

## Principles underpinning Environmental Management Systems

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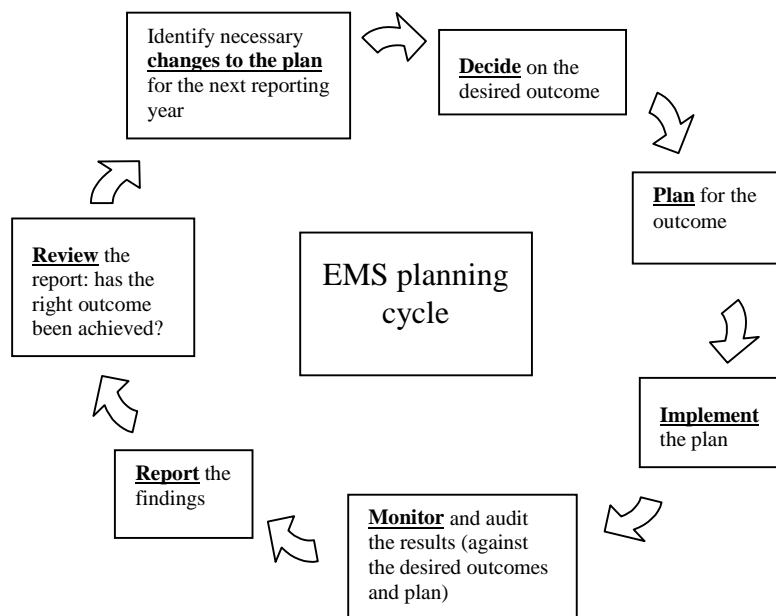
Environmental Management Systems are procedural planning methods described by the ISO 14,000 series of standards (International Standards Organisation).

The 'principles' listed in the ISO documents are a combination of principles and mechanisms. Examination of the philosophy embodied in the systems suggests that the three key principles on which the framework is constructed are:

- producer responsibility
- quality assurance, and
- continual improvement.

Feedback is a key element of the framework, and this is implicit in the use of the word "system" which, in its engineering definition, incorporates feedback as an essential element. The EMS process can be illustrated as a loop: **Figure 1**:

The first step in the iterative process, of course, is to 'decide on the desired outcome'.



### Producer responsibility

The very reason for undertaking the EMS planning process is a recognition that responsibility for the environmental effects of a product or service doesn't stop at the factory gate. Responsibility exists, all-be-it in an increasingly shared fashion, from cradle to grave.

An ongoing responsibility for these environmental effects is accepted as the spatial and temporal settings widen. The environmental effects of, say, a

battery, extend past its creation, through its use, and into its life after death - whether it be re-cycled or disposed of in a landfill.

The producer responsibility principle can be stated in a variety of ways. One definition is: "The recognition of continuation of responsibility for the environmental effects of products and services by the producer. While such responsibilities become increasingly shared by users and beneficiaries of the products or services, they continue to exist, and should be recognised and accounted for by the original producer".

### Quality assurance

Stated simply, the principle of quality assurance is that "quality is not an accident". The quality assurance principle can be stated: "in the management of complex systems, processes and programs, their success in achieving the desired outcomes cannot be taken for granted, but must be carefully planned, monitored and evaluated".

### Continual improvement

The iterative planning process on which environmental management systems is based offers the possibility of not only achieving the initial objectives, but of re-evaluating these objectives in the light of changing technology, scientific knowledge and community expectations.

The 'principle of continual improvement' can be stated: "producers of environmental effects need to establish planning frameworks which will allow continual improvement in environmental performance over time, and circumstances and knowledge change".