

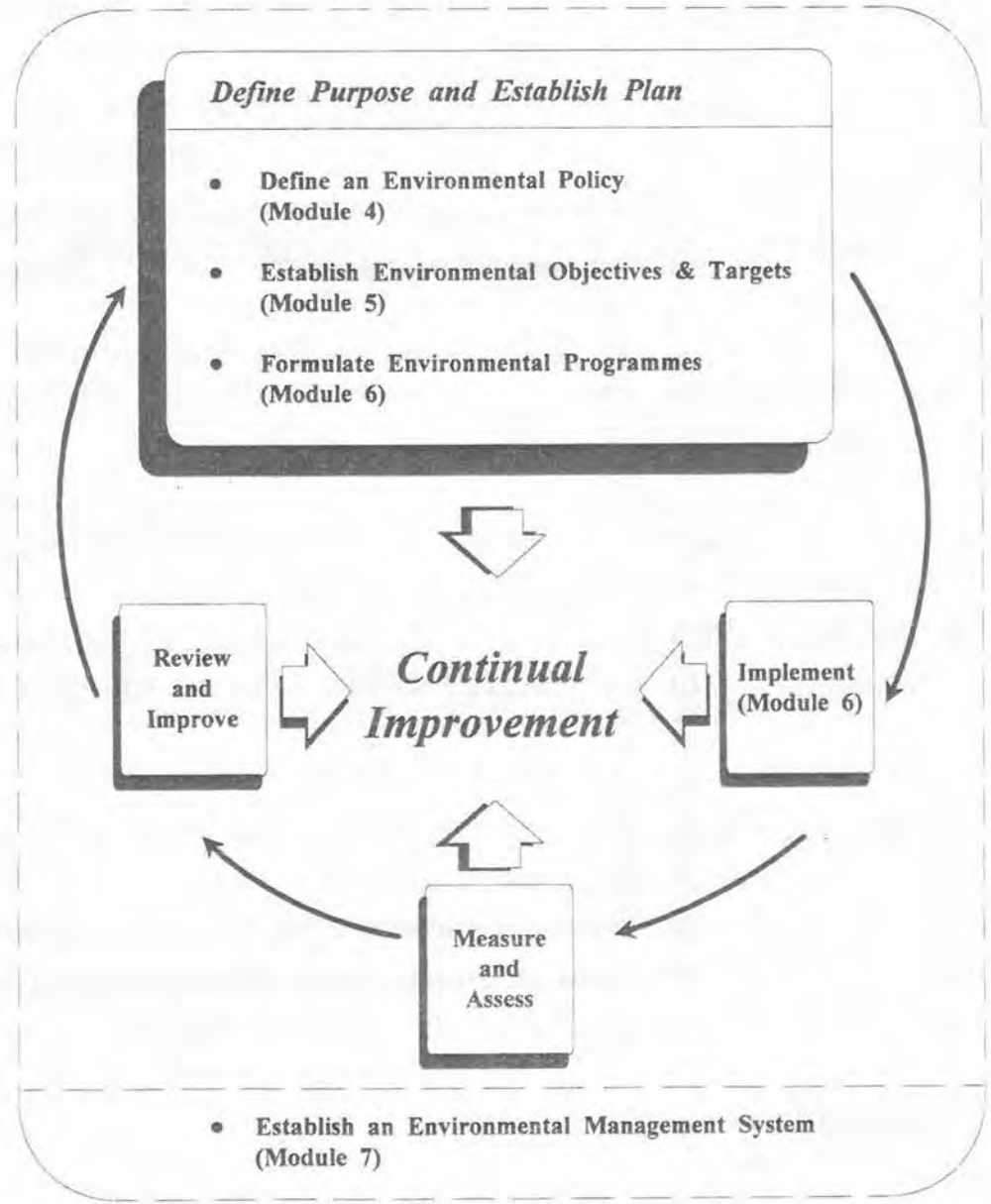
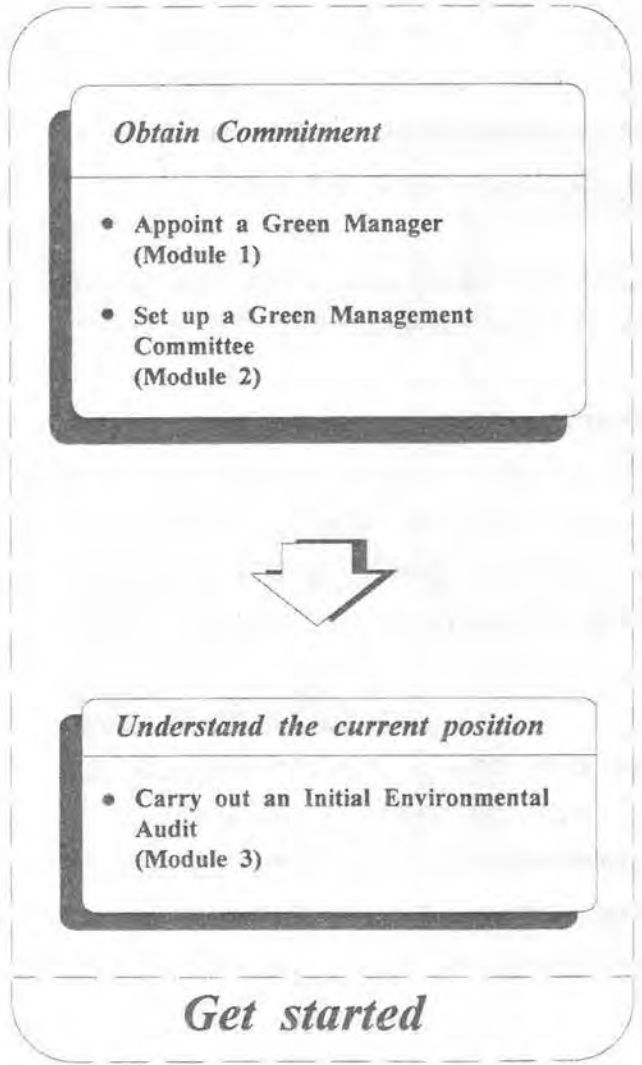
Preface

Organizations are increasingly concerned about achieving and demonstrating sound environmental performance, and many have realized that putting in place an environmental management system (EMS) is an effective means to do so. In order to assist more organizations in Hong Kong to develop their own EMS, the Corporate Environmental Management Section of the Environmental Protection Department has prepared this guide to give them some useful ideas to get started.

With this objective in mind, this guide outlines the key stages (Modules 1 to 7) involved in setting up an EMS and leads organizations through the process in a step-by-step approach. It should be emphasized that each organization's strategy may be unique to its own situation and therefore there is no single programme that works for every organization. However, there are some key stages one needs to go through.

If you are the person who is responsible for setting up an EMS in your organization, the following hints will help you get the best out of this guide :

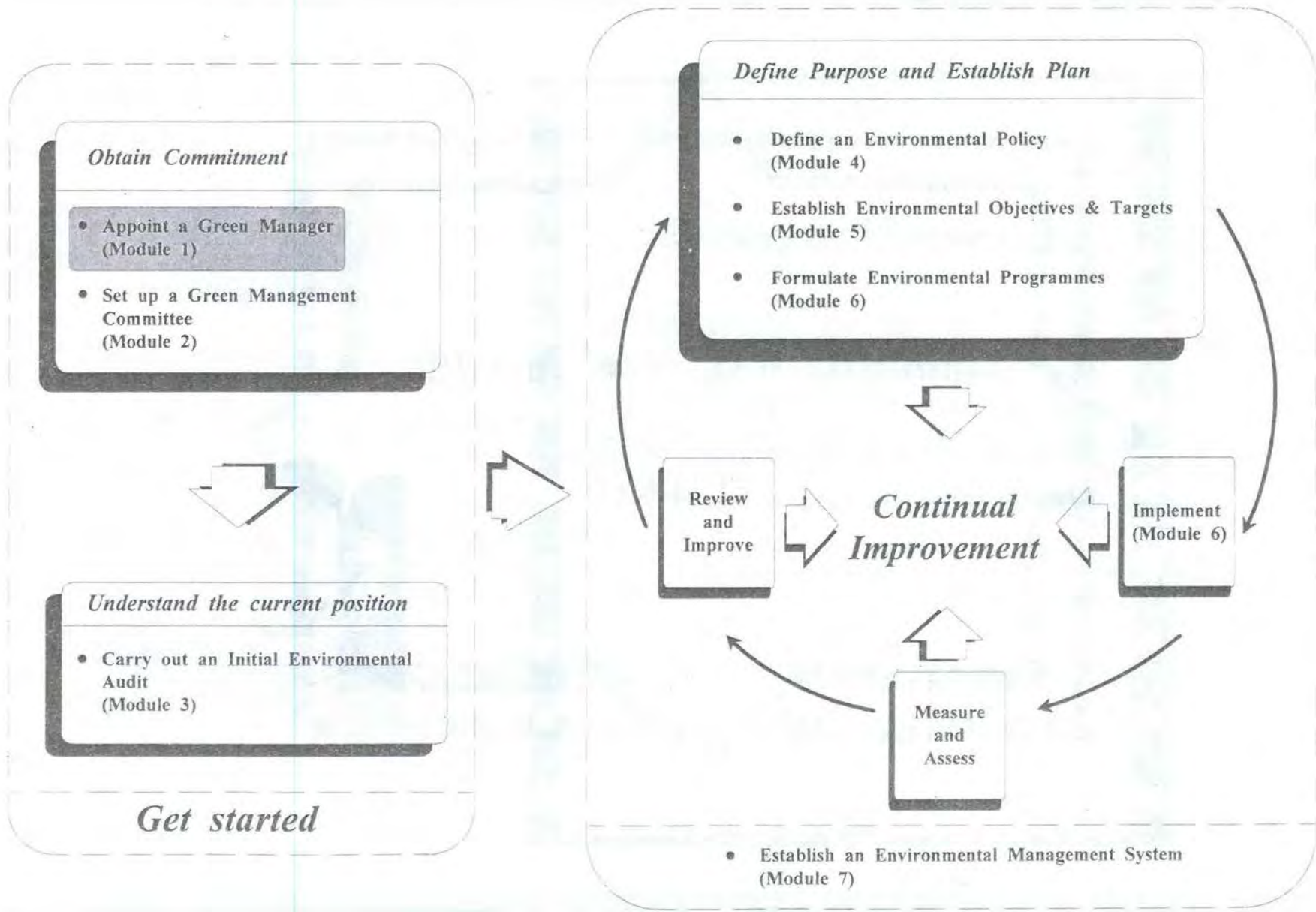
- 1 Take a look at the chart on the next page to get a general picture of what key stages are involved in the process.
- 2 Start with Module 1 and work through module-by-module to Module 7 sequentially.
- 3 Follow the steps in each module that fits your organization's own situation in the "*Steps to Take*" section on the yellow pages.
- 4 Complete the "*Record Your Achievements*" section on the green pages at the end of each module before you proceed to the next one.





Module 1

Appoint a Green Manager





A Green Manager is

A person appointed by top management to take responsibilities for the environmental performance of an organization.



Who should be the Green Manager ?

A senior executive preferably at Director level, because he has

- ▶ Sufficient influence and authority on the management's decision to implement the environmental policy effectively within the organization;
- ▶ Sufficient familiarity with the operations of different departments within the organization;
- ▶ Good understanding of the environmental pressures and issues relating to the organization.

