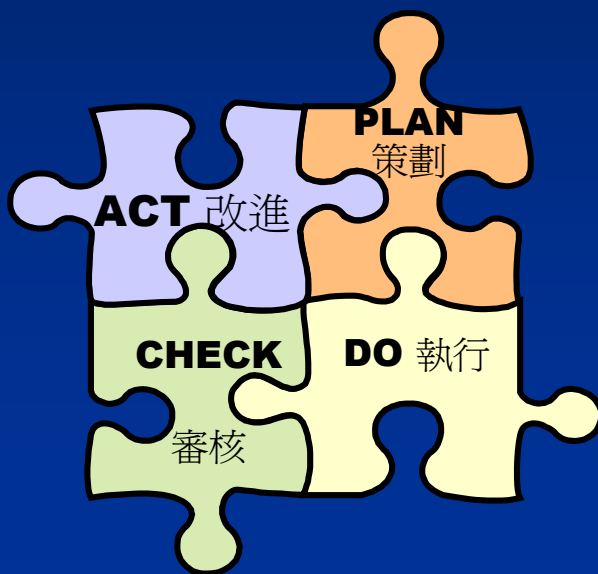


Seminar on Support on Environmental Management Information and ISO  
14001 EMS for SMEs in Construction Sector

為香港建造業中小企提供環境管理資訊及  
ISO 14001 環境管理體系支援研討會

# The Easy Way to Develop Your Own ISO 14001 EMS

簡易方式建立  
您的ISO 14001 環境管理體系



2 December 2004

二〇〇四年十二月二日

Business Environment Council Ltd.  
商界環保協會有限公司

# Seminar Overview

## 研討會概覽

- Morning session 上午
  - *Overview of the supply chain pressure in the construction industry*  
建造業的供應鏈壓力概覽
- Afternoon session 下午
  - *Introducing the ISO 14001 EMS support package*  
介紹 ISO 14001 環境管理體系支援套件



# Presentation Outline

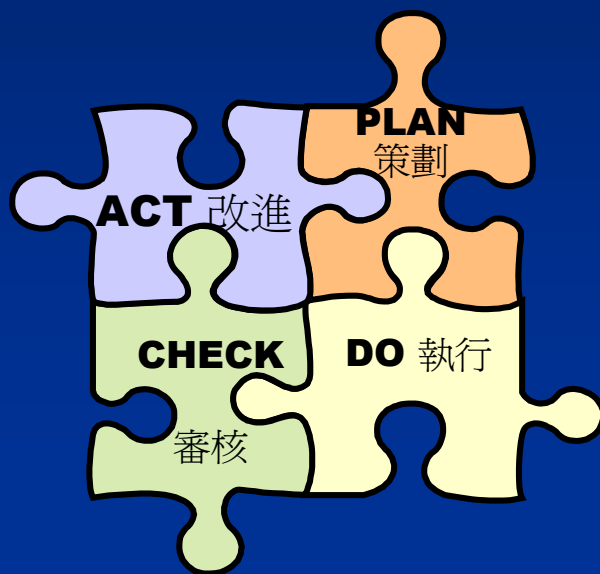
## 簡報大綱



- What is ISO 14001 EMS  
甚麼是ISO 14001環境管理體系？
- Introduction to Support Package  
介紹支援套件
- The Starting Point : Understanding the User Manual  
起步點：了解使用手冊
- Understanding Differences between Generic and Company Specific Requirements  
了解文件範本及個別公司要求之差別
- Simple Steps for Using Generic Templates to Design your Own System Documentation  
簡易步驟採用文件範本來設計您的文件系統
- Customization of the Web-based Supporting Materials to Suit your Own Uses  
透過互聯網的支援套件切合您的需要

# What is ISO 14001 EMS?

甚麼是ISO 14001  
環境管理體系？





# What is Environmental Management System?

甚麼是環境管理體系？

The part of the overall management system that includes

整個管理體系的部份包括

**organizational structure**  
機構的結構

**planning activities**  
活動策劃

**Responsibilities**  
責任

**Practices**  
措施

**Procedures**  
程序

**Processes**  
過程

**Resources**  
資源

for addressing an organisation's environmental impacts.

用以識別機構的環境影響

# How an EMS Works?

## 環境管理體系是如何運行？

**Housekeeping**  
家務

**Waste**  
廢物

**Noise**  
噪音

**Energy**  
能源

**Design**  
設計

**Use**  
使用

**Safety**  
安全

**Air**  
空氣

**Chemicals**  
化學品

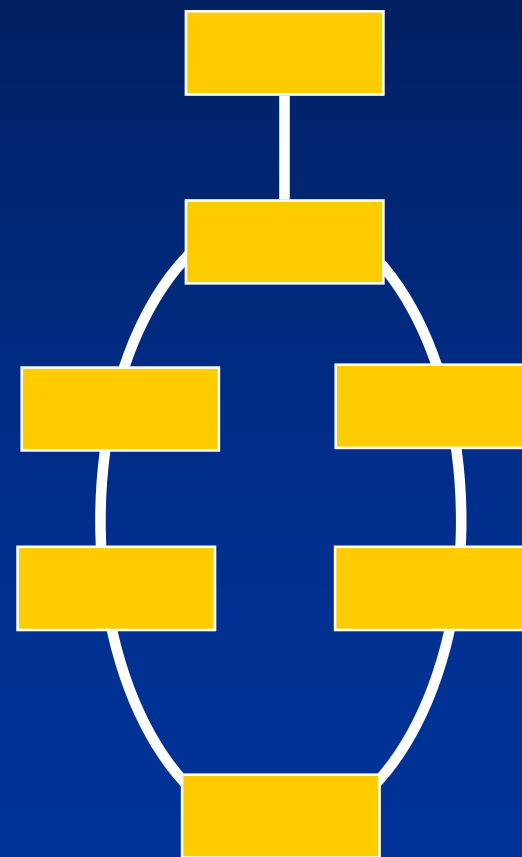
**Water**  
水

**Materials**  
物料

**CONTROLS**  
控制

**Policies** 方針  
**Plans** 策劃  
**Procedures** 程序  
**Training** 培訓  
**Manuals** 手冊  
**Monitoring** 監測  
**Records** 記錄  
**Audits** 審核  
**Reviews** 評審

