate or inappropriate.

2) Small companies feel isolated in that they have no support from government bodies. There is a lack of information, and a lack of monetary incentives for waste management innovations

3) Tracey Baglin - researcher

Appendix 2

Analysis of published case studies

Methodology

A convenience sample was used. That is, 35 Australian business waste minimisation case studies were randomly located on the internet. These 35 case studies were divided into the following categories:

Shopping strips (food businesses) : 2
Shopping strips (non-food businesses) : 3
High volune fast food (franchises): 0
High volune retail (not in shopping malls): 2
Medium manufacturing businesses (mainly industrial estates): 6
Admin/professional offices: 5
Big integrated companies: 5
Schools and universities: 2
Hospitality businesses (Hotels, clubs, restaurants, resorts and cafes): 5
Hospitals and nursing homes : 2
Residential building (C & D): 2
Commercial building (C & D): 2
Engineering construction (C & D): 1

Each case study was analysed for elements mentioned as either a criteria for success or a barrier to success.

It is important to note that only those elements **mentioned** were considered. This means that the findings indicate those criteria the people involved **perceived** as important - rather than this researcher's own personal criteria. This was really the only way to analyse such diverse material from a secondary source (i.e. existing case studies on the internet).

This researcher then tallied the number of times each criterion for success and barrier was mentioned throughout the 35 case studies.

Findings

Perceived criteria for success

The three most frequently mentioned criteria were:

The existence of incentives: 27
Support of in-house staff: 6
Involvement of champions : 5

A further content analysis was done on the perceived incentives. The two most frequently mentioned incentives were:
>   Economic savings: 10
>   Desire to be more environmentally responsible: 8

Perceived barriers to success

The most frequently mentioned barriers to success were:
>   Costs e.g. initial set up costs and ongoing operational costs: 3
>   Surplus of items for recycling: 3
>   Lack of access to knowledge about waste minimisation and cleaner production: 3

Research limitations

Given the random and convenience nature of the sample, it cannot be considered in any way a representative sample. Rather, it should be considered to be of an exploratory nature, raising issues for further research.

Perceived criteria for effective campaigns

Perceived criteria	Frequency
1. Awareness of best practice	1
2. Collective industry action	2
3. Improved monitoring of industry performance	1
4. Existence of incentives * see further breakdown of incentives mentioned	27
5. Support of CEO and/or executive board and/or property owner	3
6. Involvement of peak industry body and/or local industry associations	2
7. Involvement of champions	5
8. Support of in-house staff Could be voluntary or compulsory support e.g. included in measure of job performance/each section accountable	6
9. Support of contractors e.g. recycling collectors	1
10.Use of waste audit initially to identify target areas	2
11.Tailoring of program to each individual site or workplace	2
12.Holding focus groups in target industry to review educational material	1
13.Information sharing among companies with similar problems and issues	1
14.Personal contact and consultation with target groups	1
15.Employment of facilitator to contribute environmental knowledge and ideas to situation and to drive the project (could also be seen as a champion)	2
16.Successful in-house education program	2
17.Sound environment/energy plan to begin with	1

Types of incentives required for successful campaign

Perceived incentives	Frequency
Closure of council landfill	1
Economic savings e.g. saving on disposal costs	10
Societal and government pressure to reform	1
Establish competitive edge in sector	1
Desire to be more environmentally responsible	8
Desire to be world leader in environmental management	1
Improvement of working conditions for staff (e.g. cleaner)	2
Previous success in waste minimisation/cleaner production programs	1
Desire to develop more efficient system in general	1
Improvement of public image and customer relations	2
Improvement of staff morale, motivation, teamwork and problem solving skills	3

Perceived obstacles to a successful campaign

Perceived criteria	Frequency
Wide variety in types of waste	2
Lack of price-based incentives to offset cost of waste minimisation	1
Small size and fragmentation of recycling industry	1
Hidden subsidies and uncosted externalities favouring virgin use	1
Cultural norms (lack of education/understanding) working against waste minimisation	1
Time required to investigate waste minimisation i.e. new equipment, infrastructure, systems	2
Time required to implement waste minimisation	2
Lack of support for campaigns from customers e.g. support for alternative power supplies	2
Costs - both initial capital costs and continuing operational costs	3
Long period of time before economic benefits kick-in	1
Surplus of items of recycling e.g. paper	3
Economic constraints across a particular industry e.g. hospitals	1
Lack of access to knowledge about waste minimisation and cleaner production	3
Mantaining standards in the face of waste minimisation e.g. maintaining 5* hotel service	1
Space required for large scale recycling on premises	1

