



Waitakere City Council
Te Taiao o Waitakere

Cleaner Production Programme

Hazardous Substances Project

Education Strategy

An education programme for the handling
and use of Hazardous Substances
In Waitakere City

2004

1.0 Contents

2.0	Introduction	1
3.0	Aims and Objectives	2
4.0	Consultation	3
5.0	Methodology	4
5.1	Open Business Forums	4
5.2	Internet	4
5.3	Targeted Media	4
5.4	Educational Resources	5
5.5	Site Visitation	6
5.6	Consultant Liaison	6
4.7	Monitoring	6
4.8	Industry Assessment	6
6.0	Hazardous Substances Cleaner Production	7
6.1	Rethink	7
6.2	Reduce	7
6.3	Re-use	7
6.4	Recycle	8
6.5	Residue	8
7.0	Opportunities for Action	9
7.1	Environmental Management	9
7.1.1	Pollution Control plan	9
7.1.2	Waste Minimisation Plan	10
7.1.3	Water conservation Plan	11
7.1.4	Energy Conservation Plan	11
7.2	Health and Safety	12
8.0	Issues Related to Oil	13
9.0	Issues Related to Paint	14
10.0	Issues Related to Fuels	15
11.0	Monitoring	16

2.0 Introduction

The purpose of the Hazardous Substances and New Organisms Act, 1996, is to: Protect the environment, and the health and safety of people and communities, by preventing or managing the adverse effects of hazardous substances and new organisms.

In April and May 2001 Waitakere City Council undertook a survey of hazardous substances in industry in the New Lynn and Henderson areas. The purpose of the survey was to take a snapshot of the substances in the city highlighting the areas for improvement in relation to hazardous substances use, storage, recycling and disposal, therefore providing the basis for an education programme for businesses that would decrease the risks placed on the environment, and health and safety of people and communities.

The issues that were identified in the Cleaner Production Hazardous Substances Survey included:

- Stormwater control
- Quantities stored and collection frequency
- Hazardous Substances and New Organisms Act education
- Storage, labelling and cross contamination concerns
- Hazardous substance control and tracking
- Emergency response plans, including spill response.

As a result of this project, Waitakere City Council's Cleaner Production team intends to:

- Offer assistance to sites to work through the issues identified where the cleaner production team's expertise is applicable or to link with another agency.
- Research cleaner production technologies and communicate these to businesses.
- Assist in the establishment of accurate and updated Hazardous Substances Inventories.
- Communicate the results of the survey and on-going education initiatives in 'Wise Resource Use', Waitakere City Council's cleaner production newsletter that reaches 4,500 commercial and industrial businesses.
- Work with service suppliers to ensure that the best method for follow-up of issues for each site is identified and an appropriate and consistent service is provided to all Waitakere businesses.

3.0 Aims and Objectives

The objectives of this strategy are to:

Educate Waitakere City industries in the principles of cleaner production;

- Rethink, reduce, reuse, recycle and dispose of residual waste in a responsible manner.

Encourage safer workplaces in regards to hazardous substances;

- Correct storage & labelling requirements.
- Risk reduction associated with hazardous substances.
- The acknowledgement of OSH requirements such as Safety data sheets (SDS) and hazard plans.

Encourage a higher level of environmental protection;

- Emergency Response Planning.
- Spill kits and training.
- Education of the effects of spills on waterways, soil and air.
- Education on the importance of keeping accurate inventories.
- Correct and safe recycling or disposal.
- The acknowledgement of environmental legislation such as HSNO, the Resource Management Act (1991) and the Proposed Auckland Regional Plan: Air, Land & Water (PARP:ALW).

Reduce the quantity of hazardous substances and wastes stored within Waitakere City and therefore reduce the risk of incidence by;

- Encouraging an increase in the frequency of collection of hazardous wastes.
- Education to reduce the effects related to hazardous substances being held on site.

Reduce the quantity of contaminated hazardous waste in Waitakere City;

- Cross contamination of hazardous waste risk awareness.
- Correct storage and clear labelling of hazardous substances.

