Sample

Environmental Improvement Plan

Sinéad Ní Mhainnín
Galway County Council
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1.1 Introduction

XXX is currently participating in a Waste Prevention Programme in conjunction with Galway County Council. The aim of the programme is to identify practical implementable measures which will lead to waste prevention and a reduction in energy and water consumption within the supermarket.

Participation in this programme aims to assist the supermarket improve their environmental performance through the implementation of good environmental practices. It should be noted that environmental management is an all encompassing process that should include every aspect of an organisation from finance, human resources and public relations to maintenance, purchasing and planning.

A common barrier to developing, implementing and maintaining a full and effective environmental management system is often uncertainty on how to progress. To help initiate this process, the following pages include a report on your supermarket in addition to various checklists that outline some of the elements that you should consider as you undertake to improve your environmental performance.

When starting an environmental programme the basic steps which you should consider include:

- Management commitment to improvements
- Staff involvement
- Identification of realistic achievable targets
- Continual monitoring

The combined effect of the above steps is improved environmental performance and a competitive advantage for your business. This process involves identifying the current situation with regard to environmental performance and identifying and implementing practices which will result in improvements. Improved resource use and prevention opportunities are easy to identify when you have clear and comprehensive information about your supermarket's activities.

Another useful tool when looking at improving your environmental performance is looking at key performance indicators relevant to your business. The identification of key performance indicators is very important as you undertake environmental improvements. KPI's are calculated by comparing different operational periods and resources used against production or a sector based constant. KPI's will allow business compare previous environmental performance against new practices and also monitor and evaluate improvements. Key performance indicator examples include:

- kg of waste
- kWh energy / per m^2
- floor area / m^3 water
- bed nights sold

1.2 Benefits of Improving Environmental Performance

In addition to the environmental improvements that can be achieved in business by introducing good housekeeping measures, potential additional benefits include:

- Economic competitiveness
- Increased awareness
- Capture 'green business' customer demand
- Corporate social responsibility
- Enhanced corporate image
- Reduced resource consumption
- Cost reductions through improved efficiency
- Increased capacity amongst staff
- Increased awareness of current and future environmental legislation

1.3 Good Practices *Waste Management*

Significant savings can be made by ensuring that waste is managed properly within any business. It is important to identify the quantity and type of waste produced on-site. Once this is done, it is then time to look at your waste and see what can be prevented. All materials suitable for recycling should be segregated at source and bagged or compacted and stored appropriately. Many businesses can save 10% on their waste costs by implementing no cost and low cost waste solutions. As your business serves food, reducing your food waste should be a priority, as doing this should improve your environmental performance and save you money. Little investment is required – it's just a matter of implementing some simple housekeeping procedures.

1.4 Good Practices *Energy Management*

In business the use of electricity, oil and gas will in general make up your total energy spend. Monitoring and management of electricity, oil and gas on site is very achievable, once you know how. You should endeavor to monitor usage by taking regular meter readings, comparing use with production or turnover and monitoring invoices through inputting data onto a data sheet.

If you take electricity for example, one of the easiest ways to reduce your electricity cost is to ensure that you are on the correct tariff. Check with the various energy suppliers to see what they charge. For a full list of companies see the commission for energy regulator's

website www.cer.ie. Try and avoid estimated electricity bills as this can sometimes prove difficult with cash flow. Where possible, supply your electricity supplier with monthly meter readings by phone or through email.

Your total electricity cost is made up of a number of components which include:

- Cost per unit
- kWh which are the amounts of units you use
- Standing charges and VAT

1.5 Good Practices *Water Management*

If you want to reduce your environmental costs then you need to address water usage, water conservation and water management. Historically we waste a huge amount of water in this country, but this is now changing. To conserve water and save money you need to implement a water conservation programme in your business targeting the main water using areas. This could include areas such as food preparation areas and toilet facilities. It is important to address the following:

- Check for and fix leaks
- Measure and monitor water consumption
- Install water saving devices
- Consider rainwater harvesting

Hot water wastage costs 10 times more than cold water wastage.