Appendix 3

Bibliography

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Bubna-Litic, B., and deLeeuw, L. *Adding the Green Advantage – a survey of Australian SMEs*, EcoBusines Consultants, Oct 1999	Survey of self-selected sample of 83 Australian SMEs.
Deni Green Consulting Services *Carrots, Sticks and Useful Tools – a study of measures to encourage cleaner production in Australia* (for CRC for Waste Management and Pollution Control) Nov 1999	Survey 53 manufacturing companies with useful info on environmental practices and attitudes
Explainers Pty Ltd *Evaluation of Waste Education in the Illawarra Region*, 1997-2000, Jan 2000	Critical evaluation of IWM's educational programs to date.
Gunningham, N. and Sinclair, D. Australian Centre for Environmental Law, ANU *Barriers and Motivators to the Adoption of Cleaner Production Practices*. July 1997	Respondents included 20 industry stakeholders, includes detailed literature survey.
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Illawarra Research and Information Service, *Survey of Businesses in Illawarra Waste Region*, March 1999	Quantitative survey on waste practices in about 400 regional businesses
Keys Young *Who Cares about the Environment? – a Benchmark Study on Environmental Knowledge, Attitudes, Skills and Behaviours in NSW*, for the NSW EPA, April 1994	Face-to-face interviews with 1,115 NSW residents
Keys Young *Industry and the Environment – a Benchmark Study of Environmental Management in NSW Industry*, for the NSW EPA, Nov 1997	An essential research tool. Detailed survey of 502 NSW businesses Including 350 SMEs, with literature survey.
Swan, L. *Evaluation of Futureworld's Illawarra Cleaner Production Program*, for University of Wollongong	Grist for the mill of those to advocate a move away from 'paper'-resources, towards people-resources.
Taverner Research Company, Who Cares About the Environment in 1997?, for NSW	Telephone interviews with 1,129 NSW residents

EPA Nov 1997	
Veritas Consultants *A Review of Commercial & Industrial Waste Minimisation Strategy*, for the Southern Sydney Waste Board, Nov 1999	Very useful survey of views of 16 major industry stakeholders in NSW
Western Sydney Waste Board *The Small Business Assessment and Education Project – Methodology*, May 1999	A practical approach to influencing small businesses, including a timely reappraisal of project management methodology in this field.

Appendix 4

The drivers and barriers for business environmental improvement

Drivers

The EPA's *Business and the Environment* (1997) study identified five important drivers.

- **Compliance with legislation and regulation**
  This was the most commonly cited reason for addressing environmental issues. The risk of fines for non-compliance was clearly a significant motivator. The study quotes one informant who said that most companies 'want to find a solution if it gives them a financial benefit or it keeps them out of trouble with regulators". Though the study notes that penalties were a less significant motivator on smaller businesses which often 'do just the bare minimum' to comply.

- **Community and 'green' consumer opinion**

  Several informants believed that pubic opinion had aligned with the green movement, and was also reflected in support for change amongst employees.

  The study notes that –

  > "some of the companies had responded to the climate of public opinion by attempting to develop new business opportunities through projecting a 'green' image." (p11)

  > "It seemed that, as some of the literature would suggest, community attitudes were particularly important for high profile companies and/or those which deal directly with the public in some way." (p11)

  A 1999 US study by *E Source* into energy efficiency marketing aimed at large firms criticised the reliance on promised cost-savings, and identified 'green colouring' as an important but often neglected incentive –

  > "Marketing energy efficiency solely as a cost-reduction strategy has kept energy service providers mired in facilities departments and severely limited the budget and scope of potential deals. In contrast marketing energy efficiency services on their myriad additional benefits opens up many more channels. Each benefit has a different

potential constituency, allowing the provider to build allies for its proposal throughout the large commercial firm. Some benefits, notably greenness, may appeal to senior managers. The challenge is to learn enough about a potential large commercial client to understand how efficiency meets the client's needs – and then tailor energy-efficiency service offerings to those needs."

