

CIWM

Health and Safety Initiative

Scoping Study

October 2007



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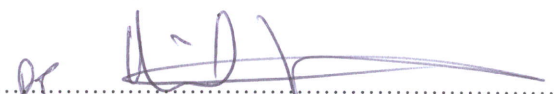
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October 2007

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Executive Summary

Purpose of this Report

This report has been produced for the purpose of informing an important Health and Safety Initiative for the waste and resource management industry, to be developed by the Chartered Institution of Wastes Management (CIWM) with the support of a stakeholder steering committee. It presents the findings of a scoping study undertaken to gauge the existing health and safety awareness and competence in the sector; exploring current approaches and initiatives, their relative successes, and identifying gaps and weaknesses to inform the direction of the Initiative in the future. More specifically, the aims of the project were to:

- define the extent of good practice, awareness, competence and behaviours that currently exist within the sector;
- assess the gaps within these attributes (in the sector and in comparison with best practice in alternative industries) and determine how these might be filled; and
- to make recommendations regarding the needs, processes and relative impacts / costs for the roll out of the Health and Safety Initiative.

It is not intended for this report to provide an exhaustive explanation of all the risks and health and safety issues across the sector, nor is it intended to duplicate previous work undertaken. By reviewing the key literature available and eliciting views from a sample of industry representatives, this scoping study aims to provide an overview of current awareness and competence. It represents an independent view of the key issues facing the sector and the opportunities to be taken forward by the Initiative to address these; therefore delivering positive change as a result.

Methodology

The scoping study adopted a four stage approach:

- Stage 1 focused on understanding the project context, planning and developing a robust approach to the survey programme;
- Stage 2 involved the delivery of the research programme, stakeholder liaison and effective information management;
- Stage 3 involved a critical review of the data collated, gap analysis and exploration of emerging themes; and
- Stage 4 aimed to use the information collated to provide recommendations and develop an implementation plan for the future Initiative.

A significant proportion of the information was collated through an industry survey programme. The approach was designed to enable the views of a broad range of individuals to be gathered. It was clear from the start that achieving a fully representative response sample would be difficult within the time and resources available;



however, it was important for views to be representative of the different health and safety challenges and types of organisation operating in the sector (particularly those organisations not currently engaged in national networks or initiatives). At the same time, it was important to ensure that the study explored the extent to which health and safety practice initiated by senior management was being truly embedded within organisational culture.

With these criteria in mind, a three-layer survey programme was developed, with each stage aiming to build on the previous one. The approach consisted of a questionnaire survey, telephone interviews with health and safety contacts and other stakeholders, and site visits to a number of different organisations to explore how health and safety practice is implemented 'on the ground'.

The survey programme resulted in responses from representatives of 120 different organisations. This included public, private and third sector organisations and also different types and sizes of organisation. Although the questionnaire achieved a 25% response rate, it is recognised that the sample is relatively small compared with the size of the industry as a whole. In addition, it is important to note that, despite significant effort, there was a disappointing response from smaller organisations.

Recognising these points, it is important to highlight that the intention of the scoping study was to provide an overview of different issues and opportunities across the sector to inform the future direction of the Initiative, and not to form a single view that represented the industry as a whole.

Key Issues

The sector continues to suffer from a high rate of accidents and fatalities each year. It remains the case that the hard work to date has not resulted in a step change in the culture of the industry and how it deals with health and safety. Much progress has been made in developing new processes and initiatives but there are still too many examples on the ground of unsafe working practices being adopted and going unchecked.

A key observation made during the study reflects the disparity between perception of performance, and that of actual performance. Previous research (e.g. the Bomel Report) suggests that Safety Culture and Behavioural Safety issues may be the cause. This is not to suggest that organisations tolerate the poor record, nor that senior management do not intend to show leadership in health and safety, but the recent safety record of the industry shows that despite all the efforts to enhance health and safety awareness and performance, there still is a shortfall on delivery. It may be possible to improve this situation by a variety of techniques which can be introduced by the routes recommended in this report.

It is of concern that while many organisations report active health and safety management, the evidence reflects otherwise. The level of awareness throughout those surveyed should be commended, however this awareness now needs to be reinforced with practical tools, plans for the future, greater employee involvement and increased group and personal responsibility. The survey finds that the understanding of safety and safe behaviour fails to reach the whole workforce due to such features as a break in communicating the message at the supervisory level or lack of visible commitment from senior management. Best practice would involve managers at all levels observing work



and being seen to take a keen interest in safe working practices. As well as top down leadership there are also examples of best practice in recruiting champions or mentors from amongst the workforce who then have responsibility for safety training and improvements.

Key to future improvements are specifying and contracting appropriate systems or hardware, and then using them in a safe way. Introduction of new methods or equipment should involve consideration of health and safety risks at all stages, from specification through design to training and commissioning. Similarly, changes in organisation, roles and responsibilities should be planned and job descriptions provided to ensure that safety responsibilities are given proper emphasis at all levels and the line of responsibility is clear.

Actions

The recommendations developed include a prioritised plan for the Initiative going forward, identifying possible timescales and action holders for each area of further activity / research. The recommendations given the highest impact rating were related to the management of human factors and developing awareness / provision of training in the areas of behavioural safety. Where organisations have existing arrangements to manage hardware and systems, the consideration of people and human factors will assist in taking the next step in reducing health and safety related incidents in addition to other benefits such as improved performance.

One of the most significant routes to human factors improvement centres upon the provision of education designed to highlight the implications of unsafe behaviours and equip individuals to identify and reduce these behaviours in the long term. While the training itself may not provide the immediate solution, it brings with it an understanding of the root causes of the issues and therefore ways in which to deal with them; thus bringing about a prolonged impact upon the incident and accident rates and a genuine opportunity for culture change.

The actions are summarised below, those actions with the highest impact being presented first:

High Impact: A prolonged impact upon incident and accident rates bringing with it a genuine opportunity for culture change.	
1	Establish a Management Group (to ensure actions are taken forwards)
2	Raise awareness of the behavioural / human factors aspects of safety and how this is integral to making hardware / software aspects work effectively.
3	Develop a behavioural safety awareness course (with the intention of providing small – medium sized organisations an opportunity to learn about this).



Medium Impact: Actions would impact upon incident and accident rates although this may not be felt immediately. May also impact upon underlying cultural trends although the prolonged impact may be minimal.	
4	Bring together a group (or utilise an existing group) to develop waste specific hardware needs.
5	Raise awareness of benefits of getting workforce involved and mechanisms for doing this (guidance / case studies?)
6	Develop a knowledge exchange web-based tool. Different elements should be considered and developed: <ul style="list-style-type: none"> a) Reporting / learning b) News Feed c) Discussion Forum d) Review of hardware / products
7	Explore / discuss the role of funding organisations in specifying health and safety requirements in contracts, and if further work should be done to include health and safety requirements in the standardisation of contracts (and associated Key Performance Indicators).

Low Impact: A delayed or secondary impact upon incident or accident rates. A contribution towards cultural improvement but this would require further development to drive through.	
8	Raise awareness of financial benefits of health and safety
9	Provide guidance on proactive planning.
10	Raise awareness / develop guidance for assessing competency (trained ≠ competent).
11	Raise awareness that comprehension is key (not necessarily literacy skills) and provide guidance on developing easy to understand documents / signs etc, e.g. procedures with photos / diagrams.
12	Explore suitable partnerships or develop a list of recommended courses / sources for external courses to increase literacy, e.g. with Learn Direct.
13	Raise awareness that just because you may not be able to abolish task and finish, there are other possible options. Provide guidance (building on that emerging from HSE / WISH) on options and discuss potential pitfalls.
14	Explore / develop partnerships with insurance companies to investigate the potential to provide e.g. capital for training, guidance for Safety Management Systems etc.
15	Raise awareness that health and safety is EVERYONE'S responsibility.
16	Develop a user friendly, simple method for risk assessment that allows the majority of the workforce to be involved in the process.
17	Raise awareness of the importance of managing changes, and how to go about this.
18	Explore the routes for communicating and encouraging involvement of small organisations.
19	Explore viability of a Minimum Training Standards scheme for agency workers



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1. Introduction

1.1 Background

The latest Health and Safety Commission (HSC) statistics on fatal injury rates (2006/7) show that recycling still has the highest 3 year average rate of any industry at 15.1 deaths per 100,000 employees compared to the average across all industries of 1.3 per 100,000. The Health and Safety Executive (HSE) issued a safety alert in March 2006 when nine fatalities occurred in just eight weeks and have been undertaking a three-year initiative with the waste and recycling sector to address the high number of fatal and serious incidents that occur during collection and processing of waste and recycling activities.

Many of the local initiatives to address health and safety issues in the sector are reactive to policy and regulatory requirements or to the occurrence of accidents. This means that much of the sector has good guidance and procedural documents in place. However, they are not necessarily embedded within health and safety management and individual staff and managers are not routinely fulfilling their individual responsibilities under Health and Safety Legislation. There is a need to embrace health and safety good practice and the required supporting culture on a pro-active basis; recognising the positive commercial, service and reputation benefits of doing so.

Measurement of safety performance also needs to be forward looking rather than the conventional measures of lost time injuries, dangerous occurrences and near misses which again lead to a reactive state of mind.

The waste and resource management sector is changing, driven by EU and national legislation and target-based incentives such as the Landfill Allowances Trading Scheme (LATS). There are new services and technologies being implemented introducing a dynamic nature to the sector. This brings new opportunities to improve how we manage waste and resources but with it potential new health and safety issues.

The changing profile of organisations operating in the sector (comprising public and private, non-profit distributing and charitable bodies) brings with it additional challenges for delivering a unified improvement in health and safety performance. It is important to understand the different cultures, market and regulatory pressures acting within these organisations, and the interaction between management and operations in driving changes in working practices.

1.2 Scoping Study Objectives and Outputs

Despite anecdotal evidence indicating that accident rates are falling, the waste and resource management sector continues to suffer from a high rate of fatalities each year. It remains the case that the hard work to date has not resulted in a step change in the culture of the industry and how it deals with health and safety. Much progress has been made in developing new processes and initiatives but there are still too many examples on the ground of unsafe working practices being adopted and going unchecked.



This study, commissioned by the Chartered Institution of Wastes Management (CIWM) in the UK with funding from the Department for Environment, Food and Rural Affairs (Defra), aims to define the extent of the health and safety awareness and competence in the sector, establish what guidance currently exists and identify the gaps and how they might be filled. The findings are intended to inform a major Health and Safety Initiative for the waste and resources management industry, to be developed by the CIWM with the support of a stakeholder steering committee.

This report represents the primary output from the three month scoping study, the focus of which has been on those organisations and individuals involved in delivering waste and resource management services or with a stakeholder interest in their activities. It is not intended to provide an exhaustive explanation of all the risks and health and safety issues across the sector, nor is it intended to duplicate previous work undertaken. It represents an independent view of the key issues and the opportunities to be taken forward to offer positive change as a result.

1.3 Our Approach

Following this short introduction, the report presents the findings from the key areas of research and activity undertaken for the study, comprising:

- the findings of a literature search and initial stakeholder contact exploring existing research and current initiatives (Chapter 2);
- our survey approach to explore the views of employees working across the sector (Chapter 3);
- the survey outcomes (Chapter 4); and
- the recommendations and Action Plan to deliver these (Chapters 5 and 6).

We have sought to identify common threads/areas of health and safety reporting throughout the study, providing an audit trail of issues identified within the survey and how they may be addressed in potential future work under the Initiative.



2. Waste & Resource Sector Health and Safety: Current and Future Context

2.1 Introduction

A literature search was undertaken to identify research publications, guidance, articles, and opinions on health and safety issues in the waste and resource management industry. The literature search covered all aspects of the sector and aimed to identify gaps in the available research/guidance, areas which appear to have been well researched and any emerging issues requiring further investigation. Beyond the UK focus of the study, our search aimed to identify any significant literature and guidance available to companies and organisations in the waste management industries in the USA, Australia and other European countries. This was considered in the context of examples of good practice that might be relevant. In particular, it was recognised that, given the global nature of the waste technologies market, the lessons learnt elsewhere may apply to the evolving mix of treatment and disposal solutions being adopted in the UK. The literature search findings have been supplemented with views from industry representatives gathered through telephone contact in advance of the formal survey work undertaken.

A list of references reviewed, including source information and a short summary of the literature, is provided in Appendix A. In the context of this short scoping study, this represents a snapshot of the most relevant literature reviewed at the time of the report being produced. The list is continually being updated, so should be used as a starting point for future research undertaken as part of the Initiative. The references cited in the report text are listed in Appendix B.

2.2 Historic Perspective

From the literature search it was clear that health and safety research and guidance is more prevalent in some areas of the waste management industry than others. A large number of documents discuss at length the following issues and aspects:

- manual handling best practice during collections and on sorting lines;
- vehicle movement best practice and the need for CCTV, adequate mirrors and reversing banksmen;
- transportation of waste (including, for example, use of automatic sheeting equipment);
- slips, trips and falls, including good housekeeping;
- personal hygiene; and
- training programmes.



A number of the more significant pieces of literature and stakeholder insight that are relevant to the scoping study are discussed below.

Sector Performance

The main report in the literature that defines the waste and resource management industry and associated health and safety statistics is the Bomel Report (Ref 1) published in 2004. This work, undertaken on behalf of the HSE, includes a sector breakdown by process, demography and constituent organisations and includes a review of health and safety performance, transport accidents, and regulatory and market drivers. The report makes an attempt to foresee future trends and includes a series of recommendations including:

- amendments to the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) classification system allowing more accurate reporting of accident rates in the industry;
- development of a strategy for implementation by local authorities to reduce waste-related accidents in the public sector;
- survey work to define the number of agency workers employed in waste organisations (public and private sector); and
- strategies to reduce the number of accidents related to vehicles and handling-induced injuries.

The report was issued in 2004 and much of the data focuses on 2001/02. A follow-on report has been commissioned (due to be published in September 2007) which will provide a current assessment of trends in health and safety performance (based on 2005/06 accident data), and a review of progress made to date in light of the recommendations made in the first report.

Materials Collection and Sorting

Throughout the literature there is general agreement that collection activities represent one of the most hazardous aspects of the waste and resource management industry. This is reflected in the Bomel Report, which concluded that the number of reported accidents is higher in those organisations that concentrate on waste collection and lower in those that concentrate on waste treatment and disposal. In one example of the cited risks linked to waste collection, a study from the USA (Ref □2) noted that working conditions were the first concern of collectors who attributed injuries and illnesses to improper management of waste, inclement weather and motorists passing without care.

Historically, a contributor to the poor health and safety record in waste and recycling collection has been the way in which schemes have evolved over time, with changes in design being influenced by the affordability / availability of new containers, vehicles etc. Through necessity, working practices have evolved to suit the local configuration of the schemes on the ground, meaning health and safety considerations have also been localised and not supported



by overarching guidance relevant across the board. Scheme design has received more attention in recent years, with Defra and the Waste & Resources Action Programme (WRAP) providing general support and guidance in these areas.

Manual handling in refuse collection, and more recently in collection and sorting of recyclables, has been considered by Pinder (Ref 3 and 4). A series of key considerations emerge from the work, which are consistent with the findings of the scientific literature (largely European). They include:

- the weight, size and design of receptacles, e.g. recycling boxes;
- the dynamics, actions and postures of the operators when loading materials in to vehicles;
- methods and coping strategies of crews; and
- clothing (e.g. thermal properties) and physiological response to activities.

A host of recommendations were made regarding collection scheme design, receptacles and manual handling methods. Many of the recommendations made could be interpreted as guidelines to safer collection methods, but in reality encompass a range of ideas based on technology, equipment, procedures and communication.

In addition to injuries and illness occurring as a result of collection activities, ergonomics issues have been investigated in sorting activities (e.g. within Materials Recycling Facilities, MRFs). Many ergonomic risks have been observed relating to back pain because of the awkward postures that must be adopted in handling objects (Ref 5). It is also noted that sorting facility design and operations should be evaluated to identify potential ergonomic risk factors (Ref 6). Voell (Ref 6) also noted that excessive line speed and improper workstation design, causing repetitive or awkward motions, were the most common ergonomic risk factors.

The available research and data do not currently allow firm conclusions to be drawn on the comparative health and safety performance of different types of organisation undertaking collection activities across the sector. This is due to the current way in which statistics are reported via SIC (Standard Industrial Classification) codes. Beyond the literature, it is clear that examples of good and bad practice exist across all organisation types involved in collection activities, whether they be private sector, local authority or social enterprises. Two examples where health and safety performance (measured in terms of accident rates) has been claimed as being better than the sector average are cited from the community sector below:

1. A report written by the Centre for Health and Environment Research and Expertise (CHERE) (Ref 7) about the community recycling network in Wales found that accident rates were lower than those reported by the HSE for the rest of the waste and resource sector.
2. In a presentation given by ECT Recycling at the CIWM “Safety v Service Briefing Session” held in October 2006 in London, the organisation was quoted as claiming to have just one third of the accident rate of the rest of the industry as a whole (as reported by the HSE) and attributed this primarily to the



management systems, but also to induction and training methods. It was noted that ECT Recycling claim that management culture is the most important factor in any of the systems, and a ‘caring’ attitude has led to less incidents.

Driving

Entec UK Ltd (Ref 8 and 9) undertook a series of research projects investigating the management of work-related road safety and the individual factors that contribute to driver behaviour. The findings of the driver behaviour study indicate that it is possible to recruit safer drivers; suggesting that recruitment procedures may include personality profiling and licence checks. It is acknowledged here, however, that the waste and resource management industry is competing with other haulage-based industries where skills shortages are an issue. Discussions surround benefits of tailored training programmes, the role of stress management, employee awareness and involvement in procedure development, and shaping employee attitudes and safety culture. The case studies in the management research report demonstrate how organisations, both large and small, can implement effective procedures to assist in good road safety practice.

Vehicle movements, in particular reversing activities, have been targeted (e.g. by HSE / Waste Industry Safety and Health (WISH) forum) as a key area to be addressed and a substantial quantity of research and guidance can now be found in this area. This guidance, however, focuses primarily on procedures and working practices rather than tackling the issue of behaviour and attitude. The HSE also has a Workplace Transport Campaign addressing issues such as concerns of drivers and practical tips for improving depot safety.

Behaviour & Attitudes

There is little research focusing on behaviour and culture in the waste management industry. Snodgrass (Ref 10) reports that, after years of designing equipment and safe systems of work, the focus should now turn to the other main variable – the human being. Greater improvements in safety performance may rest on a greater understanding of employees and their attitudes and behaviours in the workplace (Ref 11).

CML Market Research (Ref 12) undertook a piece of work that sought to understand how health and safety is seen in the waste and recycling industry and to identify what messages need to be communicated to whom, and how best to do this. The primary target for this research was kerbside refuse collectors, but also included managers in commercial waste firms, trade associations, and local government procurement. The findings showed that at a senior level in organisations there is a strong sense that health and safety is taken seriously. It was also identified that refuse collectors are generally aware of health and safety at a broad level, but that formal health and safety is often not taken seriously at the kerbside due to several key barriers, such as:

- ‘Task and Finish’ – considered an overwhelming institutional barrier to good practice;
- a dismissive mindset;



- communication - much of which is not targeted at the end user; and
- collectors being (at best) selective in the safe working practices they choose to adopt - adhering instead to their own 'common sense'.

The overall findings of the CML research show that there is a desire in principle to improve kerbside health and safety. However, no matter how effectively messages are communicated to kerbside workers, the impact is likely to be limited given the realities of 'Task & Finish', which appears to make cutting corners endemic at this level. It is also reported that training is helpful if the lack of knowledge is genuine, but often it is not. People know how they should act, yet they still behave differently (Ref 13).

Face-to-face contact was, however, identified as a success factor. It was noted that relying on managers as a conduit for communication may carry risks and that there needs to be a cross section of respected peers and role models throughout the organisation. An article in the Health and Safety Professional magazine (Ref 14) reports on the success of waste collection operator, Verdant, and provides advice and recommendations on how to tackle issues such as communication:

"We also use our training manager to reinforce the safety message, as it's the training manager who routinely goes out on the road with the crews. It's time spent on the ground, where the job is done and where the accidents occur, so that's the place where you need to reinforce the safety message."

Verdant also claim that one underlying principle of success is that staff at all levels understand that safety is everyone's responsibility. Brush (Ref 15) also makes the statement that: *"the best process in the world is of no use without senior management involvement and leadership"*, reinforcing the message that commitment and involvement at all levels is essential for any system to be a success.

Many people consider the issues of behavioural safety to be 'common sense'; however the overall reason why unsafe behaviour is chosen over safe behaviour is because it is usually the easiest option to take (Ref 10). Influencing behaviour and changing the culture and attitudes of the workforce are the most difficult aspects of implementing an effective and successful health and safety scheme.

Commercial Arrangements

The combination of financial constraints on local authorities (set against the context of statutory targets requiring delivery of better performing services) and their private sector contractors has meant that many collection services in the past have been operated with constrained resources (e.g. money, hardware or staff). This situation has been compounded by factors such as Compulsory Competitive Tendering and historic bidding strategies within the private sector.



Financial pressures on organisations providing waste management services (public and private) lead to greater efforts to deliver efficiencies. Where this is the case, there is a risk that budgets will be cut, including those relating to health and safety (e.g. provision of Personal Protective Equipment (PPE), replacement of ageing equipment and training). Drives to increase productivity, if not delivered in a robust and planned way, may also encourage unsafe working practices as operators are more likely to cut corners or take less care in order to get the job done quicker.

A recommendation was put forward by Greenstreet Berman Ltd for a study and consultation to be launched investigating the practical ways forward for the reform of the UK occupational injury and ill-health insurance arrangements. This followed the HSE Contract Research Report 436 (Ref 16) looking at whether business behaviour would change if it was made to bear the true cost of poor health and safety performance. This report explored the concept of motivating organisations by increasing the cost of insurance in line with poor health and safety performance, imitating the costs of hospital and welfare costs currently borne by the state.

While increasing the financial impact of poor health and safety performance would no doubt raise the priority of health and safety issues within organisations and focus attention, linking cost and health and safety may have a detrimental effect resulting in less reporting and hiding incidents from insurance companies, thus not confronting the real issues. Alternatively, it may be better to raise organisations' awareness of the cost savings that improved health and safety performance can deliver, such as less downtime, increased productivity and improved employee attendance.

Small Businesses

Vickers (Ref 17) reports that there is substantial evidence that people in small enterprises face proportionately greater physical risks than workers in larger businesses. The specific features that give rise to these structures of vulnerability include:

- limited resources to invest in health and safety management; including time, competency, information, training and plant and equipment;
- low frequency of regulatory inspections per organisation;
- limited access of workers to any autonomous representation of their interests through trade unions and works councils; and
- the low profile of these businesses, and hence little fear of loss of business resulting from adverse publicity and regulatory attention.

In particular, the results of the Vickers survey revealed a low level of awareness of specific health and safety legislation relevant to their businesses. Health and safety inspectors themselves appear to be the most commonly used and preferred sources of information and advice for most small businesses.



It is important to consider how the above factors may be highlighted in the survey work carried out for this study, and how recommendations that are made for the industry as a whole may have to be communicated and applied in different ways for different size organisations. Understanding what issues smaller organisations perceive to be important and tailoring recommendations and guidance will no doubt improve uptake and compliance.

Potential Health Impacts from Airborne Particulates and VOCs

Personnel involved in waste collection, treatment and disposal are exposed to airborne particulates, e.g. bioaerosols and dust, and volatile organic compounds VOCs. There is substantial research, particularly outside the UK, into the health risks associated with this exposure.

Swan (Ref 18) reports that there is limited information available on workers' personal exposure to bioaerosols associated with specific tasks in composting, and that the reported evidence, mainly from studies in mainland Europe, is of raised levels of antibodies and inflammatory mediators associated with compost handling.

In a Danish study, Poulsen (Ref 19) reports that workers at transfer stations, landfills and incineration plants may experience an increased risk in terms of the airborne micro-organisms. A Finnish report (Ref 20) identified an issue with concentrations of microbes and endotoxins increasing to levels harmful to health during waste crushing and in the bioreactor hall. The conclusions of the report were that mechanical sorting was better than the combined waste treatments in terms of occupational hygiene.

A study on nine MRFs in England and Wales (Ref 21) concluded that workers exposed to higher levels of endotoxins and glucans exhibit various work related symptoms; the longer a worker is in the MRF environment, the more likely he/she is to become develop various respiratory and gastrointestinal symptoms.

A Danish study (Ref 22) documented the presence of a wide range of VOCs in the head space of collection vehicles and containers. A Canadian study (Ref 23) also reported on waste and compost storage as a source of bacteria; but that there was little evidence of any detrimental impact on external air quality at the microbial level, where appropriate enclosures and management methods were in place.

Midtgård (Ref 22) reported that nausea or symptoms related to chronic bronchitis were significantly elevated in waste collectors compared to those who are not exposed to household waste, and the reporting of gastrointestinal problems appears to be most common during the summer time where exposure to some of the microbiological parameters is elevated. This is backed up by a Canadian study (Ref 24) reporting that micro-organism concentrations during the summer were over the recommended levels.

There is no doubt scope for further research to be undertaken into the long term health impacts specific to the techniques and equipment used in the UK, particularly as these impacts may take longer to manifest themselves as health problems and may be difficult to attribute.



2.3 Future Changes

The above review provides a brief summary of selected research carried out in the past concerning health and safety in the waste and resource management industry. It does not provide exhaustive coverage of all the issues, but it does raise key areas of concern (and thus research) linked to the areas of high risk and historic poor performance. As the UK waste management industry continues to re-position itself as a sector that is focused on resource management and materials reprocessing, the nature of the risks associated with a new set of activities is changing. This section provides a brief 'horizon scan' of some of these changes, providing context for the evolving health and safety considerations the sector will face in the future.