2.1 Environmental Auditing

The first phase of the prevention programme in the supermarket was to accurately access the existing situation with regard to waste arising, energy consumption and water consumption on site.

A waste and water review was carried out on site, where various practices and general operations were monitored. In addition to the walk through review, a desktop study was also undertaken examining details of the annual waste arising, energy consumption and water consumption based on invoices available and general information gained from informal interviews with staff.

2.1.1 Waste Review

Waste management on site is currently based on a general waste collection and a segregated collection for recyclables and food waste. Approximately 40 tonnes of waste is generated on-site per annum, with approximately 12 tonnes (32%) going to landfill and the remaining 27 tonnes (68%) being recycled and composted, see Table 1.

The segregation of recyclables on site is quiet good, however there was evidence of recyclables in the landfill bin. There is scope to further reduce the landfill element of the waste by ensuring that no recyclable or compostable waste is landfilled. Examples of waste suitable for recycling found in the landfill stream include pizza boxes, beverage cans, ice cream cartons, plastic bottles and cardboard. It should be noted that there are a number of litter bins located at the entrance to the shop which is emptied directly into the landfill bin. This waste often contains recyclables which could be recycled if appropriate segregation facilities through the litter bin system were available.

The annual cost of waste disposal is approximately €7,200 per annum.

During 2010 the quantity of monthly landfill waste arising varied between 770kgs and 1200kgs as outlined in Figure 1.

Table 1 – Total Monthly Waste Arising 2010

2010	Landfill Waste	Recyclable Waste	Cardboard Bales	Plastic Bales	Food Waste	TOTAL
January	1120	210	483	90	870	2773
February	1010	280	545	0	785	2620
March	770	445	745	45	960	2965
April	1040	510	360	25	1025	2960
May	760	725	709	55	950	3199
June	980	410	675	70	1098	3233
July	1100	450	820	0	1010	3380
August	1200	465	770	40	1721	4196
September	1030	430	994	90	1100	3644
October	1170	485	642	0	1273	3570
November	1040	465	575	55	1810	3945
December	830	465	692	0	890	2877
TOTAL	**12,050**	**5,340**	**8,010**	**470**	**13,492**	**39,362**

Recycling stream waste arising varied between approximately 780kgs and 1490kgs, see Figure 2, and the stream with the widest variation was food waste, which varied between 785kgs and 1810kgs per month as outlined in Figure 3.

Figure 1 -kgs of Landfill Waste a rising on site during 2010

Figure 2 - kgs of Recyclable Waste arising on site during 2010

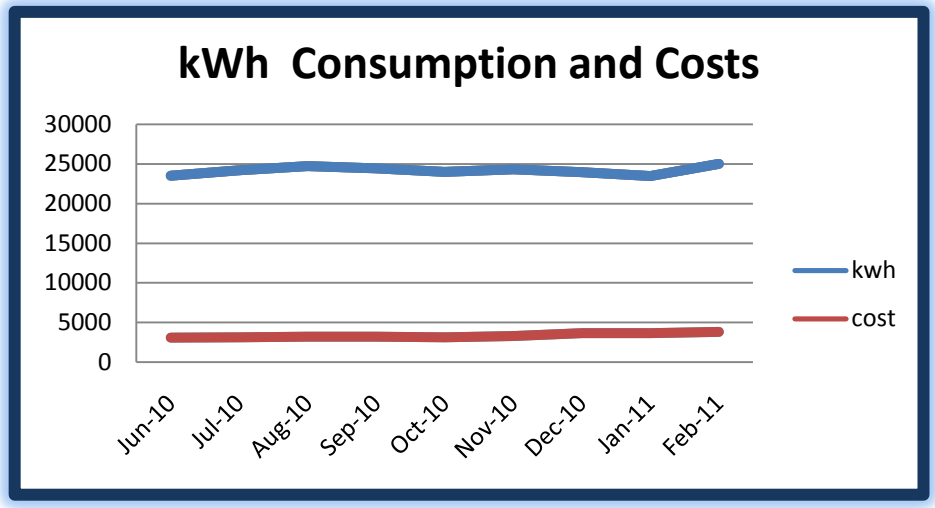
Figure 3 – kgs of Food Waste arising on site during 2010