4.0 Consultation

The education strategy calls for consultation with other authorities related to the cleaner production, safe handling, storage and transportation of hazardous substances. Authorities included:

- Auckland Regional Council (ARC)
- New Zealand Fire Service
- Environmental Risk Management Authority (ERMA)
- Occupational Safety and Health (OSH)
- Ministry for the Environment (MfE)
- Motor Trade Association

The legislation and publications that were referred to include:

- Hazardous Substances and New Organisms Act 1996
- Resource Management Act 1991
- Proposed Auckland Regional Plan: Air, Land and Water 2001
- Guidelines for the Management and Handling of Used Oil
- The New Zealand Waste Strategy.

Service providers consulted include:

- Resene Paints
- Waste Petroleum Combustion Ltd.
- Salters Cartage
- EnviroServices
- Environmental Responsible Solutions
- Nuplex Environmental
- BP New Zealand
- ERS

5.0 Methodology

The Waitakere City Cleaner Production team identified opportunities for action in the Cleaner Production Hazardous Substances survey. The favoured method of delivery is the provision of best practice education in relation to storage, handling, recycling and disposal. Including, but not limited to, visiting businesses requiring immediate mediation, cross-project opportunities, waste removal facilitation and mediation, newspaper publications with contact details and the provision of best practice guidelines.

The education strategy is designed to tie in with the hazardous substances survey and to meet the principles of cleaner production (rethink, reduce, reuse, recycle).

The purpose of this education strategy is to promote hazardous substances cleaner production, reduce toxicity in the city and promoting safer workplaces and healthier environments. This will be undertaken by way of forwarding existing information or creating new information for businesses involved. Currently existing information comes from several different sources including the ARC, MFE and OSH all of which cover best practices for the handling, storage and use of hazardous substances.

5.1 Cross-Project Opportunities

The Hazardous Substances Education Strategy will draw on the existing networks and opportunities of other Cleaner Production Projects for the dissemination of information and assistance. This may take the form of presentations at other project forums, provision of resources to targeted groups and the general provision of information and advice to businesses via existing networks.

5.2 Internet

Taking the example of other local bodies' efforts to control hazardous wastes in their region a web page will be designed and will include useful information to help businesses improve their hazardous substance management, including templates for inventories, disposal etc. The web page will promote local business initiatives and provide contact details for further information. The web page will be designed in conjunction with the public relations department.

5.3 Targeted Media

Articles will be published promoting the positive initiatives undertaken by individual businesses. Articles will be used to encourage other businesses to think about their hazardous substance management and potentially to join the project or seek assistance. Articles will also be published in Cleaner Production industry media to inform other Cleaner Production practitioners of developments in the project.

Media used will include internet articles, articles in the Cleaner Production 'Wise Resource Use' newsletter that goes out to all Waitakere businesses, local newspapers and council newsletters.

It is expected that the response from these articles will increase a client database and provide a 'word of mouth' network as to what is happening in the project. Surveys will be completed by new businesses and existing businesses will be provided with ongoing support and education.

5.4 Educational Resources

There are a number of good educational resources already available. Where copies are able to be obtained these will be provided free to businesses requesting information or participating in the hazardous substances programme. The ARC currently has an education strategy in place which involves mail drops of the educational resources which were developed from consultation with related businesses.

A full list of the educational resources currently available is shown in the table below:

POLLUTION	Produced by	
Pollution Facts (PF): Water Pollution & the ARC (<i>*on ARC Website</i>)	ARC	UPC01
PF: Industrial Pollution Prevention Programme – Site Audits	ARC	UPC02
PF: Being Prepared for a Spill (<i>*on ARC Website</i>)	ARC	UPC04
PF: Painting & Plastering Wastes	ARC	UPC05
PF: Used Oil & Oily Wastes	ARC	UPC06
PF: Flushing, Draining & replacing Radiators	ARC	UPC07
PF: Old Parts & Used Batteries	ARC	UPC08
PF: All Works Involving Concrete, Cement, Lime & Asphalt	ARC	UPC09
PF: Vehicle & Equipment Washing (<i>*on ARC Website</i>)	ARC	UPC10
PF: Washing Earthmoving Equipment	ARC	UPC12
PF: Horizontal / Directional Drilling	ARC	UPC13
PF: Automotive Painting and Panelbeating	ARC	UPC14
PF: Pressure Water-Blasting (<i>*on ARC Website</i>)	ARC	UPC15
PF: Cesspit/Catchpit Waste and Road sweepings	ARC	UPC16
PF: Service Stations	ARC	UPC17
Air Facts: Do you need an Air Discharge Consent	ARC	RQ24
PF: Chemical Storage	ARC	RQ33
FAQ's Concrete Cutting Wastewater	ARC	-
HAZARDOUS SUBSTANCES		
Hazardous Waste? Not on my premises.....	ARC/Castrol	
HSNO		
Introduction to the Hazardous Substance & New Organisms Act	ERMA	
Getting Started: A Guide to HSNO Commencement for Hazardous Substances	ERMA	
A Quick Guide to: Completing a location Certificate	ERMA	
A Quick Guide to: Certificates for Approved Handlers	ERMA	
Quick Guide – Approved Handlers	ERMA	
Information Sheet: Determining the Status of a Substance – do I need to get an approval?	ERMA	
A Quick Guide to: Applying for a Hazardous Substance Approval	ERMA	
INDUSTRY SPECIFIC		
Health, Safety & Environment Guide for the Boat Building Industry	WCC, ACC, ARC, MIA, OSH	
Cleaner Productions Strategies for Lithographic Printers	WCC	
ENVIRONMENTAL POSTERS		
Clean Streams Poster	WCC or blank	
Clean up your Act – You will Make a Difference, 10 tips for Pollution Prevention	ARC	
In Case of a Spill or leak	ARC	
Why Recycle?	Blank	
ENVIRONMENTAL PLANS		
Environmental Operations Plan	ARC	
Enviro-Mark NZ Guideline Notes	Landcare Research	

Cleaner Production will identify the educational material relevant to the business concerned and send it with a covering letter informing the business of the aid available. The mail drop is expected to work in relation to site visitation, which will raise further awareness.

5.5 Site Visitation

As part of the Hazardous Substances Education Strategy a Cleaner Production Officer will visit businesses and give one-on-one advice and recommendations. This will include the provision of educational material, adding businesses to the hazardous substances database, passing on related resources to aid the business and consultation recommendation. Areas promoted will be cleaner production options, hazardous substances storage requirements, spill response options, substitution and alternative disposal options. General discussion with the businesses visited will be used to gain an appreciation of their interests and concerns to tailor the approach taken and the materials/resources provided.

5.6 Consultant Liaison

This will involve inspecting the services provided by the consultant to ensure that they are of a high standard and can be recommended to the business. The aspects to be looked at include safety training, hazardous substance storage, products provided and resource consents required/held. The purpose of this inspection is to provide a service to the community that is known to promote good practice and provide the best service to the client.

It is also hoped to provide a discount, of sorts, to businesses in the city for services provided. This is hoped to make the services more affordable for the businesses involved who are otherwise limited by financial constraints.

5.7 Monitoring

The progress of the education strategy will be monitored by way of interviewing and feedback from involved businesses. The strategy will look immediately for improvement in the way hazardous substances are stored and recycled by way of follow up visits and phone calls.

5.8 Industry Assessment

Assessment strategies will be developed specifically for the industries surveyed. The assessments will provide specific initiatives, case scenarios, sample environmental policies, recycler lists and all any other information a company might need for starting a cleaner production programme. The assessment sheets are developed in conjunction with members of the industry, the industry association and the cleaner production team. Industries that have had an assessment and information sheet developed to date include:

- Screen Printers
- Mechanics
- Lithographic printers
- Boat Builders

6.0 Hazardous Substances cleaner Production

6.1 Rethink

A rethink of business practice is the first of the cleaner production hierarchy. Much of the hazardous waste produced by industry cannot be eliminated due to production processes, markets catered for, existing technology or cost of process redesign. New technologies are being developed as alternatives to existing hazardous substances to minimise the effects of hazardous wastes or substitute with less toxic alternatives.