Waste Collection

The methods and arrangements for collecting waste and recyclables have changed considerably in recent years, and are expected to continue to evolve. With continued segregation of material streams from both household and commercial sources, manual handling and transport considerations will remain high priorities for health and safety improvement. Key emerging issues include:

- Working hours. Many local authorities are considering changing from the historic delivery of collections over 5 days (Monday – Friday) to one where crews work a 4 day week with longer days. The drivers for this change are reduced disruption over Bank Holidays and opportunities to improve productivity. Collection days may be fixed or staggered over a 5-day week but the implication is that crews are undertaking manual work over an extended period each day (leading to increased fatigue), and may also be subject to spending more time working in the hours of darkness;
- Joint working in waste collection. The Local Government and Involvement in Health Bill would enable local authorities to establish Joint Waste Authorities, creating opportunities for partnership working and delivery of harmonised services. Many authorities are already exploring joint working opportunities and implementing or procuring joint services. These changes create an opportunity to review health and safety policies and streamline hardware, training and service procurement as operations are aligned. Greater buying power through joint procurement (as has been adopted by the Nottinghamshire authorities for vehicles and the Greater Manchester councils for Agency staff) creates the opportunity to exert stronger influence on suppliers, therefore ensuring products are fit for purpose and staff are sufficiently trained with regards to safe working practices.

Materials Segregation and Recycling

The increased segregation and recycling of all waste types (including commercial & industrial) in response to legislative and fiscal drivers (such as the Landfill Directive and Landfill Tax) has the potential to increase risks as a result of increased human interaction through manual handling and processing activities. Specific attention to appropriate training, behaviour and attitudes in relation to work practices (in particular collection practices) and PPE will be essential to manage these additional risks.



As new recycled products come to market it is important that they meet quality standards in order to build consumer confidence and compete with established products made from virgin materials. As part of the compliance assurance linked to these standards and depending on the product's intended use, the manufacturing process may be subject to formal risk assessment, e.g. through Hazard Analysis Critical Control Points (HACCP) principles. This level of scrutiny may identify key health and safety issues associated with the handling of the material, from which safe working practices can be derived.

Alternative Technologies

Investment in alternative waste treatment technologies means that the hazards and associated risks of operating new plants may not be fully understood. Legislative drivers are promoting interest, and gradual uptake, of advanced thermal and biological treatment methods, e.g. Mechanical Biological Treatment (MBT) and Anaerobic Digestion. New research and training will be required considering the health and safety issues on these plants. For non-enclosed biological systems, health impacts will need to be addressed, e.g. bioaerosol emissions within the facility and during upstream manual handling.

Many of the waste treatment technologies being developed operate much more like modern process plants. Health and safety issues remain linked to vehicle movements, operation of machinery etc. but the greater levels of control required over the process may lend itself to closer attention being paid to safe working systems and practices. These should be designed in and good practice adopted in the process industries (e.g. Hazard and Operability Analysis (HAZOP) and safe staffing assessments) adopted during commissioning and operation of new plants.

Commercial Arrangements

Commercial arrangements in the sector will continue to evolve, driven by consolidation amongst the large operators, more 'open book' collection contracts and continued support (e.g. capital grants) for new technologies and demonstration plants. The nature of the organisations providing services influences attitudes and approaches to health and safety. It is important that contracts include health and safety performance metrics and that funding applications demonstrate how health and safety considerations have been built in to design and operation plans.

The potential introduction of direct and variable charging as a mechanism for driving further improvements in household waste avoidance and recycling has the potential to change the way in which services are provided (as well as who provides them). In the Republic of Ireland, this has led to new operators entering the market offering local services.

2.4 Current Initiatives

The profile of health and safety in the waste and resource management industry has risen in recent years. Coinciding with this increased level of scrutiny, considerable progress has been made by numerous organisations. A few examples of initiatives to improve the health and safety performance of the sector are provided below.



HSE

The Health and Safety Executive has played a key role in the changes witnessed in the waste and recycling industry over the last 4-5 years. The Bomel Report, published in 2004, highlighted the poor safety record of the waste sector relative to other industries and made a number of observations concerning the root causes of these figures. In addition, the study outlined some future trends and provided some recommendations concerning the best route by which the HSE could assist the waste industry to improve. Many of these focused upon the quantity and quality of management information provided by the waste sector and the related regulatory bodies e.g. refinement of RIDDOR reporting to include waste specific activities.

Since this point, the HSE have attempted to work with the waste sector proactively to provide the advice and guidance required for improvement. Some of this activity has been focused through the WISH forum, a committee of representatives sourced from various sectors of the waste and resource management industry. The WISH forum was established to exchange information, discuss and resolve prevailing health and safety problems within the industry. The participative model adopted by the WISH forum is designed to ensure that guidance, when produced, is relevant to the problems faced by the various elements of the waste sector.

In addition to WISH, the HSE use their Field Operations Directorate, inspectors to regulate, advise, assist and engage with waste and resource management organisations.

ESA

The Environmental Services Association (ESA) represents a number of UK based waste management and secondary resource organisations. The ESA has been involved in health and safety improvement in a number of capacities, from their involvement in WISH through to the publication of their Accident Reduction Charter. The Accident Reduction Charter aims to reduce the rate of incidents and accidents reported under the terms of RIDDOR by 10% per year, to eliminate fatalities, and to reduce the incident rate of cases of work related ill health by 20% by 2010. The ESA has also made efforts to address the lack of accident data over the past ten years through the requirement on members to supply data informing analysis and reporting of information on the types and frequency of accidents in the industry. ESA members are given access to a supplementary Health and Safety Action Plan along with a strategy document that details health and safety goals and a time table for delivery.

In addition to those initiatives outlined above, the ESA organise an annual health and safety conference. The conference provides an excellent medium for discussion and knowledge exchange with a number of large operators detailing improvements made in health and safety performance.

Sector Good Practice

Examples of current good practice can be obtained from a number of sources. Biffa have undertaken a comprehensive review of organisational health and safety policy driven by the publication of their Executive Board Vision. This document outlines senior management commitment to making Biffa an industry leader in health and



safety. To facilitate this, the organisation undertook a safety climate survey¹ and used the results of this to inform BIFFSAFE, their bespoke safety improvement programme. BIFFSAFE looks to improve safety performance through a number of channels, including training, regular tool box talks, improvements in incident reporting and videos designed to underline the potential consequences of unsafe behaviour and actions.

Other Initiatives

It is not possible to list all initiatives here but other examples of recent developments include:

- the interactive safety CD produced by Energy and Utility Skills in partnership with the ESA. The programme, 'A day in the life of Streetsafe Sam', is designed to outline best practice for those employed in waste collections. The CD includes hazard spotting, driver checks, PPE and a number of other exercises. This CD is the first in a series by the involved organisations' Interactive Safety Programme;
- CIWM's Changing Gear Initiative and the work of the Institution's committees in addressing health and safety issues;
- investigation and development of best practice guidance by the HSE (via the WISH Glass Noise working group) into the issues of noise in kerbside collections of glass;
- WRAP's vehicle design project that is piloting new recycling and glass/food waste vehicle designs with a focus on safe working practices; and
- route risk assessments via an industry wide consultation group reviewing existing practices and establishing a framework for improvement. Factors identified in route risk assessment revolve around pre-contract activities (vehicle specification, collection routes etc), hazard identification, driver training, supervisory and management involvement and accident analysis.

¹ A safety climate survey enables an organisation to record people's views on key aspects of the management of health and safety within their organisation. This encourages and maintains employee involvement in their safety climate and they can be actively involved in implementing improvement actions based on the information obtained.



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3. Survey Programme

The purpose of the survey was to explore the extent of good practice, awareness, competence and behaviour that currently exists within the waste and resource management sector, building upon previous work. It was important to develop an approach that did not simply focus on providing a snapshot of reported culture, but explored in more depth real day-to-day practice. This would help to identify the extent to which health and safety is embedded within organisation culture and employee behaviour.

3.1 Developing an Effective Approach

A three-level survey approach was developed that enabled the views of a representative sample of organisations to be collated along with the activities of a number of the organisations to be explored in more depth. It was important for the survey not to present a significant burden to the proposed respondents, therefore increasing the likelihood of a greater response rate. With this in mind key questions were prioritised and survey elements were designed to be modular; enabling flexibility in collating views. The three-level approach incorporated the following activities, each with an increasing level of interaction with the target organisations:

- level 1: emailed questionnaire survey;
- level 2: targeted telephone interviews; and
- level 3: site visits.

3.2 Level 1: Emailed Questionnaire Survey

A questionnaire was developed to enable the collation of health and safety contacts' and other employees' views regarding the current understanding, practice and health and safety culture in their organisation. The questionnaire also sought to collate organisational information (regarding policies, strategies and health and safety initiatives in place) as well as respondents' views on what they considered to be the key health and safety challenges and what they felt the actions were to address them. A sample questionnaire is included in Appendix C.

The questionnaire was circulated to named individuals (one representing each organisation) who had been identified within a project stakeholder database from a range of sources, including those who had 'self-selected' following publicity via online networks (see section 3.2.1 below for more information). A total of **200** questionnaires were distributed in this manner throughout the initial three week survey period. In addition, towards the end of the survey period, the questionnaire was made available for anyone to download on the CIWM website. Questionnaires were also distributed via other existing networks (distribution numbers are unknown). Further responses were therefore accepted during the week after the closing deadline.



The key contacts were requested to complete the questionnaire in full (sections 1 to 6) and also forward copies of sections 1-5 of the questionnaire, to up to five other employees within their organisation. It was suggested that the other employees should represent a cross section of both grade and activity and, in particular, should focus on eliciting the views of employees in more ‘operational’ roles.

In addition to the specific questionnaires, a further 20 emails containing more generic questions were sent to project stakeholders not working directly for a waste sector organisation (where the specific questionnaire would not be applicable). In some cases the individuals offered views based on their previous experience of working in the sector, experience of working across different organisations in the sector (e.g. consultants), or views from a research/academic perspective. These views were incorporated into the analysis.

3.2.1 Stakeholder Identification

Establishing the stakeholder database

An initial database of contacts was formulated drawing on existing project stakeholders and their respective networks. This included individuals on the WISH forum, health and safety managers from a range of organisations within the waste management industry and a number of local authorities. The list of organisations from the ‘Caledonian Economics Financial Review of the Waste Management Industry (Ref 24) were also contacted to obtain details for key health and safety representatives. Further contacts were identified from databases including the Lets Recycle Directory, MRW Recycling Bible, CIWM, Local Authority Recycling Advisory Committee (LARAC) and personal contacts of the project team.

All of the contacts were collated into a central stakeholder database. This identified approximately 100 contacts plus an additional number of project stakeholders who, although relevant to and interested in the study, would not be appropriate as respondents for the specific questionnaire survey (e.g. Environment Agency representatives).

In addition to the above, the opportunity to participate in the survey was publicised and/or distributed via a variety of networks and contacts, these included:

- CIWM's News Online;
- WISH forum members (email distribution);
- The Compost Association website;
- Community Recycling Network (email distribution to members); and
- Waste Action Forum – For Industry and Public Sector (email distribution to members).

Initially potential respondents were invited to ‘self-select’ by contacting the survey team to request more information and a copy of the questionnaire. This enabled the survey team to better manage the questionnaire



distribution and the stakeholder database. Approximately 80 people 'self selected' via this route over the survey period.

In addition to representatives working in waste and resource sector organisations, interest was expressed from other individuals who were keen to provide their views from a more general perspective.

Sector profiling and gap analysis

The waste and resource management industry is significant size, both in terms of the number of employees and in the range of organisations it incorporates. It was clear that it would not be possible to engage all of the organisations in the sector however, it was important that the survey programme enabled the collation of views from a cross section of organisations. A sector profiling activity was undertaken to better understand the distribution of organisation types within the sector and therefore inform stakeholder identification for the survey programme.

Entec's intention had been to access data held by the Environment Agency, which would have informed the identification of key categories within the sector and also provided more detailed information regarding its profile in terms of number of organisations in each category and key activities. Through our discussions with the Agency, it became clear that this information should be available, although it would be held in different forms in different areas of the Agency. It was concluded that the data could not be compiled within a sufficient timeframe to be used for this scoping report. There is, therefore, an underlying requirement to improve the availability of sector data.

As a result of the lack of specific data, Entec undertook a profiling exercise, based on a number of different sources, including the Bomel Report. This is based on a series of assumptions and estimations and is therefore intended to provide an indicative profile only. As the focus of the research was health and safety, it was decided to categorise the private sector organisations according to employee numbers. Where appropriate, the categories were also broken down into sub-categories relating to the organisations' key functions or activities (e.g. collection, recycling, disposal, reprocessing, technology provider etc.). The following categories were determined:

- large private organisations (500+ employees, undertaking both collection and disposal activities);
- medium private organisations (51-499 employees);
- smaller private organisations (11-50 employees);
- very small organisations / sole traders (less than 10 employees);
- local authority waste management sections; and
- community collection and processing groups.

Our sector profiling activity estimated the following split of employees within the sector (Table 3.1).



Table 3.1 Estimated sector profile (by employee numbers)

Category	Collection	Disposal	Re-processing	Suggested No. of Employees	Suggested No. of Organisations
Large companies	20,000	15,000	5,000	40,000	14
Medium companies	18,400	18,400	5,000	41,800	516
Smaller companies	12,500	12,500	12,500	37,500	1,535
Very small companies	5,600	-	5,000	10,600	5,696
Local Authorities (England and Wales)	31,000	5,000	-	36,000	410
Community Collection and Processing Groups	2,000	-	2,000	4,000	400

This estimate is based on a series of informed assumptions and data presented in the Bomel Report and other literature sources identified in the course of the scoping study. It is therefore intended to provide only an indicative profile for the sector.

Enhancing the stakeholder list

The responses received to date were reviewed by drawing on the information provided by the sector profiling activity and how well the stakeholder database represented the industry. Whilst it would not have been possible to guarantee a perfectly representative sample within the time and budget available (as this would have required at least 650 responses, over 400 of which would have been from very small operators), it was important for the survey to actively seek responses from organisations in all categories.

The gap analysis identified four potential issues, which were addressed in the following ways:

- 40 'self-select' respondents did not return a completed questionnaire. Despite them not responding, they had demonstrated enthusiasm and interest in the project in the early stages. It was therefore decided to send out a reminder email to this group of respondents. To further supplement the overall number of responses, the questionnaire was also made available for download on the CIWM website and publicised further via existing networks, the CIWM Annual Conference in Torbay and via Entec's contacts;
- initially, there was a limited response from the community sector. To rectify this, community sector organisations were identified and specifically targeted by phone;
- initially there were no responses from sole traders / very small operators. To rectify this, organisations were identified and specifically targeted by telephone. As this activity progressed it was identified that the questionnaire did not appropriately capture information regarding the current practice and future needs of this organisation type. To provide a more flexible format for discussion,



and to ensure their views could be incorporated into the survey, a number of very small operators were identified for telephone interview instead (see Section 3.3); and

- the initial responses provided limited organisational data in support of the employee views provided. Follow up calls were made to a number of respondents in an attempt to secure additional information.

3.3 Level 2: Targeted Telephone Interviews

Following the collation of initial questionnaire outcomes, a number of organisations were targeted for telephone interview. The purpose of the interviews was to explore in more detail the approach taken by the organisation, and to identify more detailed and specific examples to help illustrate good practice and the key challenges remaining.

Whilst it was important to include a cross section of organisations within the sector (in terms of activity, organisation size and location), it was recognised that particular emphasis had to be placed on undertaking telephone interviews with smaller organisations, that had not previously responded via the questionnaire. A number of questionnaire respondents were also identified for telephone interview to allow the survey team to explore particularly interesting responses i.e. good practice activities mentioned, contradictory responses from different employees at the same organisation and/or particular health and safety risks.

Thirty organisations were identified for telephone interview, including eight organisations not previously involved (but targeted to address the initial survey gaps identified above), these comprised:

- large private organisations: 2
- medium private organisations: 3
- smaller private organisations: 8
- very small organisations / sole traders: 5
- local authority waste management sections: 10
- community collection and processing groups: 2

Using the same question themes, the survey team developed a discussion guide in the style of a questionnaire matrix. This provided a structured format for the telephone interviews, allowed flexibility in undertaking the interview (information could be noted within each matrix box as appropriate during the discussion) and enabled the survey team to maintain consistency in the responses, allowing views to be more easily compared.



3.4 Level 3: Site Visits

The third and final layer of the survey focused on site visits to organisations which had been identified in the earlier stages as particularly interesting to the study. Although the selection of organisations was based mainly on the survey team's informed judgement, the following loose criteria were also used: Organisations that -

- provided something interesting in their response: were struggling with a particular challenge, addressing a particular risk, or had recently implemented a new initiative etc.;
- represented a spread of health and safety culture and/or challenges faced; or,
- represented a spread of organisation and activity type (although again a particular emphasis was placed on visiting smaller organisations).

Six organisations were identified for the site visits including 2 small companies not previously involved in the study (in order to ensure adequate representation of the sector at each stage in the survey):

- medium private organisations: 1
- smaller private organisations: 2
- very small organisations / sole traders: 1
- local authority waste management sections: 1
- community collection and processing groups: 1

Again using the same question themes, the survey team developed a discussion guide to provide a consistent format for the site visits. Although a flexible approach was taken to each site visit, there were two key elements. Firstly, a discussion with the key health and safety contact, to discuss current practice, policies and strategies and recent / current challenges and how they had been / were to be addressed. Secondly, the survey team went on to discuss health and safety with a number of other employees working on the site. In some cases this took place as a focus group discussion with a small number of participants; in others individual discussions were held.

3.5 Information Management and Reporting

The information collected at each stage of the research has been collated and interpreted separately. The focus of the evaluation and reporting has been to provide a fair interpretation of the key views expressed. The interpretation of survey responses is discursive (an account of what was said) rather than seeking to draw any conclusions as to why this could be the case. When reporting quantitative outcomes, details of how the data has been interpreted (including any assumptions made) are clearly stated. For information, a summary of outcomes for each question in the questionnaire is provided in Appendix D. Whilst there will always be an element of subjectivity in the



evaluation of qualitative data, the process has been undertaken in an independent manner and, where appropriate, direct quotes are provided in support of the key themes identified.

Following the evaluation of data collated through each stage, key messages were also identified. These are presented in Section 4.4 and provide the basis for the gap analysis and identification of recommendations for the scope of the Health and Safety Initiative going forwards.



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4. Survey Outcomes

4.1 Level 1: Questionnaire Survey

A total of **115** individual responses were received, representing **54** different organisations from across the sector. The response rate for organisations was therefore over 25%². Table 4.1 provides an overview of the responses received according to organisation category.

Table 4.1 Overview of questionnaire respondents

Column Heading	Responses (by Individual)	Responses (by Organisation)
Private Sector Large (500+ employees)	13	6
Private Sector Medium (50-499 employees)	22	7
Private Sector Small (<50 employees)	18	9
Preprocessor/Industry (two medium, one small company)	3	3
Community Sector	8	5
Local Government	49	23
Other	2	2
Total	115	54

For the purposes of questionnaire analysis, responses from specific reprocessing organisations were separated into an additional category (where possible). The category labelled 'other' includes responses from a Primary Care Trust and Environment Agency representative working within the waste sector.

A total of five responses were provided from other stakeholders (in addition to the 115 questionnaire responses), providing their views from a more general perspective. These views have been incorporated into the analysis alongside the other survey outputs in the sections that follow.

For all of the 'grading' questions within the questionnaire, respondents were asked to grade the extent to which they agreed with the statements presented on a scale of 1 to 6. A grade of '1' represented 'Strongly Disagree', a grade of '6' represented 'Strongly Agree'.

² Approximately 200 questionnaires were directly distributed to named individuals (each representing a different organisation). Although 115 responses were received, this included multiple replies from several organisations as requested. The response rate is therefore based on the number of organisations responding (54) from the initial 200 invited. It is also important to bear in mind that a small number of responses would have been received from respondents downloading the questionnaire from the website in the final week rather than as a result of the direct email.



4.1.1 Health and Safety Culture

The questionnaire contained a number of questions relating to the general health and safety culture within respondents' organisations. 80% of the respondents expressed that their organisation takes health and safety seriously.

“My company takes health and safety and environmental compliance very seriously. Compliance advisors and assistants are always available to discuss issues or answer questions and provide support if accidents occur to help ensure action is taken to prevent them in future.”

Of those that agreed, a majority went on to discuss how senior level commitment to the management of health and safety helped to demonstrate this.

“There is strong managerial/board level commitment to health and safety issues and adequate budget is provided for training.”

Although the majority provided a positive response, 4% of respondents felt that their organisation did not take health and safety seriously. Most negative feeling was expressed by respondents working for public sector organisations, where respondents identified a long list of failings.

“There is a culture of ‘it will do’ and not ‘it must be safe’. Corrective actions are slow after incidents/accidents, proactive safety techniques are not supported, there [has been a] failure to invest in capital improvements and risks seem to be ignored at senior level.”

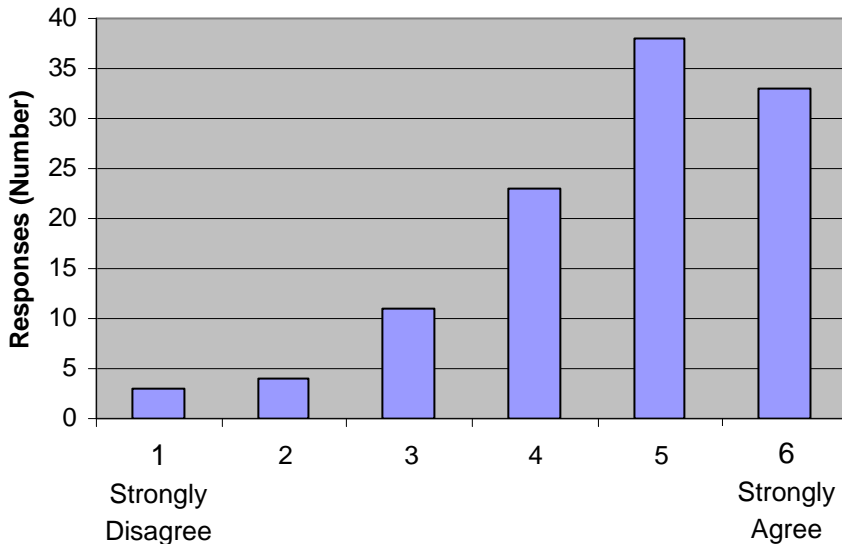
However, most of the comments made by respondents related to dissatisfaction with the resources made available for health and safety initiatives.

A majority of 81% of respondents believed that their supervisor did not expect them to do a job that they considered to be too risky. Although a minority, it is perhaps worrying that 4% of respondents believed they would be expected to continue with such a job. The negative responses were expressed by respondents working in both the public and the private sector.

“Rules change constantly depending on which boss deals with you...some bosses just want the work done no matter what. We are told often to just get on with it.”



Figure 4.1 Responses to statement 'I am satisfied with Health and Safety at my organisation'



The overall satisfaction with health and safety within respondents' organisations is presented in Figure 4.1. It can be seen that a majority of respondents were satisfied with current health and safety practice in their workplace.

“Local managers are kept updated with new initiatives to improve health and safety. A consultative approach to sharing information across all levels of the organisation is adopted. Regular audits are carried out... [and] continuous improvement is a key philosophy.”

Similarly to the previous questions, most negative feeling was expressed by respondents working in the public sector; however a number of respondents from community sector and large private sector organisations also expressed some dissatisfaction with their organisations' approach. One respondent working for a small private sector company expressed dissatisfaction with communication regarding health and safety and the commitment demonstrated by their organisation.

“There is little or no communication with employees of what management are doing or have done about health and safety so employees are working blind and also do not have the input [they need to understand].”

Other respondents highlighted a lack of resources, and reactive and inconsistent approaches to health and safety:

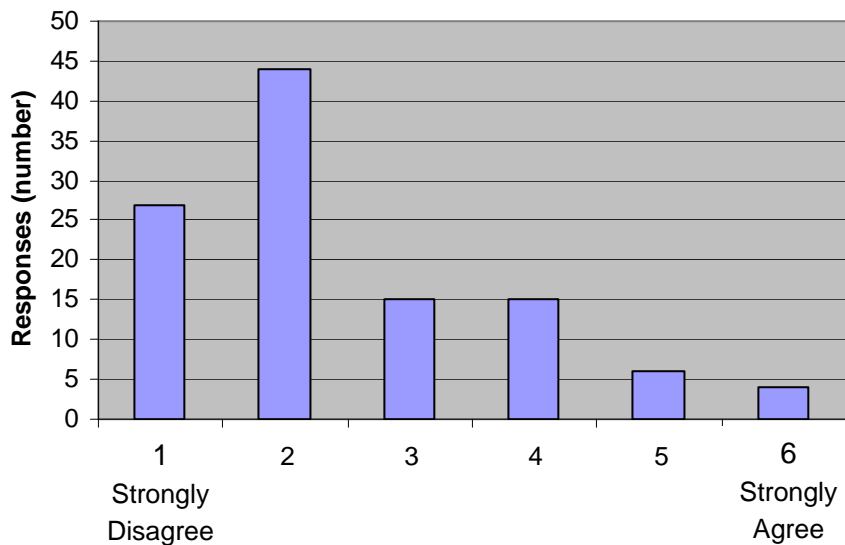
“There is little evidence of a health and safety culture. The management is poor in that there are very few systems in place, training is ad hoc and written safe systems of work are poor.”



4.1.2 Understanding Risk

The information presented in Figure 4.2 indicates that a majority of respondents (62%) considered themselves to be at low risk of having an accident at work. A further 26% considered themselves to be at moderate risk and only 9% considered their chances of having an accident at work to be high.

Figure 4.2 Responses to statement 'The chances of me having an accident at work are quite high'



Several respondents considered that they were not at risk of an accident as there were systems in place to prevent this. Others identified that they would only be at risk if they chose not to follow health and safety procedures.

“I don't think that I am at high risk of having an accident because myself and others are conscious of the work we do and the risks involved.”