**SYSTEMS**  
系統



# What is the Focus of an EMS?

甚麼是環境管理體系的重點？

Legal  
compliance  
符合法例

Prevent  
pollution  
預防污染

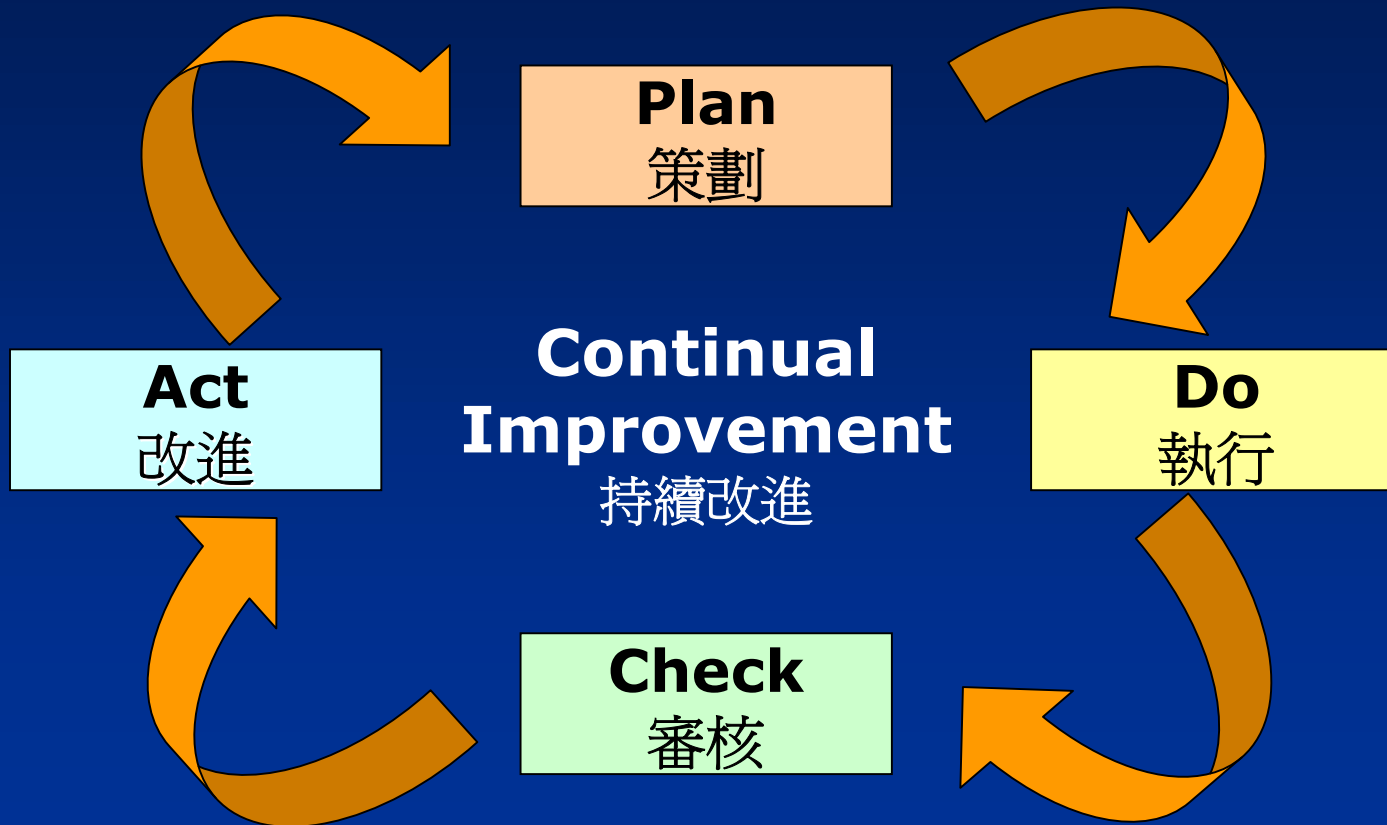
*significant*  
environmental aspects

重要  
環境因素

Continual  
improvement  
持續改進

# PDCA Model

「策劃、執行、審核、改進」運行模式







# What is ISO 14001 ?

## 甚麼是ISO 14001 ?

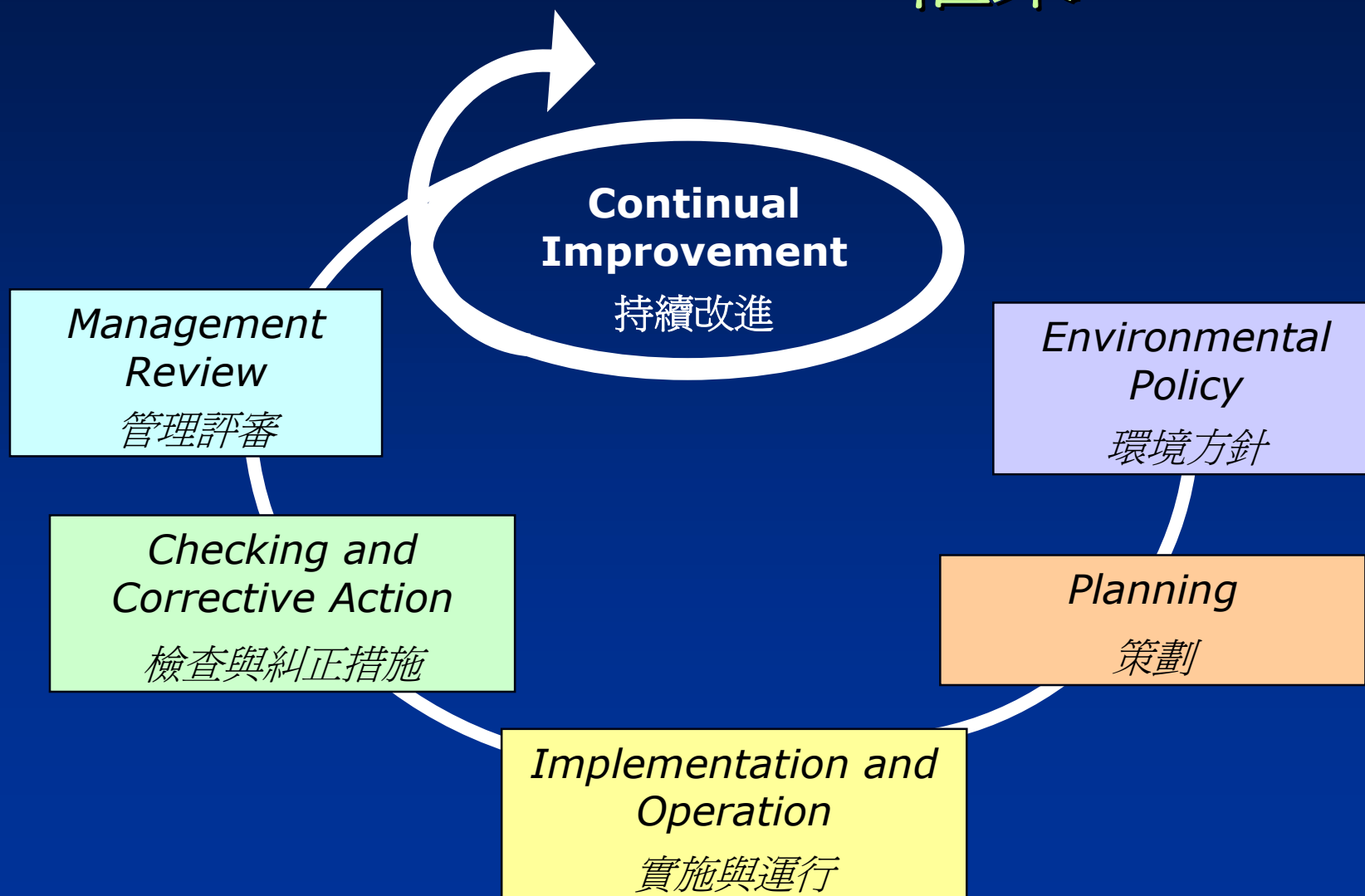
- ISO - International Organisation of Standardisation  
ISO - 國際標準組織
- ISO 14001 - Environmental Management Systems – Specification with guidance for use  
ISO 14001 – 環境管理體系 – 規範及使用指南

**This International Standard specifies requirements for an EMS**

**國際標準規定了環境管理體系的要求**

# ISO 14001 principles

## ISO 14001 框架



# ISO 14001

*Continual  
Improvement*

## **Management Review**

### **Checking & Corrective Action**

*Monitoring &  
measurement*

*Evaluation of  
compliance*

*Nonconformity,  
corrective and  
preventive action*

*Records*

*Internal Audits*

## **Implementation & Operation**

*Resources, roles,  
responsibility and  
authority*

*Competence,  
training and  
awareness*

*Communication*

*Documentation*

*Control of  
documents*

*Operational Control*

*Emergency  
Procedures*

## **Environmental Policy**

### **Planning**

*Environmental  
aspects*

*Legal & other  
environmental  
requirements*

*Objectives, targets,  
and programme(s)*

# ISO 14001

持續改進

## 管理評審

### 檢查與糾正措施

監測和測量  
符合性評估  
不符合、糾正與預防  
措施  
記錄  
內部審核

## 環境方針

### 策劃

環境因素  
法律與其他環境要  
求  
目標、指標和管理  
方案

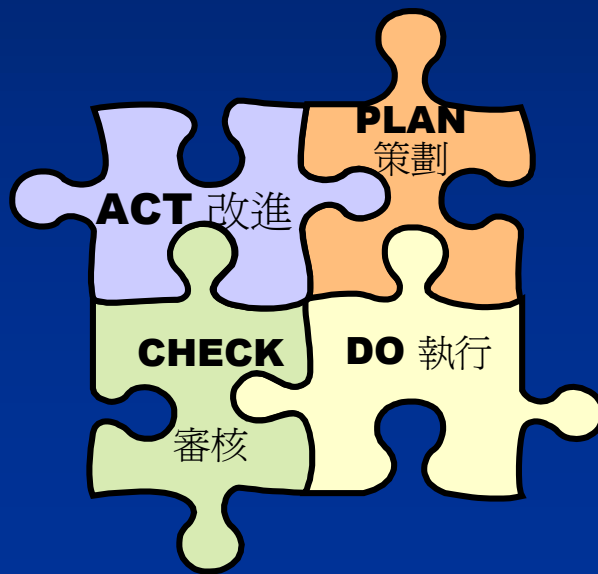
### 執行及運行

資源、角色、職責和權限  
能力、培訓與意識  
信息交流  
環境管理體系文件  
文件控制  
運行控制  
應急準備和響應



# Introduction to Support Package

## 支援套件的介紹



SMEs Support Package for  
ISO 14001 EMS  
Implementation

中小企支援套件，用以執行  
ISO 14001環境管理體系

# Objectives

## 目標

### ■ To assist local SMEs :

協助本地中小企：

- to stay competitive;

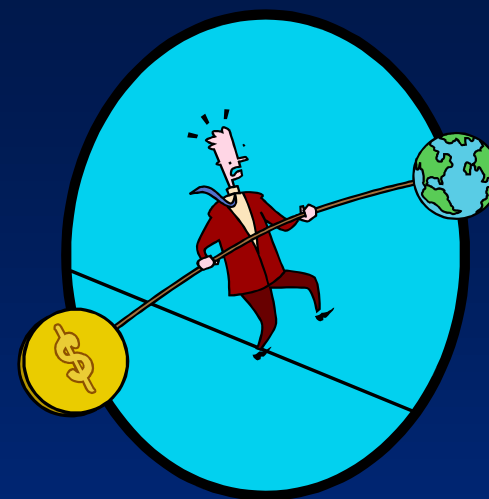
保持競爭力；

- prepared for future supply chain pressure in ISO 14001 EMS; and

準備面對將來的ISO 14001環境管理體系供應鏈壓力；及

- enhance the environmental performance

促進環境表現



# Content 內容

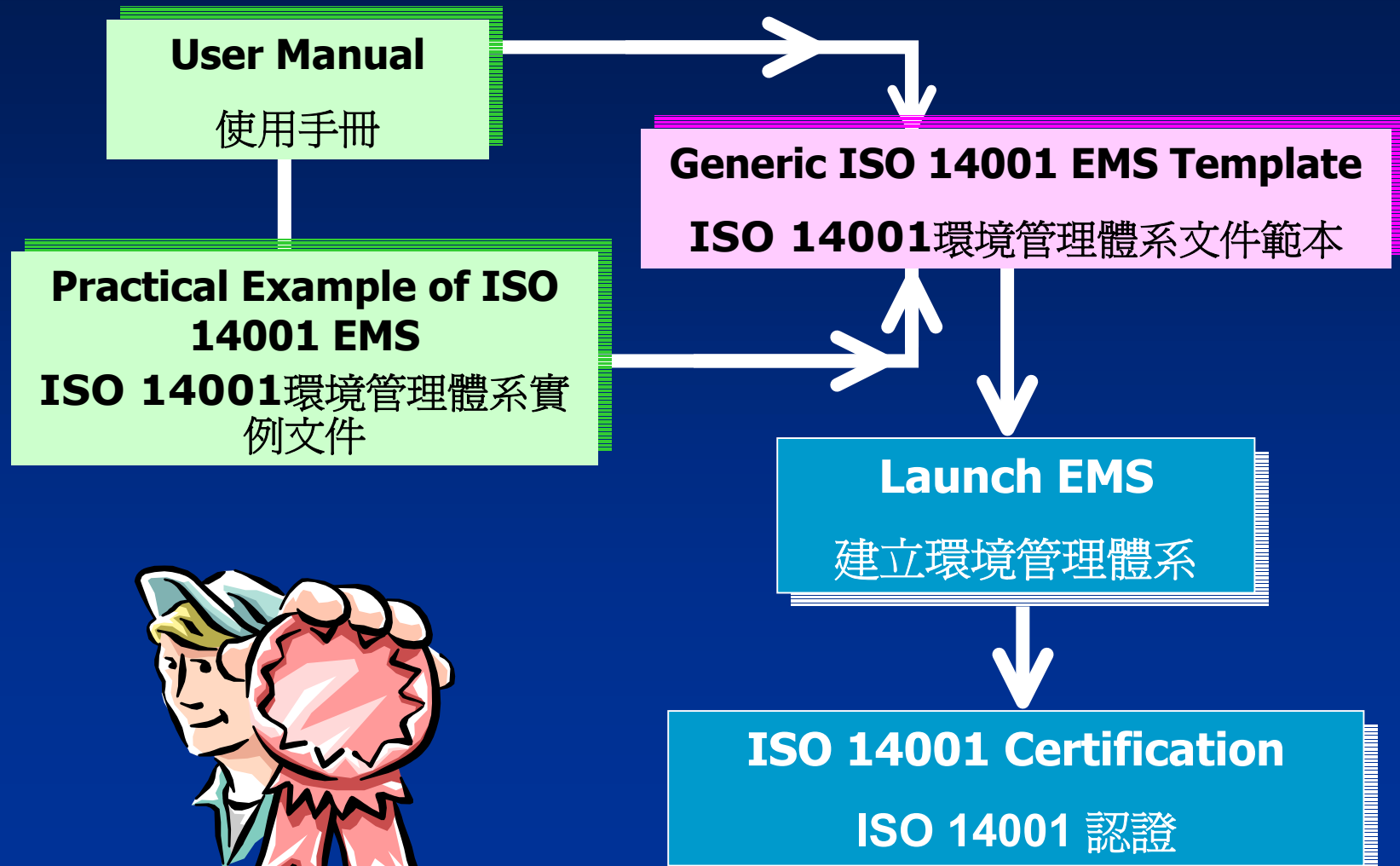
- Generic ISO 14001 EMS Templates  
ISO 14001環境管理體系文件範本
- User Manual  
使用手冊
- Practical Examples of ISO 14001 EMS  
ISO 14001環境管理體系實例文件



