



Middlesex  
University



# ENVIRONMENTAL REVIEW REPORT

FOR

SAVE A CUP

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## CONTENTS

<b>CONTENTS</b> .....	<b>3</b>
<b>INTRODUCTION</b> .....	<b>4</b>
<b>A. ORGANISATION ACTIVITIES AND BACKGROUND</b> .....	<b>5</b>
<b>B. OPERATIONS DETAILS</b> .....	<b>8</b>
1. SUPPLIERS .....	8
2. RAW MATERIALS .....	8
3. PROCESSES .....	9
4. ENERGY .....	9
5. TRANSPORT .....	10
6. WASTE .....	10
7. STORAGE .....	10
<b>C. MANAGEMENT ISSUES</b> .....	<b>11</b>
MANAGEMENT STRUCTURE .....	11
TRAINING .....	11
FINANCIAL MATTERS .....	11
PUBLIC RELATIONS & MARKETING .....	11
<b>SWOT ANALYSIS</b> .....	<b>12</b>
<b>D. CONCLUSION AND RECOMMENDATION</b> .....	<b>13</b>

## INTRODUCTION

There are many environmental pressures which businesses have to face in their day-to-day operations. These pressures bring direct costs to the business, even though these costs sometimes can be hidden. Some of the main pressures businesses are subject to are: legislation, competitors, suppliers, social values, improve environmental performance, supply chain pressure, customer's needs, reduce costs.

By incorporating environmental management into everyday business it is possible to identify major areas where pressure is exerted and subsequently reach cost reduction through better resource and waste management.

Environmental management is: "A continuous process of planning, implementing, reviewing and improving the actions that an organisation takes to meet its environmental obligations"<sup>1</sup>

The process of environmental management within an organisation begins with reviewing of the current level of environmental performance. The review gives the organisation a broad picture of the company's environmental impact, depending on its activities, it identifies areas of potential improvement and cost reduction, and builds a framework for proactive responses to upcoming changes.

This Environmental Review will briefly:

- Measure your present commitment towards the environment;
- Recommend initiatives of environmental improvement
- Prioritise recommendations according to environmental desirability, legal necessity, and cost of implementation.

This environmental review report focuses on the main production processes and associated environmental impacts of **SAVE A CUP**, with the aim to highlight areas where the organisation could make improvements and where it is performing well. The environmental review took place at the main office of Save a Cup and not at the reprocessing plant in Yorkshire.

The environmental review took place on the 12<sup>th</sup> February 2004, with the presence of Graham Pascoe, General Manager and Daniela Meilmann, Project Officer from CESMB.

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<sup>1</sup> Reference: Introduction to the Environment and your Business, Workbook 1, page 23.

## **A. ORGANISATION ACTIVITIES AND BACKGROUND**

Save a Cup is an industry led scheme to collect and recycle used polystyrene vending cups. It was a pilot scheme, which started in 1990. In April 1992 it became a non for profit organisation dedicated to providing companies with cost effective, environmentally responsible service for cup disposal.

‘The Save a Cup scheme’ which was established by the vending, foodservice and plastic industries to collect the millions of hard wall polystyrene cups used in the UK everyday. The company objective’s is to increase the amount of cups collected in line with the government targets for recycling packaging waste. There are special bins or purpose designed on site cup flaking machines. Members benefit from savings achieved through removing cups from the general waste, and avoiding the ever increasing landfill and waste management costs.

Save a Cup scheme offers free collection recycling service. There is a fleet of 5 vehicles and 10 independent waste collectors. Either a Save A Cup vehicle or a third party agent acting on behalf of Save a Cup, who is already making collections of other recyclables in the area, will collect the filled sacks of cups for the company premises. The cups are transported in bulk to a reprocessor. To reduce costs, no pre sorting is carried out prior reprocessing. At the re-processor, bags of cups are fed onto a conveyor and through a hydrocyclonic washing system. Contaminants are removed using sink/float chambers. All cups go to the reprocessing plant in Yorkshire. Save a Cup commissions a variety of items, which are then sold. Pens, Pencils, cup trays and rulers, paper clips, business card holder, desk blocks, rulers, key fobs, are some products made from the processed materials (recyclate).

Currently Save a Cup developed an innovative financial structure incorporating a revolutionary 0.01p environment charge on all new vending cups. The charge will help support the cost of running and expanding the service into the future.

Also, where member companies are registered with the Environment Agency with regard to the Packaging Waste Regulations, Packaging Recycling Notes (PRNs) may be purchased from Save a Cup for tonnage recycled. All income generated from the sale of PRNs is used to support the free collection of post consumer vending type cups.