The proportion of respondents considering themselves at high risk increases in both the public sector and in medium sized private sector organisations. A number of these respondents recognised that, given the nature of their role (and the sector as a whole): *‘there is always going to be a risk element’*.

Most associated a high risk of accident with a lack of commitment in health and safety practice. Others suggested factors such as the number of operatives, the ‘turnover of workforce’ (including agency and temporary workers), and the type (and state of repair) of equipment, as specific reasons for them being at high risk of an accident at work.

“The chances of having an accident at work are high because of the vehicle we have to use.”



“The chances of having an accident at work are always quite high due to the amount of operatives working in the area.”

Box 1 Analysis of responses from ‘high risk’ workers

It was clear from the responses that a significant number of respondents considered themselves to be at low risk of an accident as their role was predominantly office-based. It is therefore important not to simply conclude that most people perceive themselves at low risk. With this in mind, further analysis of the responses provided by those considering themselves at high risk was undertaken.

Of those respondents who considered themselves to be at higher risk, a majority (80%) believed that their supervisor did not expect them to carry out a job they considered to be risky. The same majority felt that they had ‘the right tools for the job’.

Just over 70% of ‘high risk’ respondents believe that their organisation takes health and safety seriously and stated that they had few problems following the health and safety rules and procedures in place:

“Superiors always ensure I have the right information and equipment. They give me support where required.”

Although the majority of ‘high risk’ respondents were positive that their workplace effectively managed health and safety, a number of respondents felt that there was insufficient resourcing of health and safety initiatives and a lack of required equipment within their organisation. Even though this relates to only a small number of organisations, it clearly presents a significant health and safety issue:

“Until such thing as a loss occurs then we will all cut corners due to time pressures or money and health and safety is not foremost in the minds of line management at all levels.”

Higher risk respondents have been defined as those grading their response to ‘The chances of me having an accident at work are quite high’ as 4, 5 or 6.

When asked about their perception of the relative safety of current and previous workplaces, 52% of respondents stated that they considered their current organisation to be a safer place to work.

“The company I work for are very health and safety conscious – they issue alerts, health and safety modules and Tool Box Talks. I have worked here for a number of years but consider it a safer place to work than my previous organisations.”

A significant proportion of the remaining respondents (35%) indicated that the current place of work was ‘no different’ than previous workplaces, with 9% believing their current workplace was not safer than previous organisations. These respondents drew comparison with their experience in other industrial sectors, where health and safety is perhaps prioritised and/or more effectively embedded.

“Health and safety is very important, however, as with all SMEs, cost, practicality and the needs of our client are major issues that we must take into account when investigating new initiatives. I previously worked



for a major oil company where health and safety is very high on the priority list and, because of this, money was never an issue where health and safety could be improved by, for example, purchase of updated equipment.”

Almost 90% of respondents stated that they know what their own responsibilities for health and safety are. Of the 2% who expressed that they did not know (provided a response of 1 or 2), the key issues raised related to ‘*not putting words into action*’ i.e. making a statement of intent at board level but limited resourcing of, or progress in, initiatives on the ground. Other issues related to lack of information provision relevant to the respondents role.

4.1.3 Rules, Procedures and Legislation

Questionnaire respondents were asked whether their organisation had in place a formal approach to health and safety. 73% of respondents stated that their organisation did have a formal approach.

“Our company has committed to a zero accidents target. No lost time incidents have been recorded for 12 months.”

“Every individual within the organisation is tasked with health and safety improvement by interaction and auditing. We have had serious incidents in the past and they must not happen again.”

Only 7% stated that this was not the case where they worked. The main reasons provided were a lack of resource and time. A small number of respondents felt that the lack of a formal system was a result of lack of commitment from management.

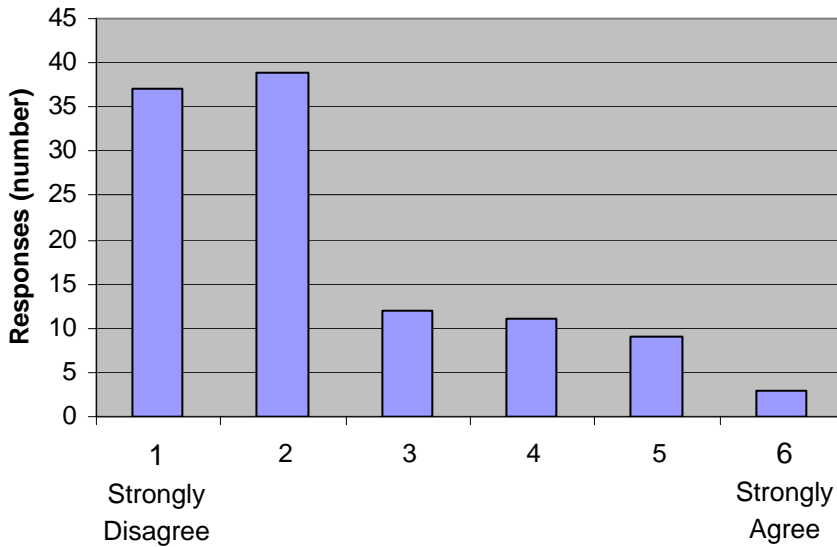
The questionnaire went on to ask for views regarding the practicality of the health and safety rules and procedures in place. Figure 4.3 highlights that there was a spread of opinion regarding the day to day practicality of health and safety procedures. The majority of respondents did consider the rules and procedure in place to be practical.

“Procedures need to be practical or they wouldn’t be followed by employees. Our company has a formal approach that is flexible where necessary.”

Even so, 10% of respondents felt that the approach at their organisation was difficult to deliver.



Figure 4.3 Responses to statement 'My organisation's health and safety procedures are not very practical'.



4.1.4 Training and Competence

Most respondents highlighted that information on health and safety was easily accessible. Sources of workplace information identified included the health and safety manager or team, health and safety meetings, notice boards and intranet sites, health and safety consultants, training (mainly 'Toolbox Talks') and safety bulletins, manuals and other communications:

“Regular health and safety meetings take place to discuss current matters and the Health and Safety Department members are always on hand to discuss any issues.”

A majority of respondents were also able to identify external sources of health and safety information, including available qualifications, Unions, trade press and a range of Internet sites. The main Internet site identified was HSE.

74% of respondents believed that they receive the right health and safety training for their job. Most respondents agreed that there was regular information provided on health and safety through out their organisation:

“The department recently sent staff on training courses and this learning is being cascaded to other staff through team meetings. The department is about to review all health and safety procedures and all staff will be involved.”



Even so, 4% felt that this was not the case within their organisation. A number of respondents highlighted that information provision and training could be more targeted and therefore relevant to specific roles or circumstances:

“A lot of information provided to us is more landfill-oriented and does not include the effect it will have on transfer stations or CA sites e.g. DSEAR Regs info was dedicated to landfills and a special request had to be made for assistance with requirements for transfer stations.”

4.1.5 Communication

Although representing a majority of respondents, only 56% believed there to be good communication about health and safety in their organisation. Those that considered there to be good communication went on to highlight how they felt their organisation had gone beyond the minimum to actively communicate with staff:

“In January, [the company] was closed completely so that everyone could attend a health and safety seminar. The business was willing to compromise commercially to reiterate the health and safety message.”

Almost 16% of respondents felt that communication about health and safety within their organisation was poor. These respondents felt that, although information was often available, little effort was placed in making it accessible, informative and personally relevant. A small number of respondents expressed that there was very little communication at all in their organisation:

“As there is very little communication with regards to health and safety...it is difficult for us to know if what we are doing is right...basically [there is a] lack of education and information.”

Almost 67% of respondents stated that their managers talked to them about health and safety. Many were positive about the accessibility of their line managers and health and safety representatives. They felt that they were actively supported and, as such, were able to understand the current legislation, procedures and relevance to their role.

A small number of respondents stated that they did not expect their managers to talk to them; however 7% expressed that their managers did not speak to them even though they expected them to take the lead:

“The [person responsible] knows very little about health and safety. Making statements like ‘I leave that to the Service Managers’, I believe, shows a lack of commitment. [Person responsible] rarely consults, instead making rash decisions...and makes statements like ‘they can’t fine me all my assets are in other peoples’ names’.”



4.1.6 The Right Tools for the Job ('hardware')

A positive 90% of respondents stated that they were given the right tools and equipment to do their job. Several respondents identified circumstances where equipment had been provided and/or changed to better protect against incidents:

“One issue was needle-stick injuries with drivers and so the company invested in ballistic trousers for all staff to minimise such injuries to the legs. This was at considerable cost but was supported by all senior managers and directors.”

Even so, 4% of respondents felt that this was not the case at their organisation. Most referred to management's lack of awareness of the challenges faced in day to day work and therefore the type of equipment needed. Others referred to the poor quality of equipment provided.

In fact, although 90% of respondents stated they had the right equipment, only 79% were confident that their tools and equipment are properly maintained. Most of the remaining respondents provided a mid-grade (3 or 4) response, perhaps indicating that they were unsure about maintenance and/or not completely satisfied. Having said this, only 3% of respondents stated that they were not confident that equipment was fit for purpose:

“I can follow the procedures but the equipment I use (PCs, bin lifts, vehicles) are often not fit for task.”

4.1.7 Incident Reporting

A clear majority of respondents (90%) stated that they always report health and safety problems or concerns; however, several of them suggested that they did not believe others in their workplace did the same:

“Some people in our workforce carry on without saying anything when there is a health and safety problem.”

Perhaps as would be expected, no respondents specifically stated that they did not raise health and safety concerns.

Interestingly, a lower number of respondents (84%) went on to agree that something is done about issues that they have raised. A number of respondents highlighted that their health and safety representative or team explain how an issue will be dealt with and when, giving them confidence in the process:

“If I have a concern I would raise it with an appropriate member of the compliance team who would deal with it and confirm what they had done about it.”



Although 84% still represents a significant majority, there were 4% of respondents who expressed that health and safety concerns were not effectively responded to in their organisation. Even though most of these respondents had highlighted that communication was sufficient, they did not consider action to be as effective:

“We often talk about health and safety but talk is not enough. I feel most issues brought up by us are listened to then brushed under the carpet.”

One respondent also highlighted that, at their organisation, action taken following a contravention of procedure was different depending on the role of the staff member involved:

“If a health and safety issue is raised, such as staff not wearing the correct PPE, who it is dictates the response. Manual staff could be formally disciplined but office staff do not even receive a warning.”

4.1.8 Implementation Barriers

Almost 75% of respondents stated that they had few problems following health and safety procedures. Almost 9% highlighted particular barriers and concerns. A number identified the associated bureaucracy and/or impact on workload as a particular issue for them:

“Health and safety changes from week to week and it stops you from doing your job. The way things are going; there will be too much health and safety.”

Although a number of respondents highlighted this as a difficulty for them, there was a general acceptance amongst the remaining respondents that it was essential that health and safety rules were followed and they therefore found it acceptable to follow procedures even if this added to their workload.

“Sometimes there are just too many health and safety instructions, which makes the job difficult – but not impossible.”

One senior representative identified the challenge faced by his business in balancing health and safety of employees with commercial requirements.

“The safety of employees is very important; however, the company also has to be able to meet the requirements of its clients in order to make enough money to stay in business. This is a very difficult balance to achieve.”

In fact, almost 14% of respondents felt that their organisation placed the achievement of production targets and company objectives as a higher priority:



“Achieving our targets seems more important to the bosses. If that was not the case they would stop giving... crews more and more work with no more resource. We are not paid on productivity but the bosses knowingly let crews break health and safety procedures so all this extra work gets done – it’s a travesty.!”

Having said this, a majority of respondents stated that they believed health and safety to be ‘*always a greater priority than achieving production targets*’. A number of respondents went on to identify that best practice in health and safety should be part of all employees’ targets and objectives.

The main barrier to implementing health and safety procedures identified by respondents was a lack of resource. A lack of funding was the main resource issue raised; however others identified a limited staffing capacity:

“I think there should be more team members in the Safety Health and Environment department to provide support to the managers for an ever-changing environment. The team is stretched too far and is not able to offer as much advice and support as may be needed. Nor are they able to monitor the sites effectively.”

Another key barrier raised was the staff themselves. The main issues related to complacency (particularly for employees who had worked at the organisation for a while), production pressures (including ‘task and finish’ contracts), lack of understanding (including language barriers for staff with English not their first language) and the use of temporary staff, which created a high turnover and a constant communications and training requirement.

Other interesting barriers raised included the difficulty in maintaining health and safety standards when employing contractors. Those employing contractors felt that this led to a lack of control regarding health and safety management:

“Third party contractors equal a loss of control in health and safety. The attitude of the contractor has been abysmal but is improving.”

Organisations providing contract services expressed that the pressure to meet the requirements of their contract often presented difficulties in maintaining health and safety standards:

“Health and safety is compromised by the over-riding desire not to upset our contract partners.”

Another barrier identified was the changing nature and activities of many organisations, which results in a constant challenge to keep up with applicable legislation and appropriate procedures.

“Because we are a progressive company, the safe environment and working practices are always changing.”



It is easy to see how this can quickly become a pressure on organisations, particularly smaller companies who have a significant commercial pressure.

4.1.9 Overcoming Barriers

Respondents were asked whether they would like to receive more information. 24% of respondents stated that they would like to receive more information, with 34% stating that they would not. A number of respondents went on to say that they felt that a 'different sort' and 'more effective' form of information provision is needed.

"[We need] a simple to access and easy to read synopsis of the myriad and complex legislation and regulations."

Several respondents identified the need to make information more interesting and accessible to ensure that all audiences want to read the information, and can relate to and understand it.

"Our system tries to reduce reliance on literacy or existing knowledge. Training materials use graphics and words as reinforcement."

Other suggestions for improvement included:

- greater senior-level commitment and demonstrating this commitment through everyday practice (including resolving issues effectively);

"If, when a risk assessment is done, the cost of reducing the risk is prohibitive then it may be decided not to do the task in the first place."

- greater time and resource allocated to health and safety training and ongoing communications;
- include a formal requirement to report health and safety practice and issues within contract arrangements;
- empower employees by delegating responsibilities to a local level, engaging them more effectively in identifying opportunities for improvement, and making sure that they know they can, and are expected to, report incidents;

"I take a slow approach to all new work, give it thorough consideration and engage other participants in discussion before work is committed to."

- initiate a safety group consisting of representatives from across the organisation, who are responsible for identifying, reporting and feeding back on issues and how they have been resolved;



- consider how health and safety can be effectively managed, reaching an appropriate balance between doing nothing and going too far.

“I try to give a proportionate response.”

The key suggestion emerging from the questionnaire responses was to ensure that the organisation did not become complacent. Many of the respondents identified that although they believed their organisation to have a good approach to health and safety management, *‘there is always room for improvement where health and safety is concerned’*.

4.1.10 Responses from ‘very small’ Organisations

Our review of questionnaire responses identified a gap in those from very small organisations (sole traders and organisations with less than 10 employees). In an attempt to address this, organisations meeting this profile were identified in the contact database. Most of these had initially contacted the survey team seeking to participate but had not gone on to return a completed questionnaire. Reminder emails were circulated and a number were telephoned directly. Even so, by the end of the timeframe for responses, there remained a gap in responses from these organisations.

It is important that this study includes information which is representative of this size of organisation (also ensuring that those not traditionally engaged in health and safety initiatives can be in the future). The survey team therefore contacted a number of very small organisations directly by telephone. The outcomes of these discussions are included within Section 4.2.

4.2 Level 2: Telephone Interviews

Telephone interviews were scheduled with a number of organisations, selected to represent the variety of businesses and operations which make up the waste and resource management sector. These included district councils, a county council, local and national private sector, and community sector organisations. The organisations were selected for a number of reasons including any interesting comments made in the questionnaire response and any evidence of best practice techniques. Of the 30 organisations contacted, 22 successful interviews were completed. This included 2 with organisations not previously involved.

Where possible, the themes emerging from the questionnaire responses were explored in more detail. In particular, the interviewers sought to identify examples of how challenges had been overcome and suggestions for development in the future. The data from all of the telephone interviews has been collated and reviewed by health and safety specialists to extract significant themes and learning points. The themes below are displayed discretely; however, they should be read as a whole as they are all interlinked, for example, practices related to communications will also impact on training and understanding of risks. It is important to note that the issues and suggestions for development are those made by respondents and are not necessarily the views of Entec.



4.2.1 Health and Safety Culture

Issue	Good Practice	Issues and Suggestions for Development
Macho culture	Trying to dispel the myth by continually communicating and training	Culture is embedded and therefore takes a long time to change Training can change culture but only when supported by management
A perception that health and safety restricts the job	Discuss issues with staff to establish the most effective way of working within the health and safety rules	Increase safety recognition / commendations, and consider use of safety bonus / reward.
The use of contractors	Close liaison and continual involvement throughout contract	Include clauses in contracts e.g. payment only on successful completion including meeting safety requirements

4.2.2 Understanding Risk

Issue	Good Practice	Issues and Suggestions for Development
Complacency: staff in general understand the risks but can be complacent (e.g. due to period of fewer incidents or 'quiet times')	Refresher training Regular meetings Handbooks for 'Stop and think' assessments of new jobs undertaken IOSH (Institution of Occupational Safety and Health) qualified managers	Increased budget for training needed to keep health and safety in the forefront of the mind Staff do not always make the link between the documentation and the completion of a task Difficulty in making staff cautious in view of the low frequency but high severity incidents Use of Action Plan to focus work and understand the targets
Risk Assessments: participants generally found them too complicated	Avoid giving complicated written documents (e.g. complicated risk assessments) to operational staff – provide 'easy to digest' information as an alternative Ensure that operational staff have training to be able to identify hazards Ensure managers reiterate importance of staff using their initiative to identify hazards and act accordingly to minimise the risk	In some cases managers do not fully understand risk assessment themselves so they are not able to advise staff Give training to supervisory level staff (remove image of 'black art technique') Consider provision of generic risk assessment by authoritative body that can be adapted by individual companies Introduce simplified techniques for completing risk assessments
Temporary Workers: hard to instil understanding in short period of time	A minimum training standard scheme is being considered by some organisations Detailed induction training Shadowing system whereby temporary staff work with permanent staff who help train them on the job	Budget for spending money on temporary staff training is minimal Temporary Staff Agencies could do more to make staff aware of the health and safety issues Increase awareness in permanent staff to help observe / keep eye on temporary staff



4.2.3 Rules, Procedures and Legislation

Issue	Good Practice	Issues and Suggestions for Development
Enforcement	<p>'No blame culture'</p> <p>Where staff are not following rules supervisors talk through the benefits of why they should</p> <p>Use of strict disciplinary procedure where there is repeated disregard for the rules</p> <p>Supervisors must know the guidance and legislation so that they can provide evidence when enforcing rules in order to have authority</p>	<p>Staff instinctively do what is easiest</p> <p>Need the budget and staff to be able to spend more time addressing prevalent issues</p> <p>Having a suitable supervisor to staff ratio is essential to maintain adequate supervision</p> <p>More HSE inspections will increase the budget provided within their department to be able to implement new procedures and check staff follow them</p>
Guidance – General guidance available	<p>Consistent approach to tasks</p> <p>HSE guidance provides baseline for a range of procedures which can then be tailored to site needs</p> <p>'Safe Working Practices' for each job role are available</p> <p>Staff members read and understand the rules</p> <p>Encourage feedback on procedures so that adaptations can be made where necessary</p> <p>Do not overload operational staff with documentation that they will not understand e.g. detailed risk assessments</p> <p>Handbook with summary rules and guidance</p> <p>Use of photos, diagrams and relevant examples i.e. not just text in written procedures</p>	<p>Funding is inconsistent and heads of service are having to waste time applying for funding rather than dealing with the issues</p> <p>Consider a prescriptive approach to health and safety across the industry</p> <p>Too many different places for health and safety information (e.g. even within the HSE website) and information can be complicated and hard to understand. Consider providing posters / charts that can be used as opposed to companies interpreting the legislation themselves</p> <p>Ensure that the rules are issued in a non-patronising way</p> <p>Ensure that foreign staff fully understand the procedures – not just getting them to sign when it is clear that they do not understand</p> <p>Risk assessments and rules are often out of date due to the changing nature of the industry</p> <p>Insufficient time to update procedures and risk assessments all the time</p> <p>Ensure constant updates on procedures are communicated to ensure encapsulation of fluctuating labour force</p>



4.2.4 Training and Competence

Issue	Good Practice	Issues and Suggestions for Development
Training Type – Needs to be specialised to job roles	<p>Training specific to jobs undertaken by staff member</p> <p>Training area on site for manual handling and vehicle/plant training</p> <p>Tests on competency when first using new hardware and issuing of certificates</p> <p>Continual monitoring to ensure complacency does not set in</p> <p>Interactive learning increasingly popular</p>	<p>Budget increases needed to provide regular training</p> <p>Consider involvement of insurance companies in providing financial support to help prevent future claims</p> <p>Manager training so that they are aware of how to manage staff well and therefore instil the health and safety ethic</p>
Training Frequency – Generally, informal training is more frequent than formal training	<p>Regular meetings and reviews</p> <p>Full induction meeting and specialised training when start</p> <p>Refresher training</p> <p>Making sure that staff are comfortable in the training environment e.g. do not do it in a training room where they feel like they at school being tested. If they are relaxed they will engage more</p> <p>External courses for specialised training</p>	<p>Lack of structured training programme or structured 'Continuous Development Programme'</p> <p>Training only given for some issues once an accident occurs</p>
Perceptions of Training – In general staff are starting to see the importance of safe working so are engaging with training		<p>Dispelling the macho culture and encouraging staff to look out for one another</p>

4.2.5 Communication

Issue	Good Practice	Issues and Suggestions for Development
Methods of communication – Use of multiple methods for reinforcement	<p>Toolbox talks regularly</p> <p>Posters</p> <p>One-to-one interaction</p> <p>E-learning modules</p> <p>Regular health and safety meetings with operative representatives</p> <p>Where language issues are a barrier, involve one of the group that may have better language skills to help communicate</p> <p>Encourage involvement in courses outside of work e.g. with Learn Direct</p>	<p>Using a medium that will reach the whole workforce taking account of the educational ability of the workforce</p> <p>Ensuring that staff fully understand why they are being told to use a certain method of working</p>



Issue	Good Practice	Issues and Suggestions for Development
Responsibility for communication	<p>Effective management</p> <p>Middle management aware of their dissemination roles</p> <p>Ensuring all staff know their responsibilities for looking after one another</p>	<p>Ensure that whoever is responsible for communicating and enforcing health and safety messages have sufficient experience and authority to conduct their role effectively</p> <p>Ensuring that communication has happened by carrying out spot checks with operational staff</p> <p>Timing of meetings to ensure that the majority of staff can attend</p>
External communication	<p>CASH – A system of sharing information with other organisations, WISH guidance, etc.</p>	<p>External campaigns can be fragmented sending mixed messages to industry</p>

4.2.6 The Right Tools for the Job ('hardware')

Issue	Good Practice	Issues and Suggestions for Development
PPE – In general appropriate PPE available when needed	<p>Consultations with staff to ensure that equipment is most appropriate and therefore most likely to be used</p> <p>Ensuring that the equipment is most appropriate for the job by consulting with manufacturers</p>	<p>The development of specific equipment when issues are identified</p> <p>Create wider network and increase channels for communicating with manufacturers/designers regarding design of equipment</p> <p>Better information network to enable communication between organisations on good hardware</p> <p>Behavioural issues need to be addressed to ensure that staff wear and use PPE properly at all times</p>
Plant and Machinery – Design issues	<p>Consultations with manufacturers to ensure plant meet the needs of the organisation</p> <p>Experienced staff with direct knowledge of the job in the plant purchasing teams</p> <p>Scheduled replacement periods for plant e.g. every 5 years</p> <p>Machinery trials where possible</p> <p>Site visits to other sites for ideas</p>	<p>Designers should make careful consideration of health and safety aspects in light of rapidly changing industry Vs. demand for vehicles</p> <p>Need to increase budgets in order to purchase specialised equipment</p> <p>Encourage and make use of ideas from operators</p>



4.2.7 Incident Reporting

Issue	Good Practice	Issues and Suggestions for Development
Encouraging increased reporting	<p>No blame culture</p> <p>Near-miss pocket handbooks</p> <p>Safety representatives on the ground pointing out where incidents should be reported</p> <p>Good rapport with managers will mean that near misses are identified in conversation</p> <p>Check first aid kits to see if small incidents are being reported</p>	<p>Staff do not like filling in forms, need system which allows verbal communication of incident and write up by management</p> <p>Remove the fear of reprisal for incidents that are reported</p> <p>Remove embarrassment factor for reporting issues</p> <p>Incidents need to be reported immediately so that the issue can be investigated</p> <p>Check statistics to ascertain if incidents are being accurately reported (expected ratio of near misses to incidents)</p> <p>Staff do not want to report their friends/colleagues so they deal with issues as a team – again this needs to be addressed by a no blame culture</p> <p>Raise awareness that if an incident is not reported there are few avenues for support in the future if incident is more serious than they first realised</p>
Understanding of importance of reporting	<p>Training on what constitutes a near miss</p> <p>Communication about the actions that are taken as a result of near miss identification and accident reporting</p> <p>Monitoring of trends in incidents and near misses</p> <p>Ensuring compliance assurance with statutory reporting requirements, e.g. RIDDOR.</p>	<p>Encourage staff to change the culture and take the time to report issues</p> <p>System (electronic) needed for management and manipulation of data</p>
Incident Investigation	<p>Formal system of investigation based on severity of incident</p> <p>Investigation kits with reminders of exactly what to check directly after an incident and a camera to get visual evidence</p>	<p>Ensure that incidents are not investigated in a manner which infers blame and may discourage reporting</p>



4.2.8 Implementation Barriers

Issue	Good Practice	Issues and Suggestions for Development
Task and Finish	Review Task and Finish	Majority of organisations feel that it leads to rushing and increased accidents There is evidence that major opposition to abolishing Task and Finish exists but this has to be tackled Consider stepped approach i.e. introduce schemes where operators must return to depots and complete tasks before leaving
Resistance to change – in general implementation of H&S procedures is not a problem	Continual update of procedures and rules Re-training and effective communication to re-iterate importance of change Disciplinary procedure in place where there is repeated disregard for rules	Need to overcome the perceptions that health and safety stops you being able to do the job Dispelling the perception that they have never had a problem doing a task in a particular way before so why should they change
Pressure for production - in general is a factor for everyone	Balance between number of staff and work load so that you are not over pressurising them or losing money by having un-used workers Encourage staff not to cut health and safety corners by reminding them of the consequences Continuous and ingrained safety behaviour habits tend to stick better at times of pressure For collections – design new rounds with staff consultation A balance is needed between optimised production and optimised health and safety enforcement	Budget is needed to make large changes e.g. round re-design Budget needed for additional resources e.g. staff or vehicles The industry is inherently a production line which never stops so there is always a pressure to complete a task on time therefore the infrastructure and resources to deal with it need to be sufficient All sizes and types of organisation need to have support from organisations like CIWM Thoughts are that 'quick wins' are not effective
Time and Resources	Have dedicated health and safety officers to check that procedures are followed, training is received and continual H&S communication is conducted	Not always a dedicated health and safety officer, often it is a secondary role in an existing job Not always sufficient budget to employ extra staff to relieve pressure on staff

4.3 Level 3: Site Visits

Site visits were undertaken at six organisations. These were selected to be representative of the sector in terms of organisation type, size and the different activities undertaken. Most organisations were identified through the previous survey levels (as having something particularly interesting about their approach or the challenges they face); however two additional organisations were also identified to increase the representation from Small and Medium-sized Enterprises (SMEs).