- Both English and Chinese version  
英文及中文版本

# Flow chart

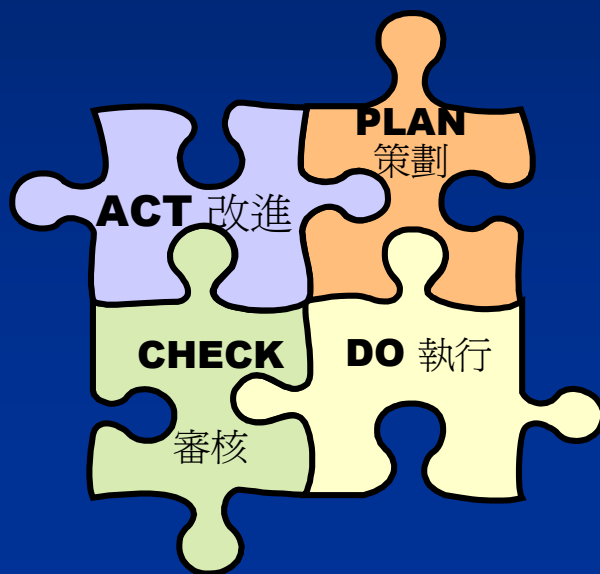
## 流程圖





# Understanding the User Manual

了解使用手冊



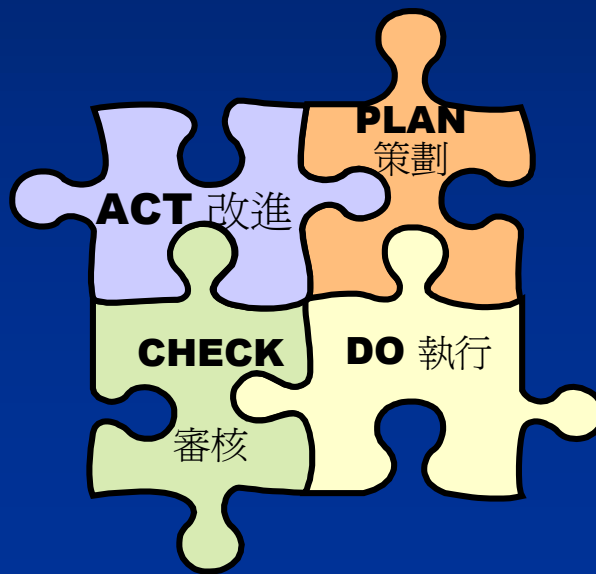
# Structure of User Manual

## 使用手冊的編排

Section I : 第一部份 :	ISO 14001 EMS Support Package for SMEs <b>ISO 14001</b> 環境管理體系中小型企業支援 套件
Section II : 第二部份 :	EMS Planning 環境管理體系策劃
Section III : 第三部份 :	EMS Development and Implementation 環境管理體系建立及執行
Section IV : 第四部份 :	ISO 14001 EMS Certification Process <b>ISO 14001</b> 環境管理體系認證過程

# Section I : ISO 14001 EMS Support Package for SMEs

## 第一部份：ISO 14001 環境管理體系 中小型企业支援套件





## Section I

### 第一部份

- What is this Package?  
本支援套件是甚麼？
- Who should read what in this package?  
誰應使用本支援套件？
- How is this manual structured?  
本支援套件的編排？
- How to use this support package?  
如何使用本支援套件？
- General tips for using the Generic ISO 14001 EMS Templates  
使用環境管理體系文件範本的一般提示
- What is an Environmental Management System?  
甚麼是環境管理體系？



# General tips

## 醒目提示

Chapter 3: EMS Development and Implementation

**PLAN DO CHECK ACT**

**B. Plan**

"Planning" helps you to establish the objectives and processes that are essential for delivering results in accordance with your environmental policy.

### 1. Environmental Aspect Identification

PLAN	DO	CHECK	ACT
策劃	執行	審核	改進

a) **Environmental Aspect Identification in EMS Manual (EM-01 Section 4.3.1)**  
 Download [\(Template - BHO1 EMS Manual\)](#) Download [\(Sample\)](#)  
 This part of your EMS manual:

- Describes how you identify and evaluate the environmental aspects derived from your activities, products and services.

**Helpful Tips:**

- You can modify the approach to identifying and evaluating your environmental aspects. However, make sure that your approach is **systematic and comprehensive**.

b) **Procedure for Environmental Aspect Identification (EP-01)**  
 Download [\(Template - EP-01 Identification of Environmental Aspects and Significant Evaluation\)](#) Download [\(Sample\)](#)  
 This environmental procedure helps you to identify and assess the environmental aspects (EAs) that your company **can control**, and over which it **can have an influence**.

Step 1: Identify your environmental aspects

1) Use procedure EP-01 to define the responsibility and method of identifying your EAs, and evaluating which EAs are significant environmental aspects (SEAs).

2) Map your company's activities and processes

- Production processes, workflow
- Office operations

**Helpful Tips:**

- The following are typical EAs to be considered:
  - Air emissions
  - Water discharges
  - Solid and hazardous wastes
  - Noise and vibration
  - Energy use
  - Contamination of land

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Chapter 3: EMS Development and Implementation

**PLAN DO CHECK ACT**

- Building facilities maintenance
- For example, inputs and outputs are:

Inputs	Copying	Outputs
1. Paper 2. Energy 3. Toner More ...		1. Printed Documents 2. Waste Paper 3. Used Toner Cartridges

5) Identify related environmental impacts

- Link between aspects and impacts is similar to "cause and effect".

Following previous example, the environmental impacts are:

Inputs	Copying	Outputs
1. Paper 2. Use of resources (paper, energy, toner) 3. Solid waste (waste paper & packaging, used toner cartridges) 4. Colour emissions More ...		1. Depletion of natural resource 2. Occupy landfill space (waste paper) 3. Indoor Air Quality More ...

**Helpful Tips:**

- Raw material and resource use (water, energy, etc.)
- Local issues (e.g. noise, odour, dust, traffic, etc.)
- Hazardous material storage and handling
- Hazardous material storage and handling
- Habitat disturbance
- Potential fire
- Remember to look at services as well as products, on-site and off-site operations, activities that you may control and have influence.
- EAs can be **positive** (e.g. waste recycling) or **negative** (e.g. toxic waste generated).
- EAs may result from your **past activities and emergency situations**.
- EAs should be identified comprehensively and reviewed regularly to ensure that they are still appropriate (e.g. when you introduce new product lines, or build new facilities).
- Refer to the [Practical Examples of ISO 14001 EMS or EA Register](#) for more details.

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# General tips

## 醒目提示

### Environmental Aspect Identification in EMS Manual (EM-01 Section 4.3.1)

Download [\(Template – EM-01 EMS Manual\)](#)

Download [\(Sample\)](#)

This part of your EMS manual:

#### Helpful Tips:

- a) Section 4.3.1 of EMS Manual (EM-01)
- b) Environmental Procedure for Identification of Environmental Aspects and Significance Evaluation (EP-01)
- c) Register of Environmental Aspects (EA-01)

#### a) Environmental Aspect Identification in EMS Manual (EM-01 Section 4.3.1)

Download [\(Template – EM-01 EMS Manual\)](#) Download [\(Sample\)](#)

This part of your EMS manual:

- Describes how you identify and evaluate the environmental aspects derived from your activities, products and services.

#### Helpful Tips:

- You can modify the approach to identifying and evaluating your environmental aspects. However, make sure that your approach is *systematic* and *comprehensive*.

#### b) Procedure for Environmental Aspect Identification (EP-01)

Download [\(Template – EP-01 Identification of Environmental Aspects and Significance Evaluation\)](#)

Download [\(Sample\)](#)

This environmental procedure helps you to identify and assess the environmental aspects (EAs) that your company *can control*, and over which it *can have an influence*.

#### Step 1: Identify your environmental aspects

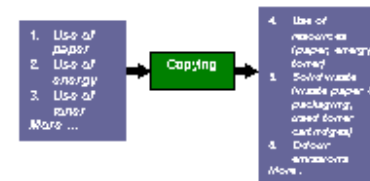
- 1) Use procedure EP-01 to define the responsibility and method of identifying your EAs, and evaluating which EAs are significant environmental aspects (SEAs).
- 2) Map your company's activities and processes
  - Production processes, workflow
  - Office operations

#### Helpful Tips:

- The following are typical EAs to be considered:
  - ✓ Air emissions
  - ✓ Water discharges
  - ✓ Solid and hazardous wastes
  - ✓ Noise and vibration
  - ✓ Energy use
  - ✓ Contamination of land

activities, and decide if you can control and influence them.

Following previous example, the EAs are:



#### 5) Identify related environmental impacts

- Link between aspects and impacts is similar to "cause and effect".

Following previous example, the environmental impacts are:

- EAs can be *positive* (e.g. waste recycling) or *negative* (e.g. toxic waste generated).
- EAs may result from your *past activities and emergency situations*.
- EAs should be identified comprehensively and reviewed regularly to ensure that they are still appropriate (e.g. when you introduce new products, lines, or build new facilities).

Refer to the [Practical Examples of ISO 14001 EMS EA Registers](#) for more details.

- Refer to the [Practical Examples of ISO 14001 EMS of EA Registers](#) for more details.