2.1.2 Energy Review

The supermarket is listed for an energy audit with SEAI which will be undertaken over the next number of months. The main areas of discussion in this audit will be energy management including lighting, refrigeration, air conditioning, energy policy development and training and awareness. The audit may also establish Energy Performance Indicators (EPI's) and set energy targets.

The energy consumption varies slightly from month to month throughout the year with an average monthly cost of €3,375, see Figure 4. There may be further scope to reduce the costs by addressing the MIC charges on the bills.

Figure 4 – kWh consumption and costs



2.1.3 Water Review

Water flow tests were carried out on taps in the deli area and no excess pressure was observed which was positive.

2.2 Actions for Improvement

The following summarises some of the key actions that should be considered for implementation by management under the headings of waste, energy and water. These aim at establishing baseline information as well as putting in place the first elements of a management system that will make the on-going tasks associated with the programme easy and manageable.

2.2.1 Waste

Environmental Awareness

- Establish Green Team who will lead actions for better environmental practice in the business;
- Prepare an Environmental Policy and display in a highly visible area;
- Identify a regular date for Green Team meetings, i.e. first Monday of every month;
- Identify a suitable Green Notice Board accessible to both staff and visitors;
- Develop a Waste Awareness Programme i.e. posters, colour coding of bins, signage to maximise segregation and encourage waste prevention;
- Inform staff about your environmental action plan and provide staff with ten top tips for waste, energy and water management;
- Continue to advise your customers on environmental initiatives which you are taking.

General Management

- Analyse waste at source – check how much cardboard, plastic and other waste you produce – identify what may be preventable;
- Liaise with waste contractors and review change in billing;
- Improve segregation and recycling by using clear bags;
- Use returnable packaging;
- Ask suppliers to decant supplies at back door where appropriate;
- Assign responsibility to this task and monitor regularly;
- Identify and promote waste prevention options;
- Identify suitable number of waste stations throughout the supermarket;
- Introduce colour coded receptacles for different waste streams and locate at relevant areas;
- Encourage options for waste prevention where possible;
- Purchase in bulk where possible i.e. concentrated cleaning agents;
- Ensure recycling bins are emptied regularly to ensure maximum recycling is achieved;

Kitchen /Food Waste

- In order to ascertain the quantity of food waste arising from the deli, a small study should be undertaken by collecting all food waste separately and weighing it from each of the following 3 areas:
    - kitchen waste (prep waste),
    - leftovers (scrapings from plates) and
    - unserved cooked food (from the kitchen but split from prep waste).

  This should be done for at least 7 days during a typical week and the weights from each day gathered. This will provide an indication of the amount of food waste typically generated and where in the food management process the majority is coming from. Once this is gathered a more comprehensive understanding of food waste generation will allow for food waste prevention planning to be implemented at source.
- Introduce a stock rotation policy;
- Label and date food in reusable containers;
- Cut down on food waste by vacuum-packing food;
- Reuse left-over food where appropriate;
- All disposable cooked food waste should be segregated and disposed through the brown bin;
- Use of disposable clothes should be kept to a minimum;
- Ensure all food containers are empty prior to disposal;
- Review system to determine quantities of food cooked during the day;
- Ensure the polystyrene vegetable containers are empty prior to disposal;
- Delivery of food – encourage the use of reusable delivery containers.

Delivery Area/Yard

- Formally review all suppliers asking them how they envisage reducing their packaging;
- Maintain records for waste sent off-site – a staff member should verify collection and have estimated / actual weight of each collection recorded;
- Ensure that all pallets / reusable containers are removed off-site by relevant distributors at all times;
- Ensure batteries are collected through the WEEE scheme.