Box 2, below, provides a summary of the participating organisations. This enables the results of the site visits to be reported in context and give a feel as to the type and variation of the organisations included. The main issues are extracted from the site visits and reported, where feasible, under the same headings as the questionnaires and telephone interviews to allow comparison.

Box 2	Summary of participating organisations
	<p>Visit 1</p> <p>A district council waste management section located in the South East. Primary activities related to household waste and recycling collection but, like most councils, they were also involved in the running of waste and recycling centres, special collections, private clinical collections and abandoned cars. As a majority of accidents in the waste and resource management industry occur in household waste collection, it was decided that this sector required further investigation. The district council in question participated in the questionnaire and telephone interview phases of this study, and, through these channels, demonstrated a good awareness of health and safety issues. They had also implemented a number of safety improvement programmes and were willing to discuss the success, or otherwise, of these initiatives.</p> <p>Visit 2</p> <p>An SME, specialising in skip hire and materials disposal based in the North West. The organisation operates a Materials Recovery Facility with material provided from around 5000 skips (range of sizes from small open skips to 40 cu yard). The organisation also had an involvement in demolition and recovery of associated waste. This organisation had not been involved in the study previously and was selected in light of a requirement to focus on smaller organisations. In addition, the organisation had indicated they possessed an excellent health and safety management system; Entec were eager to see this in action and learn from the positive developments made.</p> <p>Visit 3</p> <p>A community recycling organisation in Wales where primary activities include kerbside collection and sorting of recyclable materials. The Community Recycling Network have reported significantly lower accident statistics in comparison to the remaining waste and resource management industry, however it must be noted that a number of community schemes are not directly comparable to a large proportion of the industry. Entec thought it prudent to visit a third sector recycler that could be considered comparable e.g. kerbside collection.</p> <p>Visit 4</p> <p>An organisation specialising in transportation and waste management based in the North East. The last few years has seen this company invest substantial funds in mechanising their waste management processes, which has presented a number of benefits and challenges in health and safety management. This organisation was selected for site visit to explore how these challenges were being addressed and because of the organisation's demonstrable commitment to health and safety identified in their questionnaire and interview responses.</p> <p>Visit 5</p> <p>A hazardous waste transfer station based in the Midlands. This organisation had not previously been involved in the study and was selected for site visit to explore the challenges and approaches in place within a different type of organisation.</p> <p>Visit 6</p> <p>A non hazardous waste transfer station based in the Midlands. This organisation had been involved previously and was selected in light of their interesting responses to the questionnaire and a requirement to focus on smaller organisations.</p>

4.3.1 Understanding Risk

Visit 1

- There was recognition by operational staff that working on the highway represented the most significant risk and that this had to be managed. The organisation used an informal programme of road-risk reporting and attempted to respond to this dynamically e.g. if it was becoming difficult to reverse down a road, this would be reported to depot who would then act immediately by sending a smaller vehicle (where possible).



- Employees highlighted that the basic premise of risk assessment was not understood by senior management. It was felt that it was insufficient to periodically look at risk and contract the process out to a health and safety professional. To be effective, risk management had to be an ongoing process with engagement of all staff.
- Both management and operations staff emphasised the link between reporting and action. Management recognised that staff were less likely to engage in risk management if action was not forthcoming to issues raised. They recognised that this placed a responsibility on them to act; something they attempted to respond to.

Visit 2

- Management argued that the majority of risks in the sector were known or clearly visible. The real risk, therefore, was complacency.

Visit 3

- Risk assessments tend to be based on a checklist approach which is simple to complete, but does not necessarily pick up on any new arising issues.
- In general the operators believed that they understood the risks associated with their work, however, this awareness seems to have come from experience rather than their understanding of a risk assessment or any particular training. The operators believe that it is 'common sense' and that people learn quickly if they have a near-miss.
- A Work Safety Advisor initiative was progressed among five regional recycling companies. This allowed for a provision of a variety of resources which organisations could draw upon. An example of this was CHERE (Centre for Health and Environment Research and Expertise) held a number of events aimed at operators to raise awareness about the principles of risk awareness etc.

Visit 4

- This organisation had a focus on increasing automation to remove risk.
- The organisation operated a 'stepped approach' to roles with operational staff first getting comfortable with simple roles e.g. loading and unloading refrigerators before progressing onto more complex and potentially hazardous activities e.g. removing gas canisters. Progress was monitored by peers who were encouraged to assist new starters wherever possible.

Visit 5

- This organisation uses an external consultant to help in the identification and mitigation of risk.



- Increasingly, the organisation is looking to automation to reduce exposure to risk. Employees highlighted an example of a new shredder to remove human involvement in waste management.
- A NEBOSH (National Examination Board in Occupational Safety and Health) qualified supervisor is on site at all times during the day and has direct responsibility for health and safety.

Visit 6

- The company had a specified section of its manual for different jobs e.g. driver, loader, banksman and operators. A general section was also used that covered the office staff and other employees.

4.3.2 Rules, procedures and legislation

Visit 1

- All staff recognised the health and safety issues related to task and finish. Management were aware that, in some cases, task and finish promoted risk taking and corner cutting. Depot staff responded to this issue by implementing group task and finish – no operational staff could leave site until all work groups had completed their rounds. This process led to staff completing their rounds and going back out to assist those who had yet to finish theirs and thereby removed an element of peer pressure from the task and finish process.
- Management had looked at the presentation of rules and procedures with a view to improving their ease of use. They had begun to introduce pictures and diagrams as part of the induction training and were planning to look at the procedures handbook in the near future.
- It is important to note that some practices e.g. mentoring or group task and finish were not detailed in procedures handbook.

Visit 2

- Management operated a comprehensive safety management system which ensured that all contracts, when awarded, were analysed for risk and safety implications. This information was fed into the organisational management system; evidence suggested both systems were regularly updated.
- Operational staff observations suggested that a number of rules and procedures were not adhered to as strictly as might have been expected. This had been recognised by the organisation and had resulted in the recruitment process of a new supervisor.



Visit 3

- The Management have expressed an enthusiasm for the update of procedures with photos / diagrams rather than just text. This has not yet been implemented for various reasons, but they are still keen to incorporate it in the future.
- It was noted that there was a general impression that operators would rely on training and experience to be able to operate equipment, rather than consulting procedures.
- It was widely recognised by the management that “Task and Finish” tended to lead to people cutting corners and putting them at more risk. The original setup did not include a “Task and Finish” approach, but it was trialled for a while. Monitoring of behaviour during this period meant that it was not taken on permanently. An informal ‘toil’ system has now been adopted. Management have noted that the types of people that take these jobs are generally ones who want to be out and about collecting, and not in the depot completing ‘dull’ tasks. For this reason the types of job at the depot are kept simple and operators are told they can use this time to read notices / articles etc. from the health and safety board. The idea being simply, those operators should not expect to go home just because they think they have finished the tasks at hand.
- It was unclear what the policy was for single or double sided collection. Management talked about enforcing a single-sided collection policy (except in certain situations e.g. in a cul-de-sac) whereas operators talked about using a system whereby empty boxes were used to collect from home owners boxes minimising the number of times required to cross the road.

Visit 4

- Procedures were written using clear language and were illustrated using pictures where possible. As a minimum, procedures were reviewed every year, however, incident investigation would involve a comprehensive analysis of procedures regardless of review date
- All employees were aware of procedure file location and efforts were made to ensure file was as close to relevant task as possible e.g. placed on a hook next to machinery.
- The company provided a safety rule book for all employees; operational staff were provided with this, and a miniaturised version for their shirt pockets.

Visit 5

- The organisation used a combination of Pollution Prevention and Control (PPC) permit requirements in addition to standard rules developed in conjunction with the external safety consultant.
- Efforts were made to ensure the rules and procedures handbook could be read by all members of staff. All employees were asked to sign a document outlining that they had read and understood the



handbook. Any amendments were communicated by memo to the staff, who were then required to sign off to indicate their understanding. Interestingly, operational staff indicated that memos were not effective and there was a requirement for more face to face discussions.

4.3.3 Training and competence

Visit 1

- Operations had noted a massive increase in training in the last 3-4 years, a deliberate strategy from management.
- Training was provided through a 2 day induction course. Upon completion, new starters then joined a 3 man team as an extra man and trained on the job. Organisation had moved recently to place an emphasis on peer training delivered through mentors.
- Mentoring was identified as a key method by which health and safety awareness and competence could be improved in people who are exposed to the most risk. Through mentoring, management were able to ensure operational staff felt included in the process and hence were less likely to obstruct it. Operational staff were able to volunteer to be a safety mentor.
- Organisation had made a DVD along with other councils – operations identified this to be the most useful training tool.
- Management made a number of observations regarding training:
 - there is no formal standard in place. Managers wanted to see some kind of bench mark or endorsement from HSE/governing body;
 - managers wanted to get some kind of link up with training and skills so that the training provided delivered some kind of formal (recognised) qualification for employee; and
 - managers felt that WRAP emphasised quality rather than safety.

Visit 2

- Training was provided to a limited number of staff; content focussed on basic health and safety (PPE use, emergency evacuation procedures) along with other items.
- Those in unskilled roles were offered little or no formal training. Instead they learned on the job although no procedures or auditing steps were in place to follow this up.

Visit 3

- It was noted that the most successful training came from an external supplier who knew the business and was prepared to tailor the course to what they needed, as opposed to an off-the-shelf approach. The training was also held on Saturday with paid overtime which helped separate the job from the course and reduce the rushing to get away and finish.
- It was agreed that a central pool of resources (or review / recommendation of suitable trainers) would be useful as long as it was local to the area. The Executive Director pointed out that even with internal



links to broader ranges of information; issues such as this tend to be sorted locally and on an individual basis.

- Operators believed that although they could see the reason for classroom-type learning, the real learning was done on the job. They also pointed out that some of the training (e.g. manual handling) was nice in an ideal world but unrealistic, and if it was expected that they should do their job in that manner it would take twice as long. The operators did not claim there was a ‘them and us’ situation and that the management did realise the issues with using some aspects of the training in real working situations, however the operators took it upon themselves to ‘bend’ the rules to make them work.

Visit 4

- All staff are provided with health and safety training as part of a comprehensive 2 day induction course. For those operational staff who expressed an interest, a 5 day Institution of Occupational Safety and Health (IOSH) course was available. First aider training was also provided with trained personnel evident throughout the plant.
- Emphasis is placed upon training in situ. In one example, an operations staff member had worked on a piece of plant for over a year before they were deemed sufficiently capable to be the sole operator.

Visit 5

- The organisation had invested what they considered to be a significant amount of money in health and safety training. Key areas included COSHH (Control of Substances Hazardous to Health), manual handling, fork lift truck operation, environmental and spillage control. Company directors felt this investment was worthwhile and functioned to reduce accident rates.
- Operational staff reported that they had noticed an improvement in training but that some issues remained. Specifically, some (not all) staff reported that they had missed or were yet to receive induction training. In addition, it was felt that tool box talks represented the best medium for training as individuals were picking up information in context where they would use it.

Visit 6

- All employees were inducted using the manual induction pack. This included the health and safety policy and method statements. The first two days of employment a driver would work with another driver as part of the induction and to test the competency of the employee. Any issues during this mentoring process would be passed up the management chain.

4.3.4 Communication

Visit 1

- The organisation recognised that a culture change was needed as they ‘were playing with sticky tape, but more training, better boots, didn’t change culture’.
- Operational staff reported that a majority of safety communication was done via e-mail or memo, although there was some provision for face-to-face discussion between operations staff and safety mentors.



- The organisation had invested in new radios and found them to be extremely useful. As a result they now did not allow operators to use mobiles when on collections
- The organisation had health and safety committee meetings and posted the findings on the notice board. It was suggested that these meetings were useful and as such it could be worthwhile to roll them out.

Visit 2

- Safety information was reported to be distributed via signage, staff meetings, notices and face-to-face discussions.
- It was highlighted that, due to the high number of foreign workers, language barriers existed on site. Efforts were made to ensure that new starters understood procedures and the company was looking at the provision of multi-lingual procedure and rule books.

Visit 3

- The management believe that communication is good as they are still of small enough size to allow the Operations Manager to know everyone's name. They recognised from their experience in other organisations that a barrier can form when there is a gap between operators and administrative/management staff who never see on-the-ground operations.
- Operators are aware that there is a suggestion box that can be used to raise any issues (however, when asked it was not clear that anyone had used this even though they raised issues that could be submitted). Most communications were informal and face-to-face and rely on management remembering and considering it important enough to be addressed.

Visit 4

- The majority of safety information was provided using notice boards, memos, e-mails and intranet. In addition to these channels, supervisors provided tool box talks and were encouraged to discuss safety issues with personnel. This system seemed to work well with management and operations staff expressing satisfaction with how the safety message was transmitted.
- Management supported the concept of 'felt leadership' making sure they regularly walked the floor and discussed safety issues during these sessions.

Visit 5

- Senior staff endorsed 'felt leadership', arguing that the relatively small size of the organisation allowed management to retain and understanding of the jobs on the shop floor.

Visit 6

- Efforts had been made to deal with health and safety face to face. Directors made sure safety talks were done on site, with minimal group sizes. Operations staff reported this was their preferred method of communication.



4.3.5 The Right Tools for the Job (hardware)

Visit 1

- Both management and operations underlined the importance of PPE design and availability. Participants were wearing steel toe capped boots, Kevlar reinforced trousers and dry fit hi-visibility shirts – all of this was custom designed and in good condition. Operations staff reported improvement in the provision of PPE over the last 2-3 years but also recognised that a small number of hardliners were resistant to change in this area.
- Concerning a majority of hardware, operations personnel indicated that they were really satisfied with the specification. When asked if they could outline further improvements, they struggled to suggest anything of worth.
- Staff discussed a couple of fixes undertaken recently: a rubber hopper for glass collection had had limited success as glass shards could get caught in the lining; attenuating PPE was successful in blocking out the sound of glass without limiting that of colleagues or road noise; vehicles ran on bio-diesel, reducing exposure to toxins.
- Trucks had single step entry, air conditioning, reversing cameras and so on. Management recognised a need to work proactively with Dennis (vehicle provider) to ensure evolving improvement in health and safety. They suggested they would be looking at new head rests, LED lights and automatic seatbelts in the future.

Visit 2

- Although the organisation stocked a wide range of PPE, there was evidence that certain staff were electing not to wear items such as hard hats. It was also noted that operational staff were sorting waste using rigger gloves, offering a limited degree of sharps protection.

Visit 3

- Generally speaking the hardware required is readily available. Operators commented that they would like a different sort of glove but it was unclear whether anyone had requested this or if anything was being done towards this.
- It was noted that in recent years a network had been developed with manufacturers in vehicle design. Originally the council supplied the vehicles so they had to make do with what they had and it was hard to change this until they had a permanent contract. With the new approach it was possible to trial a vehicle and this has enabled operators to use them and decide for themselves that (in this case) it was not suitable.
- A disappointment was expressed by management about the lack of involvement that was open to them in the WRAP vehicle design project. It seemed to them that it was limited to just a few people having ideas and the industry as a whole was not involved.



Visit 4

- Heavy investment in cutting edge plant had gone a long way towards designing out potential risks; however the plant manager advised that this strategy had presented a number of challenges concerning the design and implementation of rules and procedures.
- Organisation had invested heavily in PPE. Although they had attempted to optimise the protective equipment available and ensure it was provided near to where it was required, it was evident that some members of staff were not using PPE as required.

Visit 5

- Echoing the issue raised in Visit 4, this organisation identified that investment in new plant had to be managed very carefully to ensure staff were aware of safe operating procedures and that these procedures were updated regularly during the initial period of learning.
- There was evidence that the provision of PPE was good and employees were able to get hold of what they needed.

Visit 6

- The organisation had experienced a specific problem with materials falling from skips during transportation. This had a big impact upon insurance premiums. The company elected to address problem through the use of nets; drivers were given a tool box talk to illustrate the problem before being issued with a net and signing up to an agreement of use. The company indicated that they had received no reports of incidents in the 5 months since the introduction.
- Before new plant had been introduced, efforts had been made to 'design in safety'. Previous plant had used diesel engines to provide power for the conveyer belt but, because of the dust produced, this had resulted in a small number of fires. Replacement plant was specified with electric motors removing the hazard and therefore reducing the likelihood of harm.

4.3.6 Incident Reporting

Visit 1

- Management outlined a sound system in place for incident reporting; operational staff were trained to go through their line manager who would in turn communicate the issue if needed. The overall focus was on a quick response to reports, however, management mentioned a lack of guidance in this area e.g. minimum requirements, good practice etc.
- If needed, safety mentors would become involved in incident reporting, taking photos of key areas, talking to personnel and suggesting procedure changes as appropriate.
- Both operations and management recognised that incident reporting rates were probably low in relation to the number of accidents etc. Reporting procedures involved radio report, followed by the completion of an incident report form back in the office. It was identified that there may be a potential to streamlining the process.



Visit 2

- The site used video cameras to follow up incident reports and near misses. Although this method was useful for some incidents, it was accepted that near miss reporting needed to improve.

Visit 3

- The level of incident reporting initially increased in line with the associated initiative; however, management are aware that not all incidents are currently being reported. They try to check up on this by looking at the contents of first aid boxes.
- The management have recently received a template for categorising incidents in hope of tracking trends.
- Operators acknowledged that for simple cuts they were unlikely to report them as, by the time they returned to the depot, it would have stopped bleeding / hurting and they were likely to have forgotten about it. They were confident that anything more serious would be reported.

Visit 4

- The organisation has just invested in a new incident reporting system designed to log and tag incidents and near miss reports. This data is made available to all senior staff.
- Near miss reporting is encouraged by the Finance Director making it clear that the organisation wants to collate this data for analysis. Operations staff, when asked about near hit reporting, advised that this was not always possible due to time constraints. They stated that often issues are discussed and resolved on the shop floor.
- In one example, the participating organisation agreed to collect and recycle some refrigerators. When they arrived on site they found the warehouse filled, literally, to the rafters. With no procedures in place to deal with this situation, the supervisor on site placed a call to his line manager who told him to stop work until management could attend. Once they had arrived, the team decided upon some safe systems of work and the collection began. Throughout this process, management had been receiving calls from the client questioning why things were taking so long. When management explained the situation the client suggested they go 2 miles down the road where their competitors were collecting in exactly the same situation. A quick drive uncovered 2 men knocking refrigerators down from stacks 7-8 tall; the potential for harm was immense.

Visit 5

- The organisation expressed a desire to improve incident reporting – management indicated that accident book was rarely used.
- Operations staff reported an incident in which a 200 litre drum of Nitric Acid was dropped and contents spilled. Although no one was injured, staff did not report or investigate the accident and associated pollution incident. An incident of this seriousness clearly required investigation to ensure root cause was identified and remedied if possible. As this did not happen, the likelihood of accident reoccurrence was and remains high.
- Findings for this and other SMEs have suggested that there is a serious issue related to the lack of incident reporting and investigation. Organisations seem to recognise the need for this process but



also understand that it has the potential to absorb time and money. In the examples investigated, it would seem the argument for incident reporting is being lost in favour of getting on and getting it done. This was clearly illustrated by the Nitric Acid spill and the lack of investigation.

4.3.7 Implementation Barriers

Visit 1

- The organisation was open to change but recognised that senior management had to understand the objectives of any change management programme before they would buy in.
- Operational staff highlighted a lack of consistency in their approach with other areas. In particular, they mentioned side collection (collecting bin bags next to wheelie bins), which is not permitted in bordering counties but is the norm for them. This presented a series of issues and did not appear to be consistent with their approach to health and safety. Building on this, management outlined the numerous portals for health and safety guidance and how it was difficult to extract specifically relevant information. In fact, sometimes they had experienced conflicting health and safety message from regulators.

Visit 3

- Discussions identified examples of workforce involvement: formal feedback on training is given straight away to help gauge how useful the participants thought it was; specific operators are involved in a process if it is thought that they can contribute ideas and solutions e.g. into hardware design.

Visit 4

- This organisation had a clear commitment to excellence in health and safety. This commitment could be observed in the quality of the procedures provided, the willingness to invest in hardware and the clear backing health and safety received from management. Despite all of these positives, however, a number of issues remained, many of which stemmed from human factors origins. Operational staff reported that PPE was not always used, that procedures relating to fork lift truck usage were not always followed and that tool box talks were sometimes postponed. These issues do not indicate a poor health and safety policy; however, their occurrence does suggest a requirement to address human aspects of health and safety improvement.

4.4 Key Survey Messages

Awareness vs. Understanding

On the whole the questionnaires produced a number of very positive responses showing a great deal of awareness of the health and safety issues in the waste and resource management industry. However, these findings do not tally with the incident statistics for the industry, wider stakeholder views, and the observations / discussions during the study site visits. This indicates a potential gap between awareness and understanding. It is acknowledged that those questionnaire respondees may have had an existing interest and awareness of health and safety issues, or may



be employed within safety aware organisations. However, there does appear to be a breakdown between perceived and actual health and safety performance, indicating that current initiatives are not yet delivering the required step change in behaviour.

The telephone interviews identified a number of interesting initiatives that the organisations had undertaken to improve health and safety (although it should be noted that the interviews were conducted mainly with a 'health and safety expert'). The site visits went some way to investigate the level of the message that was being passed along, however it was evident, particularly in smaller organisations (e.g. where someone has taken on a health and safety role in addition to other tasks, rather than a specific health and safety expert) that while everyone had an awareness of the common issues, the understanding of the tools available and the realisation that health and safety is everyone's responsibility was limited.

The initial phases of the survey gave the impression of a good level of awareness of health and safety issues and performance. However, this perceived position now needs to be reinforced with practical tools, plans for the future, greater employee involvement and increased group and personal responsibility and understanding.

Supervisory Drop

It is well recognised that nearly all organisations that operate a hierarchical structure have problems communicating the safety message from the board down to the operational staff. Often this problem is most acutely demonstrated at the supervisor level – the so called 'supervisory drop'. The questionnaire, telephone interviews and site visits conducted by Entec uncovered evidence of this in action:

- supervisors were charged with transferring senior management commitment in health and safety into action on the shop floor but often did not receive the support, in terms of procedures and safe systems of work, they felt they needed to achieve this;
- supervisors were constantly aware of their performance indicators with many citing these and the bonuses related to them as motivations to cut corners; and
- supervisors were often singled out as the problem: *you tell them what to do, then you find them doing the opposite a week later.*

Those in a supervisory position often have a high degree of responsibility e.g. worker wellbeing and team performance, without the same amount of authority. This high responsibility / low authority relationship has been identified as a major stressor in all organisations. In a high risk industry such as waste, stressed supervisors may have the potential to make poor health and safety decisions and hence are potentially more likely to cause or become involved in incidents. There was also evidence of inconsistent approaches between supervisors and managers in the same organisation, i.e. higher management was not enforcing a consistent approach or not monitoring proactively.



Getting safety onto the shop floor

Frustration and a sense of despondency were identified in a number of survey responses due to a lack of involvement and minimal communications (and not being taken seriously when consultation does take place). Additionally there was a perception that health and safety was approached in an ad-hoc manner and not always upheld equally among employees (e.g. between management, office staff and those on the ground). In order for health and safety to be taken seriously within an organisation and for the methods / tools to be accepted by the workforce, it is necessary to instil a sense of ownership.

Those organisations who made efforts to move health and safety from management to the shop floor reported gains in terms of accident reduction and operational staff safety attitudes. Site visits unveiled extensive use of mentoring, with some organisations placing responsibility for safety training and competence assessment with specially appointed safety champions. These champions were appointed from the operational staff team and, crucially, were given decision making responsibility in a number of areas. This method reported excellent results with operational staff feeling that the safety message was coming from within rather than from above.

Provision of basic hardware

Nearly all organisations were willing and able to provide basic safety equipment, with a number happy to invest time and money to make sure this equipment was comfortable and matched the job requirements effectively. Whilst the story concerning hardware is overwhelmingly positive, Entec did note a number of issues concerning the appropriateness of PPE in use and the willingness of operational staff to use the protective equipment in their possession. These issues are not unique to the waste and resource management industry but their persistence should be addressed as a matter of urgency.