Save a Cup Recycling Company is currently reviewing and reconstructing its business structure. The company has a total staff of 13 of which 4 part time and 5 drivers.

## **B. PROPERTY DESCRIPTION**

Save a Cup (SAC) head office is based in High Wycombe. CESMB Project Officer visited the main office location. The office occupies an old building built around 1960. SAC have been in the building for approx 8 years and the office contains 4 rooms. The office is based on the first one floor.

The building is adjacent to a car park, with clearly marked car parking spaces. There is no cycling sheds for bicycles storage.

SAC are leasing the building and the landlord is responsible for the external features of the building.

SAC pay a flat rent rate which includes water, electricity, heating, waste. The landlord is responsible for the site management of the building.

### **C. POLICIES**

The policies published by an organisation are a reflection of its aims and aspirations and the extent to which it is trying to implement identified strategies. A policy is a statement describing the organisation's operations and activities. The statement indicates commitment to reducing environmental impacts and improving environmental performance and compliance with environmental legislation. It indicates how the policy will be implemented and maintained at all levels of the organisation.

Policies should be made available to the public, shareholders and customers as well as internal staff. It should state that the company's operations will be audited on a regular basis to identify strengths and areas for improvement and to highlight actions required to prevent potential deficiencies. It is necessary to demonstrate how the policy is implemented, by reporting, reviewing and recording all actions. The policies will also be a reflection of the main concerns and areas of operation of the organisation.

Currently Save a Cup have an environmental policy, Health and Safety policy, which are all under review.

Policies are kept on the PC, and as hard copies files. These policies are not published externally or internally. Policies will be published externally if needed. All new staff that join receive a copy of the policy which is also published on the notice board. It is the responsibility of the General Manager to check and implement and review the policies but this is not happening. Copies of all policies are given to staff when they join the company. The environmental policy is not implemented, there are no action plans, targets or any other measures, to check and monitor actions.

The general manager is responsible for the implementation of the policies and is also responsible for the environmental affairs of the organisation.

## **B. OPERATIONS DETAILS**

In order to have a complete understanding of the company's operations, it is necessary to have a complete picture of the IN-PROCESS-OUT of the organisation.

Where for example:

**IN** refers to: **Suppliers, Raw materials**

**PROCESS** refers to: **Processes, Energy, Water use, Packaging, Storage and Transport**

**OUT** refers to: **Final Product and Waste**

SAC does not design new products and does not manufacture any products. Any of the products are not subjected to environmental legislation. All polymers derive from oil. SAC recycle 99% of all its products. SAC aim to keep the packaging to a minimum, where it is mostly reused. It is difficult for SAC products to break into the market, some of the difficulties are: problems in advertising, attractiveness colour of pens, internal companies (stationary materials suppliers) politics to market recycled products.

The main problem is that recycling adds additional costs. These costs are the following:

- Collection of products
- Recycling process
- Delivery
- Transport
- Infrastructures
- Developing alternative products
- Marketing those products

This process is very difficult, as there is no initial capital to invest in infrastructures, even though the landfill tax is going to increase. Only companies such as TESCO and Sainsbury provide those re processed products as an option for customers to buy in their shops. Other big stationery providers are reluctant to sell recycled products as they want specific outlets for those products and this is not the case.

### **1. Suppliers**

The suppliers that an organisation uses are an important factor for evaluating the environmental awareness of the organisation. Most of the SAC suppliers are for office based activities, printers, cartridges, various electronic equipment, computers, paper. Also the members companies are suppliers of plastic cups for recycling.

### **2. Raw materials**

SAC use mainly plastic cups as raw materials. Water during the reprocessing. It is 1000 litre per hr.

### 3. Processes

The main process of SAC is office-based activities and the reprocessing plant in Yorkshire. The whole recycling process typical run lasts 24 hr. SAC provide desk top items as products and also garden furniture.