With all new substances that may be deemed hazardous an application needs to be filled out for approval by ERMA. The requirements of the application include:

- The identification of the substance and its properties
- Information on all the possible adverse effects of the substance on the environment;
- Information on the intended uses of the substance throughout the life cycle of the substance
- Information on methods for disposal of the substance
- Information on the substance gathered from international experience and the result of these experiences
- Such other information as may be prescribed

6.2 Reduce

Reduction of Hazardous Substances in Waitakere City is important for several reasons, in particular the reduction of risks posed by the storage, disposal, quantities and types used within the city. Reducing the purchasing, use and storage of hazardous substances will in turn reduce the risks of accidental spills, health risks to employees, the overall waste produced, and risk to the environment.

The HSNO regulations point out the requirements for the storage of hazardous substances including labeling. The HSE act states the requirements in relation to Health and Safety for employees.

6.3 Re-use

The re-use of hazardous substances includes the added benefits of lowering virgin materials costs, heating costs and purchasing of new product. Often substances can be used within a system much more than is realised as trials have never been carried out, this sort of activity will be encouraged. For non hazardous substances avenues such as the ARC 'Renew Resource Exchange' programme enables businesses to list unwanted materials for pick up by anyone who may be able to reuse them.

6.4 Recycle

Recycling involves the collection of a hazardous substance, refining and selling on. A hazardous waste recycler will collect the substance from a site for any reasonable quantity (for example >400L for used oil). For substances such as solvents the recycled material can usually be purchased back of the collector for a significantly lower cost than the virgin substance. This sort of activity will be encouraged. Cross-contamination is a potential issue for recyclers and would need to be addressed concurrently. Also a regular collection for "large-scale" hazardous substance producers reduces the quantity stored on site which is considered a benefit.

6.5 Residue

This strategy recognises the 'New Zealand Waste Strategy' (MfE, March 2002) target that "By December 2004, hazardous wastes will be appropriately treated before disposal at licensed facilities, and current recovery and recycling rates will be established for a list of priority hazardous wastes." Other targets involve increasing the recycling of priority hazardous wastes by 20% by the year 2012. Cleaner Production supports these targets and will seek to achieve a reduction of hazardous substance disposal and an increase in recycling rates, actual percentages and quantities however will be difficult to capture in a voluntary project.

The strategy will educate businesses about incorrect disposal methods and provide alternatives, such as recyclers or correct disposers. It will also educate about the penalties and consequences of incorrect hazardous substance disposal, and provide best practices guidelines for the storage/holding of hazardous substances while waiting for disposal. It is proposed to involve hazardous substance recyclers and disposers in the development and implementation of this.

The HSNO regulations define the disposal of hazardous substances as treating the substance using a method that changes the characteristics or composition of the substance so that the substance is no longer a hazardous substance. Treatment does not include depositing the substance in a landfill or a sewage facility or detonation, deflagration, or controlled combustion of the substance unless the detonation, deflagration, or controlled combustion is managed to ensure that no person, or place where a person may legally be, is exposed to it.

7.0 Opportunities for Action

The education strategy will encourage the appropriate use of hazardous substance in regards to Environmental Management and Health and Safety.

7.1 ENVIRONMENTAL MANAGEMENT

As part of the Hazardous Substances Education Strategy businesses will be assisted with improving their Environmental Management practices. Pollution control plans, waste minimisation plans, emergency response plans, water conservation plans and energy conservation plans will be considered for each site. Environmental Management Systems where appropriate will be encouraged utilising existing resources such as the EnviroMark programme, ISO 14000 and the ARC's Environmental Operations Plan.