The safe management of new plant and vehicles emerged as a key concern for some waste operators. An evolving waste and resource management industry has placed an added emphasis upon recycling which has in turn stimulated investment in new facilities. Site visits underlined the scale of the task for some operators who, due to the novel technology employed, were writing safe operating procedures on a rolling basis. New technologies are not inherently unsafe, however, it is essential that rules, procedures and safe systems of work are regularly updated during periods of change. In other industries it is part of the pre-commissioning review to ensure that equipment is fit for purpose and that risk assessments and risk control measures are in place; the risk assessment should start when the specification of new equipment or way of working is being considered.

Management of change

Change is an issue that has been highlighted throughout the questionnaire, telephone interviews and site visit stages of this report. Even before the emergence of Private Finance Initiative (PFI), materials recycling and new technologies, waste could be considered one of the fastest moving industries in the UK; with these added factors it has become one of the most consistently pressured sectors. In terms of health and safety, change presents a number



of unique concerns. Is the staff aware of new responsibilities? Have management made sufficient allowances for new activities?

Overall, the waste and resource management industry has responded extremely well to the pressures for change placed upon it; however, all survey stages underlined a demand for improved communication and guidance. Whilst most respondents identified that the amount of information was sufficient, they identified issues with relevance and accessibility which will need to be rectified. In many respects, communication can be regarded as the catalyst of effective change. In the context of health and safety, effective communication during periods of change can be the difference between a near miss and a major incident.



Entec

Creating the environment for business



5. Recommendations

The recommendations have been produced as a result of the survey responses and key issues that have been highlighted above. Each of the recommendations provides a discussion on the issue(s) highlighted and potential methods of moving work forward. Recommendations have been followed with an impact / cost indication that has helped to create the Action Plan (presented in Section 6). The impact indication is based on the summaries provided in the matrix below:

	Low	Medium	High
Impact	A delayed or secondary impact upon incident or accident rates. A contribution towards cultural improvement but this would require further development to drive through.	Actions would impact upon incident and accident rates although this may not be felt immediately. May also impact upon underlying cultural trends although the prolonged impact may be minimal.	A prolonged impact upon incident and accident rates bringing with it a genuine opportunity for culture change.

The cost indication is based on an initial outlay of funds, and does not take into account the savings made as a result of implementing the action. The use of a High / Medium / Low scale has not been attributed any monetary value, as this will depend on factors such as the size of the company and the scale of implementation. It must be noted that in light of any new facilities, projects, or organisations being developed, or where significant changes are being made to infrastructure, equipment etc., significant cost savings can be made by ensuring that safety issues are considered at the very beginning, therefore not having to meet the costs for amendments.

This information is intended to be indicative of informed opinion regarding the relative impact and cost of the recommendations proposed. Clearly, further input and work would be required to firm up these initial views.

5.1 The Management of Human Factors

Many of the issues identified in this report point towards core concerns regarding human factors, more specifically the occurrence of unsafe behaviours. Human factors are recognised to be one of the fastest growth areas in the pursuit of accident reduction and safety improvement and although it can be a complex area due to the many differences between individuals it is possible to extract a number of specific issues for the waste and resource management industry. The consideration of ergonomics issues in the design process will help to ensure designs are more inherently safe; in addition, the provision of education designed to highlight the implications of unsafe behaviours and thus equip individuals with the ability to identify and reduce these behaviours in the long term is considered to be one of the most significant routes to human factors improvements. Behavioural education should be differentiated from a more traditional approach to training; good behavioural education providers aim to engage and embed their safety message using a mixture of psychology and participative tools, such as measuring and reducing the occurrence of unsafe acts.



Education and training in this area will help to tackle issues such as that of the 'Supervisory Drop' as discussed in the key messages section. While the training itself may not provide the immediate solution, it brings with it an understanding of the root causes of the issues and therefore ways in which to deal them; thus bringing about a prolonged impact upon the incident and accident rates and a genuine opportunity for culture change. The inherent lack of supervision in collection activities needs to be addressed to support a change in behaviour. Some organisations make it a Key Performance Indicator (KPI) for all managers up to Chief Executive to do safety visits – even the finance director! It is also important that a consistent approach to communication and enforcement of policies is adopted throughout the organisations, with evident disciplinary measures adopted fairly at all levels.

It has been a consistent theme throughout the questionnaire, telephone and face to face interview sections of this report that organisations have invested heavily in hardware and system solutions. Many of these organisations are now well placed to complete this investment through a focus upon their people-related safety issues; however, respondents highlighted concerns about the cost associated with guidance and training. Whilst some of the large organisations have invested in bespoke safety training programmes, the small to medium operators have been slow to follow this lead due to the prohibitive cost inherent in the provision of safety consultancy training. This issue could be resolved if a professional body worked with a training provider to produce a programme available for all interested parties. Funding for this may come from a variety of sources, and may rely on shared funding from a number of organisations such as those who are considered to be leaders of best practice. These organisations would also provide a useful source of information, ideas, and case studies that will provide a key source into ensuring the programme was appropriate for the industry. This approach would open the provision of safety education to those who may otherwise discount it for cost reasons; it would also raise the profile of health and safety within the industry and underline commitment to improvement across the board.

Whilst behavioural education provides a cost effective means by which safety can be promoted within an organisation, it **should not** be considered a replacement for any in house health and safety training which may already take place, or, indeed, for more inclusive health and safety training package if funds allow.

Impact	High
Cost	Raising Awareness – Low Behavioural Safety Course Development – High (Medium if shared by a number of participating organisations)

Refer to Table 6.1, Actions 2 & 3.

5.2 Establish Hardware Partnerships

Questionnaire, telephone interviews and site visits all captured a similar picture regarding the provision of hardware within the waste and resource management industry. Overall, most participants reported that Personal Protective Equipment (PPE) was readily available. In some cases, organisations had approached manufacturers to design hardware that better matched the jobs individuals were required to do e.g. steel toe capped boots that allowed better lower leg movement. This should be commended; however, it is essential that the knowledge developed through such partnerships is shared with the whole of the waste and resource management industry.



In this context, a Hardware Partnership could be chaired by a professional body and could consist of a number of manufacturers along with representatives from the waste and resource management industry taking care to ensure the involvement of smaller organisations. The partnership would act to develop waste specific hardware needs, ranging from PPE through to plant design. By acting as a group, the partnership would be able to lobby manufacturers more effectively and so encourage them to invest in the research and development needed for new products. In addition, the partnership could also negotiate bulk discounts with manufacturers, and in doing so, ensure that safety specific products such as PPE were cost effective for all operators, regardless of size.

As an extension of the Knowledge Exchange web-based tool (discussed in Section 5.4 below) it may also be useful to create a review and discussion area specifically for the purpose of utilising the experience of others. This is likely to attract involvement of those that require information quickly. Equipment design should continue to improve to reduce reliance on PPE as the safety measure of last resort.

Impact	Medium
Cost	Low

Refer to Table 6.1, Action 4 and 6d.

5.3 Encourage Workforce Involvement

The survey results showed a general level of dissatisfaction when employees felt they were being dictated to and ‘solutions’ were being implemented by people who did not know what the job really entailed. Workforce involvement schemes and communications can help to give employees a sense of ownership and thereby creates a generally more compliant workforce; participation has the role of ensuring health and safety becomes everybody’s business which is essential for risk control to be effective.

As discussed in the Key Messages section, there is a demand for improved communication and guidance with respect to the changes that are rapidly occurring within the industry. In the context of health and safety, effective communication during periods of change can be the difference between a near miss and a major incident.

In high risk industries, such as the oil and gas sector, organisations that have implemented workforce involvement report tangible and intangible benefits in terms of both health and safety performance and general business performance. There is a general consensus among the best practice organisations that the benefits of workforce involvement far outweigh the costs incurred.

A simple example of workforce involvement that was highlighted throughout the survey was in the involvement of users in PPE selection. Many companies described a system by which a selection of, for example gloves, were obtained from manufacturers, the employees were then given a period of time to trial them, and then a selection was made based on their opinions. One organisation also believed that incentive and reward for new ideas and systems can also play a large part in encouraging involvement. At the very least time should be taken to explain **why** PPE is to be worn.



Workforce involvement is not just about involving the ‘on the ground employees’ with the choice of PPE, but about involving members from all levels of the workforce in the many of aspects of work that impact upon them, at all stages of a project / system. There is a need to raise awareness of the benefits of getting the workforce involved (e.g. in risk assessments) and to provide guidance on how to do this effectively.

Impact	Medium
Cost	Low

Refer to Table 6.1, Action 5.

5.4 Establish a Knowledge Exchange

A knowledge exchange is a web based tool that facilitates information exchange. In the context of the waste and resource management industry, a knowledge exchange could share information concerning changes to health and safety legislation, near miss reporting and subsequent learning, relevant news stories and discussion. For a knowledge exchange to function effectively, registered users must be able to submit and edit information provided, particularly in the reporting and discussion forums. As well as those uses outlined above, the exchange could also include generic tools such as risk assessments, posters, charts, procedures; that could be adapted for individual use e.g. Approved Codes of Practice.

A knowledge exchange could be established through the adaptation of an existing service e.g. WISH forum, or could be created as a new and therefore distinct brand. Both of these options have strengths and weaknesses that the relevant stakeholders would have to consider before deciding the most effective route forward.

More details concerning functions are outlined below.

5.4.1 Near Miss Reporting and Learning

Although questionnaire findings suggested a high level of near miss reporting within the waste sector, the telephone interviews and site visits failed to support this. Whilst it is not unusual to find discrepancies between how people claim to behave and how they actually behave in their work environment, it is essential in this case to promote the process of near miss reporting. Again, the waste and resource management industry is not unique in having issues in this area and can therefore borrow techniques used in other sectors to improve performance. The oil and gas industry introduced the web-based ‘Stepchange’ reporting mechanism in 1997 with the aim of reducing incident and fatality rates through the distribution of knowledge. Whilst anyone can view reported near miss and incident data, users have to log on to submit a report. All reports are vetted to ensure quality. The waste and resource management industry could emulate this system either as a separate entity or as something affiliated to the WISH forum already established. A site of this nature would offer a number of advantages:

- Anonymous reporting – staff are more likely to report incidents if there is no direct connection between the report and their respective company; and



- Shared knowledge – information would be available for all

Another example is the long established Loss Prevention Bulletin for process industries (published by IChemE) in which incidents and issues can be described anonymously and lessons learned shared.

5.4.2 News Feed

Knowledge exchange administrators could set up an online UK specific news feed. News feeds act as automated search engines, analysing thousands of UK specific media sources for key words, as requested by users. In this case, the news feed could include key words such as ‘waste’ + ‘recycling’ + ‘fatality’ + ‘incident’. Findings could be posted on a knowledge exchange web site thereby keeping all members informed.

5.4.3 Discussion Forum

An essential element of a knowledge exchange, the discussion forum, would allow all site members to log on and post messages concerning health and safety. The provision of a free forum for information exchange would be an essential draw to the knowledge exchange as well as a route to the improvement of health and safety. This approach has been widely tested and is successfully used to improve learning between different organisations. Although it has a broader remit, the IDeA website (www.idea.gov.uk) is a good example of how communities of interest can be created to exchange information successfully on particular topics. Another example is wastematters.org.uk.

Impact	Medium
Cost	Medium

Refer to Table 6.1, Action 6.

5.5 Explore Avenues for Contract Management

A comment was made in one of the questionnaires regarding barriers to health and safety; ‘*health and safety is compromised by the over-riding desire not to upset our contract partners*’. The message that health and safety is everybody’s responsibility extends to that of a contract / contractor relationship and this message should be reiterated. Organisations, managers and employees are required by law to co-operate on the management of health and safety and the provision of a safe place of work. Health and Safety at Work (HASAW) Act responsibilities cannot be transferred by a commercial contract.

The largest group of contract managers in this context tends to be local authorities, but also includes organisations that fund new research, e.g. WRAP. Currently, a large proportion of local authority contracts stipulate a brief requirement for health and safety and ask for contractors to show the extent of their commitment to this issue. Key Performance Indicators (KPIs) are currently used to stipulate commercial and quality requirements and it may be necessary to ensure that these existing KPIs do not encourage any contradictory behaviour, such as that brought about Task and Finish practices. These KPIs could be extended to health and safety requirements.



Further investigation should be carried out into whether the local authorities and other similar organisations are well placed, in terms of capabilities and resource, to specify and monitor detailed requirements for health and safety. Defra has produced guidance on the standardisation of PFI contracts to help improve the development and delivery of projects, this could be extended to tackle health and safety issues head on.

One of the telephone interviews identified a local authority that was preparing to take on a role of active contract management which would involve requirement for an accredited safety management system, designing out inherent risks in new plant / equipment, regular reporting of incidents, performance management on site, conducting user group meetings for ideas and communications etc. The local authority was also including a term that would result in high level deductions for the contractor if standards were not met.

Impact	Medium / High
Cost	Low

Refer to Table 6.1, Actions 7 and 15.

5.6 Routes for Financing Safety

Throughout the survey, cost was regularly cited as a barrier to implementing health and safety initiatives. As in any commercial sector there is a pressure to optimise profits from production and as a result, there is the potential for shortcuts to be taken, increasing the potential for incidents. Data often cited by the community sector claims that their incident statistics are lower than those of the waste and resource management industry as a whole; one reason posed for this is the reduced commercial pressure.

Commercial issues in the private sector are unlikely to change; however, there should be a move to raise awareness of the costs of health and safety. The HSE has conducted research into the cost benefits of health and safety and the statistics clearly show the large proportion of time spent away from work due to illness and injury. Although there are overall benefits to improved health and safety, it is often the immediate capital available to spend that is an issue, particularly in smaller organisations.

An idea raised by one of the surveyed organisations was to investigate the potential of insurance companies providing capital financial support to allow e.g. training to take place. The benefits of this would be that health and safety incidents should reduce, and thus keeping insurance claims to a minimum. This potential relationship between organisations and insurance companies should be implemented and areas in which they could assist discussed.

Impact	Low
Cost	Low

Refer to Table 6.1, Actions 8 and 14.



5.7 Encourage Health & Safety Planning

The results of the survey indicate that a large proportion of the work that is conducted in the area of health and safety is reactive. This relies on the recording of incidents that occur and providing a solution to try to reduce their reoccurrence. A number of organisations expressed an interest in user friendly computer software to help them to identify trends in incident reports; this would then help the organisations to target issues and direct resource.

A proactive approach to health and safety planning would help to identify the risks ahead of an incident occurrence. Looking to the future and developing a plan will help any organisation to take a positive step forward, and safety management systems can be implemented to assist in this process.

Examples can be found in high hazard industries of promotion for a safe and mature culture. Leading and lagging indicators are often used not only to identify trends in incidents that have occurred, but to try and identify areas for concern before any incidents have occurred. Some of the larger organisations in the waste and resource management industry are starting to implement more proactive approaches and the ESA Accident Reduction Charter promotes a commitment to improving health and safety performance including an elimination of fatalities by the end of 2007. In order to encourage smaller organisations to become more proactive increased guidance and assistance is required with potential for development of low cost implementation methods.

Impact	Low
Cost	Low

Refer to Table 6.1, Action 9.

5.8 Raise Awareness for Competency (vs. Training)

One of the survey target areas was to determine how organisations dealt with the issue of training, and how and when an employee was deemed to be competent. Recently, training has been viewed as a key issue to improving health and safety, and this has resulted in organisations spending considerable amounts of money in ensuring the courses are available and their employees are trained.

It is mainly within the larger organisations, however, that there is a realisation of a gap between training and competency. As a result, initiatives such as peer to peer mentoring have been introduced. Many organisations refer to 'on the job training', however this is, more often than not, a reliance placed on a team to correct an individual when they are doing something inappropriate when the team itself has not had any guidance on how to do this. There is also a concern that bad habits can be passed on thus continuing a chain of bad practice. Peer-to-peer mentoring and on the job training can be effective and represent a useful method of assessing competency, however it needs to be managed and implemented effectively ensuring pitfalls are avoided (e.g. unsafe practices being passed on from one individual to another).



Training can be a considerable expense that smaller organisations find prohibitive, often resulting in these organisations searching for simpler methods such as asking employees to watch videos / DVDs and using interactive computer programmes instead of attending a course. While this sort of method has its place and can effectively communicate a message using minimum resource, awareness should be raised that this should not be the sum total of all training and training is not something where a box can be ticked and forgotten. Methods for assessing competency should be in place and organisations should work to continually improve capability. Providing guidance and raising awareness will help to tackle this issue.

Impact	Low
Cost	Low

Refer to Table 6.1, Action 10

5.9 Comprehension (Communications)

A proportion of the workforce within the waste and resource management industry is made up of individuals who may struggle with communications, particularly written language. This presents a barrier in many circumstances, however it should be made clear that comprehension is the key, and not necessarily the ability to read and write, as long as the individual understands the necessary parts of the job particularly where emergency response is required.

Reliance on text can often be cumbersome and slow to absorb, even for those with good literacy skills. Support materials e.g. warning signs and procedures should be clear and intuitive and utilise photos and diagrams to help get the message across. Involving the workforce, in particular those that may struggle with understanding written text, in the development of these will also help to ensure comprehension and that they are clear and appropriate. Guidance should be provided on how to develop clear, easy to understand documents, signs, procedures etc. This will include how different symbols, colours or the way process diagrams may be intuitively read (left to right or right to left) may be perceived by employees from different countries and cultures.

One organisation highlighted that they encouraged their employees to get involved in external courses such as those with Learn Direct. It may be worth considering developing a relationship with other equivalent educational bodies to encourage self-development, and whether the waste and resource management industry can help to fund this type of course.

Impact	Low
Cost	Low

Refer to Table 6.1, Actions 11 and 12.



5.10 Agency Workers

In collection services it was noted that there can be a high reliance on Agency workers. This in turn can lead to a number of issues including tension with core staff, as they do not know the routine and are perceived to slow activities down, and may have insufficient health and safety training.

One of the participants of the telephone interviews proposed the use of a Minimum Training Standards scheme to be undertaken among local organisations to ensure that Agency workers had undertaken an agreed level of training in health and safety. It was perceived that this type of scheme not only helps to save time and duplicated effort on behalf of the organisation, but also shows a degree of commitment on behalf of the Agency worker. This type of scheme has been successful in other industries that utilise a lot of temporary or agency workers such as the construction area, and the merits should be investigated further to whether the scheme can be rolled out nationally. Increased procurement of services 'jointly' may make such a scheme easier to implement and manage.

Impact	Low
Cost	Low / Medium

Refer to Table 6.1, Action 19.

5.11 Alternatives to Task and Finish

The practice of 'Task and Finish' has long been identified as a detrimental factor in health and safety, encouraging employees to take short cuts at the expense of wellbeing. While many argue that there is little quantifiable evidence for this, the available anecdotal evidence is substantial. This practice tends to be prevalent in local authority household waste collections, and while many of the survey respondents would like to abolish the practice, almost all recognised that they would face strong opposition via the workforce and Unions. Alternative methods were identified in the survey as possible ways to tackle this issue; however each has their own benefits and negative aspects and should be considered in more detail, providing guidance to those that continue to practice Task and Finish.

Table 5.1 Example Issues to Consider for Alternative Options in Task and Finish Schemes

Method	Pros	Cons
Group task and finish (all rounds must be completed before anyone can leave; if team returns to depot early they will be sent out to assist another team)	Ensures no bias in loading of teams. If a team finishes early there is additional work to do.	Open to manipulation by teams. Relies on disincentive to hurry rather than to take more care. Can make it more difficult to quantify collection performance by round/crew.
Shared tasks at depot	Ensures all employees return to central point and removes attitude of 'once the collection is finished, it's time to leave'.	Adds more to the workload and does not necessarily lead to employees taking more care.
Mandatory stop at incident until supervisor arrives to investigate	Will encourage a more cautious, careful approach to rounds.	Incidents may not be reported / covered up by teams.



Impact	Medium (high if Task and Finish were to be abolished)
Cost	Low (but potentially high if Task and Finish were to be abolished; depends on productivity impact and how this is managed)

Refer to Table 6.1, Action 13

Any action in this area would need to build on emerging guidance from HSE / WISH on managing safety in a task and finish environment.

5.12 Management of Change

The waste management industry is rapidly changing, not only in the way it is managed but also in terms of the technology and hence the risks that are presented. As these changes are undertaken there is a need for organisations to recognise and take on the associated responsibilities.

Risk assessment proves an effective tool in determining the hazards associated with a new process or new piece of equipment. It is essential this is carried out so that management can make sufficient allowances for the activities and employees are aware of new responsibilities and requirements. Throughout the survey the most prominent issue related to risk assessments are that they are viewed as a ‘black art’ desk based job and only to be used by those who have had significant amounts of training. A risk assessment is such a fundamental tool that the industry would benefit in developing a user friendly, simple technique that would allow people to engage in the task. Utilising the workforce would help to adjust people’s perception of risks (particularly for new equipment as is prevalent in the move towards automation) and understand why rules and procedures are in place.

Impact	Low
Cost	Low

Refer to Table 6.1, Actions 16 and 17.

5.13 Increase Engagement with Smaller Operators

As demonstrated by the survey methodology conducted in this Scoping Study, it can be particularly difficult to engage the smaller organisations in industry wide consultation and initiatives. This is not an issue that is restricted to the waste and resource management industry and in recent years the Environment Agency have been attempting to tackle this issue, as it experiences similar problems in relation to regulating and engaging with smaller organisations.

Stakeholder engagement identified that some of the smaller organisations may find the costs and administrative burden of joining professional / industry bodies a barrier to becoming involved in the industry in a wider context. While these industry bodies no doubt provide many benefits to their members; ensuring the information, opportunity for involvement and solutions are available to the industry as a whole will help to involve those who would usually continue in their own way.



In order to engage those organisations that believe health and safety issues are not as important as more commercially orientated issues, it may be necessary to instil responsibility in those that are procuring the services of smaller organisations (whether that is by larger waste organisations or others). By making health and safety a commercial factor (e.g. through setting of minimum health and safety standards or compliance scheme accreditation within contract terms) it will demand attention, over and above the level required by law.

Larger organisations can also become involved in distributing advice and support to smaller organisations via their existing working relationships and this would have mutual benefits. Peer-to-peer advice can be the strongest form of communication and influence. Advice and support could be provided to larger organisations to demonstrate how networks or cluster support groups can be initiated within the supply chain.

Impact	Low
Cost	Medium

Refer to Table 6.1, Action 18.



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6. Action Plan

The objectives of the Health and Safety Initiative going forward are to:

- Raise health and safety awareness across the sector;
- Promote debate on health and safety management improvements (good practice) in organisations;
- Question what is in place within individual organisations;
- Identify gaps;
- Promote individual and organisational responsibility;
- Challenge understanding and awareness of individuals and their responsibility;
- Change behaviour;
- Improve health and safety performance.

6.1 The Prioritised Plan

The Action Plan (Table 6.1) identifies potential mechanisms to support the delivery of the study recommendations and to help achieve the objectives of the Initiative. The list is prioritised with the initial actions deemed to have the largest impact. The lower priority actions are considered to have less overall, but nevertheless important, impacts. Lower priority actions may be considered as ‘quick wins’ where the level of input and organisation to complete the action is less and therefore will be quicker to implement, but the underlying issues (i.e. the higher priority actions) will still remain.

The first priority, in order to achieve any of the actions identified, is to establish a Management Group to guide and govern the activities that proceed.

The plan identifies a potential action holder for each of the prioritised actions, based upon their existing remit and expertise. It is intended that this action holder would be responsible for leading the proposed initiative (perhaps in association with other organisations and individuals); however, it is recognised that the organisation may not be responsible for the associated funding of the initiative. All actions will be progressed under the direction of the Management Group.

6.2 Establish a Management Group

The CIWM occupies a unique position within the waste and resource management industry. As a Chartered Professional Body with over 7,000 members it is able to influence policy, set standards, engage with stakeholders and therefore act as an architect for change across the waste sector. Recent challenges in the waste and resource management industry, ranging from provision of PFI contracts through to environmental and quality control



changes, have required a huge industry wide effort and the CIWM has played a key role in collecting and channelling this. Through the provision of a Management Group, the CIWM could energise a debate in health and safety and respond to the findings of this, and other reports. It could also act in a co-ordinating manner alongside other relevant professional bodies (e.g. IOSH) and trade associations regarding funding of future research, and delivery of the Initiative.

It may be that the terms of reference of the existing WISH forum could be expanded to take the role of the Management Group more fully, or that the CIWM could take a role in helping to input to the future work of WISH (and in the review / dissemination of outputs) in order to deliver the required outcomes.

The Management Group could act to ensure that health and safety improvements work alongside existing work practices, and, where applicable, operate to endorse a particular training package or procedural improvement process. It may be that a 'Responsible Care' type initiative with minimum standards to maintain membership and maintaining membership a supply chain requirement could be worthy of further investigation.

The CIWM would, of course, be better able to choose the form and remit of any health and safety interest group; the purpose of this recommendation is to highlight the potentially key role the CIWM could play in the rapidly evolving health and safety sector.



6.3 Plan

Table 6.1 Action Plan

Priority	Action	Type of Action	Impact Level	Indicative Budget	Potential Action Holder(s)	Comments
1	Establish a Management Group	Ongoing	High	Low	CIWM (see comments)	As a result of this report, CIWM should be tasked with acting on the results in one way or another and ensuring a Management Group is organised to take plans forward.
2	Raise awareness of the behavioural / human factors aspects of safety and how this is integral to making hardware / software aspects work effectively.	Campaign	High	Low	Behavioural safety specialist(s) Professional bodies / trade associations and sector networks (e.g. CIWM / ESA / Local Government Association (LGA) that can effectively communicate to a large proportion of the industry.	Raising awareness should lead to organisations taking responsibility for their own behavioural safety programmes across the board (i.e. aimed at managers through to operators). Behavioural safety programmes can be complex and are likely to need the input of external specialists which is likely to require a larger budget.
3	Develop a behavioural safety awareness course (with the intention of providing small – medium sized organisations to opportunity to learn about this).	Development of Course Course Provision	High	High (Medium if shared by a number of participating organisations)	Behavioural safety specialist(s) Professional body equipped to provide training courses (e.g. CIWM)	Multiple courses may be developed to suit all levels within organisations, i.e. from managers / executives through to operators.
4	Bring together a group (or utilise an existing group) to develop waste specific hardware needs.	Ongoing	Medium	Low	A forum which utilises a range of representatives from the waste industry (e.g. WISH)	WRAP is currently undertaking a vehicle design project. Consider the extension of this, or utilising learning points in this project to guide a new group.