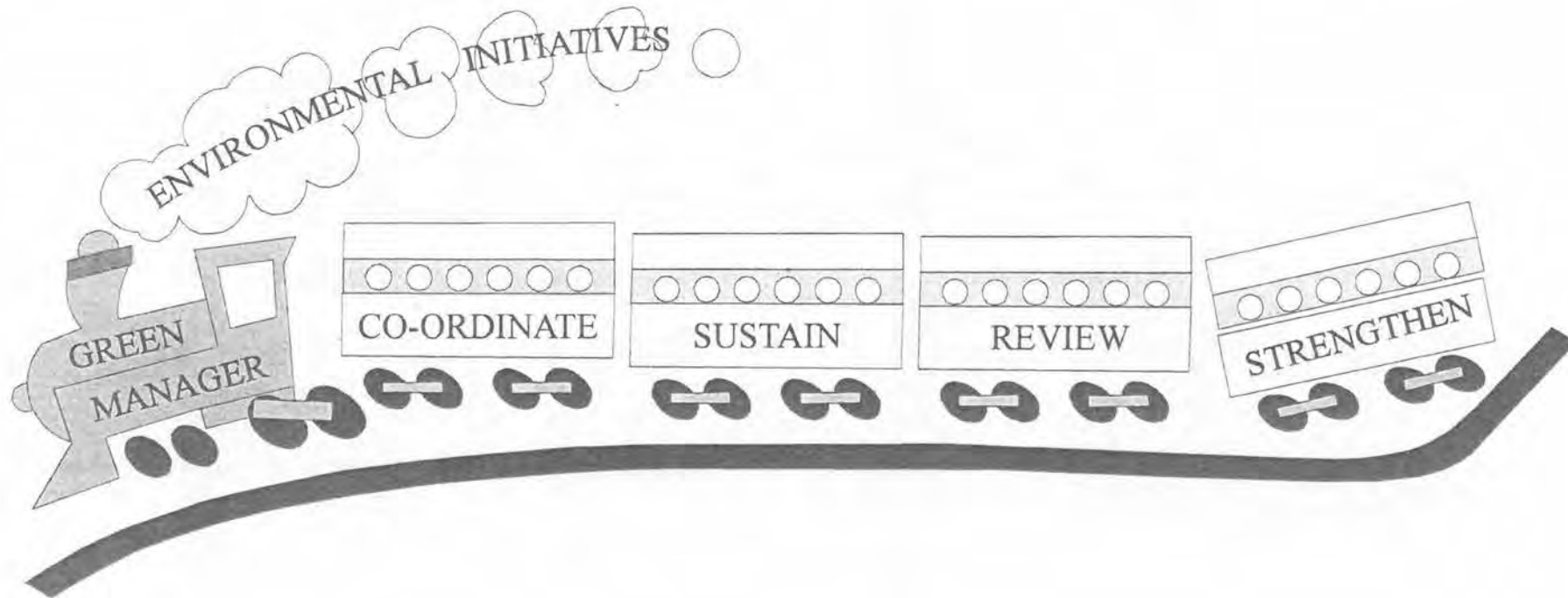
Examples from some organizations

- **C**hina Light and Power Co. Ltd. : The Environmental Manager
- **D**ow Chemical Pacific : The Environment, Health and Safety Director
- **E**nvironmental Protection Department of Hong Kong Government : The Director of Department
- **F**irst Pacific Davies : The Managing Director
- **M**arks and Spencer : The Director of Corporate Affairs
- **M**ass Transit Railway Corporation : The Chief Engineer (Operations)
- **S**hell Hong Kong : The Advisor, Health, Safety and Environment
- **T**he Body Shop (Hong Kong) : The General Manager

(The above information is based on the results of " Friends of the Earth's Survey on Green Managers" conducted in 1994)

Appoint a Green Manager

The Green Manager leads the direction of the organization in planning environmental initiatives. He also provides a focal point for all environmental initiatives to be coordinated, sustained, reviewed and strengthened.

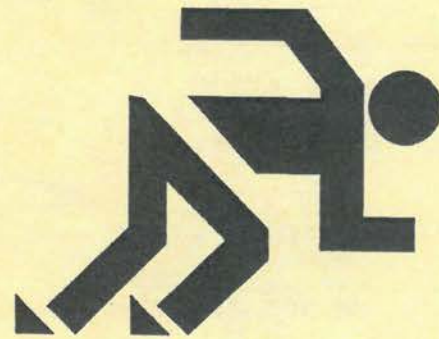


Why do you need to appoint a Green Manager ?

It is recognized that the success of environmental efforts in organizations depends a great deal on whether the environmental efforts are *planned, communicated and implemented* properly. A Green Manager can help in the following ways :

- ▶ Co-ordinate and consolidate efforts from staff of different operations into environmental programmes;
- ▶ Communicate the objectives of the environmental programmes to staff, and solicit their suggestions and support;
- ▶ Oversee the progress of environmental programmes;
- ▶ Ensure that good business results are achieved through the environmental programmes; and
- ▶ Provide a contact point for sharing environmental information with external parties.

Steps to Take



Appoint a Green Manager

Steps to Take

- STEP 1 : Put up an agenda item "Appointment of Green Manager" for discussion at the next top management's meeting.
- STEP 2 : Obtain the endorsement and support from the members.
- STEP 3 : Appoint a senior executive, preferably at Director level to be the Green Manager.
- STEP 4 : Inform all staff of the appointment within the organization.
- STEP 5 : Start to form a Green Management Committee (Module 2).



Appoint a Green Manager

RECORD YOUR ACHIEVEMENTS



RECORD YOUR ACHIEVEMENTS

Who is the Green Manager ?

Name : _____

Title : _____

Keep in
mind :



- Obtain support from the top management.
- He is a senior executive.

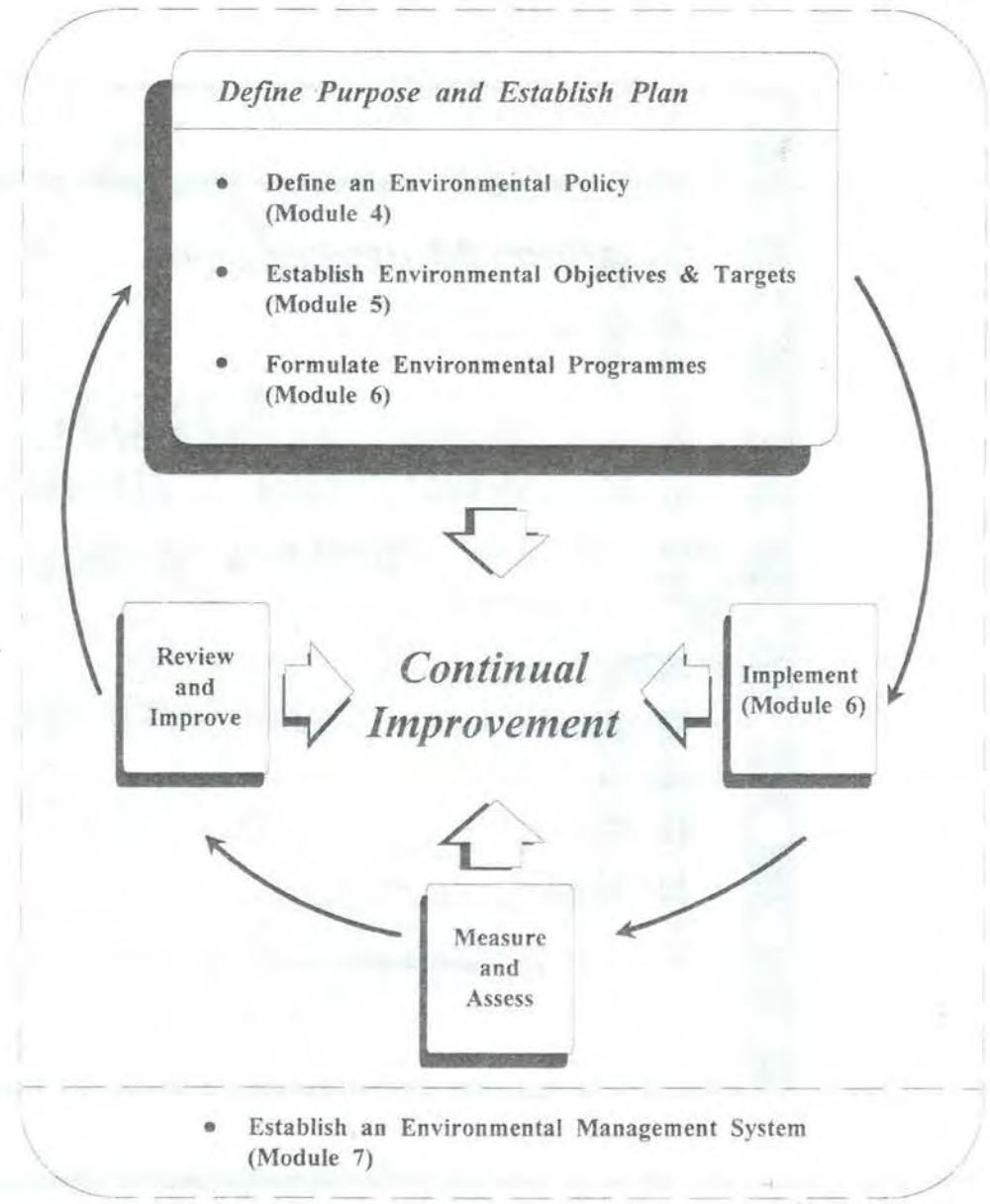
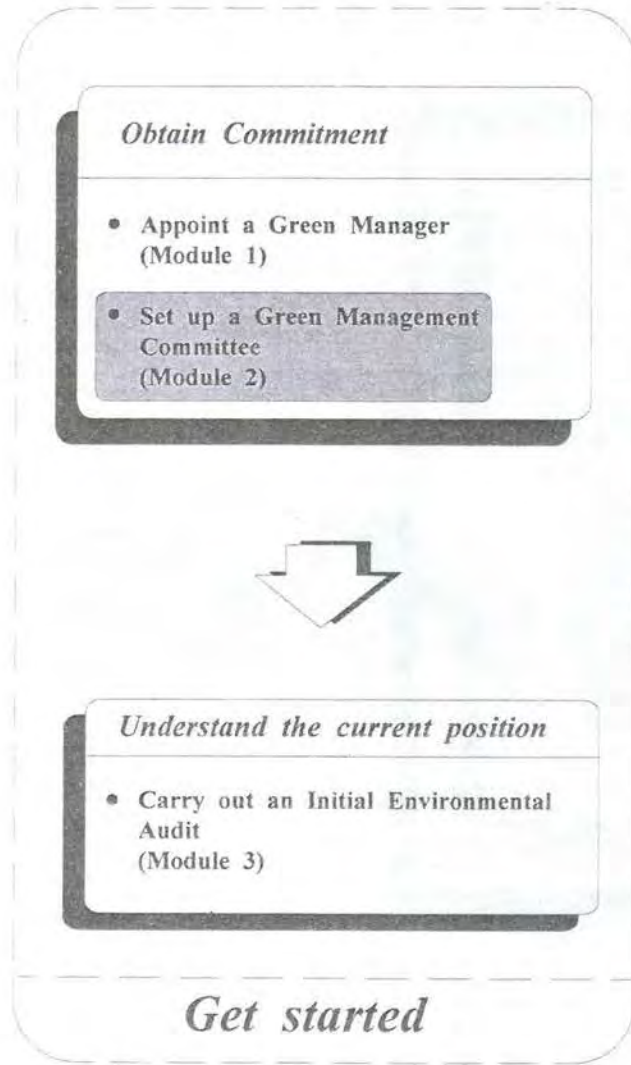
Some hints for the Green Manager to get started .

- Determine appropriate technical and organizational support, for example, in the form of Green Management Committee;
- Formulate an environmental policy for the organisation;
- Introduce measures to increase staff awareness and involvement in relation to environmental issues;
- Implement a programme of green housekeeping measures; and
- Publicize the commitment to protecting the environment, formulate action plans and record achievements.


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Module 2

**Set Up a Green
Management Committee
(GMC)**



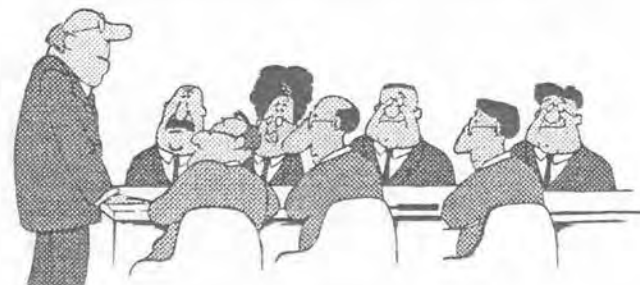
Set Up a Green Management Committee



A Green Management Committee is

A committee comprising representatives from different functional or regional divisions of an organization. It takes the responsibility for managing the environmental issues of the organization under the chairmanship of the Green Manager.