The survey found that only 7.5% of surveyed businesses had a formal environmental policy and only 5.3% had an environmental management system. The education strategy will emphasise the importance of these in acknowledgement to HSE, HSNO and ARC requirements. Raising these percentages is expected to decrease the risks associated with hazardous substances.

Only a handful of businesses were found that could provide a hazardous substance inventory. The HSNO act requires the authority to have knowledge of the quantities of hazardous substances that are in its city boundaries. The education strategy will look at developing a free basic inventory sheet that will enable businesses to keep accurate levels of stock on site. The sheet will include ingoing, outgoing, spillages and use. And, ideally an update would be sent to the authority for update of the general database.

SDS sheets are a requirement for the company to hold on site for quick and easy identification of hazardous substances and the effects that they pose if an incident occurs. The survey found that many sites could not provide a SDS sheet for the identification of substances. To remedy this it is proposed that the education strategy will inform businesses of the ease of acquirement from the suppliers of the substance and from other sources such as the internet.

7.1.1 Pollution Control plan

A Pollution Control Plan has a number of elements to it. These include good storage and labelling practices, handling practices, transportation practices and spill response/emergency procedures.

The survey revealed that almost half of the sites had a spill kit of some kind but only 10.7% had a spill response plan. Therefore there are educational opportunities for pollution control planning and emergency response. Existing resources such as the Auckland Regional Councils Environmental Operations Plan (EOP) can be utilised or adapted for pollution control planning, including the establishment of a spill response plan. Also in the Site design section of the ARC's EOP there is information on storage and bunding, refuelling areas, stockpiles, underground storage tanks and stormwater protection.

HSNO regulations require that information be readily available including a 24 emergency contact, a description of the material (SDS), a list of any special training, conditions of storage, secondary containment, signage, fire response and more depending on the level of risk associated with the hazardous substance.

The purpose of the pollution control plan is to minimise the risk to both the environment and to worker health and safety by having a plan in place which outlines the steps to take in the event of an incident occurring such as a spill. The education strategy will look at best practice methods for the elimination or reduction of environmental effects due to the release of a hazardous substance.

Emergency response procedures are an integral part of a Pollution control plan. It is important to look at all aspects of a particular hazardous substance and develop a plan according to the level of hazard posed by it. Businesses will be educated on how to write good emergency response procedures:

Emergency response procedures should:

- Describe the actions to be taken to warn people at the place and surrounding areas that an emergency has occurred;
- Advise those people about the actions they should take to protect themselves; and help or treat any person injured in the emergency.
- Manage the emergency so that its adverse effects are first restricted to the area initially affected, then as soon as practicable reduced in severity, then if reasonably possible eliminated.
- Re-establish the controls imposed on substances remaining,
- Identify every person with responsibility for undertaking any of the actions and give information on any skills and any actions that person is expected to take
- Specify how to obtain information about the hazardous properties and means of controlling the substance
- Specify actions to be taken to contact any emergency service provider;
- Specify the purpose and location of each item of emergency equipment or material, decide which actions to take and the sequence in which actions should be taken
- Specify how to report on an incident

7.1.2 Waste Minimisation Plan

A waste minimization plan involves all levels of the company's personnel recognising the need for a plan to reduce;

- Purchasing of raw materials
- The quantity of waste entering the landfills
- The effects on the environment of chemicals used in the workspace
- The reduction and associated costs of lost materials caused by spillage, evaporation etc.

Elements of the Waste Minimisation plan can include;

- The setting of definitive targets with dates of review to give a deadline and reduce distractions.
- The ability for staff to provide feedback on the plan. The person on the 'shop floor' would be the best person to ask on how to reduce wastes
- Procedures for sorting waste.
- Review of production processes in relation to reducing resources used.

A large contributor to the waste stream is contaminated waste. The introduction of a waste minimisation plan will give businesses an idea of what initiatives can be undertaken to minimise waste as a result of cross contamination.

