

Industry's Response to the Green Movement

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Abstract: This paper describes how industry has responded to the environmental challenge. Benefits include compliance with environmental legislation; genuine reductions to environmental impact; sustainable improvements to profitability in the face of increased competitive pressure. National and international Standards for environmental management offer security and direction for a company wishing to improve environmental performance and coupled with a waste minimisation strategy many financial and environmental benefits can be achieved. Introduction of new technical skills, techniques and worker understanding to aid motivation is an essential component of such a strategy. Monitoring and targeting has a key role to play in the establishment of improved environmental performance.

Keywords: Environmental Management System (EMS), Standards, ISO14000.

Introduction

A growing realisation among scientists and observers, over the past thirty to forty years, that a perpetually increasing production and consumption cycle is causing the destruction of many of the planet's natural defence, survival and resource mechanisms, has given rise to the Green Movement throughout the world.

Legislation now affects all sectors of industrial activity and has developed from an initial standpoint of pollution control to encompass other areas of activity such as transport, agriculture and energy.

Environmental control over manufacturing industry throughout the world is becoming more stringent than ever before. The most radical initiatives from keenly environmentally conscious nations are affecting neighbouring nations and cross border trade necessitates discussion and agreement on standards of environmental acceptability.

Industry's initial response to the Green Movement was one of open disbelief. Based on the view that "Green" represents a death threat to industry's purpose - namely - stimulation of conspicuous demand for product on which to make a margin, the next response was to resist change

at all costs. Industry's third response was to cover up its sins with a gloss of environmental concern. Most recently, however, leading sections of industry have revised their view upwards to incorporate the understanding that assimilation of "Green" demands, and a correct response to them, can have worthwhile commercial advantages after all.

These benefits can be briefly summarised as:-

- increased ability to comply with environmental legislation
- genuine reductions to environmental impact
- sustainable improvements to profitability in the face of increased competitive and legislative pressures.

Aspects International was invited by a number of Korean organisations, including the Korean Standards Association, Samsung and Goldstar to introduce environmental auditing techniques and skills based on those set out by the Environmental Auditor Registration Association (EARA) and provide training to EARA standards to Korean nationals. In addition, Aspects has been invited to provide consultancy on implementation of Environmental Management Systems and Waste Minimisation techniques.

Correct response to green initiatives

In order to meet the challenges of growing environmental pressure an organisation must first understand the nature of the problems facing it and then seek to develop an effective strategy to satisfy them.

The strategy will address all areas of environmental concern in the organisation and commit the company to mitigate, reduce or eliminate environmental impacts which their organisation causes, on the basis of continual improvement of environmental performance.

Most companies are using Environmental Management Systems as a method of coming to terms with the obligations of improving environmental performance.

Definition of Environmental Management Systems

"The organisational structure, responsibilities, procedures, processes and resources required for implementing environmental management."

Environmental Management Systems now provide a comprehensive set of tools for the manager to accomplish many of the changes that are required of him. Beginning

with the setting of an environmental policy to establish guidelines on which to base the future progress of the company and run its day to day affairs, the board of directors can systematically implement a series of proven management techniques, which have a track record for their ability to provide information for correct decision making.

Selection of a suitable environmental management system and its implementation should not be seen as a cosmetic exercise used to disguise what is actually going on. It should be combined with a waste minimisation programme which will actually produce the financial paybacks to which we will refer later.

To achieve external credibility for Environmental Management Systems, various Standards have been introduced. The British Standards Institution (BSI) was the first organisation in the world to introduce an EMS Standard - BS 7750 - based on the success of its Standard for Quality Management. The European Union followed this with the introduction of the Eco Management and Audit Scheme (EMAS). In 1996, the International Standards Organisation (ISO) will introduce the ISO 14000 series of Standards which are designed to offer reference Standards for a whole range of environmental tools for example:-

- environmental auditing
- life cycle assessment
- eco-labelling
- and the EMS itself - ISO 14001.

While implementation and certification to an approved environmental management system will ensure identification control and monitoring of environmental effects which arise on an operational site, the ultimate objective of such EMS Standards is the achievement of continual improvement. This means a planned, targeted and consistent reduction in environmental effects over time.

Environmental effects *can* be reduced by the addition of technology to the noxious outputs of an operation. This, the typical "end-of-pipe" solution, may well increase production costs and is one of the main fears of industry in facing the environmental challenge. The costs of failure to comply with legislation or to maintain standards of operational safety may, nevertheless, be far greater than those of the installation of the new technology.

However, many pioneering companies in Europe are turning, instead, to techniques designed to prevent the production of waste at source.

Waste Minimisation

In the past, waste management has concentrated on how to handle waste after it has been produced, by control, treatment, destruction or disposal.

Disposal of waste on land or at sea, has been a cheap option, but legislation is tightening controls on this and reducing such opportunities. Such methods of disposal will now become ever more expensive throughout the world, if not ultimately totally out of bounds, so alternative strategies must be found.

The best way to manage waste is to not produce it in the first place. This may seem an impractical dream, but an increasing number of companies from a wide range of industries are demonstrating that this is possible. It not only results in improvements to their environmental performance, but also saves them money.

The ideal hierarchy of waste management is shown in Figure 1.