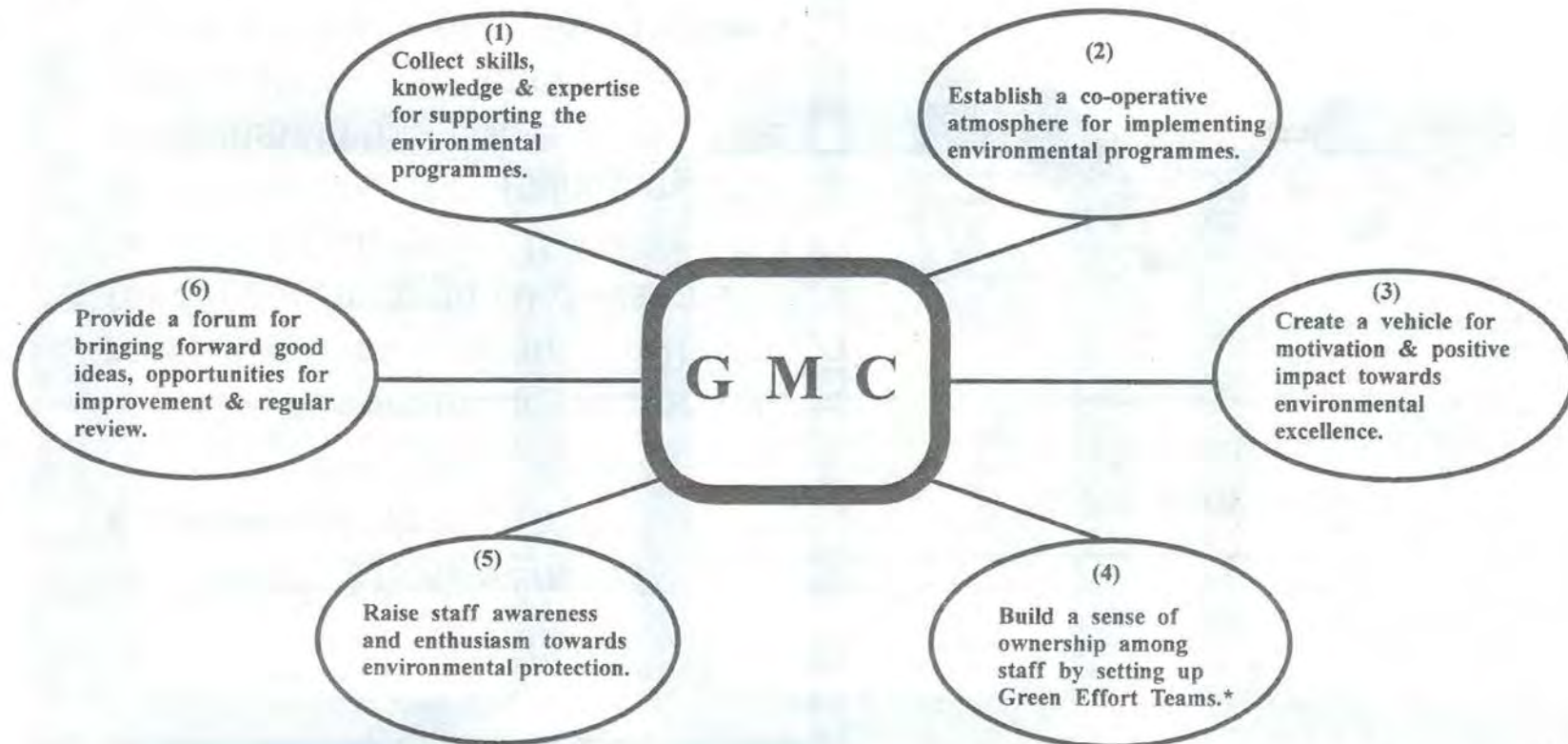
Green Management Committee



Set Up a Green Management Committee

Why do you need to form the Green Management Committee (GMC) ?

The GMC helps the Green Manager develop and implement the environmental programmes in the following ways :



* see page M2-4

Set Up a Green Management Committee

How can you form the Green Management Committee (GMC) ?

Depending on the structure and size of the organization, there are a number of alternatives to form the GMC. The following ways are commonly adopted :

Option 1

(For environmentally-conscious organizations with a distinct Safety, Health & Environmental Department)

The Safety, Health & Environmental Director as Green Manager.

Members of the GMC are Safety, Health & Environmental Officers and other representatives from concerned departments.

Option 2

(For organizations of all sizes)

The General Manager or Head of Department as Green Manager.

Members of the GMC are representatives from concerned departments.

Option 3

(For large organizations with regional offices)

The General Manager of regional headquarters as Green Manager.

Members of the GMC are representatives from different regional offices.

Set Up a Green Management Committee

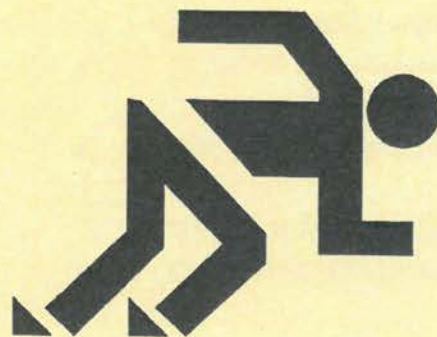
What are the Organizational Relationships among the Green Manager, the Green Management Committee and the Green Effort Teams ?



Remarks : Each led by a GMC member, the Green Effort Teams are formed on a functional basis to work on different environmental issues of the organization. e.g. Environmental Audit Team, Waste Management Effort Team and Environmental Education Team, etc.

Set Up a Green Management Committee

Steps to Take



Set Up a Green Management Committee

Steps to Take

STEP 1 : Invite nomination for GMC members, and formally appoint them by top management or the Green Manager.

STEP 2 : Inform all staff of the establishment of the GMC.

STEP 3 : Launch the first GMC meeting. On the agenda, discuss and determine the *Terms of Reference* and *frequency of meetings*.

STEP 4 : Discuss possible green initiatives and formulate the time table for implementation (described in Modules 3 to 7).

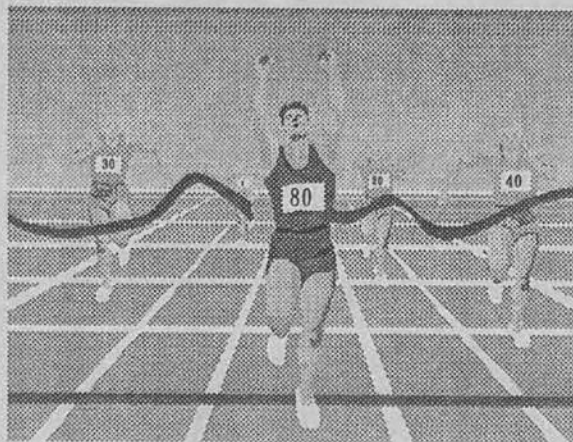
STEP 5 : Estimate the financial, organizational & training resources required to implement the green initiatives and seek endorsement from top management.

Some hints on the Terms of Reference of the GMC

- Introduce measures to raise the levels of awareness and involvement in environmental issues;
- Determine performance targets on green measures and formulate action plans;
- Record, review and publicize achievements; and
- Oversee the Environmental Audits and maintain the Environmental Management System.

Set Up a Green Management Committee

RECORD YOUR ACHIEVEMENTS



Set Up a Green Management Committee

RECORD YOUR ACHIEVEMENTS

Green Management Committee

Membership :

Chairman : _____
(Green Manager)

Members : _____

Terms of Reference :

Frequency of Meetings :

Our Green Management Initiatives :

Task 1 : *Implement staff awareness programme.*

Responsible GMC member(s) : _____

Task 2 : *Conduct an initial environmental audit.*

Responsible GMC member(s) : _____

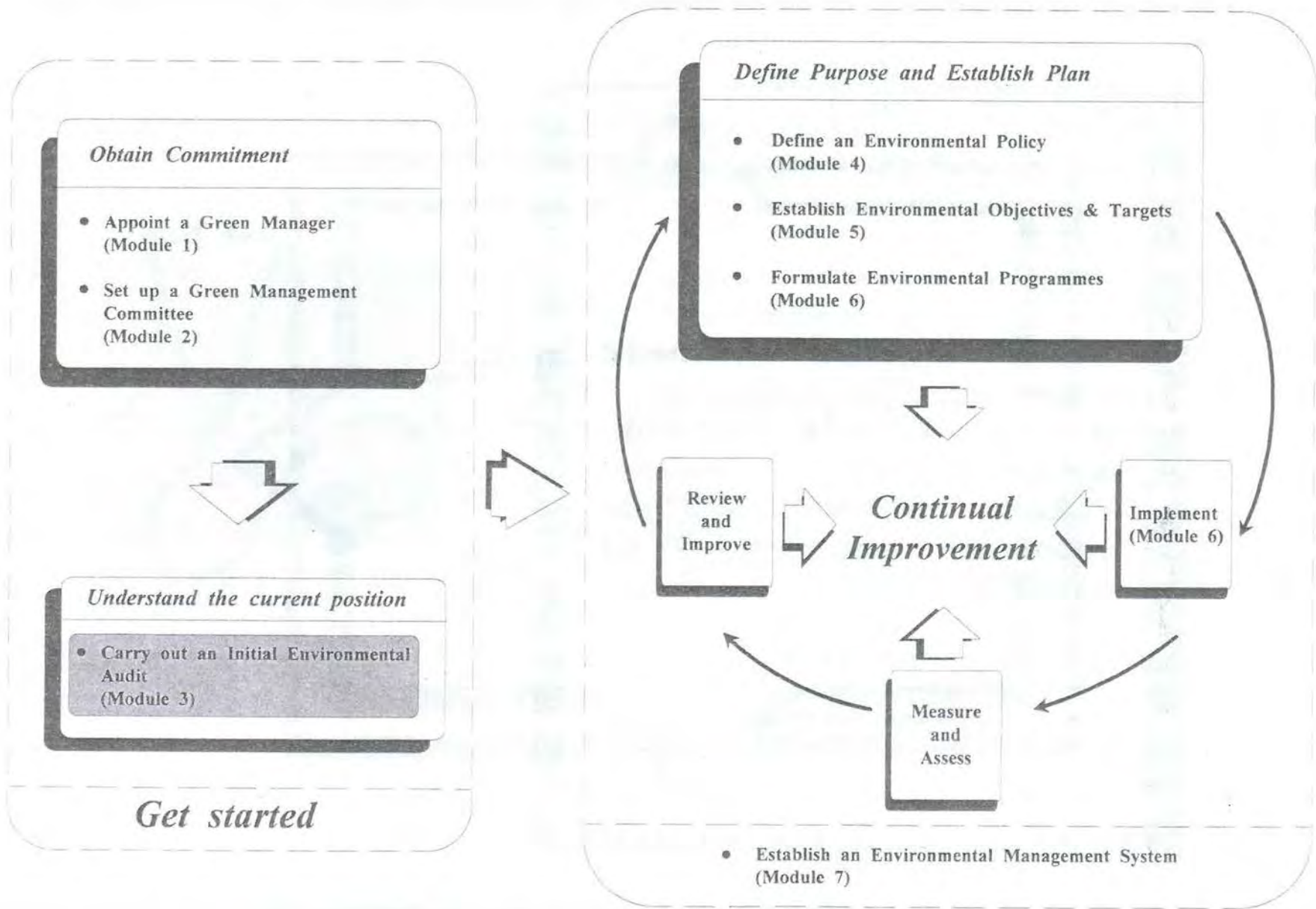
Task 3 : *Formulate and propose an environmental policy.*

Responsible GMC member(s) : _____

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Module 3

**Carry Out An Initial
Environmental Audit**

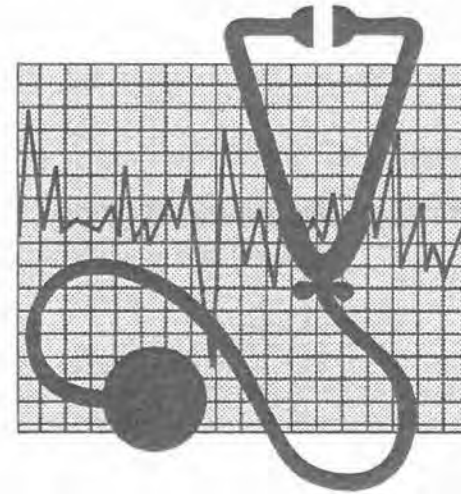




An Initial Environmental Audit is

A management tool to evaluate the current environmental performance of an organization. It is a comprehensive, systematic, documented and objective evaluation of how well the organization is performing in the aspects of

- ▶ Resources utilization;
- ▶ Regulatory compliance; and
- ▶ Environmental management.



Carry Out an Initial Environmental Audit

What are the objectives of conducting an Initial Environmental Audit ?

The main objectives of the Initial Environmental Audit are to : -

- ▶ Understand the environmental effects, impacts and consequences arising from the activities, products and services of the organization;
- ▶ Evaluate compliance with regulatory requirements, company policies and accepted good practices;
- ▶ Identify those significant environmental impacts and consequences;
- ▶ Identify areas where environmental performance can be improved and set priorities where appropriate; and
- ▶ Provide a documented basis for future audits.