It is required by many recycling companies to only put certain wastes into collection drums. Educating businesses on the recyclers' requirements and the legal requirements of signage will reduce the risk of cross contamination.

The HSNO act requires signage to be clearly presented for the contained substances to be identifiable within 0.3m. The printing is required to have a contrasting background colour. The signage requires primary and secondary identifiers to be clear and be specific for the substance stored.

Good house keeping practices can reduce the amount of hazardous waste stored in work areas therefore reducing the risk of spills and the risks imposed on workers. Good house keeping simply involves the keeping of the work place tidy and clean, with spills being cleaned up and further spills prevented. As an example a leak of hydraulic oil over the floor, good house keeping would identify the leak quickly, clean up the spill and eliminate the further waste of oil. The effectiveness of a good housekeeping plan will be reflected in relation to financial savings and public image. The ease of initiation of the plans will also be emphasised to encourage the businesses to reduce the quantity of lost resource.

7.1.3 Water conservation Plan

Water conservation requires the set up and maintenance of a monitoring programme. Designed to monitor water usage and locate any possible leaks. This can be done simply by looking at the water billing provided by Council, or if a business wants to take a more in-depth look at their water usage then the strategy will also look at referring businesses to consultants and engineers.

7.1.4 Energy Conservation Plan

Energy conservation includes the establishment of a maintenance schedule for workshop machinery, such as compressors, and domestic machinery. Awareness can be raised through educational material or by introduction of an energy monitoring programme where appropriate.

7.2 HEALTH & SAFETY

Reduction of the storage of hazardous substances, hazardous substance waste and improving house-keeping leads to a reduction of risk to both the environment and employees. Due to the strong links between health, safety and the environment, it will be encouraged that businesses link their health and safety policies and plans with their environmental policies and plans.

The HSE and HSNO acts set out guidelines to minimise, if not eliminate the risk of a hazardous substance towards the environment, employees and/or visitors visiting at a place of work. If a hazardous substance is stored on site simple measures can be taken to reduce the risk of the substance. These measures can include things such as isolation of the substance that in turn reduces the effects of vapour release, fire, spills, cross contamination and other foreseeable situations.

8.0 Issues Related to Oil

The Cleaner Production Hazardous Substances survey found that 31% of businesses surveyed held oil on-site, and 22.5% held used oil. 22% of these sites recycle their used oil, the automotive industry making up the majority of this figure. It was also found that 77% of businesses that have used oil onsite lack an emergency spill response plan. The quantities of oil held on site were also found to be an issue. Businesses with more than 400 litres of used oil on-site made up 50% of all businesses storing used oil. This 50% reflects the irregularity of the collection service requested/provided.

Overall the issues relating to oil that were revealed in the survey include concerns with regards to storage practices, quantities held on site, oil filter recycling, lack of businesses with spill response plans and concerns about contamination of the environment.

The concerns identified in the survey will be addressed through this strategy. In particular it is proposed to develop best practice guidelines on the storage, handling and disposal of used oil and distribute these initially to those involved in the survey and then as needed. A rethink will be instigated by the education strategy to start businesses rethinking the basic resources of the industry. Asking questions like;

- “Does the oil need to be used?”
- “What else is oil contaminating?”
- “What can be done with the used oil?”

The choice of media will reflect the importance of the message. Possible methods of delivery include cross-project opportunities, mail drops, targeted media and site visits. Existing resources will be used to educate and motivate businesses to create and adopt procedures appropriate to the use, storage, handling and disposal of used oil.

8.1 Opportunities for Education – Issues related to Oil

- Environmental Effects of oil in waterways or soil.
- Improving written procedures on handling and use of oil, including Spill Response Plans
- Improving storage and labelling set-ups, including regular audits
- Improving collection frequencies for used oil, and therefore;
- Reducing storage quantities
- Oil filter recycling opportunities
- Opportunities for commercial cleaning and reuse of oily rags
- Improving house-keeping to manage spills and improve the appearance of a business.