Priority	Action	Type of Action	Impact Level	Indicative Budget	Potential Action Holder(s)	Comments
5	Raise awareness of benefits of getting workforce involved and mechanisms for doing this (guidance / case studies?)	Campaign Guidance	Medium	Low	Professional bodies and trade associations (e.g. CIWM / ESA / Community Recycling Network) and WISH	Professional bodies can communicate with a large proportion of the industry through their members. The HSE and WISH are currently experienced at producing guidance and illustrations of best practice to help organisations manage risks. Guidance should consider using case studies from organisations using best practice methods.
6	Develop a knowledge exchange web-based tool. Different elements should be considered and developed:	Ongoing	Medium	Medium	Joint CIWM / HSE Initiative (with possible third party host)	Issues of anti-competitive behaviour should be considered. The initial set up of this Action is likely to be the main cost. Maintenance of the site, ensuring content is relevant, appropriate and to a suitable quality will be required to ensure organisations 'trust' the content and will be more encouraged to contribute to the content. A question remains over who might be suitable to host such a forum, and how it could be supported and maintained. The comments below help to identify what type of maintenance support is required:
6a	Reporting / learning				Representatives of Industry	Editor(s) that is suitable and competent to ensure quality of entries.
6b	News Feed				Joint CIWM / HSE Initiative (with possible third party host)	
6c	Discussion Forum				Representatives of Industry	Moderators to monitor the content of discussions and promote topic areas for debate.
6d	Review of hardware / products				Representatives of Industry	Moderators to monitor the content and relevance of reviews.
7	Explore / discuss the role of LA's and other funding organisations e.g. WRAP, in specifying health and safety requirements in contracts, and if further work should be done to include health and safety requirements in the standardisation of contracts.	Stakeholder engagement	Low / Medium	Medium	Local Government Association, Regional Centres of Excellence, CIWM, ESA	This should consider giving strong motivation for monitoring health and safety e.g. setting leading KPIs on monitoring, managing and reviewing health and safety – not just accident reports.



Priority	Action	Type of Action	Impact Level	Indicative Budget	Potential Action Holder(s)	Comments
8	Raise awareness of financial benefits of health and safety	Campaign	Low	Low	Professional bodies (e.g. CIWM / ESA) that can effectively communicate to a large proportion of the industry.	The HSE already provided information regarding the financial incentives to good health and safety performance. Professional bodies can utilise this and ensure their members are aware of it.
9	Provide guidance on proactive planning.	Guidance	Low	Low	HSE / WISH	The HSE and WISH are currently experienced at producing guidance and illustrations of best practice to help organisations manage risks. Guidance should consider using case studies from organisations using best practice methods. Guidance should be peer reviewed by a wide representation of the sector, and formally signed off by the Management Group
10	Raise awareness / develop guidance for assessing competency (trained ≠ competent).	Campaign Guidance	Low	Low	WISH	The HSE and WISH are currently experienced at producing guidance and illustrations of best practice to help organisations manage risks. Guidance should consider using case studies from organisations using best practice methods. Guidance should be peer reviewed by a wide representation of the sector, and formally signed off by the Management Group
11	Raise awareness that comprehension is key (not necessarily literacy skills) and provide guidance on developing easy to understand documents / signs etc, e.g. procedures with photos / diagrams.	Campaign Guidance	Low	Low	Professional bodies (e.g. CIWM / ESA) and WISH	Professional bodies can communicate with a large proportion of the industry through their members. The HSE and WISH are currently experienced at producing guidance and illustrations of best practice to help organisations manage risks. Guidance should consider using case studies from organisations using best practice methods. Guidance should be peer reviewed by a wide representation of the sector, and formally signed off by the Management Group
12	Explore suitable partnerships or develop a list of recommended courses / sources for external courses to increase literacy, e.g. with Learn Direct.	Partnerships Guidance	Low	Low	Training organisations and partnerships (e.g. Waste Management Industry Training Advisory Board, LGA, CIWM, Community Recycling Network	



Priority	Action	Type of Action	Impact Level	Indicative Budget	Potential Action Holder(s)	Comments
13	Raise awareness that just because you may not be able to abolish task and finish, there are other possible options. Provide guidance on options and discuss potential pitfalls.	Campaign Guidance	Low	Low	HSE / WISH	The HSE and WISH are currently experienced at producing guidance and illustrations of best practice to help organisations manage risks.
14	Explore / develop partnerships with insurance companies to investigate the potential to provide e.g. capital for training, guidance for Safety Management Systems etc.	Partnerships	Low	Low	WISH	Include in discussion the potential for negotiating discounts for good performance on leading KPIs e.g. training, competence assurance, audits. WISH exists to communicate and consult with key stakeholders, including local and national government bodies, equipment manufacturers, trade associations, professional associations and trades unions.
15	Raise awareness that health and safety is EVERYONE'S responsibility.	Campaign	Low	Low	Professional bodies (e.g. CIWM / ESA) that can effectively communicate to a large proportion of the industry.	A mechanism to help deliver this step change in awareness could be the development of a bank of materials under a common brand that can be used locally by organisations / individuals. This might follow a similar model to 'Recycle Now'.
16	Develop a user friendly, simple method for risk assessment that allows the majority of the workforce to be involved in the process.	Guidance	Low	Low	HSE	Work is already ongoing addressing risk assessments in particular applications, e.g. route risk assessments. The pending collections risk tool to be launched by the HSE will add to this body of knowledge. This action explores the need for a simple methodology that can be used to engage operations staff, aiding their understanding of the risk assessment process and the outputs, ensuring that their (critical) inputs are effectively captured.
17	Raise awareness of the importance of managing changes, and how to go about this.	Campaign	Low	Low	HSE / WISH	The HSE and WISH are currently experienced at producing guidance and illustrations of best practice to help organisations manage risks.
18	Explore the routes for communicating and encouraging involvement of small organisations.	Campaign Partnerships	Low	Medium	ESA / CIWM	The engagement of smaller organisations was identified as a key issue in this study. This initiative would focus on exploring the possibility of improving engagement through a network/peer-led approach. This would involve working with some of the sector leaders to explore whether they could support the active engagement of smaller organisations through their existing business/supply chain relationships, or by establishing a supporting network.



Priority	Action	Type of Action	Impact Level	Indicative Budget	Potential Action Holder(s)	Comments
19	Explore viability of a Minimum Training Standards scheme for agency workers	Exploration and Guidance	Low	Medium	HSE / CIWM / ESA / Industry	Investigation should be conducted into the viability of this scheme for the waste and resource management industry based on: implementation in other industries, initial schemes that have been set up around the country, agency managers, and the requirements of the waste and resource management industry. This might evolve in to a Passport scheme similar to that adopted in the construction sector in the future, should the industry evolve to a position where there is significant migration of workers between sites and employer organisations.

Campaigns: Campaigns should be planned carefully so that the industry is not bombarded with a lot of information that can not be processed and put to use. It was noted in one of the telephone interviews that it was felt campaigns were often disjointed where a large amount of advertising and awareness raising was given initially, followed by a period where no feedback or additional information was given. Campaigns of this nature can lead to a level of distrust within the industry, and make it difficult to keep on top of new issues that are developing. Feedback is an important feature of campaigns, with periodic reiteration of the message by providing additional information, e.g. guidance material.



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Appendix A Literature Log



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Appendix A

1. Metal recycling / Motor vehicle dismantling

Source	Title	Scope	Outputs	Website
HSE / ELV (End-of-Life Vehicle Industry) (Guidance)	The safe recovery of petrol from end-of-life vehicles	<p>Contains general advice for vehicle dismantlers that, if followed, will mean that you are normally doing enough to comply with the relevant health and safety legislation.</p> <p>Will help in assessment of the risks arising from handling and storing petrol</p> <p>and it also gives advice on how to control those risks.</p>		http://www.hse.gov.uk/pubns/web/recyclingpetrol.pdf
HSE / WISH (Guidance)	Orphaned compressed gas cylinders in the waste and recycling industries (WEB12)	<p>Information on how to deal with unwanted or unidentifiable compressed gas cylinders ('orphaned' cylinders) that appear in the waste stream.</p> <p>Particularly relevant to the metals recycling industry and civic amenity sites.</p>		http://www.hse.gov.uk/pubns/web/12.pdf
HSE Guidance	Lead and You: A Guide to Working Safely with Lead (INDG305)	Brief leaflet-based guidance informing about health problems that can occur if you absorb too much lead; what your employer should do to protect your health; and precautions you should take.	Does not cover lead alkyls and lead naphthenate.	http://www.hse.gov.uk/pubns/indg/305.pdf
HSE Guidance	Is it explosive? dangers of explosives in	A leaflet for people who handle or process metals intended for recycling and which may contain explosive products. It provides information to	Advice including procedures for the assurance from supplier that no explosives are included, and how to	http://www.hse.gov.uk/pubns/indg/335.pdf

Source	Title	Scope	Outputs	Website
	metal recycling.	help identify if explosives are still present and how to keep the risks of an explosion and injuries to a minimum.	recognise suspicious materials.	
HSE (poster)	Is it explosive? dangers of explosives in metal recycling (poster)	Poster summarising the HSE Guidance of the same name, including simple "DO" and "DON'T" information.		http://www.hse.gov.uk/pubns/indg335p.pdf
HSE (Leaflet Guidance) INDG 387	LPG-fuelled motor vehicles	A leaflet about the main health and safety risks associated with work on vehicles fuelled by liquefied petroleum gas (LPG) and the precautions that should be taken.	The leaflet does not cover repair work on the LPG fuel system itself, nor does it cover vehicles fuelled with compressed natural gas (CNG).	http://www.hse.gov.uk/pubns/indg387.pdf
HSE (poster) INDG 387p	LPG-fuelled motor vehicles	Poster summarising the HSE Guidance of the same name, including simple "DO" and "DON'T" information.		http://www.hse.gov.uk/pubns/indg387poster.pdf
HSE (INDG 277)	How to reduce exposure to dioxins in aluminium recycling	Leaflet guidance regarding the risks of exposure to dioxins (e.g. in recycling aluminium, copper, zinc).	Gives a basic overview of the legal requirements, exposure routes and how to protect yourself.	http://www.hse.gov.uk/pubns/indg377.pdf
HSE (Web based guidance)	A guide to the handling and storage of airbags and seat belt pretensioners at garages and motor vehicle repair workshops	General information on how to handle and store airbags and seat belt pretensioners, (aimed at garages and workshops which only handle and store limited numbers, ie up to three or four, at any one time.		http://www.hse.gov.uk/pubns/indg280.htm
HSE (Leaflet Guidance) INDG	Safe use of petrol in garages	Basic guidance on recovering petrol from vehicles and storage of the fuel.	Includes a simple list of "DO" and "DON'T" information.	http://www.hse.gov.uk/pubns/indg331.pdf

Source	Title	Scope	Outputs	Website
331				
HSE (Leaflet Guidance) INDG 349	Safe working with vehicle air-conditioning systems. The Does and Don'ts.	Leaflet about the main health and safety risks associated with work on air-conditioning systems in motor vehicles containing refrigerant chemicals R12 ('Freon') or R134a ('Tetrafluoroethane'). Includes information on how workers can be harmed, and the precautions that should be taken.	Includes information about the dangers and precautions, and a simple list of "DO" and "DON'T" information.	http://www.hse.gov.uk/pubns/indg349.pdf
HSE (Engineering Information Sheet No.1)	Hot work on vehicle wheels	Draws attention to a risk of serious or fatal injury if hot work is done on vehicle wheels to which tyres are still fitted.	Short guidance, including list of further reading.	http://www.hse.gov.uk/pubns/eis1.pdf
HSE (INDG 139)	Using electric storage batteries safely	Advice on how to use rechargeable batteries safely.	Information regarding the types of batteries and the risks that they pose, including advice on how to carry out basic tasks. Includes a list of further reading.	http://www.hse.gov.uk/pubns/indg139.pdf
HSE (Leaflet Guidance) INDG 351	Working with Nickel - are you at risk?	Informs of the possible health problems you could develop if you work with nickel and its compounds, what the employer has to do and the precautions employees should take.		http://www.hse.gov.uk/pubns/indg351.pdf
LPGA Website		The LPGA website contains guidance on work with liquefied petroleum fuelled vehicles (autogas).		http://www.lpga.co.uk/LPGA.htm

2. Machinery

Source	Title	Scope	Outputs	Website
HSE	Safe Use of Skip Loaders	Advice for operators. Outlines the dangers associated and also details daily checks to ensure safe working	Aim of raising awareness of safety issues and consequently reducing accidents.	http://www.esauk.org/members/health/skip_loaders.pdf
HSE	Safe Operation of Mobile Crushers	Guidance Document detailing safe use, maintenance and unblocking of crushers on sites.	There are a number of serious hazards associated with this piece of machinery, guidance procedures should be adhered to at all times.	
HSE	Safe Operation and Use of Mobile Jaw Crushers guidance	Based on the quarrying industry: Guidance for all those with responsibilities for the operation of mobile crushers, including contract managers, supervisory staff and operators of these machines. It covers the safe operation of the mobile crushing operation and includes guidance on clearing blocked crushers.	Not comprehensive - it does not attempt to detail individual machinery safety concerns, but will only highlight those key matters of concern.	http://www.hse.gov.uk/quarries/crushing.htm
HSE / WISH (Guidance) - DRAFT	Safe operation of Packer units (Compactors and balers) at Retail premises			
HSE / WISH (Guidance)	Compaction equipment: User and public safety	Guidance for site managers, supervisors and operators and at premises where balers/compactors (packer units) are used to process materials from a number of different sources. It is also relevant to hirers and leasers of this equipment.	This document focuses on public safety and risks to operators.	http://www.hse.gov.uk/pubns/waste08.pdf
HSE Guidance	Supplying new machinery	Explains the main health and safety requirements of the law regarding	Written primarily for the benefit of importers, agent or others who are	http://www.hse.gov.uk/pubns/indg

Source	Title	Scope	Outputs	Website
	(INDG270)	supplying new machinery, and what you can do in practice to meet them. Includes: <ul style="list-style-type: none"> - requirements of the law - what the manufacturer has to do - what the supplier has to do in practice - further information 	supplying machinery for use at work which is manufactured by someone else.	270.htm
HSE Guidance	Buying new machinery (INDG271)	A short guide to the law and some information on what to do for anyone buying new machinery for use at work. Includes: <ul style="list-style-type: none"> - the law; - practical matters - what to do; - checklists - to use when talking to suppliers and when buying new machinery; and, for those who need it, - more information 	Explains the main requirements when you are buying new machinery.	http://www.hse.gov.uk/pubns/indg271.htm
HSE Guidance	Simple Guide to the Provision and Use of Work Equipment Regulations 1999 (INDG291)	Guidance on legal requirements of the PUWER, 1999. Gives a general indication of some of the main requirements of the Regulations.		http://www.hse.gov.uk/pubns/indg291.pdf
HSE Guidance	Do You Use a Steam / Water Pressure Cleaner?	A brief leaflet on the potential hazards presented by steam / water pressure cleaners.		http://www.hse.gov.uk/pubns/indg68.pdf

Source	Title	Scope	Outputs	Website
	(INDG68)			
HSE	Recover paper safely (Guidance for the recovered paper industry) INDG392.	<p>Includes areas of information and guidance regarding:</p> <ul style="list-style-type: none"> - Loading, uploading and tipping operations, - Skips and containers - Maintaining vehicles - Sheeting and unsheeting - Collections and deliveries - Sorting recovered paper - Hand-held saws - Balers - Compactors - Training and supervision. <p>Aimed at managers and operators working in the recovered paper industry, this identifies the main health and safety standards needed to achieve acceptable and safe working procedures.</p>		http://www.hse.gov.uk/pubns/indg392.pdf
HSE (Information Document: OC234/16)	Guidance on the Safe Use of Magnetic lifting devices	Provides advice to users and suppliers of magnetic lifting devices on reducing the risk of both injury to operators and other persons, and of damage to plant and equipment. It describes the hazards involved and some of the precautions that need to be considered when planning and carrying out handling activities using magnetic lifting devices.	Principal hazard of use is falling objects, also of concern is the electromagnetic field. Gives a description of the legal requirements and carrying out a risk assessment. Covers issues such as: properties of load materials; load weight, thickness, shape and area in contact with magnet; stiffness or flexibility of the load; range of sizes to be lifted and frequency of operations; surface conditions of magnet and load; and temperature of magnet and load. Also discusses safety precautions including safe working practices.	http://www.hse.gov.uk/fod/infodocs/234_16ID.pdf

Source	Title	Scope	Outputs	Website
HSE (INDG 229)	Using work equipment safely	Gives simple, practical advice on what to do to eliminate or reduce the risks from work equipment.		http://www.hse.gov.uk/pubns/indg229.pdf
HSE (INDG 316)	Procedures for daily inspection and testing of mechanical power presses and press brakes.	Guidance on the minimum safety checks that should be carried out on mechanical power presses and press brakes by the appointed person, as required by regulation 33 of the Provision and Use of Work Equipment Regulations 1998.	Does not include hydraulic presses or those presses exempted from the requirements of regulation 33 as detailed in Schedule 2 in PUWER 1998.	http://www.hse.gov.uk/pubns/puwerind.htm
HSE (INDG 375)	Power presses : a summary of guidance on maintenance and thorough examination	Summarises what users of power presses and anyone who installs and maintains them has to do to meet their duties under PUWER 98. It also introduces new guidance on power press maintenance and provides information on some important additions to the items that are now to be included in the thorough examination and test of a power press.		http://www.hse.gov.uk/pubns/indg375.pdf
HSE (Information Sheet MISC156)	Hiring and leasing out of plant (application of PUWER 98, Regulations 26 and 27)	Describes a practical approach for those employers who hire, rent, lease or lend mobile work equipment to help them meet their new legal obligations under PUWER 1998. Focus is on Regulation 26 and 27.	Regulations 26 and 27 focus on risk of rollover and risk of fork lift trucks overturning (respectively). Focus is on Action Plans: an agreement to identify the mobile work equipment that needs to be modified or adapted to comply with the new requirements of the regulations ensuring that the new requirements are met within an acceptable timescale.	http://www.hse.gov.uk/pubns/9204.pdf

3. Transport

Literature Reviewed

Source	Title	Scope	Outputs	Website
Resource Management and Recovery	Reversal assistants called for within collection crews	Need for crews to assist reversing vehicles to reduce the risk to the public and their property.	Guidance for waste collection vehicles – 'Waste and Recycling Vehicles in Street Collections'	
HSE / WISH (Guidance)	Waste and Recycling Vehicle in street collection	Best Practice document for managers, supervisors and workers. Specific reference to vehicle issues, activities in public access areas.	Guidance on procedures to be taken to reduce risks.	http://www.hse.gov.uk/pubns/web14.pdf
Worksafe Australia	Waste collection - Reducing the risks of reversing vehicles	Provides specific guidance on measures that can be put in place to reduce the likelihood of injury or death to pedestrians or employees.		http://www.worksafe.vic.gov.au/wps/wcm/connect/WorkSafe/Home/Forms+and+Publications/Alerts/import+Waste+collection+-+Reducing+the+risks+of+reversing+vehicles
HSE	Safe Transport in Waste Management and recycling facilities	Guidance document detailing safe procedures on site including organising traffic safely on site, pre-entry issues, safe site, safe vehicles, safe working, safe workers,		http://www.hse.gov.uk/pubns/web/wastetransport.pdf
Worksafe Australia	Transport of Waste and Recyclables – Prevention of falls	The guidance document covers suitable load planning for skip loaders, advice on cab safety and other issues associated with the loading, unloading and movement of waste containers.	The documents sets out best practice for reducing accidents due to slips trips and falls in the transporting of waste.	http://www.worksafe.vic.gov.au/wps/wcm/resources/file/ebd0fd435e9d60e/falls_prevention_waste_transport_vwa.pdf
Resource Management & Recovery (June	Practical touch for transport safety	An article regarding current thinking and discussions on the importance of managing the risks associated with	Suggestion by Kettering Borough Council to:	

Source	Title	Scope	Outputs	Website
2006)		vehicles.	<p>Identify all areas where drivers reverse regularly</p> <p>Eliminate reversing manoeuvres where possible</p> <p>Reduce reversing distances where possible</p> <p>Use appropriate vehicles</p> <p>Plan collection times to reduce the risk where possible.</p>	
A non HSE publication produced by the Northamptonshire Local Authority Safety Group	Management of Refuse Driving Operations			
HSE / WISH (Guidance)	Safe transport in waste management and recycling facilities	Covers most types of waste management facility, such as landfill sites, recycling plants and transfer stations. It can be used as a basis for advice about transport risks and solutions at other types of undertaking (e.g. civic amenity sites), although the special considerations to be applied to these sites are outside the scope of this guidance.		http://www.hse.gov.uk/pubns/waste09.pdf
HSE / WISH (Guidance)	Waste and Recycling Vehicles in Street Collection (WEB14)	<p>Aims to help remove or reduce the risk of injury caused by waste/recycling collection vehicles operating in the street.</p> <p>Deliberately restricted to: vehicle</p>		http://www.hse.gov.uk/pubns/web14.pdf

Source	Title	Scope	Outputs	Website
		issues (but comments on other issues); and activities in public access areas (e.g. street collection, car parks).		
HSE / WISH (Guidance)	The safe use of refuse collection vehicle hoists and bins (WEB17)	Written for users, manufacturers and suppliers of vehicle hoists and wheeled bins, for the collection of domestic and trade waste. Gives examples of risks of injury to workers and members of the public, and indicates some protective measures and safe operating procedures that can be used to minimise these risks. Some short-term solutions to reduce risks from existing incompatibilities are included in this guidance.		http://www.hse.gov.uk/pubns/web17.pdf
HSE / WISH (Guidance)	Skip and container safety in waste management and recycling (WEB16)	Notes on good practice for those who work with skips and containers used with skip loader and hook loader vehicles in the following ways: design/manufacture; buying; use; and maintenance.		http://www.hse.gov.uk/pubns/web16.pdf
HSE / WISH (Guidance) - DRAFT	Principles of single side collection			
HSE (web guidance)	Sheeting tipper lorries	Web based guidance regarding the issues and the law. Provides suggested solutions and general points to consider.	The overall advice is that wherever possible, the need for people to climb on top of vehicles should be avoided. Gives further references to additional reading.	http://www.hse.gov.uk/workplacetransport/information/sheeting.htm

Source	Title	Scope	Outputs	Website
HSE / WISH (Guidance)	Skip and container safety in waste management and recycling facilities	Contains notes on good practice which may be helpful when considering what you need to do. Written for those who work with skips and containers used with skip loader and hook loader vehicles in the following ways: design/manufacture; buying; use; and maintenance.		http://www.hse.gov.uk/pubns/web16.pdf
HSE (INDG 378)	Safe Use of Skip Loaders	(ABSTRACT ONLY) Pocket card for skip loader operators. RIDDOR statistics indicate that there is a lack of competence in safe practices and there is no other specific guidance available. Key target audience is the waste industry, where there is an estimated 20,000 vehicles. Research has been commissioned, but following 5 fatal accidents in the past 12 months, it was felt there is an immediate need for some simple operator guidance.		
HSE (INDG 199)	Workplace Transport Safety – An Overview	Guidance to help people involved in transport in the workplace reduces the chances of accidents happening. Aimed at both managers and operators and identifies some of the safety problems for common vehicle operations.	Includes information regarding: risk assessment; organising; sites; vehicles; management of risks; and detailed guidance about various other specific areas.	http://www.hse.gov.uk/pubns/indg382.pdf
HSE (INDG 382)	Driving at work: Managing work-related road safety	Aimed at any employer, manager or supervisor with staff who drive, or ride a motorcycle or bicycle at work, and in particular those with responsibility for fleet management. This guidance	Covers people whose main job is driving, and those who drive or ride occasionally or for short distances. This is largely in reference to 'ordinary' vehicles rather than specialist machinery; however, the	http://www.hse.gov.uk/pubns/indg382.pdf

Source	Title	Scope	Outputs	Website
		suggests ways to manage the risk to drivers' health and safety.	guidelines still apply.	
HSE / WISH (Guidance)	Safe transport in waste management and recycling facilities	Covers guidance for most types of waste management facility, such as landfill sites, recycling plants and transfer stations. The special considerations to be applied to sites such as civic amenity sites are outside the scope of this guidance.	Focused on the waste management industry, includes information regarding risk assessment, sites, vehicles and management, specifically orientated around waste management.	http://www.hse.gov.uk/pubns/waste09.pdf
HSE (INDG 242)	Control back-pain risks from whole-body vibration (Advice for employers on the Control of Vibration at Work Regulations 2005)	Leaflet guidance to help manage the risk of back pain in employees and what needs to be done to comply with the Control of Vibration at Work Regulations 2005.	Targets mainly non- road going vehicles. Identifies who may be at risk, the legal duties, and the practicalities of assessment and management. Gives a list of further reading around the subject.	http://www.hse.gov.uk/pubns/indg242.pdf
HSE Research Report RR018 (Entec UK)	Management of Work Related Road Safety	The main aims of the study were to: establish the contribution of individual factors to driving behaviour and the implications for managing work-related road safety; establish the extent to which road safety is considered a health and safety issue in Scottish workplaces; and identify and document good practice case studies of occupational road safety policy and procedures.	A model of good practice road safety risk management is presented in order to assist in motivating employers and providing guidance on action required. The model and the case studies should be equally useful for SMEs and large organisations, both of whom report that the main barrier to taking action is the time taken to develop and implement procedures.	http://www.hse.gov.uk/research/rrpdf/rr018.pdf
HSE Research Report RR020 (Entec UK)	The contribution of individual factors to driving behaviour (Implications for managing work-related road	Literature review aiming to investigate, by reviewing existing literature, the contribution of individual factors as causes of road traffic incidents; and discuss the implications of the findings for work-related road safety policies and procedures.	The findings of the literature review outline a number of conclusions that have significant implications for road safety policies and procedures. Recruitment procedures may include: personality profiling, pre-employment medical screening, and licence checks.	http://www.hse.gov.uk/research/rrpdf/rr020.pdf