Carry Out an Initial Environmental Audit

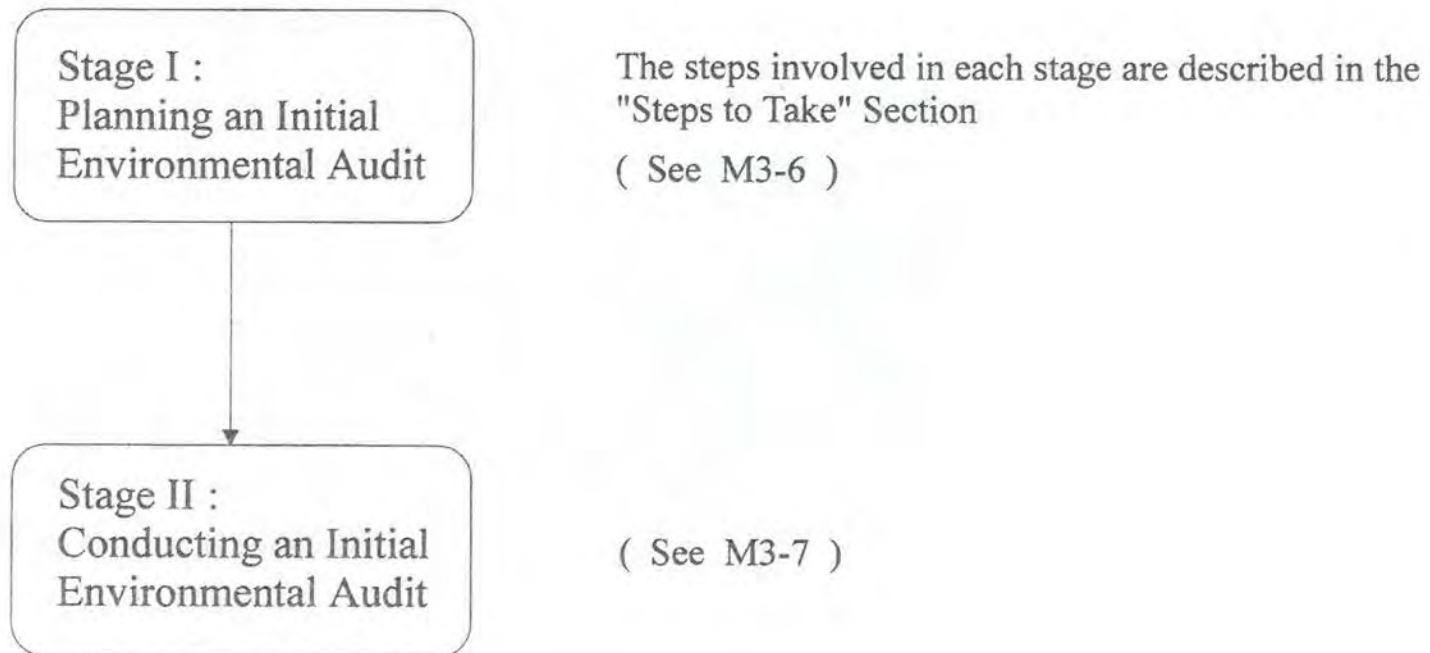
What are the benefits of conducting an Initial Environmental Audit?

- ▶ Reduce chances of prosecution;
- ▶ Provide management assurance;
- ▶ Identify cost savings opportunities;
- ▶ Improve corporate image;
- ▶ Increase operational efficiency; and
- ▶ Increase staff's environmental awareness.

Carry Out an Initial Environmental Audit

What are the key stages involved in an Initial Environmental Audit ?

There are two broad stages involved:



Steps to Take



Carry Out an Initial Environmental Audit

Steps to Take : Stage I - Planning an Initial Environmental Audit (by the Green Management Committee)

- | | | | |
|----------|---|----------|--|
| STEP 1 : | Initiate the initial environmental audit by the Green Management Committee (GMC). | STEP 6 : | Consider employing an external environmental consultant to assist the Internal Environmental Audit Team to conduct the audit. This is recommended if the organization does not have sufficient expertise on all related environmental issues. |
| STEP 2 : | Obtain commitment from the top management. | STEP 7 : | Appoint site facilitators from each of the sites being audited. The site facilitators can be appointed on a locational or functional basis to facilitate the on-site audit process e.g. provide site information, arrange for interview of staff and site inspection, etc. |
| STEP 3 : | Set audit objectives and scope. Ideally, the initial environmental audit should consider all potential environmental effects, impacts and consequences arising from the organization's activities. However, when available resources are limited, prioritization of activities is necessary. The audit should first focus on the known problems or obvious areas for improvement. | STEP 8 : | Formulate the task programme for conducting the Initial Environmental Audit (includes tasks for the pre-audit, on-site audit and post-audit processes, and the time schedule). |
| STEP 4 : | Form an Internal Environmental Audit Team to conduct the audit. Select an audit team leader who preferably has knowledge about the audit process. | STEP 9 : | Inform staff to rally support because the success of the audit requires the co-operation of staff at all levels. |
| STEP 5 : | Provide training to internal auditors to ensure that they have adequate knowledge to conduct the environmental audit. | | |

Carry Out an Initial Environmental Audit

Steps to Take : Stage II - Conducting an Initial Environmental Audit (by the Environmental Audit Team)

STEP 1

Carry out pre-audit activities :

- ▶ Develop audit programme
- ▶ Assemble and review background information
- ▶ Conduct initial site visit
- ▶ Collect and review operational information
- ▶ Prepare audit checklists and questionnaires

STEP 2

Carry out on-site audit activities :

- ▶ Conduct opening meeting
- ▶ Understand management systems
- ▶ Assess internal controls
- ▶ Gather audit evidence
- ▶ Evaluate audit findings
- ▶ Conduct closing meeting

STEP 3

Carry out post-audit activities :

- ▶ Prepare audit reports
- ▶ Issue audit reports to the management and relevant parties

Carry Out an Initial Environmental Audit

RECORD YOUR ACHIEVEMENTS



RECORD YOUR ACHIEVEMENTS

Stage I - Planning an Initial Environmental Audit

- Obtained commitment from the top management
- Set audit objectives and scope

Audit objectives

Compliance Audit

Audit scope (functions & sites)

Headquarters

- Formed an internal environmental audit team

Team leader : _____

Team members : _____

RECORD YOUR ACHIEVEMENTS

Stage I - Planning an Initial Environmental Audit (cont'd)

- Provided training to the internal auditors

Training(s) provided : _____ (Period)

Trained personnel : _____
(potential auditors) _____

- Appointed environmental audit consultant, if needed

- Appointed site facilitators

Site facilitator(s)

Responsible Site

RECORD YOUR ACHIEVEMENTS

Stage I - Planning an Initial Environmental Audit (cont'd)

- Formulated the task programme for conducting the initial environmental audit

Major Tasks	Time Schedule
<ul style="list-style-type: none">• <i>e.g. Develop audit programme</i>••	<i>mm/yy</i>

- Informed staff at all levels to rally support
e.g. A memo was sent to staff at all levels

Memo reference : _____ dated _____

Carry Out an Initial Environmental Audit

RECORD YOUR ACHIEVEMENTS

Stage II - Conducting an Initial Environmental Audit

A programme for monitoring the progress of the environmental audit :

	Responsible parties	Target implementation date	Actual completion date
Pre-audit activities <ul style="list-style-type: none"> <input type="checkbox"/> Develop audit programme <input type="checkbox"/> Assemble and review background information <input type="checkbox"/> Conduct initial site visit <input type="checkbox"/> Collect and review operational information <input type="checkbox"/> Prepare audit checklists & questionnaires 			
On-site audit activities <ul style="list-style-type: none"> <input type="checkbox"/> Conduct opening meeting <input type="checkbox"/> Understand management systems <input type="checkbox"/> Assess internal controls <input type="checkbox"/> Gather audit evidence <input type="checkbox"/> Evaluate audit findings <input type="checkbox"/> Conduct closing meeting 			
Post-audit activities <ul style="list-style-type: none"> <input type="checkbox"/> Prepare audit reports <input type="checkbox"/> Issue audit reports to the management (Green Management Committee) and relevant parties 			

Carry Out an Initial Environmental Audit

RECORD YOUR ACHIEVEMENTS

Stage II - Conducting an Initial Environmental Audit (cont'd)

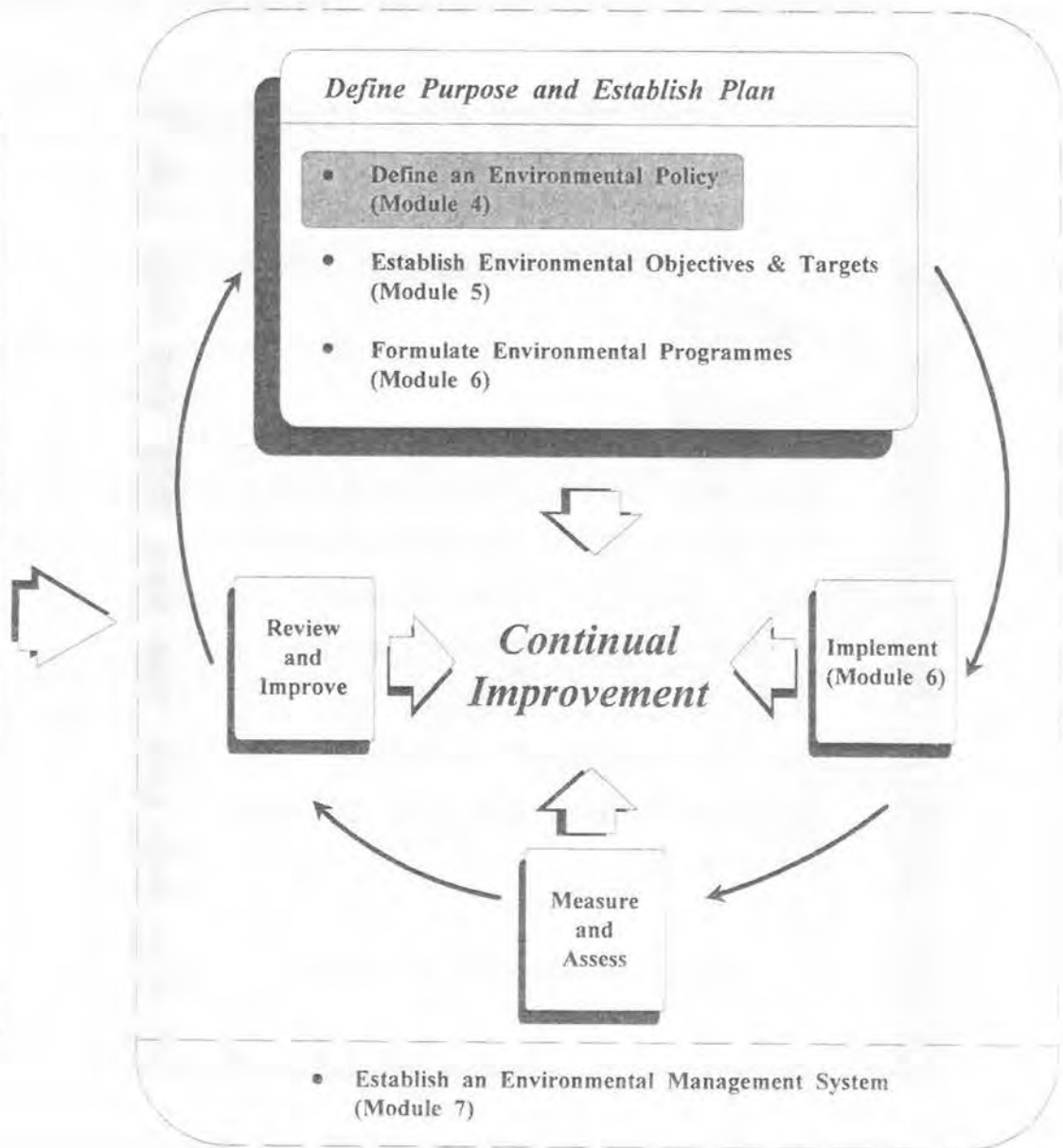
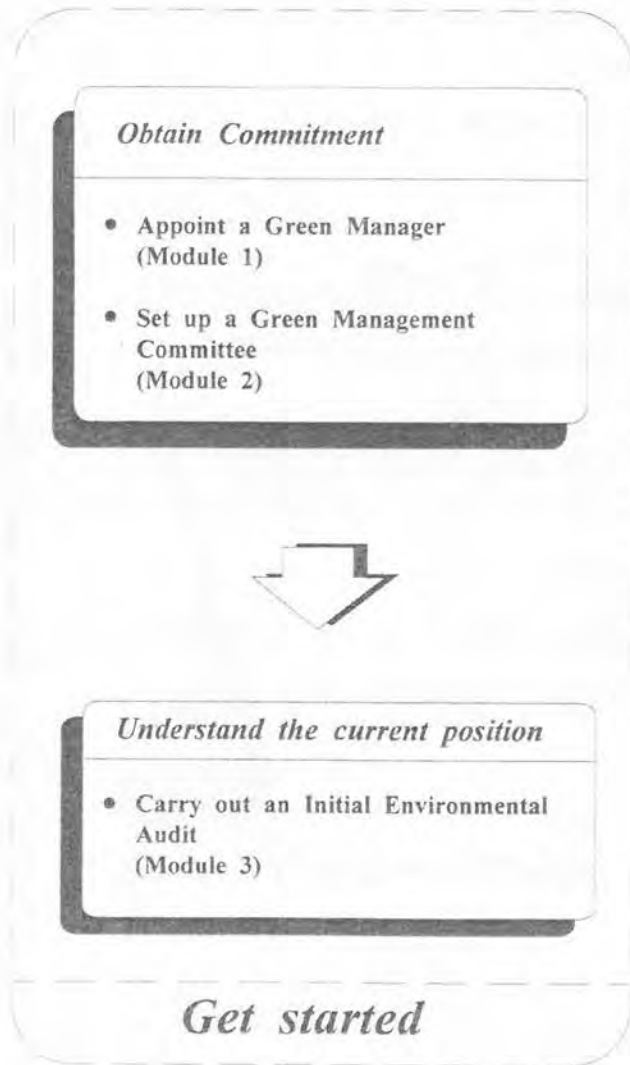
The findings of the initial environmental audit :