1. SAC or Independent waste collectors collect the used cups from schools, colleges, hospitals, shops, government buildings, companies free of charge basis nation-wide. Clients should stacks the cups in an efficient and safe way in polythene bags.
2. Bags of cups are then taken to a Waste Transfer Station or independent collectors' premises to await bailing once sufficient stocks have built up. Vehicles are weightbridged when they enter these sites and again when they leave. This enable SAC to monitor weight of cups collected.
3. When sufficient stocks have built up. Cups are baled (1m<sup>3</sup> weigh 500kg) known as a 'Mill Size Ball'. Once baled cups are stored until there is a sufficient quantity of bales available to arrange transport for transfer to reprocessor.
4. Aprox. 30/40 bales are transported to Linpac Plastics Recycling. When delivery is made into Linpac it is given an individual job number for the batch traceability purpose. Once the bales are offloaded they are places into bunker to wait for a sufficient stock to built up to allow a production run to be scheduled, usually for 40 tonnes.
5. Start the reprocess procedure. The 'Hydrocyclonic Washing Plant' which separates the contaminants from the polystyrene materials. Although it is difficult to get the sugar out of cups and so there is a need to improve the cleaning efficiency process.
6. Once the material is washed and put into bulk bags it is known as either jaz or regrind material or put into storage. The material is given a wash batch number that will begin with the letter WE. Some material will be converted into compound material.
7. If SAC require this regrind material to be converted in compound the material wash batch is recorded and the resulting compounded material is given a new batch number beginning with the letters LR.
8. This compounded material can be made to meet a specific customers requirement.
9. At all the time SAC monitor and are responsible for the sale of recycled materials.

### 4. Energy

According to Action Energy<sup>2</sup>, the annual UK energy bill for Small Medium Size Enterprises SMEs alone is 3.5bn. SMEs are on average wasting 30% of the energy that they pay for. SMEs have the perception that energy is a fixed cost, but it is not, it is variable and it can be lowered. Consumption of energy is a major cost of many organisations, and is also a major opportunity for cost savings. It is common for PCs to be left on all night; at lunchtime in an office space. The future trend is likely to be that energy costs will rise because of Climate Change Levy, as an attempt to control carbon emissions.

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<sup>2</sup> website

SAC energy usage is mainly during office hours, energy is used for electricity, computers, lighting, heating and few electrical fans and air conditioning fans. The energy that is used for the recycling process, as the only source of energy is electricity. The electricity consumption is 600ampps approx 1000k G/HR. There is also a compressor on site which generate compressed air.

**5. Transport**

There are 2 company cars and other 5 vans. The vans are used for transport of materials from and to the storage area. There is no transport policy on shared driving policy. The recycled compounded material is transported in 1 tonne batches made up of 25 kilos bags. These are then transported on a lorry, which may be either ridged, or articulate type, depends on other deliveries being carried out at that particular time. At present SAC have 5 vans which might run on a low sulphur diesel. A Typical weight carried is approx.1 tonnes when full. The average distance between the Waste Transfer Station and the reprocessors is 150 miles approx.

**6. Waste**

All organisations produce waste. The costs of waste disposal are increasing and are likely to continue to do so. The aim of any organisation moving towards sustainability is to reduce its resource use and minimise the waste being disposed of. Reuse is encouraged as much as the contract allows.

Most of the waste is office waste at the office, mainly paper which has been recycled. During the recycling process of cups, there is some bale wrapping which is made of steel wire or nylon banding. Some if it is disposed to landfill or if possible recycled through a scrap metal merchant. Additional waste is from the contaminates which are washed out the cups during the ‘Hydrocyclonic Washing plant’, usually each cup old 30% of residual liquor. This was is sent to landfill. There is also some discharge to the sewer which is 1000 litres per hr, to foul sewer.

**7. Storage**

It is important that all materials are properly stored and that information about the materials is documented and labelled, and a clear emergency procedure exists in the event of abnormal situations.

Materials	Purpose	Controls	Location	Disposal
Plastic cups	Collected for recycling		Stored at client	
	Bulk on site		Waste transfer station	

*Figure D 7.1: Storage Materials*

Members companies check the bags are closed and that they contain only cups. All bags are labelled and all storage areas are reasonably secure. There are emergency procedures in the event of abnormal situations at the Waste Transfer Stations.

## **C. MANAGEMENT ISSUES**

Training in environmental understanding, awareness and knowledge is necessary in order to spread the environmental strategy throughout the organisation. Training should also be a two way process, encouraging and equipping staff to contribute to the environmental improvement process. Currently there are no formal environmental training procedures, and any training is carried out on in an informal way. There is no formal measure of environmental performance for staff. The only environmental information provided to staff is the environmental policy. Most of the staff are environmentally aware because of the nature of the business.

### **Management structure**

For an effective implementation of environmental practices in an organisation, there needs to be someone with responsibility for environmental affairs; they should have clear levels of responsibility and be able to report to senior colleagues regarding decisions. It is also common practice to have a group of staff representing different departments in the organisation to contribute to environmental knowledge and developments. The responsible “Environmental champion” of SAC is Grhama Pascoe. It is important that his environmental responsibilities are specified within his job specifications. At the moment SAC is undertaking restructuring and therefore management structure will vary.