Source	Title	Scope	Outputs	Website
	safety)			

4. Waste Collection

Source	Title	Scope	Outputs	Website
CIWM	Hazardous Waste	All hazardous Waste transporters are specifically trained, having specialist health and safety training, ADR Driver Training and they now need security training due to the increased threat from terrorism		
HSE / WISH (Guidance)	Operating Civic Amenity Sites Safely	Contains notes on good practice which may be helpful in considering what needs to be done. It is aimed at managers, supervisors and operators of civic amenity sites and explains how to remove or reduce some of the key health and safety risks associated with designing and operating a civic amenity site. Contains information regarding: <ul style="list-style-type: none"> - Risk assessments - Transport - Falls from height - Slips and trips - Manual handling - Good skip / container practice - Machine guarding - Staff 	Is not comprehensive, e.g. hazardous waste handling is specifically excluded.	http://www.hse.gov.uk/pubns/web05.pdf
HSE / WISH (Guidance)	The safe use of refuse collection vehicle hoists and bins.	It is written for users, manufacturers and suppliers of vehicle hoists and wheeled bins, for the collection of domestic and trade waste. It gives examples of risks of injury to workers and members of the public, and indicates some protective measures and safe operating procedures that can be used to minimise these risks. Some short-	Not comprehensive, but contains notes on good practice. The industry continues to address incompatibilities of design and manufacture between bins, hoists and the ways in which both are used. Future, longer term solutions (e.g. changes to design and manufacturing standards) are planned to be added to this guidance as they become available.	http://www.hse.gov.uk/pubns/web17.pdf

Source	Title	Scope	Outputs	Website
		term solutions to reduce risks from existing incompatibilities are included in this guidance.		
HSE (INDG 90)	Understanding Ergonomics (Reduce accidents and ill health and increase productivity by fitting the task to the worker)	Leaflet guidance on understanding how ergonomics / human factors can improve health and safety in the workplace.	Explains what ergonomics is, how it affects people, and gives examples of ergonomics problems and simple, effective advice on what can be done to solve them.	http://www.hse.gov.uk/pubns/indg90.pdf

5. Falls from height (general)

Source	Title	Scope	Outputs	Website
HSE	Avoiding falls from vehicles (leaflet)	Sets out the basic steps to prevent falls and also provides details of other sources of further information and advice.	A very brief guide to what needs to be done, making use of short case studies.	http://www.hse.gov.uk/pubns/indg395.pdf
HSE	Avoiding falls from vehicles (poster)	Poster summarising the leaflet with the same name.		http://www.hse.gov.uk/pubns/indg395poster.pdf
HSE	Height safe - Absolutely essential health and safety information for people who work at height	General advice for users of ladders and access scaffolds. Will also help those who select and specify equipment.		http://www.hse.gov.uk/pubns/heighsafeleaflet.pdf
HSE	Inspecting fall arrest equipment made from webbing or rope.	Generic advice on inspection regimes for fall arrest equipment where it is used to provide protection against falls from a height. Many of the principles can also be applied to non-energy-absorbing lanyards and safety harnesses used for the same purpose. They can also be applied to similar equipment made from rope. The leaflet does not cover other equipment such as anchor points.		http://www.hse.gov.uk/pubns/indg367.pdf

6. Slips and Trips (general)

Source	Title	Scope	Outputs	Website
ESA	Slips Trips and Falls	2007 Guidance on reducing the risks		http://www.esauk.org/members/health/RCVs_and_STF_A3.pdf
HSE	Slips and trips - Guidance for employers on identifying hazards and controlling risks (ISBN:0717611450)	(ABSTRACT ONLY) Provides guidance to help reduce slips and trips injuries at work. It explains how anyone at work, but particularly employers, can through good management and risk assessment reduce slip and trip hazards. Contains several case studies.		http://www.hsebooks.com/Books/product/product.asp?catalog%5Fname=HSEBooks&product%5Fid=2649&MSCSProfile=3C79F0C7EA3162B289A6F3317CC124D8F0829DF79FEFE053CDAFF5E6822DCC54A9ECB8F50AC3F8198CFACECD0240F26F12EE348F36C417AB2BD0EC3D203E5850EC6AE9E064749260779395960153D51EDDE45DBBB0052766BBB7781ED57B71BEFDC93E4E1F4540C1288664D79C9C13B9D53C28429BA78005A90D3705399CA121E0AD9E360AFD57251
HSE	Preventing slips and trips at work (INDG225)	General guidelines on effect methods to prevent slips and trips at work.	Includes a brief look at management systems, steps to risk assessment, the law, good working practice, and cleaning and maintenance.	http://www.hse.gov.uk/pubns/indg225.pdf
HSE Website	Slips and Trips	An HSE website targeting preventing slips and trips.	Contains basic information regarding the causes and prevention; links to FAQs, case studies, campaigns, research, statistics and plans; and links to further information available.	http://www.hse.gov.uk/slips/index.htm

7. Manual handling and musculo-skeletal disorders

Source	Title	Scope	Outputs	Website
Pinder A (2006) – HSL/2006/25 Research Report	Manual Handling in Kerbside Collection and Sorting of Recyclables	Looking at factors contributing to manual handling problems on the kerbside. Lifting overfull boxes, lifting above shoulder height and twisting were all identified as significant risks. Carrying the boxes increases the risk of STF.	Recommendations include using lids on bins, using wheelie bins where possible, using both handles on boxes, implementing weekly recyclables collections to reduce weight of boxes, informing residents to not overfill boxes and present their box each collection to avoid heavy weights. Crews should avoid carrying boxes long distances. Adequate staff training should be provided.	
Pinder A (2002) – HSL/2002/21 Research Report	Manual Handling in Refuse Collection	Risks associated with refuse collection with specific focus on manual handling risks.	Identifies recommendations to improve refuse collection safety.	
CHERE (Centre for Health and Environment Research and Expertise)	A health and safety study of kerbside recycling schemes using boxes and bags	Examination of the occupational health issues for operatives working on kerbside recycling schemes using bags and boxes.	Plastic Boxes were identified as presenting the least risk to collection crews. Traffic risks could be minimised using side loading vehicles and the vehicle waiting on the collection side of the road.	
HSE (European International Standards and Ergonomics literature) (Guidance)	Ergonomic Considerations for Designing and Selecting Conveyor Belt Systems	Provides guidance for designing and assessing conveyor belt workstations, for both seated and standing operators.	Information on how to design workstations in relation to human body dimensions.	http://www.hse.gov.uk/waste/conveyorbelt.pdf
HSE / WISH (Guidance) – DRAFT	Hand Sorting of Recyclables (“Totting”) with Vehicle Assistance	Guidance on how to eliminate / reduce the risk of injury / fatality caused by mobile plant (particularly mechanical shovels) striking pedestrians (e.g. totters).	<i>“The accidents happen because the working practices used have failed to achieve effective segregation of moving vehicles from pedestrians.”</i>	

Source	Title	Scope	Outputs	Website
HSE / WISH (Guidance) – DRAFT	Vehicle Assisted Sorting of Recyclables by Hand			
HSE	Manual Handling: Guidance on the Regulations	(ABSTRACT ONLY) Guidance on the Regulations. Includes general advice and principles on reducing risks; practical advice on assessment; duties.		
HSE (ISBN: 0717619788)	Upper Limb Disorders in the Workplace	(ABSTRACT ONLY) Upper limb disorders are a particular group of musculoskeletal disorders which affect the arm and neck. This revised guidance is aimed at managers with responsibility for workers who may be at risk of developing limb disorders. It aims to help the reader understand the hazards and risks and how to control them.		
HSE (ISBN: 0717606937)	Manual handling : solutions you can handle	(ABSTRACT ONLY) Provides guidance to help employers to avoid manual handling or reduce the risk of injury in areas where assessment shows there is a risk.		
HSE (website guidance)	Handling Needles in the Waste and Recycling Industry	Guidance aiming to reduce the risk of blood borne virus infection from syringe needles which form a part of drug related litter.	Gives information regarding the possible risks, how to prevent/control the risk, advice about disposal of needles, and reporting incidents (RIDDOR).	http://www.hse.gov.uk/waste/needles.htm
HSE website	Musculoskeletal Disorders	HSE web pages dedicated to providing information and promoting better management of issues related to musculoskeletal disorders.	Provides information regarding current campaigns, case studies, assessment tools, research etc.	http://www.hse.gov.uk/msd/index.htm

8. Risk Assessment and Management of H&S

Source	Title	Scope	Outputs	Website
HSE (INDG 163)	Five steps to risk assessment			
HSE (ISBN 0717624889)	Management of Health and Safety at Work			
HSE (ISBN 0717604136)	Workplace Health, Safety and Welfare			
HSE	Risk Assessment			
TUC (June 2007)	Safety and Migrant Workers (A Practical Guide for Safety Representatives)	Guidelines to help safety representatives and other union officials work with migrant workers to make sure that the rights of migrant workers are protected.		http://www.tuc.org.uk/extras/safety/mw.pdf
HSE	Worker Involvement in Health and Safety Management	Looks at the involvement of workers in organisational decisions including health and safety in order to create a safer working environment.	Guidance for senior managers who want to involve their workforce in health and safety decision with the aim of reducing accidents, creating a better working environment and complying with legal requirements	http://www.hse.gov.uk/involvement/wipages.pdf
CIWM (June 2006)	HSE Targets Waste	Need to ensure SME's are implementing H&S schemes. Large companies should help to influence H&S programmes for smaller businesses in the industry. High transient workforce causes H&S risks. Since a lot of work is carried out in public areas controlling the risks is	HSE Guidelines for Collection Vehicle Operators	

Source	Title	Scope	Outputs	Website
		much harder.		
CIWM HSE	Passports Please? "Passport schemes for health safety and the environment: a good practice guide"	Introduction of Health and Safety Passports. Helping workers gain minimum levels of health and safety knowledge and ensuring that they are aware of their environmental responsibilities before being allowed access to a workplace. Workers receive passports by attending training courses designed to raise awareness of the risks associated within the trainee's working environment.	Aim of increasing awareness and reducing the need for H&S training being repeated at each site that a person works at. The scheme will ensure that all workers including agency workers have basic health and safety training.	
ESA	Collecting customer waste safely: Identifying and tackling the hazards	ESA has produced guidance, risk assessment forms and a reporting card to help waste management companies collect waste and recyclable material safely from their customers by identifying the risks at the beginning of a contract and providing a system which ensures that all potential hazards and any near misses are identified and tackled.	The guidance and forms may help operators to devise, implement and monitor methods of work.	http://www.esauk.org/members/health/guidance/Collecting_Customer_Waste_Safely.pdf
HSE	DSEAR Implementation for the waste management industry – Industry code of practice	The regulations require risk assessments to be carried out assessing the risk of explosions in waste management sites. Procedures for elimination of risk are required		http://www.esauk.org/publications/reports/ICoP1_DSEAR.pdf

Source	Title	Scope	Outputs	Website
Worksafe Australia	Safe Handling of Industrial Waste	Incorporates advice on the legal issues surrounding waste, issues and information for industry waste producers, transporters and treaters. Gives checklists and guidelines as well as mock case studies.		http://www.worksafe.vic.gov.au/wps/wcm/resources/file/ebd84e439ff33ed/VWA_Indust_Waste.pdf
(USA)	Developing a Health and Safety Programme	Main Advantages of developing a health and safety program in the workplace and ways to go about it. The Guidance includes Roles and responsibilities, site specifics, site characterisation, PPE, training programs, air monitoring, decontamination, emergency response plans, hazard communication plans.	Main recommendations, eliminate hazards, reduce risks when hazards can't be eliminated, provide warning devices, develop and implement procedures and training.	
Hazardous Waste Handbook (Third Edition)	WF Martin, JM Lippitt, PJ Webb (Published by Butterworth and Heinemann)	Guide book for hazardous waste sites in the USA. Looks at the laws, hazards in the industry, monitoring, site management and control, safe working, training and transport of hazardous waste.		
HSE / WISH (Guidance)	Waste Industry Safety and Health – reducing the risks (INDG359)	Aims to help duty holders in the industry to devise, institute, monitor and revise methods of work at their sites (provides a checklist of standards to aim at).		http://www.hse.gov.uk/pubns/indg359.pdf
HSE / WISH	Operating civic amenity sites	Explains how to remove or reduce some of the key health and safety		http://www.hse.gov.uk/pubns/web

Source	Title	Scope	Outputs	Website
(Guidance)	safely (WEB 05)	risks associated with designing and operating a civic amenity site. Note: this is not comprehensive, e.g. hazardous waste handling is specifically excluded.		05.pdf
Air and Waste Management Association Annual	Sub-Contractor Environmental, Safety and Health – Striving for Zero Incidents	Discusses the importance of risk assessments, the importance of H&S in the selection of sub-contractors		
HSE / WISH (Guidance) - DRAFT	Managing “Task and Finish” to reduce safety risks			
HSE / WISH (Guidance) - DRAFT	Safe handling of Hazardous Wastes at Civic Amenity sites			

9. Research

Source	Title	Scope	Outputs	Website
Caledonian Financial Review (October 2006)	The Caledonian Economics Financial Review of the Waste Management Industry	Looks at the Waste Management Sector and the influence of the 6 key players	Warns of the importance of maintaining a competitive market which does not force the smaller companies out of the market thus creating regional monopolies.	Overview at: http://www.calecon.com/Docs/Overview%20of%20the%202006%20Financial%20Review.pdf
Resource Management and Recovery	Raising the Safety Standard	Discusses developing good standards and practice for the whole industry	Wants to help organisations identify a H&S system that will be appropriate for them.	
HSE (Bomel Limited), 2004	Mapping Health and Safety Standards in the UK Waste Industry	Scoping the waste industry in terms of process, size and employment. Review of: H&S performance, transport accidents, regulatory and market drivers	Attempts to make some prediction on foreseeing trends Estimates 160,000 workers employed in UK waste industry Provides a breakdown of waste industry (by process, demography and constituent organisations) Recommendations made include: Amendment of classification and RIDDOR systems Strategy for intervening with Las Survey of number of agency workers employed Strategy to reduce number of accidents related to vehicles Strategy for reducing number of handling-	http://www.hse.gov.uk/research/rrpdf/rr240.pdf

Source	Title	Scope	Outputs	Website
			induced injury	
CML Market Research (for HSE / COI), April 2005	H&S in Waste and Recycling	<p>Purpose: to understand how health and safety is seen.</p> <p>To identify what messages need to be communicated to whom, how best to execute and channel these to the target groups:</p> <p>Understand perspectives</p> <p>What they do that is good</p> <p>Trade associations opinion</p> <p>Impact on tendering (LA procurement officers)</p>	<p>Senior level are aware of the issue</p> <p>Managers claim they are aware, but they say the systems are in place for staff to "get the message". Appear defensive to suggestions that there is a problem.</p> <p>Refuse workers aware there is an issue but formal H&S is widely ignored. Issues include:</p> <p>Task and finish</p> <p>Dismissive mindsets</p> <p>Employers simply covering their own backs</p> <p>Communications seen as patronising and unrealistic</p>	http://www.hse.gov.uk/waste/campaignpdfs/cmldebrief.pdf
ESA	Accident Reduction Charter	<p>ESA, in conjunction with the HSE, launched an Accident Reduction Charter in 2004. The Charter sets challenging targets for the waste management industry, including:</p> <ul style="list-style-type: none"> - to reduce the incidence rate of RIDDOR reportable accidents by 10% per year until 2007; and - to eliminate fatalities by the end of that period. 		
Workcover – New South Wales	Domestic Waste Collection – Industry Code of	Australian code of practice, looks at establishing the causes of risk, consultation and risk management, managing risk in the collection of		http://www.workcover.nsw.gov.au/NR/rdonlyres/5CF8DD45-EEB1-42F6-924A-B40493384956/0/cop_collection_

Source	Title	Scope	Outputs	Website
	Practice	domestic waste and the actual risks that are encountered by collection staff. The document also details the H&S information that contractors must supply when formulating tenders.		domestic_waste_1327.pdf
The National Institute of Environmental Health Sciences (NIEHS) workshop (USA)	Successful Training Partnerships: Lessons Learned	Investigates among other issues the need to find an appropriate way to integrate new technology training methods into training programs. Identifies that technology-specific training modules will have to be developed. Also, differences between sites, even those that use the same technology for remediation, create the need for site specific application of technology. In addition to technology-specific training, site-specific training should prove to be a valuable tool.	There are number of case studies – not directly related to waste but involving good partnership working as a means of achieving good H&S standards.	
Journal of Solid Waste Technology and Management	Solid Waste Collection Health and Safety Risks – Survey of Municipal Solid Waste Collectors	Survey undertaken in Florida. Waste Collectors were given an anonymous survey. Main findings were that the most common injuries were sprain/strains 44.7%, cut wounds 42.5%, serious bruise/bump. Only 29.9% of the workers reported no injury or illness in the last 12 months. The collectors though the reasons for illness and injury were due to improper disposal of waste by residents (70%), weather (43.8%), lack of visibility around trucks (37.9%), lack of visibility around trucks (37.9%). 48.8% of the collectors that no	Recommendations include evaluating the collection methods with regard to ergonomic, health and safety risks, establishing positive incentives, encouraging supervisors to frequently visit routes to assess discuss issues on the street. They als suggest that reflective clothing should be worn rather than just vests which catch on vehicles. Communications between staff and supervisors should be improved.	

Source	Title	Scope	Outputs	Website
		positive incentives to work safely. Reasons for not following safety procedures included saving time (30.8%), not being aware of the risks (19.2%) and not caring (19.2%).		
Andrew Hitchins (EA). Institution of Chemical Engineers (2003). Series No. 149.	Major Incidents at Waste Treatment Sites – Case Studies and Lessons	Details the fires at CSG Sandhurst 2000 and Distillex Northshields 2002. Notes that accidents could be reduced if there was greater knowledge of the waste and hence appropriate storage. The report also covers a study undertaken by the EA and HSE into chemical and hazardous waste sites.		
CB Andrews CET (USA)	Integrated Safety for Solid Waste Operations	OSHA estimated that the implementation of sound health and safety programme has provided organisations with a \$5-\$9 return on every dollar invested in the programme. Behaviour based training programs are also important. Providing a scheme will provide productivity benefits, improvements in behaviour, reduction in compensation costs and improved company safety performance.		Article – British Library
Compensation and Working Conditions (1999)	Job Hazards in the Waste Industry	USA study, looking at the fatality rates in more detail. Comments that 'overexertion' is the leading cause of nonfatal injuries for refuse collectors.	Data limitations pose a challenge to research into occupational hazards in the industry.	http://www.bls.gov/opub/cwc/archive/summer1999art4.pdf
Health and Safety at Work	Verdant Cleans Up	Case Study of the steps that Verdant have taken to improve Health and Safety Management at their sites and enabled them to win the 'Best	Tips for successful implementation: Good Planning	http://www.healthandsafetyprofessional.co.uk/file/26d30f9931d3c8024f6a4ac13709e186/verdant-

Source	Title	Scope	Outputs	Website
		Commitment to Health and Safety Practice' award.	Walk in operatives shoes – involve them Encourage feedback Build and element of flexibility Good communication Review Results	cleans-up.html
CIWM (September 2006). Written by Mike Gerber.	Working on the Frontline	Review of current issues in working in the waste industry	Suggests that the effort to improve health and safety record will depend greatly on the safety improvements of collection.	
HSE	Waste Industry Safety and Health - reducing the risks - INDG359			
HSE / WISH (Guidance)	Commitment to competence	A statement of commitment to competence for the WISH forum.		http://www.hse.gov.uk/waste/wish/commitment.htm

10. Bio-hazards

Source	Title	Scope	Outputs	Website
HSE (Research)	RR130 - Occupational and environmental exposure to bioaerosols from composts and potential health effects - A critical review of published data	A critical review of published literature related to studies of airborne micro-organisms or their constituent parts (bioaerosols) associated with organic waste composting facilities, and to establish whether there is a risk to worker health from the inhalation of these bioaerosols.	Identifies recommendations for further work and thoughts on how the context of risk should be presented.	http://www.hse.gov.uk/research/rr/pdf/rr130.pdf
Waste Age (Voell, 1995)	Are Materials Recovery Facilities Safe?	The environmental evaluation considered the impacts on ambient air quality, receiving waters and community noise levels. The occupational health and safety evaluation examined chemical exposure, biological aerosols, occupational noise, physical safety and ergonomics.	Based on the evaluation results, MRFs do not pose a significant threat to public health or the environment. The study also highlighted that further work needs to be done to investigate the effect of prolonged exposure to environmental organisms in the air and the ergonomic risk factors of repeated or awkward movements.	http://wasteage.com/mag/waste_processing_material_recovery/index.html
Managing Hazardous Wastes in Academic Research Institutions	Consensus Best Practice (2001)	The study which was conducted by a number of American Universities aimed to develop an initiative for the safe management of hazardous wastes during research. Their key aim was to promote responsibility for safety in the biomedical research field	Best Practices and Recommendations to the USA EPA for the initiative.	http://www.hhmi.org/research/labsafe/projects/report_congress.pdf
HSE / WISH (Guidance)	Green Waste Collection – Safety Issues	Risks associated with the separate collection of green waste. Main findings were that the health risks of breathing in these microbes from handling green waste are no greater than those from handling any other	A number of procedures are outlined to reduce risks as far as possible.	http://www.hse.gov.uk/pubns/web10.pdf

Source	Title	Scope	Outputs	Website
		mixed household waste.		
<p>Gruner C, Bittighofer PM, Koch-Wrenger KD.</p> <p>GERMAN Research</p>	Health risk to workers in recycling plants and on waste disposal sites	<p>In garbage sorting plants elevated microbial counts were measured in the air of the workplace compared to outdoor air microbial counts (cfu/m3). Workers in garbage treatment plants were higher exposed to airborne microbial agents. In consequence immunological reactions and the occurrence of workplace related symptoms were found more frequently, These symptoms are described in literature as mucous membrane irritation syndrome (MMI).</p> <p>TAKEN FROM ABSTRACT – Article in German</p>		
Starek, A.	Health risk related to municipal waste incineration	<p>TAKEN FROM ABSTRACT – Article in Polish</p> <p>Health risk to workers and nearby residents is explored. The symptoms and illnesses thought to be caused by exposure to the chemicals and bioaerosols are detailed but no conclusive cause-effect relationship can be made.</p>		http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=15998006&query_hl=9&itool=pubmed_docsum
Institute of Environmental and Occupational Medicine, University of Aarhus, Denmark.	Health Hazards to Waste Management Workers in Denmark	<p>TAKEN FROM ABSTRACT -</p> <p>Identified that under normal circumstances with a good hygiene and use of the proper protective equipment by an educated work force, waste handling induces a small but</p>		

Source	Title	Scope	Outputs	Website
		significant risk of occupational asthma. The majority of the asthma cases we have experienced in Denmark have been due to a poor perception of the risks related to organic dust exposure.		
National Institute of Occupational Health, Copenhagen, Denmark.	Sorting and recycling of domestic waste. Review of occupational health problems and their possible causes	TAKEN FROM ABSTRACT ONLY Investigates the major H&S risks associated with sorting unseparate domestic waste with particular focus on the associated hazards of bioaerosol exposure. The research has cause to believe that a number of illnesses including organic dust toxic syndrome (ODTS) (cough, chest-tightness, dyspnoea, influenza-like symptoms such as chills, fever, muscle ache, joint pain, fatigue and headache), gastrointestinal problems such as nausea and diarrhoea, irritation of the skin, eye and mucous membranes of the nose and upper airways, etc. In addition cases of severe occupational pulmonary diseases (asthma, alveolitis, bronchitis) have been reported.		http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?itool=abstractplus&db=pubmed&cmd=Retrieve&dopt=abstractplus&list_uids=7610383
University of Jyvaskyla, Finland.	Mechanical-biological waste treatment and the associated occupational hygiene in Finland.	The only Anaerobic Digestion Plant in Finland commissioned a study to investigate the health and safety issues at the plant. During 1998-2000 the concentrations of dust, microbes and endotoxins and noise levels were investigated.	Some problems with occupational hygiene were identified: concentrations of microbes and endotoxins may increase to levels harmful to health during waste crushing and in the bioreactor hall. Employees were asked to wear respiratory masks and ear defenders at	http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=16213131&query_hl=9&itool=pubmed_DocSum

Source	Title	Scope	Outputs	Website
			times of excessive noise or dust.	
DEFRA – Cranfield Uni and Enviro	Health Impact Assessment of Alternate Weekly Collections of biodegradable waste	The report investigates the concerns that members of the public have about alternate weekly collections and their health and safety risks. The report concludes that there is no evidence to prove that alternate weekly collections will have significant health impacts for residents or that any health impacts will be greater than weekly collections.	The report gives a number of advice points to reduce the chance of bad odours, rodents and flies during alternate weekly collections.	
Journal of Environmental Health (2003)	Defining and Managing Biohazardous Waste in the US. Research Oriented Universities: A survey of Environmental Health and Safety Professionals	<p>“Biohazardous waste” – poses a biological hazard to living organisms.</p> <p>Mainly looks at the biohazardous waste disposal after use in university research projects.</p>		
AAEM – Institute of Agriculture Environment and Medicine (1997)	Occupational safety and health in waste collection and recycling: The Core Research Program	Nationwide (Denmark) surveys of working conditions and symptoms of waste collectors and workers in the waste treatment and recycling industry.		
DEFRA	Review of Environmental and Health Effects of Waste	Focuses on the health issues that affect people living and working around waste treatment facilities.		