Sources	Environmental Aspects	Environmental Impact (Gives types & quantify pollutants as far as possible)	Compliance status against relevant regulatory requirements	Areas for improvement (Set priorities where appropriate)
<i>Process Activities</i>	<i>Stack emissions</i>	<i>Toxic discharges</i>	<i>Air Pollution Control Ordinance (✓)</i>	
	<i>Sewer discharge</i>	<i>Water contamination</i>	<i>Water Pollution Control Ordinance (✓)</i>	
<i>Products</i>	<i>Packaging</i>	<i>Landfill loading</i>	<i>N/A</i>	
<i>Services</i>	<i>Refrigeration maintenance</i>	<i>Ozone depletion</i>	<i>Ozone Layer Protection (Controlled Refrigerants) Regulation (✗)</i>	
	<i>Storage tank leaks Herbicide application</i>	<i>Soil and groundwater contamination</i>	<i>Waste Disposal (Chemical Waste) (General) Regulation (✓)</i>	



Module 4

**Define an Environmental
Policy**





*An Environmental Policy
is.....*

"A statement by the organization of its intentions and principles in relation to its overall environmental performance which provides a framework for action and for the setting of its environmental objectives and targets."

(Definition quoted from ISO 14001)



Define an Environmental Policy

Why do you need to define an Environmental Policy ?

It is necessary because a documented policy statement would :-

- ▶ Demonstrate the organization's commitment to improving its environmental performance;
- ▶ Communicate the organization's mission, vision and beliefs towards the environment to the staff and other interested parties; and
- ▶ Provide a framework for guiding the organization's ongoing environmental improvement efforts.



Define an Environmental Policy

What could be included in the Environmental Policy ?

In the Environmental Policy, the organization should state its commitments to *regulatory compliance, prevention of pollution* and *continual improvement* of environmental management. Therefore, the policy statements usually address a combination of the following : -

- | | | | |
|---|--|---|--|
| ① | Meet all relevant regulatory and legislative requirements. | ⑤ | Design products in such a way to minimize their environmental effects in production, use and disposal. |
| ② | Reduce waste and consumption of resources (materials, fuel and energy), recover and recycle, where feasible. | ⑥ | Minimize the adverse environmental effects of new developments through strategic planning. |
| ③ | Minimize the production of pollutants to the environment. | ⑦ | Provide environmental education and training. |
| ④ | Adopt technologies and raw materials that will minimize pollution, energy use and waste. | ⑧ | Work towards the achievement of sustainable development. |

Define an Environmental Policy

Here is an example :

ATTITUDE : We will keep on improving the environment for the enjoyment of our customers, staff and local residents.

GOAL : We will comply with all relevant regulatory requirements.

PUBLICITY : We will communicate our environmental objectives, efforts and achievements to the public.

REDUCE : We will minimize the resource utilization and waste production.

STAFF : We will ensure our staff are aware of their environmental responsibilities and provide them with proper training.

COUNTERPART : We believe in "green" purchasing and expect high environmental standards from suppliers and contractors who work for us.

Keep in mind :



The environmental policy should be :-

- *Simple and intellegible.*
- *Consistent with other organizational policies e.g. quality policy.*
- *Practical and achievable.*
- *Communicated to and supported by all staff.*

Define an Environmental Policy

More examples of environmental policies from different organizations :

Legal Compliance

1. *"CLP will comply with all applicable laws and regulations in the countries and projects in which it operates and participates and will adopt responsible standards where laws and regulations do not exist. CLP will work with government and industry groups to foster timely development of laws and regulations which are environmentally acceptable and practicable to meet the balanced economic and environmental needs of society."*

(Extract from Corporate Environmental Statement of China Light & Power Co. Ltd. on 1 May 95)

Waste Minimization

2. *"Baxter will aggressively pursue opportunities to minimize the quantity and degree of hazard of the waste that results from its operations. It will reduce toxic and chlorofluorocarbon air emissions 60 percent by 1992 and 80 percent by 1996, from 1988 levels based on equivalent production."*

(Extract from Environmental Policy of Baxter International Inc. in "Environmental Performance Report 1993")

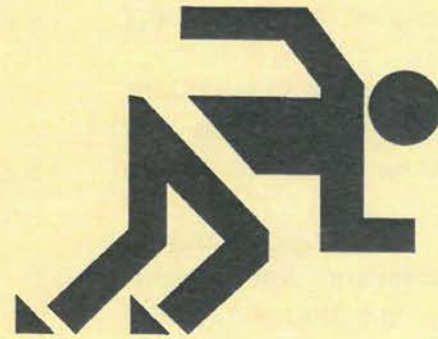
Annual Environmental Report

3. *"As a member of the WMX Technologies, Inc. family of companies, the Company will participate in the preparation and publication of an annual report on the environmental activities of the Company and the group. The report will include a self-evaluation of the implementation of these principles by the group, including assessment of their performance in complying with all applicable environmental laws and regulations throughout their worldwide operations."*

(Extract from Environmental Policy of Waste Management International plc. in "Annual Environmental Performance Report 1994")

Define an Environmental Policy

Steps to Take



Define an Environmental Policy

Steps to Take

STEP 1 : Based on the findings of the Initial Environmental Audit, identify the aspects with significant impacts or improvement opportunities.

STEP 2 : Determine the organization's overall environmental direction. In other words, how "green" the organization needs to be and how far it wants to commit beyond regulatory compliance.

STEP 3 : Based on the "needs" and "wants" of the organization, define the scope of commitment of the environmental policy.

STEP 4: Draft and refine the wordings of the policy to express the organization's overall commitment. Seek comments from senior managers during the drafting process.

STEP 5 : Derive an environmental policy that has been carefully considered and supported by all parties.

STEP 6 : Document the environmental policy and obtain approval of the top management.

STEP 7 : Publicize the environmental policy both within and outside the organization by the Managing Director or Chairman of the organization.

Define an Environmental Policy

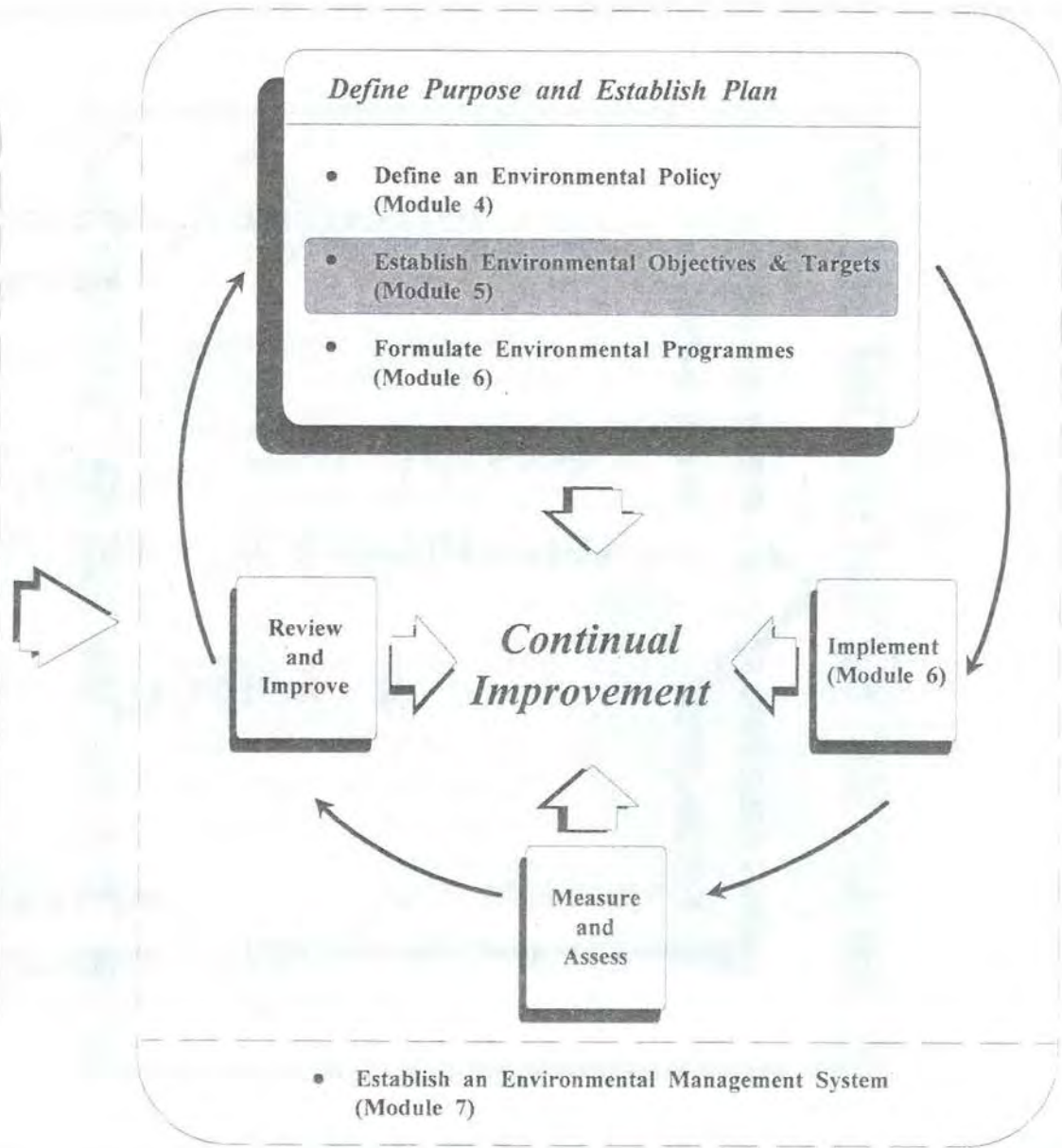
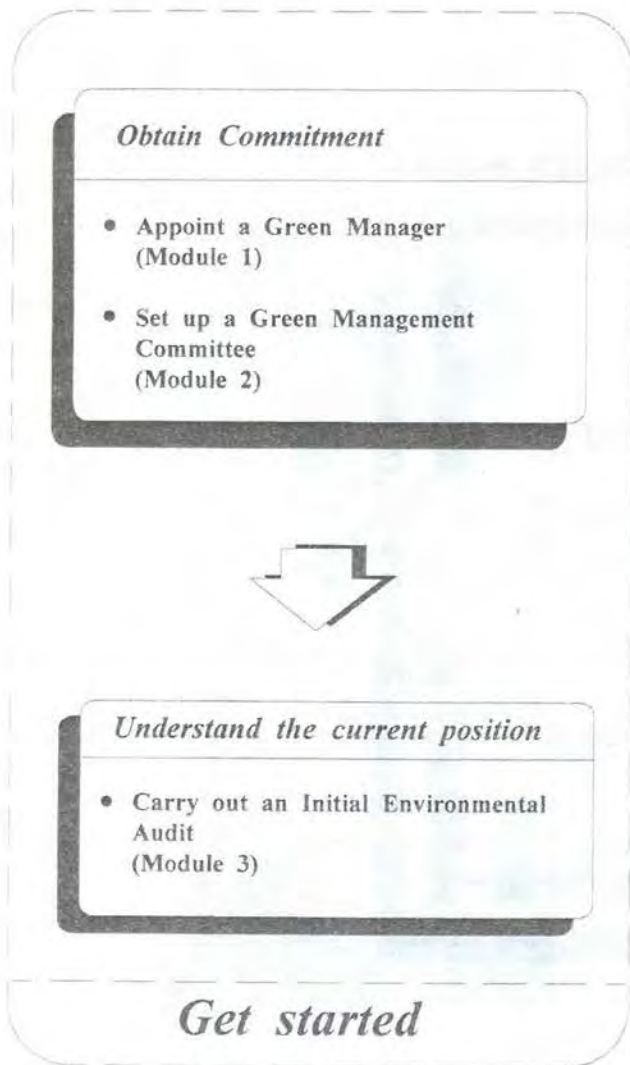
RECORD YOUR ACHIEVEMENTS



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Module 5

**Establish Environmental
Objectives and Targets**



Establish Environmental Objectives and Targets



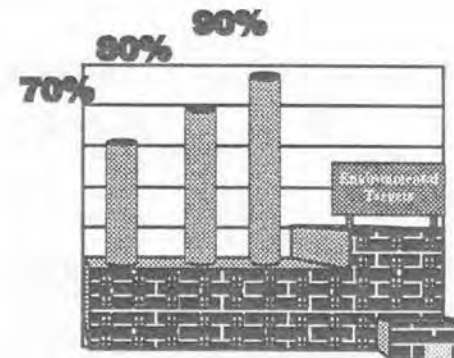
An Environmental Objective is

"An overall environmental goal, arising from the environmental policy, that an organization sets itself to achieve, and which is quantified where practicable."