# General tips

## 醒目提示

PLAN DO CHECK ACT Chapter 3: EMS Development and Implementation

### B. Plan

"Planning" helps you to establish the objectives and processes that are essential for delivering results in accordance with your environmental policy.

#### 1. Environmental Aspect Identification

(ISO/DIS 14001 (Date: 9 July 2003) 4.3.1 Environmental Aspects)

Identifying and evaluating your environmental aspects (EAs) is fundamental to designing your EMS to control and minimise the environmental impacts arising from your activities, products and services. Related documents include:

- a) Section 4.3.1 of EMS Manual (EM-01)
- b) Environmental Procedure for Identification of Environmental Aspects and Significance Evaluation (EP-01)
- c) Register of Environmental Aspects (EA-R01)

#### a) Environmental Aspect Identification in EMS Manual (EM-01 Section 4.3.1)

Download [Template – EM-01 EMS Manual](#) Download [EA-R01](#)

This part of your EMS manual:

- Describes how you identify and evaluate the environmental aspects derived from your activities, products and services.

#### Helpful Tips:

- You can modify the approach to identifying and evaluating your environmental aspects. However, make sure that your approach is **systematic** and **comprehensive**.

#### b) Procedure for Environmental Aspect Identification (EP-01)

Download [Template – EP-01 Identification of Environmental Aspects and Significance Evaluation](#)

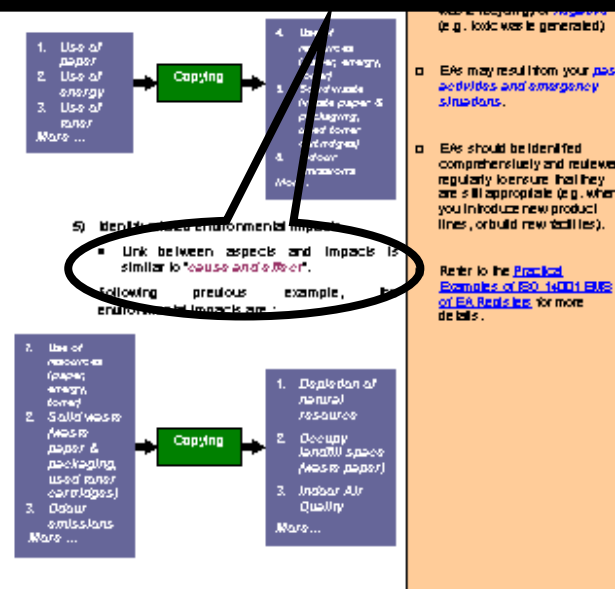
### Helpful Tips:

- You can modify the approach to identifying and evaluating your environmental aspects. However, make sure that your approach is **systematic** and **comprehensive**.

### 5) Identify related environmental impacts

- Link between aspects and impacts is similar to "**cause and effect**".

Following previous example, the environmental impacts are:



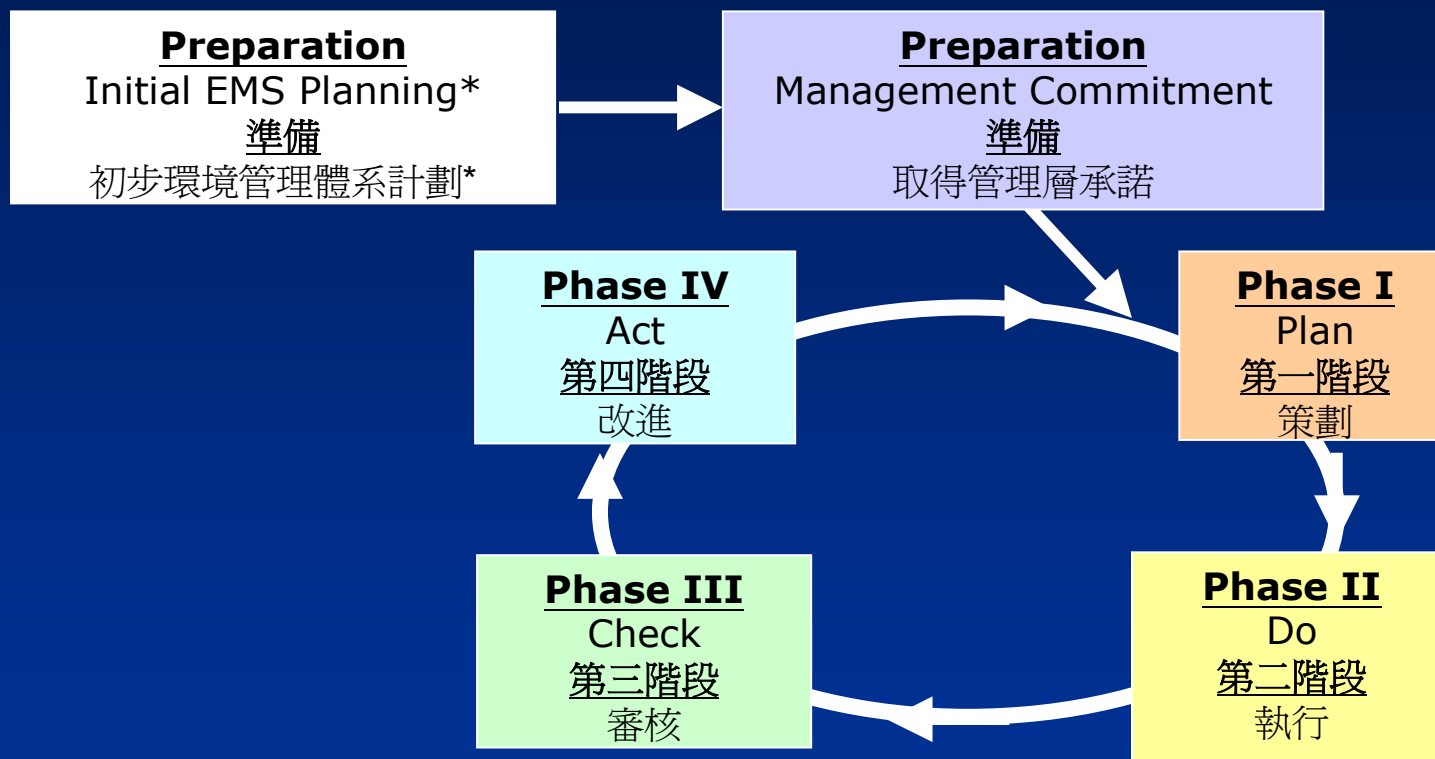
Sep 2004

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Rev-05

# Approach to EMS Development and Implementation

## 建立及執行環境管理體系的步驟



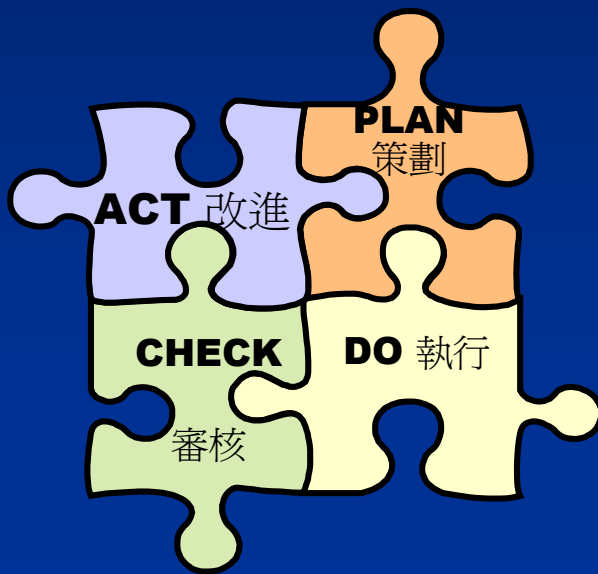
\* Initial EMS Planning is not an ISO 14001 Standard requirement; however, it is useful preparation work to facilitate the set up and development of the EMS in accordance with the ISO 14001 Standard.

\* 初步環境管理體系計劃並不是ISO 14001的標準要求；但仍有助建立及執行ISO 14001環境管理體系。



# Section II: EMS Planning

## 第二部份：環境管理體系 策劃



Initial Environmental  
Review

初始環境評審

Gap Analysis

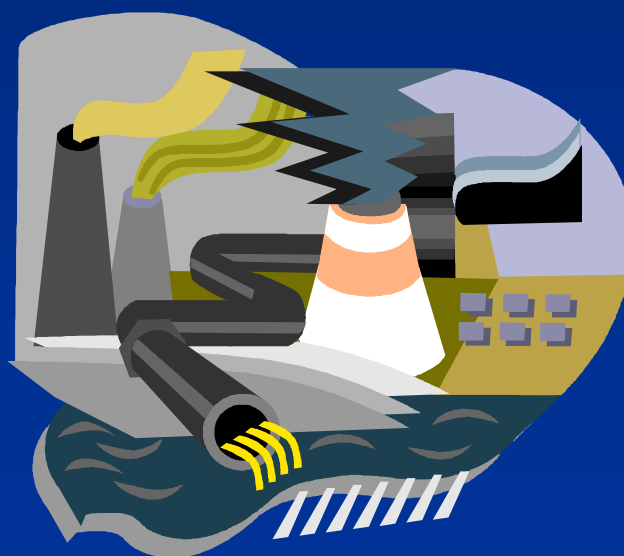
差距分析

# Initial Environmental Review

## 初始環境評審

- Do you understand your existing environmental problems / practices / performance in your organisation?

您是否知道貴機構現有的環境問題 / 措施 / 表現？



# Gap Analysis

## 差距分析

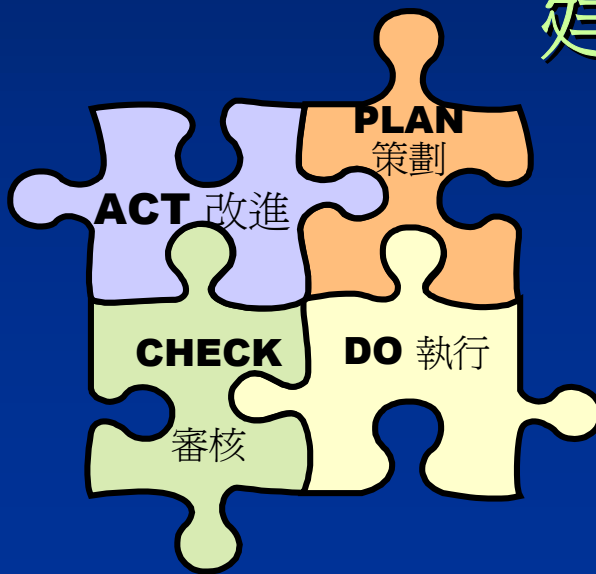
- Do you know how much does your organisation need to complete in order to comply with the ISO 14001 standard?