### **Training**

There is no environmental training provided to employees, and there is no measure their environmental awareness.

### **Financial Matters**

Environmental issues are considered when planning a budget, analysis are made on the cost impact of recycling cups. There is a issue with the economics and marketing of the recycled products. There is no market for those products. There is an issue with the viability of collection. Environmental savings are identified in the finance controls, and a cost benefit analysis is applied. Decisions are taken on logistics and transport issue. SAC aim to use most energy efficient equipment and low energy usage.

### **Public Relations & Marketing**

SAC does not publish any environmental information within its marketing materials. However because of the nature of the SAC objectives, and the business it is within it is assured that all marketing materials are of environmental nature. The only information that it is available to is the environmental statement (policy), which has not been monitored nor implemented. General Manager is now working to update the website with new information and different details of studies SAC has commissioned. E.g. Life Cycle Analysis of recycled cups. Sometimes Members companies complain when there is miss collections.

**SWOT ANALYSIS**

The SWOT analysis highlights the Strengths, Weaknesses, Opportunities and Threats of SAC.

<p style="text-align: center;"><b><u>STRENGTHS</u></b></p> <ul style="list-style-type: none"> <li>✓ Environmental statement policy</li> <li>✓ Staff environmentally aware</li> <li>✓ Economics and recycled products</li> <li>✓ LCA of products</li> </ul>	<p style="text-align: center;"><b><u>WEAKNESSES</u></b></p> <ul style="list-style-type: none"> <li>❖ Staff Transport</li> <li>❖ No formal environmental staff training</li> <li>❖ Single infrastructure in North England</li> <li>❖ Lack of implementation environmental policy</li> </ul>
<p style="text-align: center;"><b><u>OPPORTUNITIES</u></b></p> <ul style="list-style-type: none"> <li>✓ Improve environmental policy</li> <li>✓ Implement Environmental policy</li> <li>✓ Use Environmental Image in the marketing.</li> <li>✓ Improve Environmental training</li> <li>✓ Improve environmental awareness</li> <li>✓ Office Measure to minimise electricity usage (switch off PCs at lunch time, monitors see Appendix A)</li> <li>✓ Improve marketing and website</li> </ul>	<p style="text-align: center;"><b><u>THREATS</u></b></p> <ul style="list-style-type: none"> <li>❖ Pressure from end customers to improve their environmental performance.</li> <li>❖ Pressure from market place</li> <li>❖ European Legislation,</li> </ul>

*Figure F 4.1: Swot Analysis*

#### **D. CONCLUSION AND RECOMMENDATION**

The environmental review has emphasised some issues that SAC should consider. It is recommended to deal with one issue a year and take a step by step approach.

##### **Environmental policy**

It is recommended to make public all policies which are set out; all policies should be readily available to staff, customers and the public. Also SAC ensure the marketing staff understand the environmental policies aims. Environmental policy is to be implemented. CESMB recommends a programme of actions to implement the policy. The responsible for environmental affair should have his responsibilities specified within his job specification.

##### **Waste**

Office measure to minimise electricity usage (switch off PCs at lunch time, monitors - see Appendix A)  
Re-introduce paper recycling or look at the storage room.

##### **Training**

Improve communication with employees. Improve environmental training and improve environmental awareness amongst staff.

##### **Marketing**

Improve environmental image. Use Environmental Image in the marketing, and therefore improve the general marketing strategy.

##### **Management Systems**

Sustainability can be directly related to sales, as in marketing tool, within the development strategy, training staff and therefore human resources and finally directly come under the Services of Quality Management System and Environmental Management System.

CESMB the general office practices described in APPENDIX A.

## APPENDIX A

### Environmental Management in the Office:

- ✓ Switch off Computers and **Monitors** when not in use.
- ✓ Replace, when it is needed and whenever possible, light tubes with the more efficient 26mm
- ✓ Use Energy Efficient light Bulbs
- ✓ Switch off lights in unoccupied areas: i.e. toilets, meeting room etc.
- ✓ Regulate heating to a comfortable temperature, so that employees will not open windows or use electrical fan heaters during the winter
- ✓ Print double sided and re-use paper
- ✓ Divide waste in categories and recycle it: i.e. cans, white paper, coloured paper, plastic cups etc.
- ✓ Use recycled paper
- ✓ Re-fill cartridges (Use suppliers that take back old Cartridges, e.g. HP)