An Environmental Target is

"A detailed performance requirement, quantified where practicable, applicable to the organization or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives."

(Definitions quoted from ISO 14001)

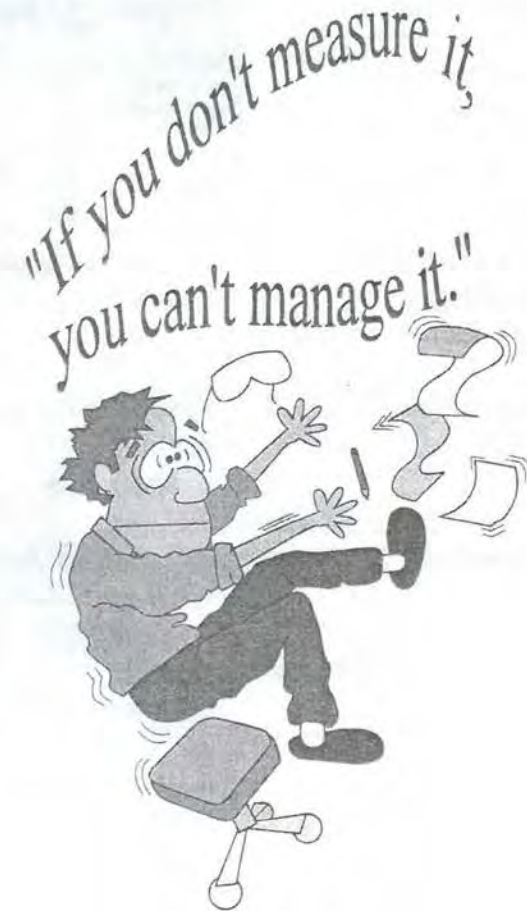


Establish Environmental Objectives and Targets

Why is it important to set environmental objectives and targets ?

The development of environmental objectives and targets serves the following important purposes :

- ▶ Translate the environmental policy to a more specific, tangible and measurable basis for implementation;
- ▶ Provide performance indicators for guiding the organization in planning and developing the environmental programmes in a focused manner;
- ▶ Provide clear benchmarks against which to measure the progress and success of the environmental programmes over time; and
- ▶ Provide a basis for external and internal reporting of achievements.



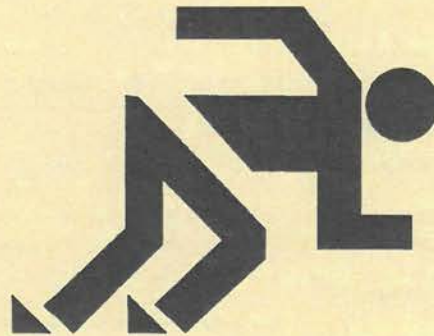
Establish Environmental Objectives and Targets

Here are some examples of environmental objectives and targets :

Initial Environmental Audit Findings	Environmental Policy Commitments	Environmental Objectives	Environmental Targets
Excessive waste generation	Reduce Waste	Minimize and reduce waste produced from the retail outlets Decrease volume of materials used for packaging of specific products	Reduce average daily weight of waste to landfill by 20 tonnes (yr1/yr2) Reduce volume of paper used in packaging per unit of current production volume of Product "A" by 10% (yr1/yr2)
Lack of control of selection and use of natural resources	Reduce consumption of natural resources	Reduce energy consumption in production process and office operations	Reduce energy consumption per unit of production by 10% (yr1/yr2) Reduce energy consumption by 15% (yr4 against yr2)
Uncontrolled risk of oil spillage	Minimize the production of pollutants to the environment	Reduce probability of accidental oil spillage	Reduce the probability of serious spill to 2% in the coming year
Outdated and inadequate equipment	Adopt technologies that will minimize pollution	Invest in best available technology to address pollution problems	Invest 5% of turnover in environmental improvements for the next 3 years (yr1-yr3)
Inadequate environmental awareness	Provide environmental education and training	Enhance environmental awareness of staff	Set up a training schedule for implementation on a monthly basis commencing mm/yy
Weak public relations	Improve external relations	Improve complaint handling procedure Provide support for community environmental programmes	Decrease number of complaints by 25% this year Co-organize two campaigns with environmental groups in the coming year

Establish Environmental Objectives and Targets

Steps to Take



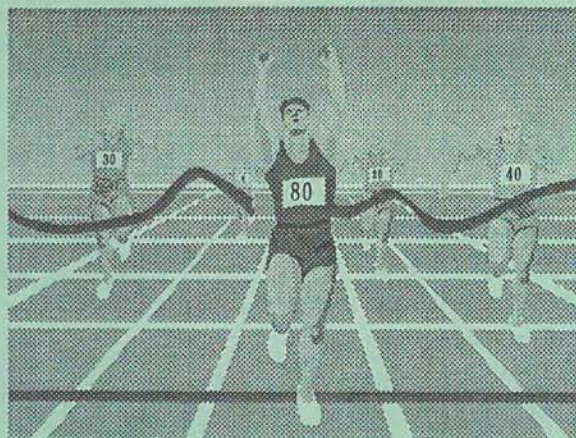
Establish Environmental Objectives and Targets

Steps to Take

STEP 1 :	Under each commitment in the Environmental Policy, identify the legal or other requirements that the organization has to comply. If applicable, these could be adopted as the environmental objectives and targets as the starting point.	STEP 5 :	Evaluate the financial, technological and other capabilities that are required to achieve the objectives and targets.
STEP 2 :	For issues where there are no established standards to follow, set up a recording system to gather data on the environmental aspects which are planned to be controlled.	STEP 6 :	Refine the objectives and targets so that they are achievable and can bring real satisfaction to staff once achieved, rather than being over-ambitious which may lead to failure and discouragement.
STEP 3 :	Analyse the assembled data to determine the current baseline.	STEP 7 :	Document the objectives and targets.
STEP 4 :	Against the current baseline, set the targets which the organization aims to achieve over time.		

Establish Environmental Objectives and Targets

RECORD YOUR ACHIEVEMENTS



Establish Environmental Objectives and Targets

RECORD YOUR ACHIEVEMENTS

Corresponding statement in our Environmental Policy :

Are there any legal requirements/benchmarks ?
Write them down here.

If No, what is the current baseline ?

What are the objectives and targets we want to achieve
over time ?

Objectives : _____

Targets : _____ / (year or month)

Is it likely to be feasible based on the evaluation of

financial capabilities ?

technological capabilities ?

other capabilities ?
(Please define. e.g. human resources)

Refine it, if it is not likely to be feasible.

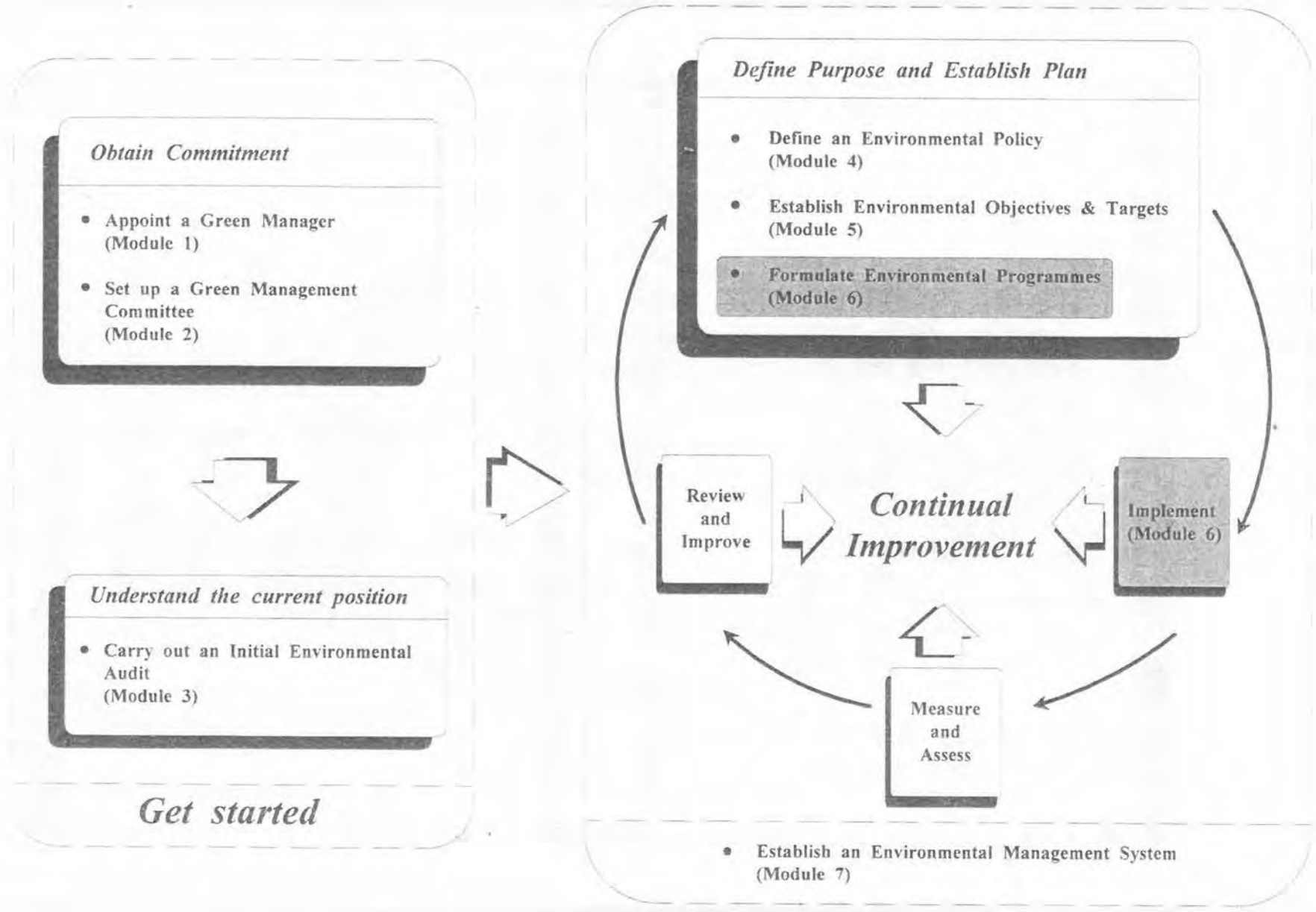
Objectives : _____

Targets : _____ / (year or month)

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Module 6

Formulate and Implement Environmental Programmes





An Environmental Programme is.....