您是否知道貴機構之需要以符合ISO 14001的標準？



# Section III: EMS Development and Implementation

## 第三部份：環境管理體系 建立及執行



Management Commitment

管理層承諾

Plan, Do, Check, Act

策劃、執行、審核、改進

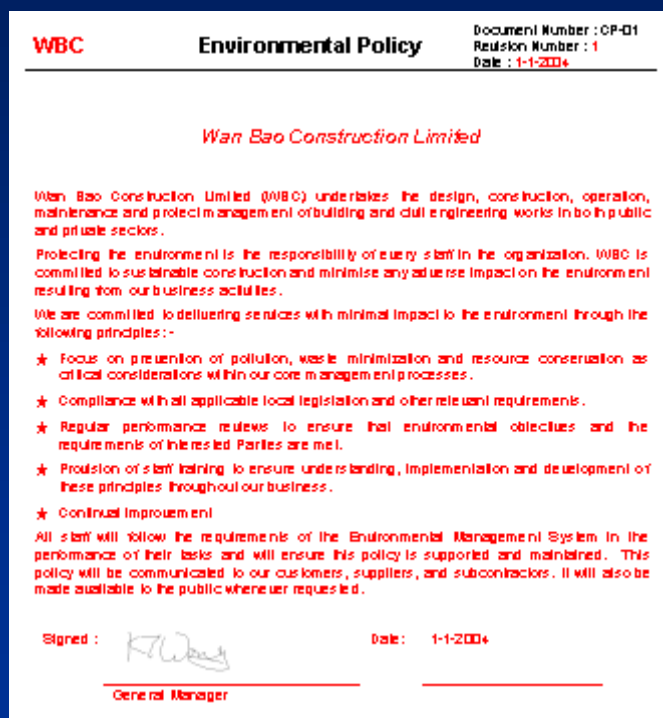
Keys to Successful Implementation

成功執行環境管理體系之關鍵



# Management Commitment

## 管理層承諾



## ■ Environmental Policy

環境方針

## ■ EMS Manual

環境管理體系手冊



# Planning 策劃



Identify activities, products  
and services  
識別業務活動、產品及服務

Identify EA and impacts  
識別環境因素及影響

Determine Legal and  
Other Environmental  
Requirements  
界定法律與其他環境要求

Determine SEA  
界定重要環境因素

Establish Objectives and Targets  
訂立目標及指標

Develop Environmental  
Management Programme  
建立環境管理方案

# Implementation and Operation 執行及運行

**Organisation and Accountability**

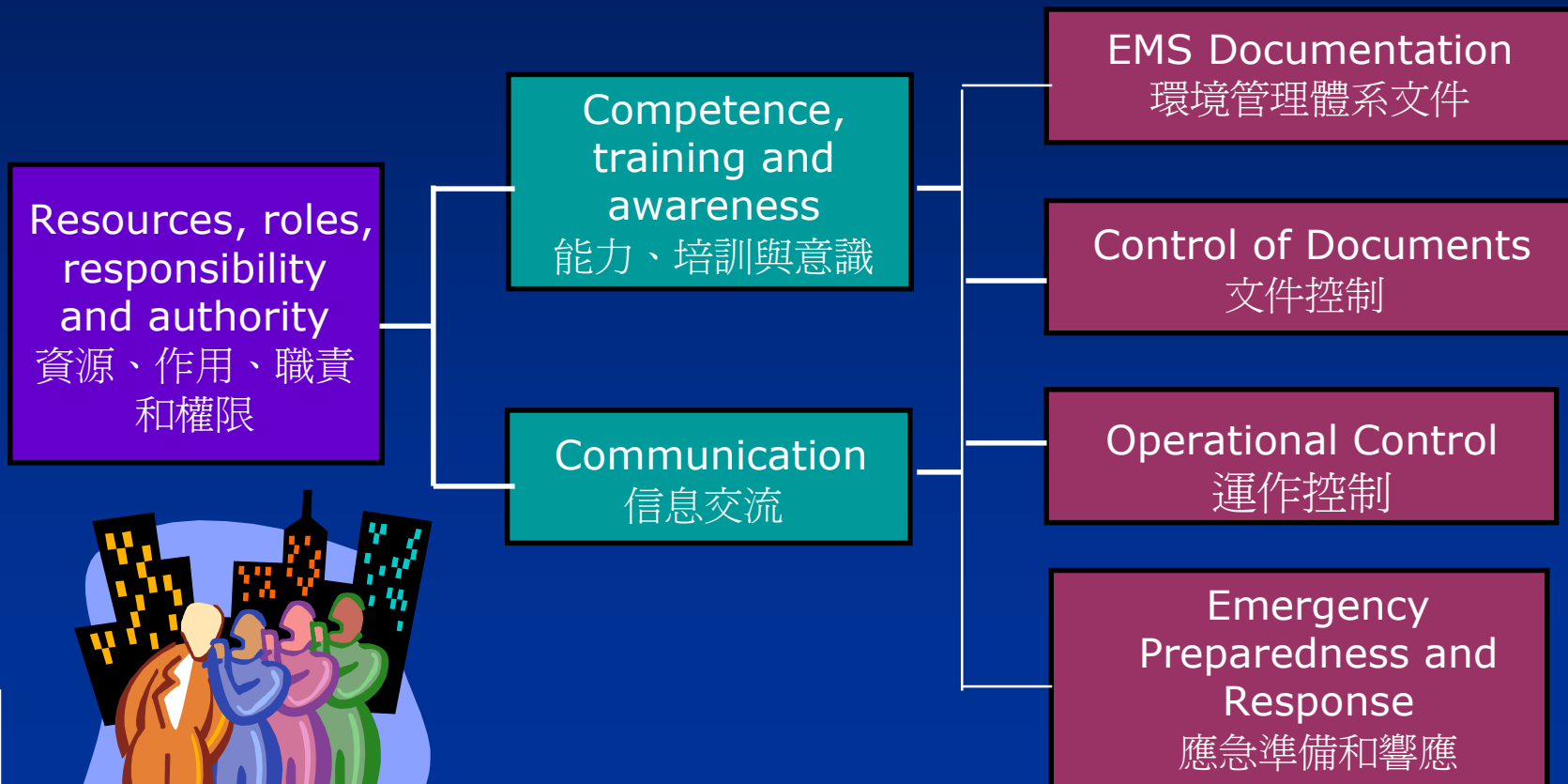
機構及責任

**Capabilities & Communications**

能力及信息交流

**Control**

控制



# Four-level EMS Documentation Structure

## 四個層次的環境管理文件結構

Environmental Policy

環境方針

Environmental  
Manual (EM)

環境管理體系手冊

Environmental Procedure (EP)  
(System Procedures)

環境管理程序 (系統程序)

Environmental Instruction (EI)  
(Operational Instructions)

環境指引 (運行指引)

Environmental Records

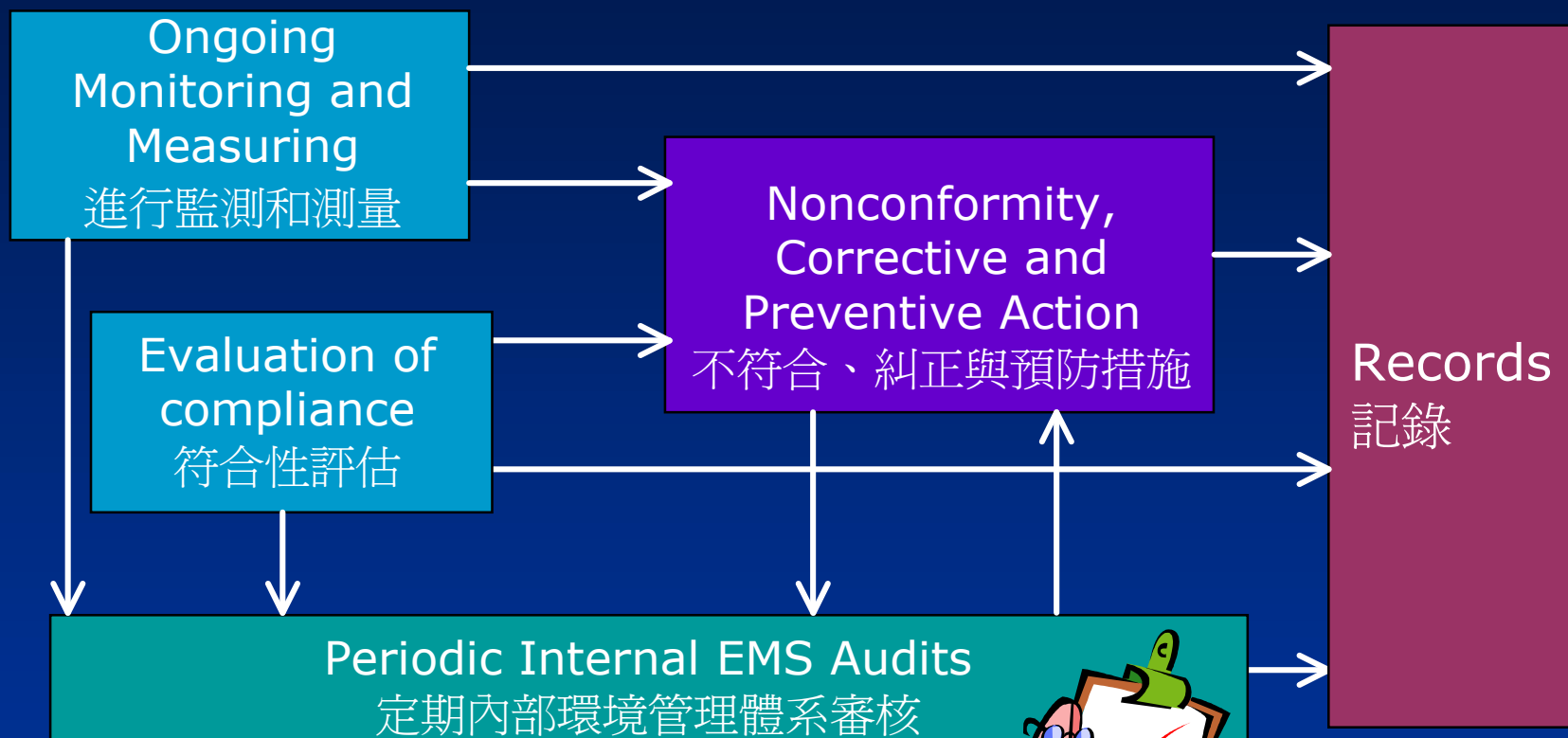
環境記錄





# Checking and Corrective Action

## 檢查與糾正措施



# Management Review Process

## 管理評審

### Take account of:

考慮：

- audit findings  
審核結果
- progress records on objectives  
目標的進度記錄
- changes to facilities  
設施的改變
- changes in activities products or services  
業務活動、產品及服務的改變
- changes in technology  
技術的改變
- concerns of interested parties  
相關方的考慮
- other relevant information  
其他相關資訊