9.0 Issues Related to Paint

The Cleaner Production Hazardous Substances survey revealed that paint was stored on 40% of the sites surveyed. Paint and its associated wastes, such as thinners and slops, were found to be recycled by 10% of these companies. It was also found that 60% of businesses that have paint associated wastes onsite lack an emergency spill response plan. Businesses found to hold more than 100 litres of paint and thinners on site made up 70% of these businesses. Of this figure, 70% detailed the paint as a waste. The main issues that arose with regards to paint included storage, emergency response planning, cleaning of paint equipment and the recycling/disposal of paint wastes.

The education strategy will research new technologies to minimise the wastes associated with paint products, for example Spray Gun Cleaner's can significantly minimise the use of thinners in the clean up of automotive spray gun cleaning. The associated effects will include reduced thinner purchase and reduced waste disposal costs. A rethink will be instigated by the education strategy to start businesses to rethinking the basic resources of the industry. Asking questions like:

- "Can we improve our processes so we use less paint?"
- "Is there a better way of cleaning our paint equipment?"
- "What can be done with the waste paint and thinners?"
- "Is disposing of the paint the best way to get rid of it?"

The choice of media will reflect the importance of the message. Possible methods of delivery include cross-project opportunities, mail drops, targeted media and site visits. Existing resources will be used to educate and motivate businesses to improve their management of paints and their associated wastes.

9.1 Opportunities for Education – Issues related to Paint

- Potential environmental effects of paint
- Improving written procedures on handling and use of oil, including Spill Response Plans
- Resource efficient cleaning of paint equipment (paint reticulation cleaning systems)
- Environmental impact of wash water, how to contain wash water
- Improving storage areas
- Storage and segregation (separating water based and thinner based paints)
- Recycling of paint containers.
- Reuse of paint thinners, turpentine, mineral spirits and solvents
- Minimising paint waste
- Disposal options for paint waste
- Disposal of paint contaminated waste such as paper, slops, tins and absorbent spill material.

10.0 Issues Related to Fuels

The Cleaner Production Hazardous Substances survey found that fuels such as diesel, petroleum and racing fuel were being stored on 11% of the sites surveyed with most of the sites holding a combination of these. It was found that 15% of businesses that have fuel products onsite lack an emergency spill response kit. Fuel and its associated risks such as explosion, fire and vapour will be emphasised by the education strategy. The main issues identified include storage, emergency response planning, access to tanks and stock knowledge.

The education strategy will look at encouraging the safe handling, storage and use of fuels. The strategy will research alternatives and new technologies that may reduce the wastes associated with fuels. The education strategy will install cleaner production principles such as “Rethink”, “Reduce”, “Reuse” and “Recycle” in relation to fuels. Asking questions like:

- “Does the fuel need to be used?”
- “Is the fuel stored appropriately and waste minimised?”
- “Are there any discrepancies in storage levels?”
- “Can the fuel be recycled?”

Existing resources will be used to educate and motivate businesses to improve their management of fuels on site. The choice of media will reflect the importance of the message and may include cross-project opportunities, mail drops, targeted media and site visits.

10.1 Opportunities for Education – Issues Related to Fuels

- Potential environmental effects of fuels
- Improving written procedures on the handling and use of fuels, including Spill Response Plans and drum/tank maintenance
- Improved storage of fuels, taking into account access ways for deliveries
- Improved labelling of drums/tanks
- Improving stock inventories including collection and use information to reconcile what is held in the drum/tank at any given time

11.0 Monitoring

The progress of the education strategy will be monitored to show signs of improvement with regards to the use, storage and handling of hazardous substances. The strategy will reconfirm with companies the best practice of hazardous substances through phone calls and site visitation. This will allow the officer to have a catch up with the clients' progress, update the hazardous substances database and encourage further improvement. Monitoring will also be used to detect which aspects of the education strategy are successful and which are not so that the planning can be adapted as the project progresses. Monitoring will also rank the level of success through peer assessment on the level of improvement available from clients. The assessment period will be determined according to the level of activity in the project and the programme will be altered accordingly.