The report warns that such 'green' positioning incentives are only likely to carry weight when targeted at the most senior managers –

"Environmental issues – and specifically an interest in greenness – are almost always strategic management and policy issues, not facilities management issues. Mid-level facility managers with rigid budgets cannot be expected to jump at the chance to make a business decision because it is good for the environment or promotes the companies image." [2]

• **Financial considerations**
These were *"central to the way most companies responded to environmental issues. There was accordingly particular interest in possibilities for change which offered savings as well as environmental benefits."*(p11)

In her research study *Carrots, Sticks and Useful Tools – a study of measures to encourage cleaner production in Australia,* Deni Green concludes –

"Demonstrating financial benefit was considered by those surveyed to be the surest way of convincing them to adopt cleaner production techniques. A number of individuals cited the need for a reasonable payback period for investments...with figures of 2 years, 3 years and 3-5 years cited. People wanted to be shown that the benefits would be available to their specific operation. General information for the industry is not necessarily considered to be applicable to their particular circumstances."

• **Influence of parent companies and industry associations which lay down environmental standards or requirements** (p11)

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[2] Selling Energy Efficiency Services to Large Commercial Firms: Operating Cost Reductions are Not the Key, *E Source* E Briefing, May 1999

• **Attitudes of senior management**
  The EPA study quotes with approval a UK study which concluded that –

  *"..it was agreed by all respondents that the commitment of top
  management to environmental policy was essential, and that close
  links between environmental management professionals and board-
  level executives were important in establishing the former as
  'mainstream' parts of the organisation. Support from the very top
  was essential in advocating environmental projects that might be
  'loss leaders...otherwise these would be understandable resistance
  from financial controllers."* [3]

Barriers
The study identified nine potential barriers.

• **Lack of resources – both staff and dollars**
  The costs of change were the most frequently discussed obstacles, but
  the study also points to an opportunity – where 'being green' relates
  to the corporate mission or vision –

  *"Clearly, 'lack of resources' is frequently a matter of competing
  priorities. It seemed that the level of priority accorded to
  environmental concerns sometimes related to what was understood
  as the company's core business. An energy producer, for example,
  might see its environmental performance and reputation as close to
  the heart of it's business."* (p12)

The study also noted that –

  *"Two areas where cost-saving and environmental objectives were
  often seen as going hand-in-hand are energy conservation and waste
  reduction/recycling. (p13)*

A 1997 study by the Australian Centre for Environmental Law (ACEL)
attempted to unpack some of these financial constraints (p13),
including the following issues –

  • firms may have difficulty in predicting future costs (e.g. for waste
  disposal);
  • the push for short term profits and intolerance of long pay-back
  periods (SEDA guarantees a 5 year payback period, but 2 year
  payback requirements are not uncommon in industry);
  • perceived loss of competitiveness when other firms do not
  participate;

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[3] Christie, Rolfe and Legard, *Cleaner Production in Industry*, Policy Studies Institute, London,
1995

- lack of capital due to low margins, especially for SMEs;
- existing processes tied to end-of-pipe technologies;
- actual costs of current technologies externalised or masked in operating costs.

- **Lack of incentives**
  The lack of financial incentives, such as grants or research subsidies, was referred to by several respondents in the EPA study.

  Another recent survey – involving a self-selected sample of 83 Australian SME's – tended to confirm this. 'Time and cost' were identified as the greatest barriers; while financial incentives, tax concessions and subsidies were (perhaps unsurprisingly) selected as the most preferred forms of assistance. [4]

- **Lack of information**
  There was a common view that, especially for small companies, it was particularly difficult to find the time and/or skills necessary to get hold of reliable and practical information.

  One EPA respondent summed up the responses of many –

  "We're all trying to do the right thing, but we haven't got the right information. You never know what you're supposed to do – you only find out second or third hand."