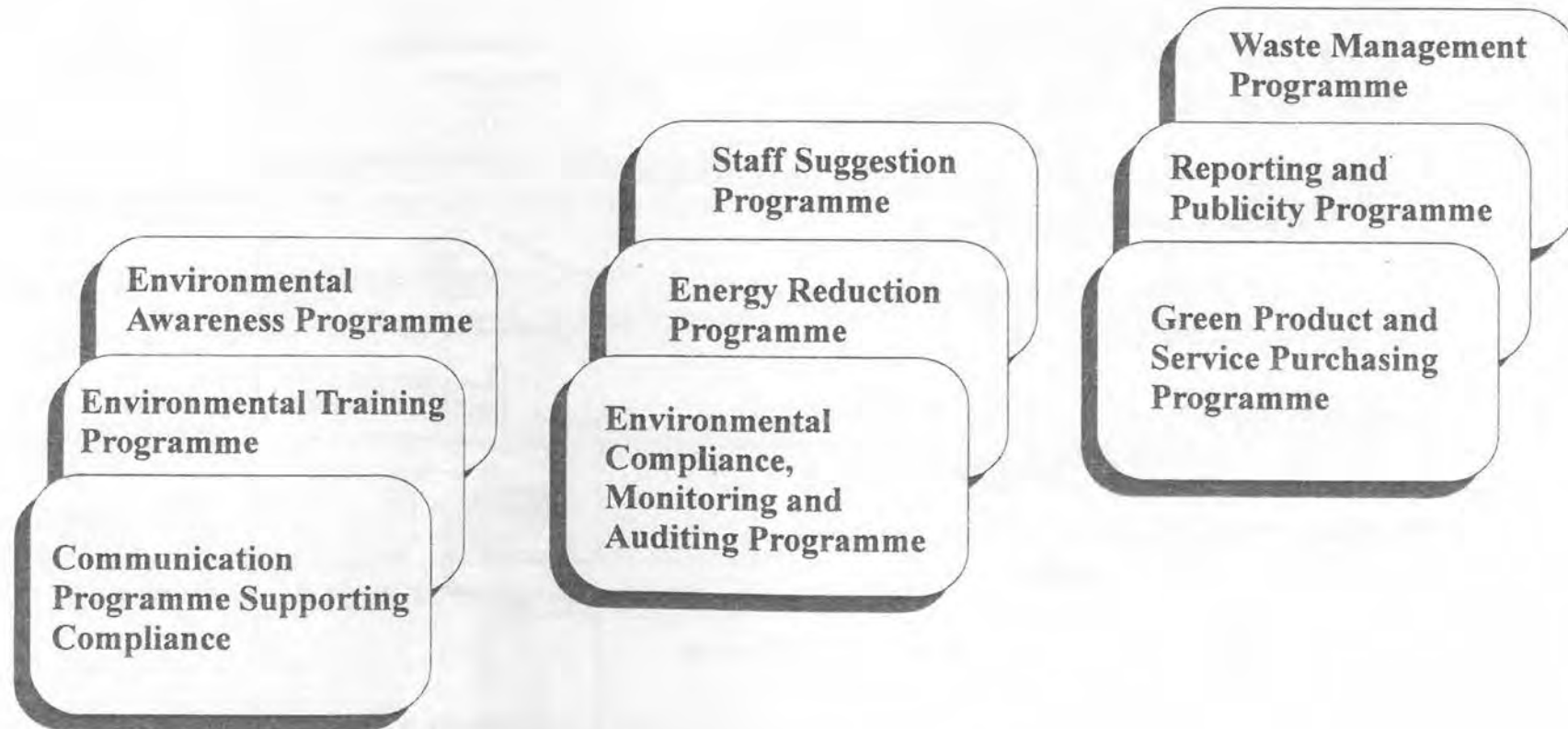
A series of action plans that identify the following details for achieving the stated objectives and targets :

- ▶ Specific action steps
- ▶ Schedules
- ▶ Resources (technology, people, finances)
- ▶ Designation of responsibility at each function and level



Formulate and Implement Environmental Programmes

Various kinds of environmental programmes



Why do you need environmental programmes ?

Environmental programmes are detailed plans which lead the organization to where it wants to achieve as set out in the objectives and targets. The purpose is to :

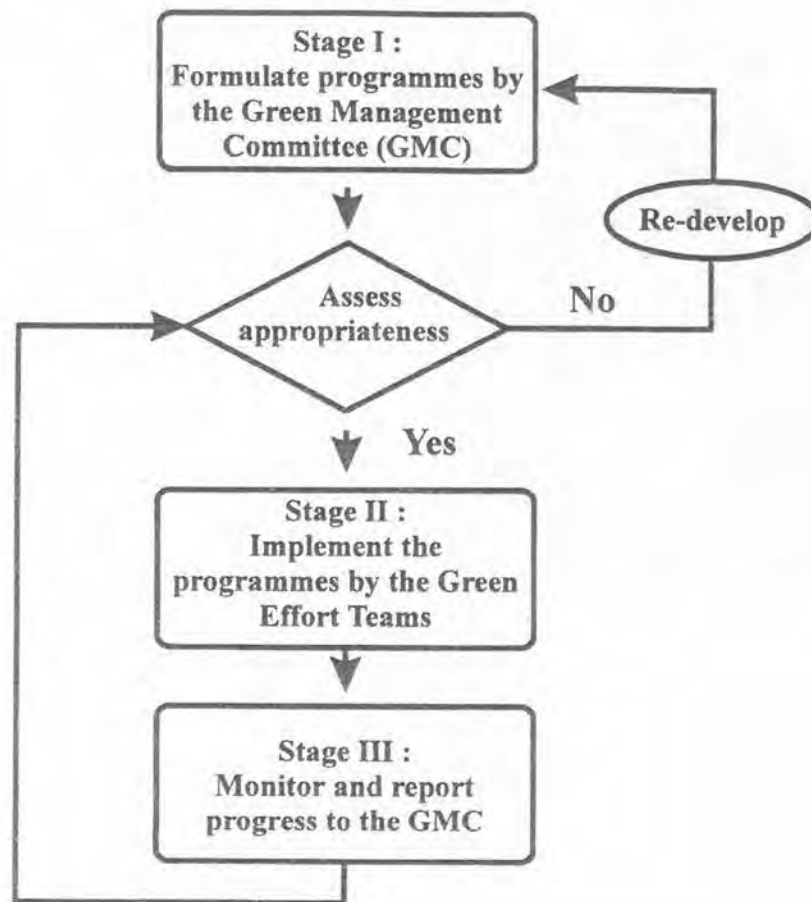
- ▶ Provide a schedule for introducing environmental changes over a time scale;
- ▶ Provide an estimate of the environmental expenditures for better financial control;
- ▶ Ensure effective allocation of manpower and other resources by clearly defining roles and responsibilities;
- ▶ Maintain momentum by setting milestones and checkpoints in the programmes; and
- ▶ Provide opportunities for learning from and improving upon past programmes.



Formulate and Implement Environmental Programmes

What are involved in formulating & implementing environmental programmes ?

It involves the following stages :



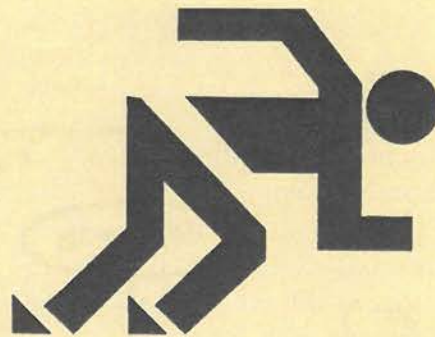
The steps involved in each stage are described in the "Steps to Take" section.

(see M6-6)

(see M6-7)

(see M6-8)

Steps to Take



Formulate and Implement Environmental Programmes

Steps to Take : Stage I - Formulate the Environmental Programmes by the Green Management Committee

STEP 1: Based on each objective and target, discuss and work out a plan on the following items in the Green Management Committee meetings:

- (1) What are the available options to achieve the objective / target?
- (2) What are the tasks involved?
- (3) Who will be responsible for implementing the various tasks?
- (4) When will it be done?
- (5) What are the resources required?

STEP 2: Start with those programmes with practically little cost implication, e.g. through good housekeeping.

STEP 3: For those programmes that require significant capital investment, calculate the cost required and the pay-back period of the available options. Select the one with the highest cost benefit.

STEP 4: Consolidate items (1)- (5) in STEP 1 into a plan and submit it to the top management for endorsement.

STEP 5: Once the plan was endorsed, implement it.

PLANNING



**EXPENSE
REPORT**



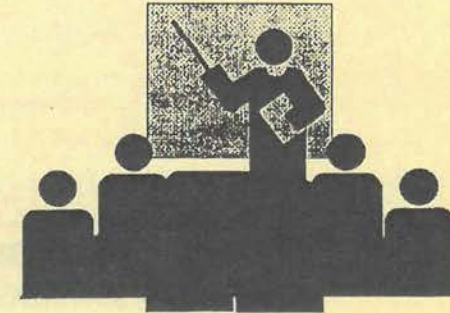
Formulate and Implement Environmental Programmes

Steps to Take : Stage II - Implement the Environmental Programmes by the Green Effort Teams

STEP 1: Clearly define and document the roles and responsibilities of each Green Effort Team member and other staff involved.

STEP 2: Implement the planned tasks, and during the process, undertake the following support activities which are crucial for implementing a successful environmental programme:

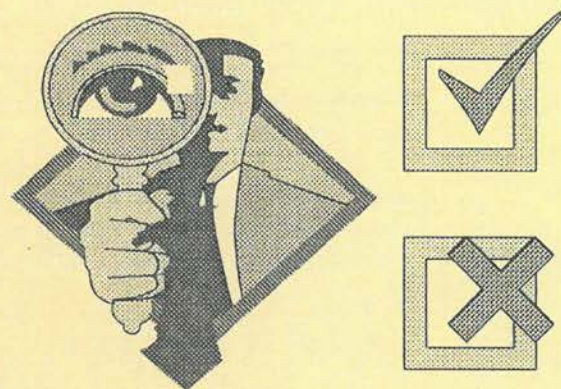
- (1) provide training to staff in both awareness and technical skills to ensure staff are committed and competent to perform the tasks.
- (2) develop manuals, procedures or work instructions so that all staff perform in a consistent and reliable manner.
- (3) Acknowledge successes and keep staff informed of the progress, and further action for improvement, etc.



Formulate and Implement Environmental Programmes

Steps to Take : Stage III - Monitor and Report Progress to the Green Management Committee

- STEP 1 : Monitor regularly the progress of the programmes at a defined interval through
(1) inspection to check adherence to action plans;
(2) measurement to track results.
- STEP 2 : Summarize and report the progress to the GMC.
- STEP 3 : Based on the progress, review the effectiveness of the programmes against the set objectives and targets.
- STEP 4 : If the objectives and targets are not met, discuss and suggest corrective actions or alternative action plans for improvement. Revise targets, if necessary.



Formulate and Implement Environmental Programmes

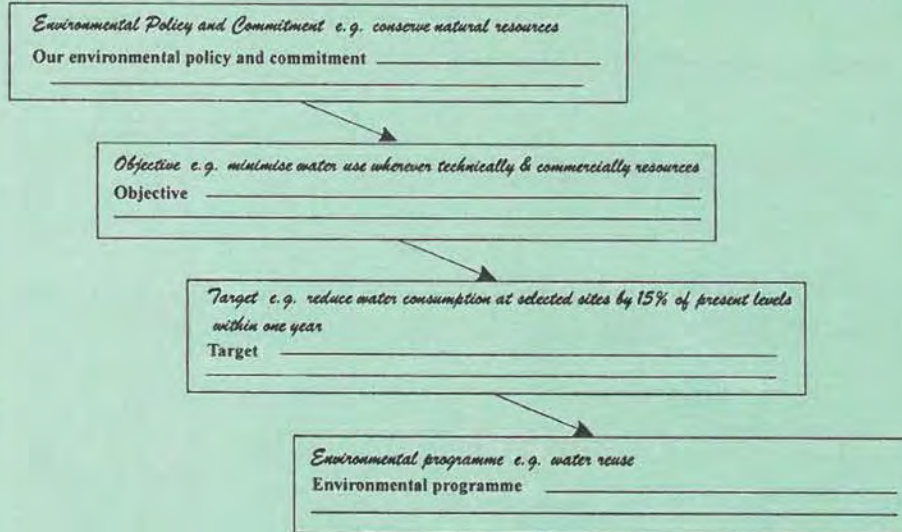
RECORD YOUR ACHIEVEMENTS



Formulate and Implement Environmental Programmes

RECORD YOUR ACHIEVEMENTS

Stage I - Formulate the Environmental Programme



Keep in mind



An effective programme should :

- work with realistic expectations about how much can be accomplished based on the organization's state of readiness;
- has a strong focus of action, taking on one or just a few big improvement opportunities, rather than attempting a wall-to-wall attack on everything at once;
- achieve some respectable early successes;
- deal with past, present and future activities;
- be dynamic and be revised regularly to reflect changes in organizational objectives, targets and procedures.