Source	Title	Scope	Outputs	Website
	Management			
American Journal of Industrial Medicine	Organic Dust Exposure and Work-Related Effects Among Recycling Workers	Investigates the effects of organic dust on the workers at materials recovery facilities.	The results suggest that MRF workers exposed to higher levels of endotoxin and (1→3)- β -D-glucan at their work sites exhibit various work-related symptoms, and that the longer a worker is in the MRF environment, the more likely he is to become affected by various respiratory and gastrointestinal symptoms	
HSE / WISH (Guidance)	Green waste collection: health issues (WEB 10)	Aims to comment on and help reduce the health risks associated with the collection of green waste.		http://www.hse.gov.uk/pubns/web10.pdf
HSE / WISH (Guidance) - DRAFT	Health risks in waste collection			
HSE / WISH (Guidance) - DRAFT	Asbestos reception at Civic Amenity sites			
HSE	Safe handling of asbestos waste at civic amenity (CA) sites	Guidance for civic amenity site managers to enable them to eliminate / reduce the risks associated with receiving and handling asbestos cement waste at their sites.	Covers situations when employees may handle asbestos cement waste or manage its disposal at CA sites.	http://www.hse.gov.uk/pubns/waste07.pdf

11. Noise

Source	Title	Scope	Outputs	Website
HSE	Noise Exposure during glass collections	Being investigated by the HSE – WISH working group.	The outcome will be to set out guidelines and procedures for protecting workers from the risks of excessive noise.	
HSE / WISH (Guidance) - DRAFT	Glass kerbside collection - noise reduction techniques			

12. Behaviour

Source	Title	Scope	Outputs	Website
Snodgrass R (2005)	Attitudes and Behaviours towards Slips, Trips and Falls – A Literature Review	Looking at workers attitudes to safety. Main points are that unsafe behaviour is usually the easiest option to take. Changing behaviour is the biggest challenge.	Good housekeeping not only reduces accidents and injuries but can also increase productivity. Good management and sustained enforcement of good behaviour are needed	
Dr Ian Vickers et al. HSE Research Report 150.	Cultural influences on health and safety attitudes and behaviour in small businesses.	Concerned with understanding the role of cultural influences on health and safety attitudes and behaviour in small and micro-enterprises.	There is substantial evidence that people in small enterprises face proportionately greater physical risks than do workers in larger businesses. Survey findings indicate that health and safety inspectors themselves are currently the most commonly used and preferred sources of information and advice for most small businesses, and are contributing to a greater awareness of health and safety issues in small businesses	http://www.hse.gov.uk/research/rr_pdf/rr150.pdf
Michael Wright and Sara Marsden (Greenstreet Berman Ltd). HSE Research Report 436. (2002)	Changing business behaviour - would bearing the true cost of poor health and safety performance make a difference?	Study to explore how changes to the way in which the financial costs of health and safety failures are distributed, and in particular insurance changes such that businesses cannot shelter from some of the costs, could provide an incentive to firms to improve health and safety performance.	Evidence indicates that a reformed UK insurance process would provide a significant motivation to employers to improve health and safety and rehabilitation. Recommendations are made for further work, including a best practice model.	http://www.hse.gov.uk/research/crr_pdf/2002/crr02436.pdf

13. Work Practices / Systems of Work

Source	Title	Scope	Outputs	Website
HSE	Waste Industry Safety and Health	Safe working practices on waste management sites including vehicle safety, machinery guarding, loading safety, STFs, Manual Handling and Healthcare.	Identifies guidance on safe practices in most aspects of the waste work place.	
Worksafe Australia	Non-hazardous waste and recyclable materials (2003)	Document produced to provide the waste management industry with an industry specific guide to assist in the implementation of safe systems of work. Details guidelines for management of H&S as well as advice for workers. The document covers the specific risks relating to a number of different plant machinery and also common health risks.		http://www.worksafe.vic.gov.au/wps/wcm/resources/file/ebd855439ff7971/Waste_Management.pdf
HSE / WISH (Guidance) - DRAFT	Practical guidance on lock off procedures			

14. Needles

Source	Title	Scope	Outputs	Website
HSE	Handling Needles in the Waste and Recycling Industry	Guidance on storage and disposal of needles.	Sites must have set procedures for dealing with sharps and designated sharps storage areas	
HSE / WISH (Guidance)	Handling needles in the waste and recycling industry	Aims to reduce the risks of blood borne virus infection from syringe needles (often referred to as sharps or needlestick injuries), which form part of drug related litter.		http://www.hse.gov.uk/waste/needles.htm

15. Industry Specific

Source	Title	Scope	Outputs	Website
HSE (Information Sheet - Plastics Processing Sheet No.2)	Plastics Recycling	Information sheet aimed at the smaller businesses, identifying commonly encountered hazards and the basic precautions to be taken.	Identifies some of the specific issues related to the plastics industry in relation to machine safety, noise, hazardous substances, and material handling and safe access.	http://www.hse.gov.uk/pubns/ppis2.pdf
HSE (Information Sheet – Plastics Processing Sheet No.1)	Fire and explosion risks from pentane in expandable polystyrene	Aimed at those who manufacture, transport and process EPS bead and finished products.	Guidance on hazards and precautions, storage and working with polystyrene. Includes a list of further reading.	http://www.hse.gov.uk/pubns/ppis1.pdf
HSE / WISH (Guidance) - DRAFT	Safety at “Bring Sites”			
HSE / WISH (Guidance) - DRAFT	Design considerations for Materials Recycling Facilities			
HSE – Web based guidance	Landfill fires - controlling the risk	An awareness raising article due to the recent incidents of fires and releases of flammable gases at landfill sites around the UK.	Identification of 6 key areas where the hierarchy or risk control applies, and that HSE would wish to see addressed with respect to fires and explosions.	http://www.hse.gov.uk/waste/landfill.htm
ESA	DSEAR - Industry Codes of Practice	ESA, with the support of the HSE, is preparing a number of Industry Codes of Practice (ICoP) to help operators comply with DSEAR.	ICoPs include: <ul style="list-style-type: none"> - DSEAR for waste management industry - Area classification for landfill gas extraction, gas utilisation and combustion (2nd Edition DRAFT) 	http://www.esauk.org/publications/reports/dsear_guidance.asp

Source	Title	Scope	Outputs	Website
			<ul style="list-style-type: none">- Area classification for leachate extraction, treatment and disposal- Drilling operations (DRAFT)- Landfill operations (DRAFT)	

Appendix B References

1. Bomel Ltd, 2004. Mapping Health and Safety Standards in the UK Waste Industry. Prepared for the Health and Safety Executive. Research Report 240.
2. Rogers, J., Englehardt, J., An, H., Fleming, L., 2003. Solid Waste Collection Health and Safety Risks – Survey of Municipal Solid Waste Collectors. Journal of Solid Waste Technology and Management, Volume 28, No.3. August 2003.
3. Pinder, A.D.J, Oxley, L, and Cope, M.T., 2006. Manual handling in kerbside collection and sorting of recyclables. HSL/2006/25.
4. Pinder, A.D.J., and Milnes, E., 2002. Manual handling in refuse collection. HSL/2002/21.
5. Lavoie, J., Guertin, S., 2003. Evaluation of Health and Safety Risks in Municipal Solid Waste Recycling Plants. Journal of the Air and Waste management Association, Volume 51. March 2003. Canada.
6. Voell, C., 1995. Waste Age - Processing: Are Material Recovery Facilities Safe?
7. Hollet, N., Davies, R.L1., Watson, H., (date unknown). A Health and Safety Study of Kerbside Recycling Schemes Using Boxes and Bags. CHERE (Centre for Health and Environment Research and Expertise)
8. Lancaster, R., and Ward, R., 2002. The Contribution of Individual Factors to Driving Behaviour: Implications for Managing Work-Related Road Safety. Entec UK Ltd for the Health and Safety Executive and Scottish Executive, 2002. Research Report 020.
9. Lancaster, R., and Ward, R., 2002. Management of work related road safety. Entec UK Ltd for the Health and Safety Executive and Scottish Executive, 2002. Research Report 018.
10. Snodgrass, R., Lee, R., Scott, A., 2005. Attitudes and Behaviours towards Slips, Trips and Falls – A Literature Review. HSL/2006/70.
11. Everley, M., 1995. Safe systems of work. May a slip, trip and fall. Health and Safety at Work 19-22. In Snodgrass, R., Lee, R., Scott, A., 2005. Attitudes and Behaviours towards Slips, Trips and Falls – A Literature Review. HSL/2006/70



12. CML Market Research, April 2005. Health and Safety in Waste and Recycling: Debrief for HSE/COI
13. Saari, J., 1987. Management of housekeeping by feedback. *Ergonomics* 30: 313-317. In Snodgrass, R., Lee, R., Scott, A., 2005. Attitudes and Behaviours towards Slips, Trips and Falls – A Literature Review. HSL/2006/70
14. Verdant Cleans Up, June 2007. Accident Reporting – Health and Safety Professional.co.uk
15. Brush, P.A., and Kirton, D., 2003. Sub-contractor Environmental, Safety and Health – Striving for Zero Incidents. Paper #06-A-62-AWMA (Bechtel).
16. Wright, M., and Marsden, S., 2002. Changing business behaviour – would bearing the true cost of poor health and safety performance make a difference? Prepared by Greenstreet Berman Ltd for the Health and Safety Executive. Research Report 436/2002.
17. Vickers, I., et al., 2003. Cultural influences on health and safety attitudes and behaviour in small businesses. Prepared by Middlesex University Business School for the Health and Safety Executive. Research Report 150.
18. Swan, J.R.M., Kelsey, A., Crook, B., and Gilbert, E.J., 2003. Occupational and Environmental Exposure to Bioaerosols from Composts and Potential Health Effects – A Critical Review of Published Data. Prepared by The Composting Association and Health and Safety Laboratory for the Health and Safety Executive. Research Report 130.
19. Poulsen, O.M., et al., (date unknown). Sorting and Recycling of Domestic Waste: Review of Occupational Health Problem and their Possible Causes. National Institute of Occupational Health, Copenhagen, Denmark.
20. Tolvanen, O.K., and Hänninen, K.I., 2005. Mechanical-biological waste treatment and the associated occupational hygiene in Finland. University of Jyväskylä, Department of Environmental and Biological Sciences, Finland
21. Gladding, T., (2002). An assessment of the risks to human health of Materials Recovery Facilities: A Framework for Decision Makers. R&D Technical Report, Environment Agency.
22. Midtgård, U., and Poulsen, O.M., 1997. Occupational Safety and Health in Waste Collection and Recycling: The CORE Research Program. National Institute of Occupational Health, Denmark.
23. Lavoie, J., and Alie, R., 1997. Determining the Characteristics to be Considered from a Worker Health and Safety Standpoint in Household Waste Sorting and Composting Plants. IRSST, Montreal, Canada.



24. Financial Review of the UK Waste Management Industry, Caledonian Economics 2006



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Appendix B

Appendix C Example Questionnaire



Appendix C

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Appendix C

Health & Safety Questionnaire

We want to gain a better understanding of health and safety issues for the waste industry, including:

- the activities and other factors that you feel affect health and safety
- how health and safety is managed in your organisation, and
- your views on what is needed in the future.

The information gathered will be used to identify best practice guidance for the industry so it is really important to be candid.

Please fill in and save the completed form and return it in an email to:

lynsey.hunton-clarke@entecuk.co.uk

by 22nd June 2007

If you do not have access to e-mail, you can also return printed questionnaires to us by freepost:

Freepost RLUU-LJBR-YLKG
Entec UK Ltd (Marketing)
Northumbria House
Regent Centre
Gosforth
Newcastle upon Tyne NE3 3PX

1. Information about you

Q1a. Your name (optional)	
Q1b. Your organisation	
Q1c. Your role	
Q1d. Please describe the main day to day activities of your job.	
Q1e. Which of your job activities do you think are the greatest risk to your health and safety?	

2. How do you feel about health and safety?

Please tell us whether you agree or disagree with the following statements by putting an 'X' in the box that most reflects the way you feel. Please answer the other questions by writing your answer in the boxes below.

	Strongly Disagree 1	2	3	4	5	Strongly Agree 6
Q2a. I know what my responsibilities for health and safety are						
Q2b. The chances of me having an accident at work are quite high						
Q2c. The organisation takes health and safety seriously						
Q2d. This is a safer place to work than other organisations I have worked for						
Q2e. I am satisfied with health and safety in my organisation						
Q2f. Please provide more information here about your answers above. Why do you feel the way you do? Can you provide examples?						
Q2g. In your workplace, where do you get information about health and safety?	Q2h. Beyond your employer, are you aware of any other sources of workplace health and safety advice?					

3. Your job and health and safety

Please tell us whether you agree or disagree with the following statements by putting an 'X' in the box that most reflects the way you feel. Where you can, please provide more information about your answers in the box at the bottom of the page.

	Strongly Disagree 1	2	3	4	5	Strongly Agree 6
Q3a. I always report health and safety problems or concerns						
Q3b. I get the right health and safety training for my job						
Q3c. I have few problems following health and safety procedures						
Q3d. I am given the right tools and equipment to do my job						
Q3e. I am confident that the tools and equipment I use are properly maintained						
Q3f. My supervisor does not expect me to do a job if I think that it is too risky						

Q3g. Please provide more information here about your answers in section 3. Why do you feel the way you do? Can you provide examples?

4. Your organisation and health and safety

Please tell us whether you agree or disagree with the following statements by putting an 'X' in the box that most reflects the way you feel. Where you can, please provide more information about your answers in the box at the bottom of the page.

	Strongly Disagree 1	2	3	4	5	Strongly Agree 6
Q4a. There is good communication about health & safety issues that affect me						
Q4b. Achieving our targets and objectives is often more important than H&S						
Q4c. My organisation's health and safety procedures are not very practical						
Q4d. My organisation has a formal approach to health and safety						
Q4e. My managers talk to me about health and safety issues						
Q4f. If I raise a health and safety issue, something is done about it						

Q4g. Please provide more information here about your answers in section 4. Why do you feel the way you do? Can you provide examples?

5. In the future...

Please tell us whether you agree or disagree with the first two statements by putting an 'X' in the box that most reflects the way you feel. Please answer the other questions by writing your answer in the boxes below.

	Strongly Disagree 1	2	3	4	5	Strongly Agree 6
Q5a. I would like to receive more information about H&S than I do now						
Q5b. I would like to know more about my organisation's approach to H&S						
Q5c. What do you think the main barriers are to managing health and safety issues at your organisation?						
Q5d. If you could change one thing about your job, which would improve health and safety where you work, what would it be?						
Q5e. If you could change one thing about your company's approach to health and safety, what would it be?						
Q5f. Is there anything else that would make it easier to follow health and safety rules and procedures?						

6. Organisation Details (to be completed once by the key Contact only)

Where applicable responses should be provided for your organisation's last reported year (i.e. 2006 or 2006/07). The text boxes will expand as you type.

Q6a. Name of organisation	Q6b. What is the organisation's main function?	Q6c. Please describe the organisation's key waste-related activities
<i>[Insert your response here]</i>	<i>[Insert your response here e.g. Recycling, Waste Collection etc]</i>	<i>[Insert your response here]</i>

Q6d. Main health and safety contact (including telephone number):	<i>[Insert response here – this box will expand as you type]</i>
---	--

Q6e. How many employees are there within the organisation?	
--	--

Q6f. What was the organisation's reported profit in the last reported year? (if applicable)	
---	--

Q6g. How many lost time accidents did the organisation have in the last reported year?	
--	--

Q6h. How many reportable accidents (under RIDDOR) in the last reported year?	
--	--

Q6i. Has the organisation had any enforcement notices issued in the last reported year?	
---	--

Q6j. Has the organisation been subject to prosecution in the last reported year?	
--	--

Q6k. How many individuals are dedicated to managing health and safety at the organisation?

Q6l. Does the organisation have an H&S policy? If yes, please attach.

Q6m. Does the organisation have an H&S strategy? If yes, please provide brief details of content.

Q6n. Does the organisation have a safety management system? If yes, please provide brief details.

Q6o. Does the organisation operate to a certain standard e.g. OHSAS?

Q6p. Does the organisation operate a formal H&S training programme? Please provide brief details.

Q6q. Do employees have objectives or performance metrics relating to H&S responsibilities?

Q6r. Does the organisation survey employees about H&S issues? If yes, please provide details.

Q6s. Please provide details of any other H&S initiatives the organisation has in place:

[Insert your response here]

Appendix D Summary of Outcomes



Appendix D

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Appendix D

Questionnaire responses

Respondents were asked to grade their views regarding a series of statements. Grading was on a scale of 1 to 6, where '1' was 'Strongly Disagree' and '6' was 'Strongly Agree'. A grade of '0' indicates 'No Response'.

2a. I know what my responsibilities for health and safety are

Count of ID	2a						Grand Total
1f	0	1	2	4	5	6	
Community Sector		1		1	2	4	8
Government Agency						1	1
Industry						3	3
Local Government (Council)	2			4	14	29	49
Private Sector Large	1		1		2	9	13
Private Sector Medium				1	5	16	22
Private Sector Small				2	5	11	18
(blank)						1	1
Grand Total	3	1	1	8	28	74	115

2b. The chances of me having an accident at work are quite high

Count of ID	2b						Grand Total	
1f	0	1	2	3	4	5	6	
Community Sector		1	5	1	1			8
Government Agency				1				1
Industry		2			1			3
Local Government (Council)	2	10	18	7	6	3	3	49
Private Sector Large	1	6	4	2				13
Private Sector Medium		3	10	2	4	2	1	22
Private Sector Small	1	5	7	2	2	1		18
(blank)					1			1
Grand Total	4	27	44	15	15	6	4	115

2c. The organisation takes health and safety seriously

Count of ID	2c						Grand Total	
1f	0	1	2	3	4	5	6	
Community Sector				2		1	5	8
Government Agency							1	1
Industry						1	2	3
Local Government (Council)	2	1	3	5	3	15	20	49
Private Sector Large	1		1	1		1	9	13
Private Sector Medium				2		2	18	22
Private Sector Small					1	7	10	18
(blank)				1				1
Grand Total	3	1	4	7	8	27	65	115

2d. This is a safer place to work than other organisations I have worked for

Count of ID	2d							Grand Total
1f	0	1	2	3	4	5	6	
Community Sector				2	2		4	8
Government Agency							1	1
Industry					2	1		3
Local Government (Council)	3	3	2	6	14	7	14	49
Private Sector Large	2	1		1	2	5	2	13
Private Sector Medium		2	1	1	4	3	11	22
Private Sector Small			1	3	2	4	8	18
(blank)					1			1
Grand Total	5	6	4	13	27	20	40	115

2e. I am satisfied with health and safety in my organisation

Count of ID	2e							Grand Total
1f	0	1	2	3	4	5	6	
Community Sector			1		2	4	1	8
Government Agency							1	1
Industry					2	1		3
Local Government (Council)	2	1	3	7	9	13	14	49
Private Sector Large	1	2			3	3	4	13
Private Sector Medium				3	2	7	10	22
Private Sector Small					5	10	3	18
(blank)				1				1
Grand Total	3	3	4	11	23	38	33	115

3a. I always report health and safety problems or concerns

Count of ID	3a						Grand Total
1f	0	3	4	5	6		
Community Sector	2			2	4	8	
Government Agency					1	1	
Industry				1	2	3	
Local Government (Council)	2	1	2	18	26	49	
Private Sector Large	1			2	10	13	
Private Sector Medium			1	6	15	22	
Private Sector Small			2	8	8	18	
(blank)					1	1	
Grand Total	5	1	5	37	67	115	

3b. I get the right health and safety training for my job

Count of ID	3b						Grand Total
1f	0	1	3	4	5	6	
Community Sector	1			2	2	3	8
Government Agency						1	1
Industry					1	2	3
Local Government (Council)	2		3	8	18	18	49
Private Sector Large	1			2	3	7	13
Private Sector Medium				4	4	14	22
Private Sector Small			1	5	7	5	18
(blank)		1					1
Grand Total	4	1	4	21	35	50	115

3c. I have few problems following health and safety procedures

Count of ID	3c							Grand Total
1f	0	1	2	3	4	5	6	
Community Sector	1	1		1	1	2	2	8
Government Agency						1		1
Industry				1			2	3
Local Government (Council)	3	3		1	6	16	20	49
Private Sector Large	1		1		1	4	6	13
Private Sector Medium		2	1	1		4	14	22
Private Sector Small		1	1	1	1	6	8	18
(blank)							1	1
Grand Total	5	7	3	5	9	33	53	115

3d. I am given the right tools and equipment to do my job

Count of ID	3d							Grand Total
1f	0	1	2	3	4	5	6	
Community Sector	1				2	2	3	8
Government Agency							1	1
Industry						1	2	3
Local Government (Council)	2	2	1	1	8	18	17	49
Private Sector Large	1		1	1	1	3	6	13
Private Sector Medium				1	1	6	14	22
Private Sector Small				1		9	8	18
(blank)		1						1
Grand Total	4	3	2	4	12	39	51	115

3e. I am confident that the tools and equipment I use are properly maintained

Count of ID	3e							Grand Total
1f	0	1	2	3	4	5	6	
Community Sector	1				2	2	3	8
Government Agency							1	1
Industry					1		2	3
Local Government (Council)	2	1	2	3	7	19	15	49
Private Sector Large	1			1		3	8	13
Private Sector Medium				1		9	12	22
Private Sector Small				1		8	9	18
(blank)				1				1
Grand Total	4	1	3	6	10	41	50	115

3f. My supervisor does not expect me to do a job if I think that it is too risky

Count of ID	3f							Grand Total
1f	0	1	2	3	4	5	6	
Community Sector	3					2	3	8
Government Agency							1	1
Industry							3	3
Local Government (Council)	3	2	1		4	16	23	49
Private Sector Large	3	1					9	13
Private Sector Medium					1	1	20	22
Private Sector Small	2		1			5	10	18
(blank)					1			1
Grand Total	11	3	2	1	5	24	69	115

4a. There is good communication about health & safety issues that affect me

Count of ID	4a							Grand Total
1f	0	1	2	3	4	5	6	
Community Sector		1	1			3	3	8
Government Agency							1	1
Industry		2	1					3
Local Government (Council)	3		7	6	10	13	10	49
Private Sector Large	1	1	1		3		7	13
Private Sector Medium			2		3	8	9	22
Private Sector Small			1	2	5	5	5	18
(blank)			1					1
Grand Total	4	4	14	8	21	29	35	115

4b. Achieving our targets and objectives is often more important that H&S

Count of ID	4b							Grand Total
1f	0	1	2	3	4	5	6	
Community Sector		3	2	1	2			8
Government Agency					1			1
Industry		2	1					3
Local Government (Council)	2	12	12	8	5	4	6	49
Private Sector Large	1	5	4	2		1		13
Private Sector Medium		12	5	4			1	22
Private Sector Small		1	9	2	2	2	2	18
(blank)			1					1
Grand Total	3	35	34	17	10	7	9	115

4c. My organisation's health and safety procedures are not very practical

Count of ID	4c							Grand Total
1f	0	1	2	3	4	5	6	
Community Sector	1	3	2	2				8
Government Agency		1						1
Industry		1	1			1		3
Local Government (Council)	2	14	16	7	5	4	1	49
Private Sector Large	1	4	5	1	2			13
Private Sector Medium		10	8		2	1	1	22
Private Sector Small		4	7	2	1	3	1	18
(blank)					1			1
Grand Total	4	37	39	12	11	9	3	115

4d. My organisation has a formal approach to health and safety

Count of ID	4d							Grand Total
1f	0	1	2	3	4	5	6	
Community Sector		1		1	4	1	1	8
Government Agency							1	1
Industry				1			2	3
Local Government (Council)	3	1	2	2	7	20	14	49
Private Sector Large	1			1	3	5	3	13
Private Sector Medium		2	1	1	2	7	9	22
Private Sector Small			1	1	6	6	4	18
(blank)					1			1
Grand Total	4	4	4	7	23	39	34	115

4e. My managers talk to me about health and safety issues

Count of ID	4e							Grand Total
1f	0	1	2	3	4	5	6	
Community Sector			1	1	1	4	1	8
Government Agency						1		1
Industry						1	2	3
Local Government (Council)	2	2	4	3	13	6	19	49
Private Sector Large	1			2		3	7	13
Private Sector Medium			1		1	7	13	22
Private Sector Small	1			1	3	7	6	18
(blank)					1			1
Grand Total	4	2	6	7	19	29	48	115

4f. If I raise a health and safety issue, something is done about it

Count of ID	4f							Grand Total
1f	0	1	2	3	4	5	6	
Community Sector				1	2	3	2	8
Government Agency							1	1
Industry					1		2	3
Local Government (Council)	2	3	1	3	9	13	18	49
Private Sector Large	1	1				3	8	13
Private Sector Medium				3		5	14	22
Private Sector Small					3	9	6	18
(blank)				1				1
Grand Total	3	4	1	8	15	33	51	115

5a. I would like to receive more information about H&S than I do now

Count of ID	5a							Grand Total
1f	0	1	2	3	4	5	6	
Community Sector		1	4	2		1		8
Government Agency				1				1
Industry	1	1	1					3
Local Government (Council)	2	2	12	12	7	7	7	49
Private Sector Large	2	3	3	1	2		2	13
Private Sector Medium	1	1	6	5	5	1	3	22
Private Sector Small		1	4	4	3	3	3	18
(blank)							1	1
Grand Total	6	9	30	25	17	12	16	115

5b. I would like to know more about my organisation's approach to H&S

Count of ID	5b							Grand Total
1f	0	1	2	3	4	5	6	
Community Sector		2	3	2	1			8
Government Agency			1					1
Industry	1	1	1					3
Local Government (Council)	5	8	11	7	8	5	5	49
Private Sector Large	2	3	4	2	1		1	13
Private Sector Medium	2	4	5	3	4	1	3	22
Private Sector Small	1	2	5	5	3		2	18
(blank)							1	1
Grand Total	11	20	30	19	17	6	12	115