### To Assess the

評估

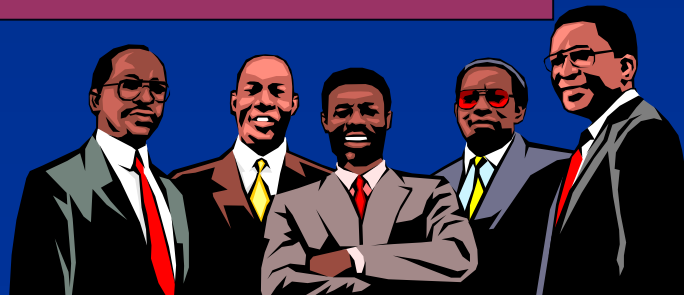
- suitability,  
適用性；
- adequacy, and  
充分性；及
- effectiveness of the EMS  
環境管理體系的成效



### In order to determine the need for change and improvement to:

目的以決定更改及改進的需要如下：

- the environmental policy  
環境方針
- the objectives and targets  
目標及指標
- other elements of the EMS  
其他環境管理體系的元素



# Phased EMS Implementation Flow

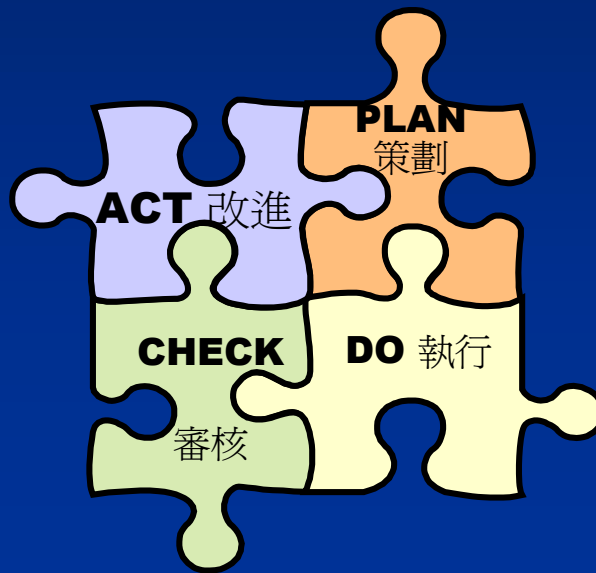
## 分階段執行環境管理體系的流程

Initial EMS Planning 初步環境管理體系計劃	2 weeks 2個星期
Management Commitment 管理承諾	2 weeks 2個星期
PLAN 策劃	2 – 3 months 2 – 3個月
DO 執行	3 – 6 months 3 – 6個月
CHECK 審核	1 month 1個月
ACT 改進	2 weeks 2個星期
<b>Total</b> 合共	<b>8 – 12 months</b> 8 – 12個月



# Section IV : ISO 14001 EMS Certification Process

## 第四部份：ISO 14001 環境管理體系 認證過程

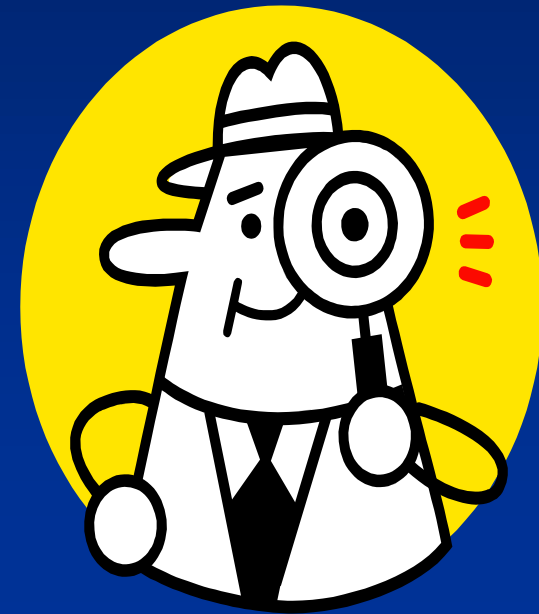




# ISO 14001 Certification Process

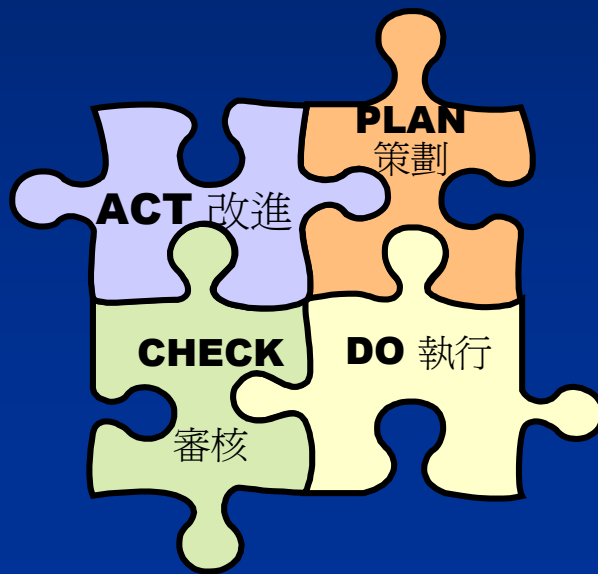
## ISO 14001 環境管理體系認證過程

- Step 1: Select Certification Body  
步驟一：選擇認證機構
- Step 2 : Complete Questionnaire and Establish Contract  
步驟二：完成問卷調查及制訂合約
- Stage 3 : Document Review  
步驟三：文件的審閱
- Stage 4 : First Stage Assessment  
步驟四：第一階段的評估
- Stage 5 : Certification Assessment  
步驟五：認證評估
- Stage 6 : Award Certification  
步驟六：取得認證
- Step 7 : Surveillance Visit  
步驟七：監督審核
- Step 8 : Renewal Assessment  
步驟八：重新評估



# Understanding Differences between Generic and Company Specific Requirements

了解文件範本及個別公司要求之差別



# Generic Template

## 文件範本

- Design for any SME in any sector  
為不同行業的中小企而設
- To fulfil ISO 14001 standard  
符合ISO 14001 的標準

Support Website on  
**Environmental Management Information and  
ISO 14001 EMS for Construction Sector SMEs**

Site Map Disclaimer Contact Us Search 中文

Please select...

Master List of EMS Documents

Reference No.	Document	Download Ms Words Version	Download Acrobat Version
EM-01	Environmental Management System Manual		
CP-01	Environmental Policy		
O&T-YYYY	Objectives, Targets and Management Programmes		
EP-01	Identification of Environmental Aspects and Significance Evaluation		
EP-02	Review of Legal and Other Environmental Requirements		
EP-03	EMS Training		



# Company Specific

## 公司特定要求

- Scale and scope  
規模和範圍
- Company Profile  
公司檔案
- Organisation chart  
組織結構圖表
- Business nature → EAs  
業務性質→環境因素
- Company culture  
公司文化
- Industry norm  
工業標準
- Client requirements  
客戶要求
- Existing management procedures (e.g. quality, safety, etc.)  
現有的管理程序 (例如：品質、安全等等)



# List of Generic Template

## 文件範本清單

Level 階段	Document 文件
Manual Level 1 手冊	<p>EM-01 Environmental Management System Manual 環境管理體系手冊</p> <p>CP-01 Environmental Policy 環境方針</p> <p>O&amp;T-YYYY Objectives, targets and management programmes 目標、指標及管理方案</p>
System Procedure Level 系統程序	<p>EP-01 Identification of Environmental Aspects and Significance Evaluation 環境因素的識別及重要性評估</p> <p>EP-02 Review of Legal and Other Environmental Requirements 法律與其他環境要求評審</p> <p>EP-03 EMS Training 環境管理體系培訓</p> <p>EP-04 Control of EMS Document 環境管理體系文件控制</p> <p>EP-05 Environmental Emergency Preparedness and Response 環境應急準備和響應</p> <p>EP-06 Environmental Monitoring and Evaluation of Compliance 環境監測和符合性評估</p> <p>EP-07 Enquiry / Complaint / Nonconformity Handling 諮詢 / 投訴 / 不符合的處理</p> <p>EP-08 Control of EMS Records 環境管理體系記錄管理</p> <p>EP-09 Internal EMS Audit 環境管理體系內部審核</p> <p>EAR-01 Register of Environmental Aspects 環境因素登記表</p> <p>LR-01 Register of Legal and Other Environmental Requirements 法律與其他環境要求登記表</p>

# List of Generic Template

## 文件範本清單

Level 階段	Document 文件
Operational Level 運作	EI-01 Environmental Office Practices 環保辦公室措施
	EI-02 Green Procurement 綠色採購
	EI-03 Environmental Practices for Using Company's Car 使用公司車輛的環保措施
	EI-04 Environmental Instructions on Waste Management 廢物管理
	EI-05 Environmental Instructions on Air Pollution Control 空氣污染控制
	EI-06 Environmental Instructions on Water Pollution Control 水污染控制
	EI-07 Environmental Instructions on Noise Control 噪音污染控制
	EI-08 Environmental Instructions on Resource Conservation 資源保護
	EI-09 Handling and Storage of Chemicals 處理及貯存化學品
	EI-XX More instructions will be developed after reviewing the operations of the selected sectors as practical examples, e.g. Environmental Best Practices for Construction Sites, Environmental Management Plan, Waste Management Plan 個別環境管理體系實例文件中提供更多工作指引，例如：良好建築工地環境措施、環境管理計劃、廢物管理計劃