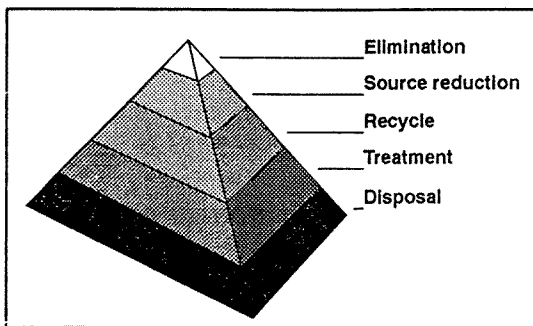


Figure 1: Hierarchy of Waste Management

It should not be assumed that waste is an essential part of a production process. The first question to be asked when carrying out a waste minimisation assessment is "can the waste be eliminated at source?" If the waste is indeed an unavoidable part of the manufacturing process or service activity, in what ways can it be reduced? If it cannot be reduced, is it possible for any waste to be recycled? Even treatment techniques may enable waste to be utilised effectively - for example, incineration with heat recovery can be used to produce power. Disposal is the final option if none of the preceding choices is found to be practical after careful consideration.

The techniques to consider when deciding how to reduce the waste associated with a particular process or activity are summarised in Figure 2.

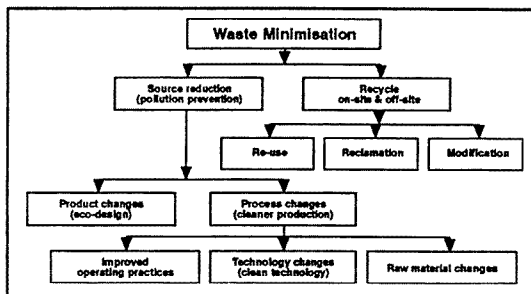


Figure 2: Waste Minimisation Options

Some of these techniques are described in the following examples.

- Improved operating practice

A service organisation provided a staff information service which required the production and distribution of

Service Organisation

Team briefings replaced individual memo circulation, resulting in reduction of communication items from 936,000 p.a. to 6,500 p.a.

Cost... £nil
Savings... £11,500

Figure 3 : Improved operating practice

936,000 individual memos per annum. A waste problem and high cost of provision was identified and this operation was replaced by team briefings instead of memo circulation. The paper printouts were reduced to 6,500 items per annum with a consequent cash saving of £11,500.

- Process change

A carpet manufacturer with a carpet tile dying operation maintained a run of colour in a holding tank of a size larger than was actually required. This resulted in large quantities of the dye being disposed of unnecessarily. Once the problem was identified, a correct sized holding tank was designed and introduced at a cost of £3000. The resulting savings were £11,250 and the payback on the investment was achieved within 3 months.

While some of these savings may appear obvious, it must be pointed out that workers are operating in an environment they have become accustomed to. They do not always notice the obvious problems or produce solutions

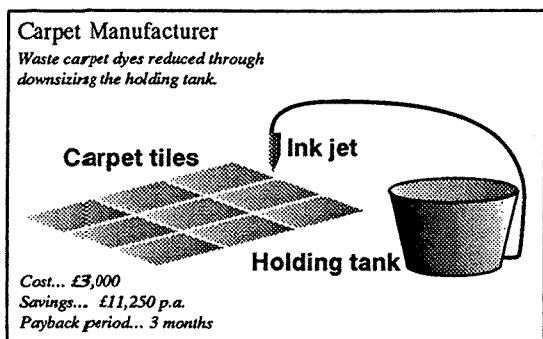


Figure 4 : Process change

to rectify them. Sometimes they do not see it as in their interests to suggest change to their managers. It is also the case that workers *do* notice that what they do is not the best practice, but their operating procedures have not been reviewed or updated for many years. Managers who are not responsible for every day actions may also not recognise the significance of them until they are revealed as a result of new awareness brought about by training programmes.

Training

Because it is people who cause waste, introduction of new skills and awareness is fundamental to the development of the new workforce culture which must be responsible for improving environmental performance.

Training is necessary in a number of areas. Some of these are as follows.

- Environmental auditing requires fundamental technical skills and experience coupled with understanding of auditing procedures. In addition, an environmental auditor must be aware of techniques for identifying, measuring and evaluating environmental effects in a situation in which they may have gone unnoticed for a long time.
- The environmental manager and the members of the task force detailed to undertake the implementation of the environmental management system must also be trained in the details of the application of the system together with many of the skills of the auditor, such as effects evaluation and prioritisation in

order that correct objectives and targets may be identified. The implementation of an EMS is a solemn business with real commitments to improvement of environmental performance and not just the achievement of a certificate for appearances only.

Total workforce understanding to aid motivation is also an essential part of bringing the environmental strategy to fruition. The implication of this is not merely that those in charge of the EMS implementation should have responsibility for achieving continual environmental improvement, but every member of the workforce from the President of the company downwards. Indeed, leadership in environmental management must come from the very top of an organisation.

In many ways, training underpins the success of an environmental policy. Companies who are responding effectively and profitably to the Green Movement have already taken many of the steps of training indicated above.

Importance of monitoring and analysis

You will see from the forgoing how important measurement and analysis is in the establishment of: -

- the environmental baseline conditions in an organisation
- the progress an organisation is making on the road to environmental improvement
- the identification of new targets for attention
- the proof that an existing target has been reached.

Monitoring and targeting has a key role to play in all elements of the establishment of improved environmental performance. It is a means of establishing goals and targets, an important key to demonstrating continual improvement and a means of demonstrating compliance with international standards and/or legislative compliance.

You are the experts on measurement and analysis. I leave it to you to consider what scientific and commercial opportunities exist in this new business world in which for the first time in history, environmental issues are at the top of the agenda.