Activities	Person responsible	Resources required (financial, personnel & training)	Target date for completion of installation	Endorsed by management (✓/X)
● Install equipment to recycle rinse water for process A for re-use in process B	K.Y. Ho	\$ 50,000	mm/yy	_____
● Install meters to measure water	K.Y. Ho	\$ 50,000	mm/yy	_____
● _____	_____	_____	_____	_____
● _____	_____	_____	_____	_____
● _____	_____	_____	_____	_____

RECORD YOUR ACHIEVEMENTS

Stage II - Implement the Environmental Programme

Check off your progress :

- Budget approved by management.
- Roles and responsibilities of persons involved clearly defined, documented and communicated.
- Appropriate training provided and equipment installed.
- Procedures, manuals and work instructions developed.
- Internal monitoring and reporting system in place.

Formulate and Implement Environmental Programmes

RECORD YOUR ACHIEVEMENTS

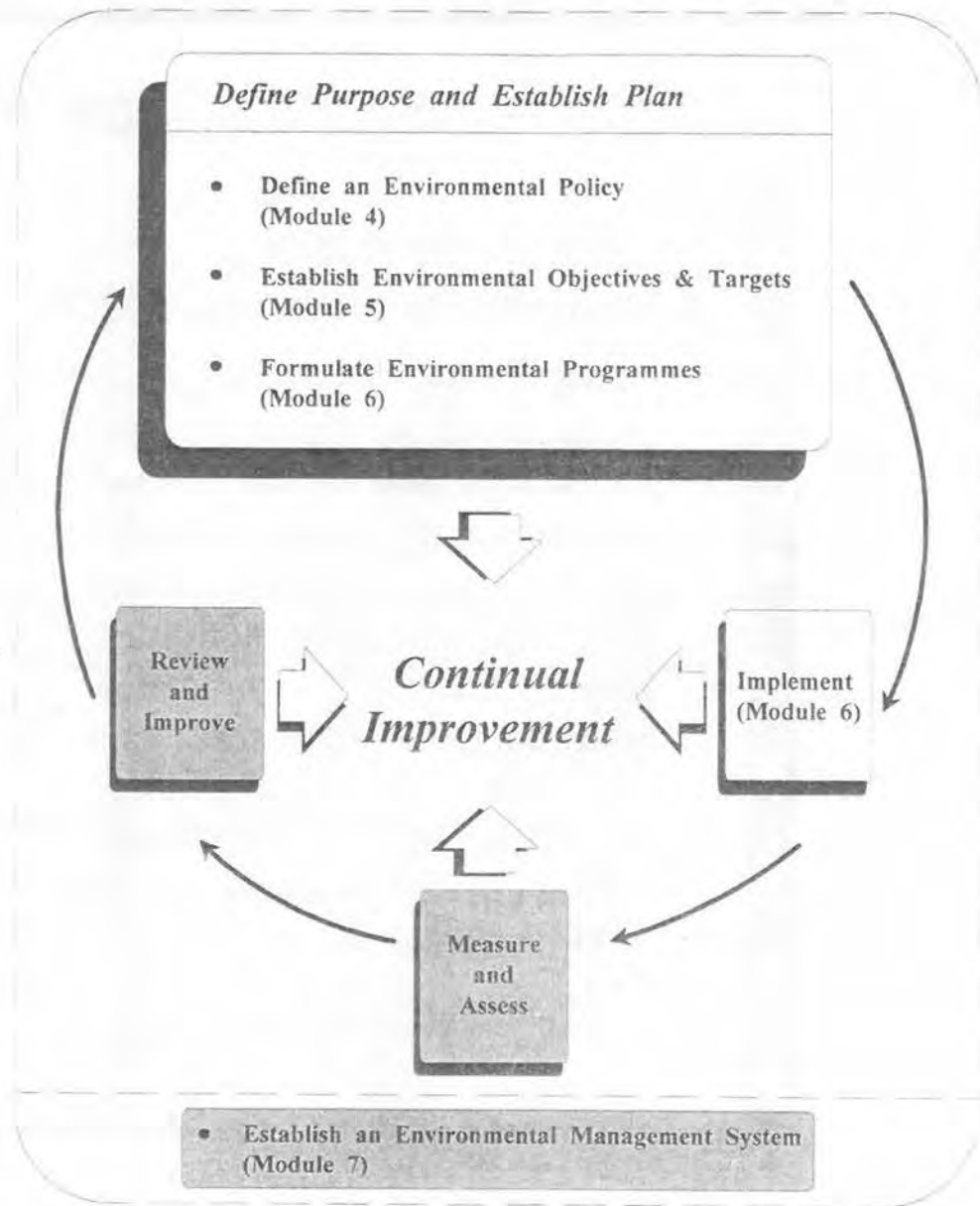
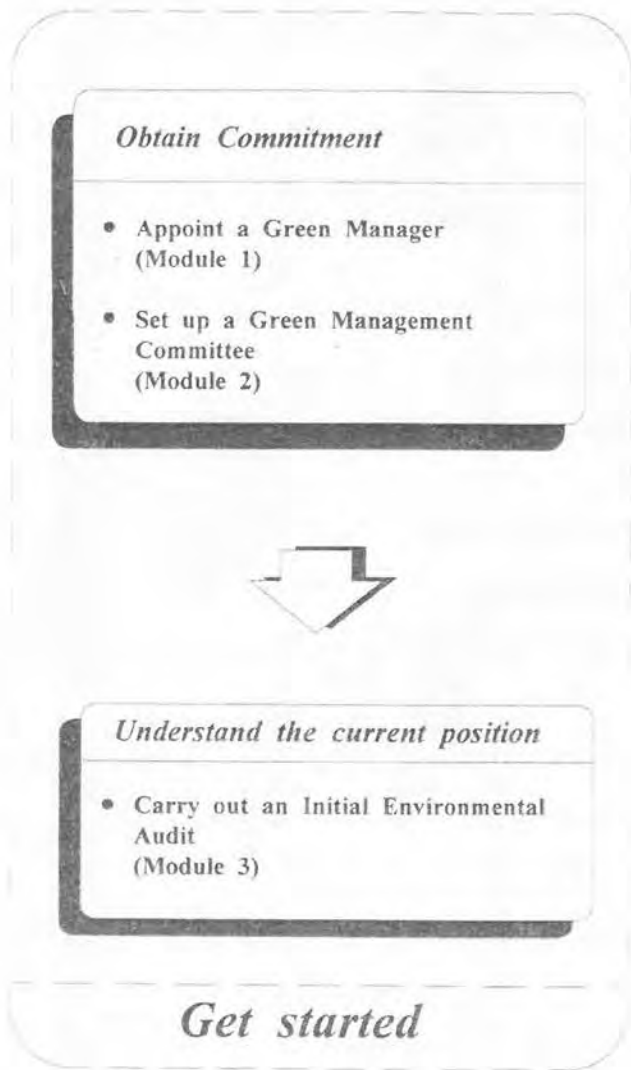
Stage III - Monitor and Report the Environmental Programmes' Progress


Programme	Actions	Action results (figures, charts, descriptions)	Targets achieved ? (assessment of effectiveness)	Suggestion of corrective actions	Action plan for improvement
<i>e.g. Water Reuse</i>	<ul style="list-style-type: none"> - Install equipment to recycle rinse water for process A for re-use in process B - Install meters to measure water consumption 	<ul style="list-style-type: none"> - 16% of water was saved from process B (compared yr2 Vs yr1) 	<i>Effective, target achieved (target set : 15%)</i>	<i>No</i>	<i>Nil</i>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
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_____	_____	_____	_____	_____	_____

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Module 7

**Establish an Environmental
Management System**

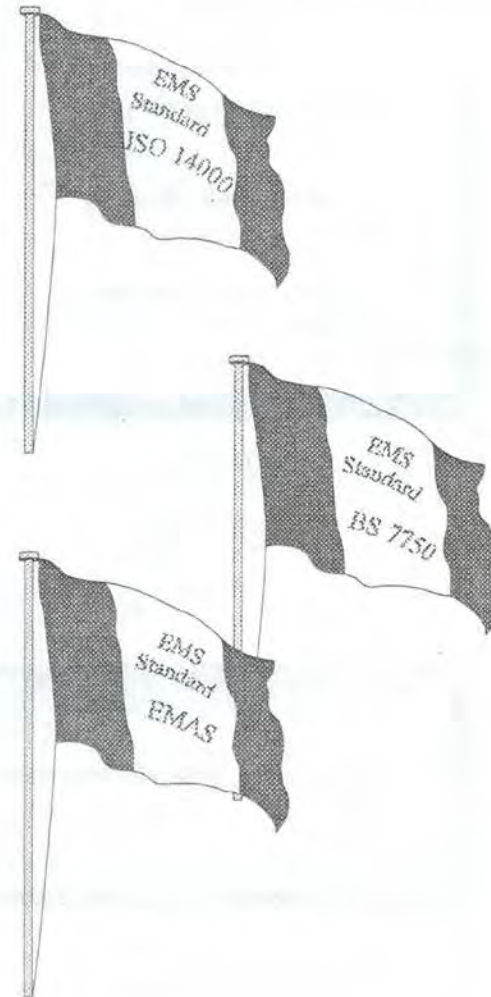




An Environmental Management System (EMS) is

"That part of the overall management system which includes organizational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy."

(Definition quoted from ISO 14001)



Establish an Environmental Management System

Why do you need to establish an Environmental Management System ?

It is necessary because an Environmental Management System would :-

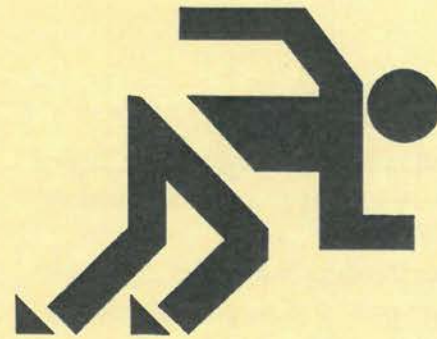
- ▶ Help to improve the environmental performance of the organization, enhancing its creditability with financial institutions, insurance companies, regulators and customers;
- ▶ Increase the competitive advantages of the organization by reducing legal liabilities, minimizing business operating costs, improving corporate image and public relation;
- ▶ Provide a framework for systematic presentation of environmental information for decision making; and
- ▶ Facilitate response to international market demands for ISO 14000 environmental management system certification.

How to set up an Environmental Management System ?

- ▶ Most of the essential elements of an EMS - Initial Environmental Audit, Environmental Policy, Objectives & Targets and Environmental Programmes have already been discussed in the previous modules of this Guide.
- ▶ The outstanding steps involved in setting up an EMS is to bring all these elements under periodic audit and review. They are briefly described in the next "Steps To Take" section in page M7-4.
- ▶ These steps aim to ensure system effectiveness and achieve continual environmental improvement.
- ▶ Work through these extra steps and you will have an EMS in place.

Establish an Environmental Management System

Steps to Take



Establish an Environmental Management System

Steps to Take

STEP 1: At the Green Management Committee(GMC), evaluate the performance of tasks carried out under Modules one to six.

STEP 2 : Analyse the reasons for the performance and recommend changes to the system, if necessary.

STEP 3 : Compile a GMC report on the above steps for the top management.

STEP 4 : Top management reviews the GMC report in order to re-define environmental policy, objectives and targets, and take corrective and preventive actions, if necessary.

STEP 5 : Repeat the cycle (Module 4 - 7) on a regular basis for continual improvement.

Establish an Environmental Management System

RECORD YOUR ACHIEVEMENTS




RECORD YOUR ACHIEVEMENTS

Management Review

- System checking was conducted to evaluate whether environmental management activities conform to planned arrangement.
- Findings of system checking have been submitted to the top management for review.
- Management review was conducted on mm / yy
- Record of management review meeting is kept.

RECORD YOUR ACHIEVEMENTS



Continual Improvement

- Corrective action plan is prepared to address the findings of audits and management review.

- The review on environmental objectives and targets is completed and documented.

- The environmental policy of mm/yy is (re-defined/still applicable) after review.

Concluding Remarks

DOs and DON'Ts of setting up an Environmental Management System

DOs ✓ DO it now - and do it systematically.

DON'Ts ✗ DON'T let others do it before you, if you want to stay competitive.

DON'T treat it as a one-off exercise. This is a long term commitment that aims for continual improvement.

Where are your organization's environmental status now ?

Module 1 2 3 4 5 6 7

What is your next plan ?

Spend more effort and follow through to Module 7.

References

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A Guide to Help Hong Kong Companies - Review and Improve their Environmental Performance.