# List of Generic Template

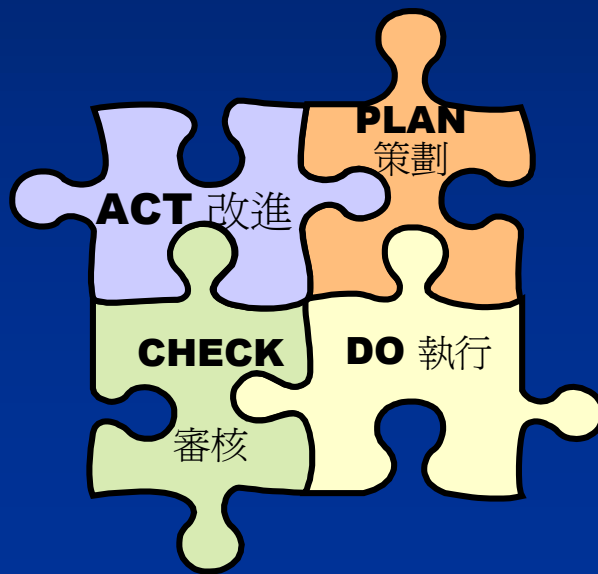
## 文件範本清單

Level 階段	Document 文件名稱
Record Level 記錄	EF-EP03-01 EMS Training Plan 環境管理體系培訓計劃
	EF-EP03-02 EMS Training Attendance Records 環境管理體系培訓出席記錄
	EF-EP07-03 EMS Communication Log 環境管理體系信息交流記錄
	EF-EP04-01 Master List of EMS Documents / Forms / External Documents 環境管理體系文件 / 表格 / 外部文件總表
	EF-EP04-02 EMS Document Distribution Record Form 環境管理體系文件分發記錄
	EF-EP05-01 Emergency Drill Report 緊急事故演習報告
	EF-EP05-02 Accident Report 意外報告
	EF-EP06-01 EMS Monitoring Plan 環境管理體系監測計劃
	EF-EP07-01 Corrective Action Report, CAR 糾正措施報告
	EF-EP07-02 CAR Status Log 糾正措施報告記錄
	EF-EP08-01 Master List of Environmental Records 環境記錄總表
	EF-EP09-01 EMS Audit Plan 環境管理體系審核計劃
	EF-EP09-02 EMS Audit Checklist 環境管理體系審核檢查表
	EF-EP09-03 EMS Internal Audit Report 環境管理體系內部審核報告
	EF-EI01-01 Office Inspection Checklist 每月辦公室審核清單
	-- Sample of Management Review Minutes 管理評審會議議程實例
	EF-XX More forms will be developed after reviewing the operations of the selected sectors as practical examples, e.g. Inspection checklist for construction site 個別環境管理體系實例文件中提供更多表格，例如：檢查建築工地清單



# Simple Steps for Using Generic Templates to Design your Own System Documentation

簡易步驟採用文件範本來設計您的文件系統





# General Tips

## 醒目提示

- Replace **COMPANY NAME**  
加插**公司名稱**
- *(Italicised)* words in brackets  
括弧中的(斜體)字
- *Italicised words* highlighted in purple colour  
紫色的斜體字
- **Document number** is highlighted in green colour  
綠色的文件編號

# EM-01

## 環境管理體系手冊

**Environmental Management System Manual**

Document Number : EM-01  
Revision Number : 1  
Date : DD-MM-YYYY

1.0 General  
1.1 Company Profile

*Provide general background information on COMPANY NAME. Describe the nature*

**WBC Environmental Management System Manual**

Document Number : EM-01  
Revision Number : 1  
Date : 1-1-2004

1.0 General  
1.1 Company Profile

*The business activities undertaken by WBC are: construction, building, remodeling*

**Environmental Management System Manual**

Document Number : EM-01  
Revision Number : 1  
Date : DD-MM-YYYY

- of the environment, environmental management performance of work and verification activities including internal environmental management system audit;
- e) The appointment of the Environmental Management Representative (EMR); and
  - f) The arrangement for periodic management reviews.

The purpose of this Manual is to demonstrate that this EMS meets all ISO 14001

- activities and contains:
- a) The Environmental Policy;
  - b) Statements of responsibility and authority;
  - c) An overview of the company's environmental procedures and controls;
  - d) The identification of the resources and training allocated to management

**WBC Environmental Management System Manual**

Document Number : EM-01  
Revision Number : 1  
Date : 1-1-2004

The scope of the EMS applies to the design and construction of buildings and civil Engineering Projects related to all operations by WBC.

# Step 1

## 步驟一

- Initial Environmental Review (IER-01)

初始環境評審

- Gap Analysis

差距分析



# Step 2

## 步驟二

- Management Commitment

管理承諾

- EMS Policy (CP-01)

環境方針







# EM-01

## 環境管理體系手冊

### 1.1 Company Profile

The business activities undertaken by Wan Bao Construction Limited (hereafter name as WBC) are the design and construction of buildings and civil engineering works. WBC was established in Hong Kong in the 1990's and despite being a Small and Medium Enterprise (SME), we have provided services for some major building and infrastructure projects for the Hong Kong Government, such as airport, government offices and Tai Lam Tunnel, etc.

We specialise in public sector building and civil engineering works, residential buildings, government offices, hotels and public facilities.

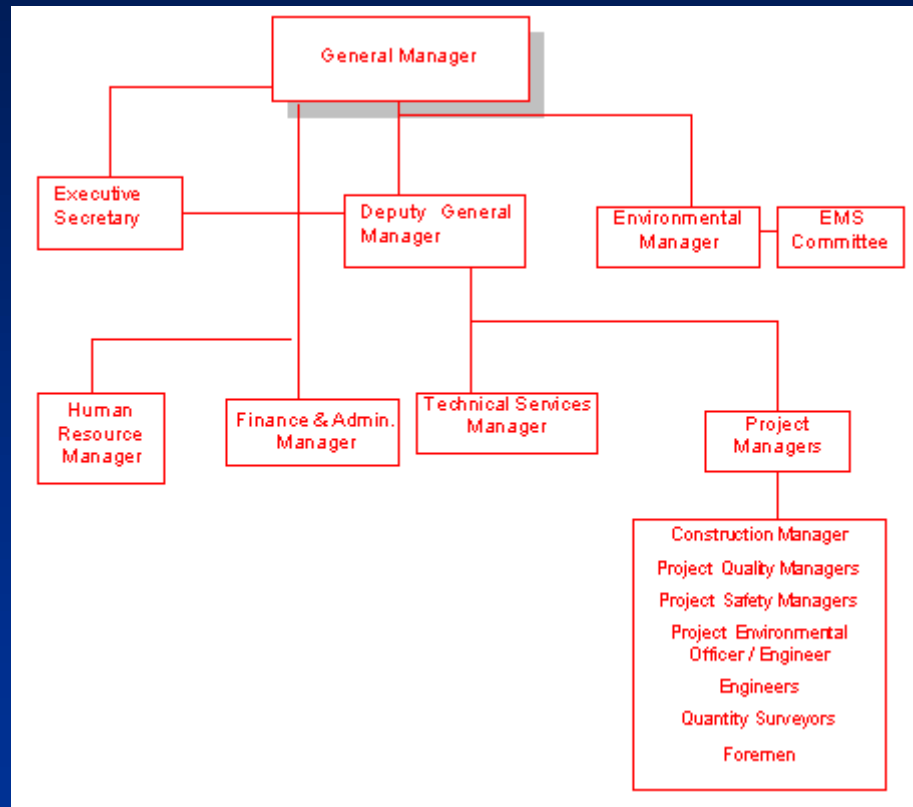
### 1.1 公司簡介

環保建築有限公司(下稱「WBC」)從事的業務包括設計及建造樓宇與及土木工程項目。WBC於1990年代在香港成立，儘管WBC之業務性質屬中小企業，但一直也參與不少重要的政府建築及基礎建設，例如：赤鱗角機場、政府大樓及大欖隧道等。

WBC專長於公共建設、土木工程項目、住宅大廈、政府辦公大樓與及公共設施。

# Organisation Chart

## 組織結構圖表



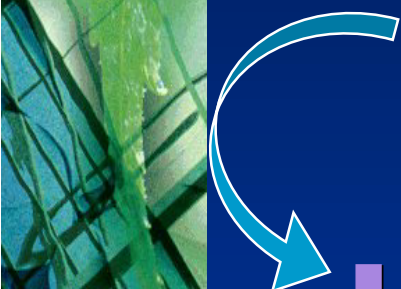
# Step 3

## 步驟三



### ■ Plan 策劃

- EM-01 EMS Manual 環境管理體系手冊
- EPs 環境管理程序
  - EP-01 Identification of Environmental Aspects and Significance Evaluation 環境因素的識別及重要性評估
  - EP-02 Review of Legal and Other Environmental Requirements 法律與其他環境要求評審
- EAR-01 Register of Environmental Aspects 環境因素登記表
- LR-01 Register of Legal and Other Environmental Requirements 法律與其他環境要求登記表
- O&T-YYYY Objectives, Targets and Programmes 目標、指標及管理方案

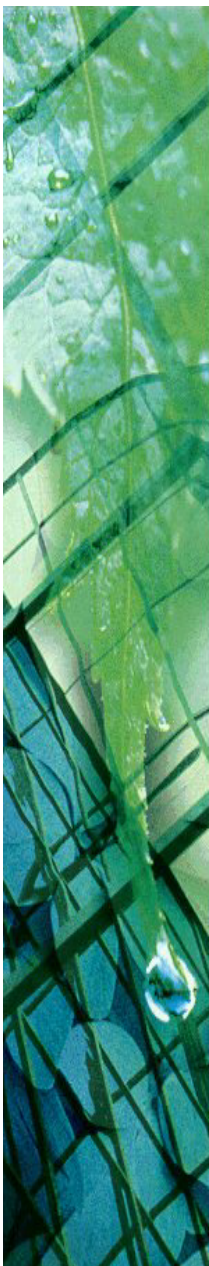


# Step 4

## 步驟四



- Do 執行
  - EPs 環境管理程序
    - EP-03 EMS Training  
EP-03 環境管理體系培訓
    - EP-04 Control of EMS Document  
EP-04 環境管理體系文件控制
    - EP-05 Environmental Emergency Preparedness and Response  
EP-05 環境的應急準備和響應
  - EIs 環境指引
    - EI-01...
  - EFs, EGs, etc.