Training

- Training to be provided for all staff on correct waste practices;
- Specific training to be provided for key staff in specific areas.

Legislation

- Ensure compliance with all relevant legislation;
- Ensure that all waste collection contractors are permitted.

2.2.2 Energy

There are multiple areas for energy improvement but as SEAI will be doing a thorough assessment only some basic pointers will be made here:

General Management

- Gather electricity, oil and gas consumption values for 2010 and 2011;
- Monitor energy use online to review bills, trends and unexplained peaks in usage;
- Reduce use of unnecessary equipment/lighting at peak times;
- Review maximum demand on a regular basis;
- Take regular on-site meter readings.

Environmental Awareness

- Develop an Energy Conservation Programme for staff;
- Display relevant energy tips on Green Notice Board.

Lights

- Continue to replace lighting with energy efficient alternatives;
- Ensure that lighting is in compliance with FLUX standards;
- Ensure lights are switched off when not required e.g. toilets etc;
- Instigate periodical cleaning of all lights;
- Investigate the installation of light sensors in underused areas, i.e. toilets.

Electrical Appliances

- Ensure chills and freezers are covered at night;
- Ensure chills and freezers are set at the correct temperature;
- Defrost freezers regularly;
- Ensure all office equipment is turned off completely when not in use;
- Ensure temperatures in freezers/refrigeration areas do not exceed the recommended temperature;

- Review manufacturer's guidelines for operating costly equipment and use according to the relevant guidelines;
- Review use of equipment in the deil with the relevant staff and only turn on equipment when required and turn off when not in use;
    - Turn off extractor fans in kitchen when not required;
    - Turn off hot water boilers when not required
- Ensure that all new appliances purchased in the future are 'A' rated;
- Ensure maximum use of night rate electricity;
- Develop simple departmental standards for energy management:

2.2.3 Water

Water management and water conversation are very important elements of any environmental management programme. Know your water consumption and get acquainted with your meter. It is important to know where your water meter is and how to read it. Keep in mind the following procedure:

- Locate the meter on your premises;
- Lift the lid and flip up protective cover to reveal the dial;
- Take the reading – black digits record cubic metres (1000 litres), which is what you are billed for.

If you think you may have a leak, the following exercise could be implemented to find out for sure. Firstly turn off all equipment and read your water meter when the business is going to be empty for several hours i.e. during the night. Upon return, read your meter again. If the reading has changed, water has been used somewhere. If you cannot account for this usage, there may be a leak somewhere on the premises. Contact your plumber for advice and assistance.

General Management

- Take water meter readings regularly and establish the true volume of water consumed by taking meter readings;
- Conduct a night test – read the meter last thing in the evening and read again first thing the following morning – this will give a background water use;
- Review volume of water in toilet cisterns and implement reduction programmes;
- Review flow of water through taps and install flow regulators to reduce flow to c. 6L per minute which is best practice;
- Use stopper for all deli sinks when washing utensils;
- Develop leak reporting initiative and repair all leaks immediately;
- Consider installing a two option water hose in the kitchen.

General Awareness

- Place water conservation ideas on notice board;
- Place flow rates on notice board.

3.1 Conclusion

This report aims to provide you with some of the information required to implement good environmental practices in your workplace that will not only assist in improving your environmental performance, but should also help you to save some money. The report will give you guidance and outline potential actions for environmental improvement which should help you along your environmental journey. Managing your environmental performance means putting systems in place within your business that will allow you and your staff identify areas where excess waste is produced, or where excess energy or water is consumed in the course of your day-to-day activities. Keep in mind that environmental improvements can be achieved by employing best practice techniques as outlined in this report.

All figures used for auditing purposes in this Environmental Review are determined to be as accurate as possible at the time of auditing. This work plan is just a starting point and is not about large investments. It is about starting small, tightening up through better on-site management and in time, when the opportunity is right and value for money can be assured improving things like lighting and tap fittings.