  The study concluded –

  "Given the large amount of material in the environmental areas, the development of effective networks was seen as one practical way of preventing staff being overwhelmed." (p13)

  The ACEL study also emphasised the information deficit –

  "Firms may lack information about specific clean technologies, thus contributing to risk and uncertainty regarding the adoption of the technology. Even to the extent that they are aware of these opportunities, the lack of appropriate skills and expertise prevents firms from acting upon them. This may be compounded by irregular decision-making – firms may not review cleaner production issues on a regular enough basis to benefit from the available information.

  "SMEs, in particular, suffer from a lack of resources and expertise to devote to implementing best environmental practice. Commonly, SMEs also have difficulty in understanding the concept and terminology associated with the notion of cleaner production. Managing large volumes of information on environmental policy and

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[4] *Adding the Green Advantage – a survey of Australian SMEs*, EcoBusiness Consultants, Oct 1999.

business strategy is a major problem even for large firms, and many SMEs are likely to suffer from 'information overload' and need good independent guidance services." (p9) [5]

- **Scepticism**
  Many business people are sceptical of environmental claims, which, they say, are driven by social and political factors. The difficulty of quantifying claims and benefits is also a concern of many sceptics. Contradictory claims, for instance over the environmental benefits of paper vs plastic bags, also fed scepticism.

  The ACEL study agrees –

  "Risk and uncertainty in the performance of certain technologies and management practices may result in reluctance by firms to invest in cleaner production. This may be exacerbated by internal vested interests in maintaining the status quo, low government charges for the disposal of waste streams, incompatible internal investment policies, or an incomplete calculation and allocation of environmental costs" (p13)

- **Lack of staff interest or commitment**
  Staff inertia and resistance, especially in large organisations where older workers or middle managers may feel threatened by change, was identified as a barrier.

- **Poor communication channels inside larger companies**

- **Fear**
  Fear of prosecution may be a disincentive to businesses seeking help or advice from government agencies.

- **Lack of consistency or coordination in regulations or enforcement**
  Another problem was having to deal with several government agencies, all with different regulations and criteria and obviously uncohesive policies.

  Interestingly, a number of participants suggested that the strong link between environment and safety made it desirable that the EPA and WorkCover cooperate together.

- **Inadequate consultation**
  Some informants in the EPA study accused state agencies of not consulting adequately with industry before introducing changed regulations.

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[5] *Barriers and Motivators to the Adoption of Cleaner Production Practices,* Australian Centre for Environmental Law, ANU July 1997

Change is about people

The study also focused attention on the 'who' of business change, referring to champions, executives, staff and training as all vital ingredients in successful environmental change initiatives.

These conclusions have strong implications for the design and delivery of IWM programs.

Champions

It is widely recognised that environmental innovations depend on committed individuals who take on a task with extra-curricular zeal. The EPA study quotes researchers who argue that –

> *"...economic and market factors are not in themselves sufficient to explain environment-related changes or the differences in this regard that are found from one company to another.*
> *"Somewhere, they say, is the presence of a relevant 'champion' – 'the existence, somewhere in the story, of a committed and enthusiastic individual taking a leadership role...'"* [6]

IWM must find ways to recognise and support these extraordinary individuals – they are our most important allies.

Senior management

The EPA study confirms the widely held view that senior management *must* be part of successful waste minimisation initiatives –

> *"Support from the very top was essential in advocating environmental projects that might be loss leaders...otherwise there would be understandable resistance from financial controllers."* [7]

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[6] NSW EPA, Business and the Environment 1997, p3.
[7] ibid p4

Staff

Quoting the work of Australian researchers, the EPA study warns that –

> *"Applying a top-down approach alone will not be successful, for it is the employees' activities that ultimately determine the firm's environmental behaviour. Therefore employees must understand and be committed to their environmental responsibilities and/or be committed to the organisation's support for the environment."* [8]

Training

The study notes that, since improving environmental performance is about *change*, then *change management* skills may actually be more important than technical skills for the managers involved. This has implications for the delivery of training and mentoring through future IWM business programs.

Staff training is also of great importance in successful environmental change. In addition to building skills and confidence, it may be a tool to help overcome resistance, uncertainty or lack of interest. [9]

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[8] ibid p4
[9] ibid p4