# Step 5

## 步驟五

### ■ Check 審核

#### ■ EPs 環境管理程序

- EP-06 Environmental Monitoring and Evaluation of Compliance

EP-06 環境監測和符合性評估

- EP-07 Enquiry / Complaint / Nonconformity Handling

EP-07 諮詢 / 投訴 / 不符合的處理

- EP-08 Control of EMS Records

EP-08 環境管理體系記錄管理

- EP-09 Internal EMS Audit

EP-09 環境管理體系內部審核

# Step 6

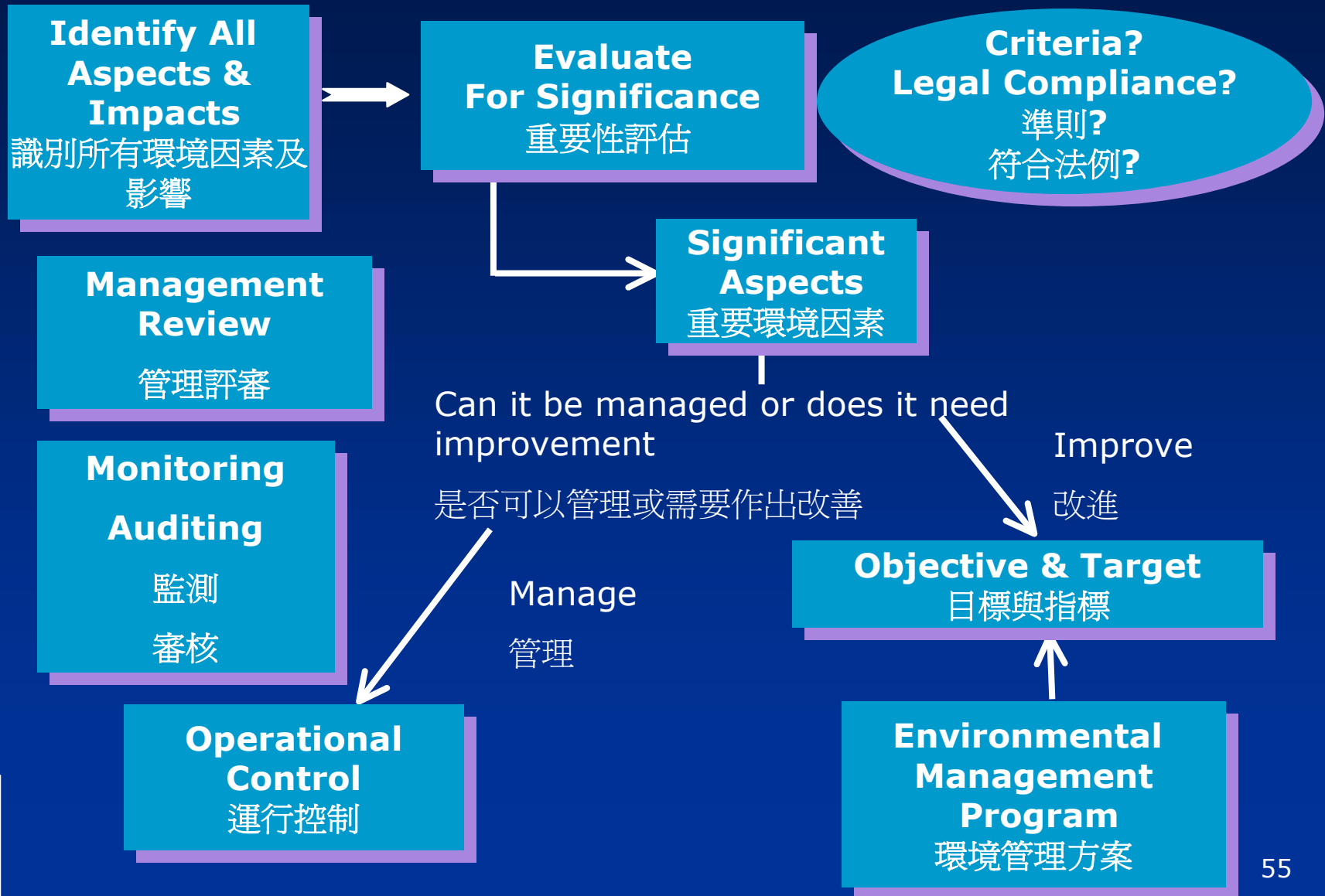
## 步驟六

- Act 改進
    - EM-01 Management review
- EM-01 管理評審



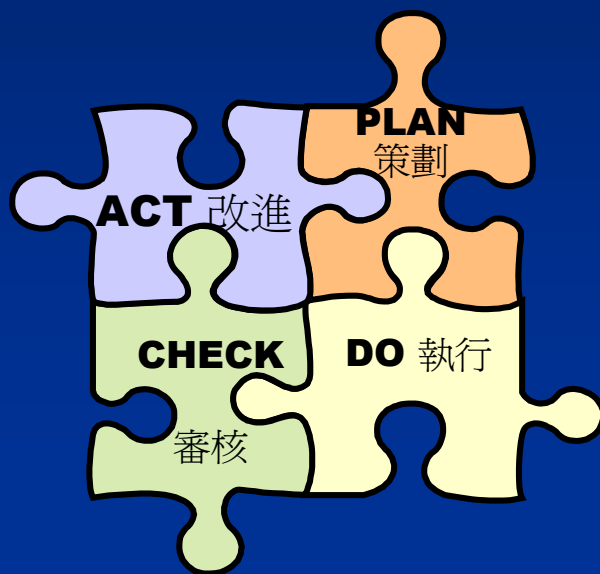
# Core Requirements of an EMS

## 環境管理體系的核心要求



# Web-based Supporting Materials

互聯網的支援套件







# Online Support Package

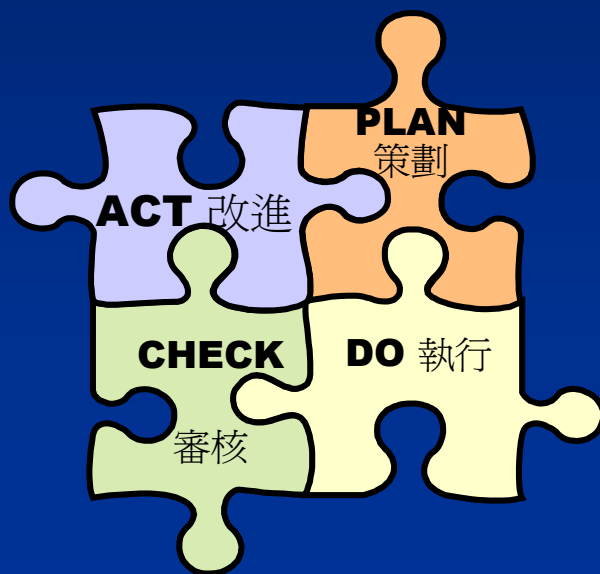
## 網上的支援套件

- Customise for your use 切合您的需要
  - Both MS Word and Adobe Acrobat format  
MS Word 及 Adobe Acrobat 格式
- Practical example as reference  
實例文件以供參考
  - Manual, procedures, instructions, forms  
手冊、程序、指引、表格
  - Filled forms  
填寫的表格
- EPD website 環保署網頁
  - Most updated 最新



# Case Study

## 個案研究



# Practical Example

## 實例文件

- Wan Bao Construction Company  
環保建築有限公司
- As reference  
以供參考
- Scale  
規模
  - > SMEs
  - > 中小企





# List of Documents

## 文件清單

Level 階段	Document 文件
Manual Level 手冊	<p>EM-01 Environmental Management System Manual 環境管理體系手冊</p> <p>CP-01 Environmental Policy 環境方針</p> <p>O&amp;T-2004 Objectives, targets and management programmes 目標、指標及管理方案</p>
System Procedure Level 系統程序	<p>EP-01 Identification of Environmental Aspects and Significance Evaluation 環境因素的識別及重要性評估</p> <p>EP-02 Review of Legal and Other Environmental Requirements 法律與其他環境要求評審</p> <p>EP-03 EMS Training 環境管理體系培訓</p> <p>EP-04 Control of EMS Document 環境管理體系文件控制</p> <p>EP-05 Environmental Emergency Preparedness and Response 環境應急準備和響應</p> <p>EP-06 Environmental Monitoring and Evaluation of Compliance 環境監測和符合性評估</p> <p>EP-07 Enquiry / Complaint / Nonconformity Handling 諮詢 / 投訴 / 不符合的處理</p> <p>EP-08 Control of EMS Records 環境管理體系記錄管理</p> <p>EP-09 Internal EMS Audit 環境管理體系內部審核</p> <p>EAR-01 Register of Environmental Aspects 環境因素登記表</p> <p>LR-01 Register of Legal and Other Environmental Requirements 法律與其他環境要求登記表</p>



# List of Documents

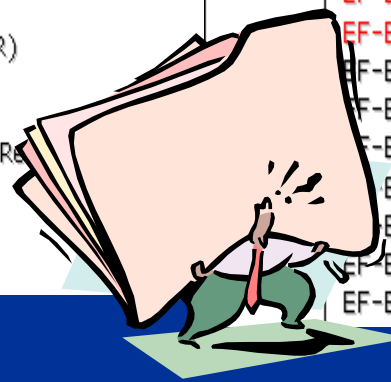
## 文件清單

Level 階段	Document 文件
Operational Level 運作	EI-01 Environmental Management Plan 環境管理計劃
	EI-02 Waste Management Plan 廢物管理計劃
	EI-03 Building and Civil Engineering Design 建築及土木工程設計
	EI-04 Best Practices for Construction Activities 良好建築活動措施
	EI-05 Selection and Control of Contractors Regarding Environmental Performance 選擇及管理環保承建商
	EI-06 Green Procurement for Office 辦公室的綠色採購
	EI-07 Environmental Office Practices 環保辦公室措施
	EI-08 Environmental Practices for Using Company's Vehicle 車輛的環保措施

# List of Records

## 記錄清單

Level	Document	階段	文件
Record Level	EF-EP03-01 EMS Training Plan	Record Level	EF-EP03-01 環境管理體系培訓計劃
	EF-EP03-02 EMS Training Attendance Records		EF-EP03-02 環境管理體系培訓出席記錄
	EF-EP04-01 Master List of EMS Documents / Forms / External		EF-EP04-01 環境管理體系文件 / 表格 / 外部文件總表
	EF-EP04-02 EMS Document Distribution Record		EF-EP04-02 環境管理體系文件分發記錄
	EF-EP05-01 Emergency Drill Report		EF-EP05-01 緊急事故演習報告
	EF-EP05-02 Accident Report		EF-EP05-02 意外報告
	EF-EP06-01 EMS Monitoring Plan		EF-EP06-01 環境管理體系監測計劃
	EF-EI01-01 Environmental Management Plan		EF-EI01-01 環境管理計劃
	EF-EI02-01 Waste Management Plan		EF-EI02-01 廢物管理計劃
	EG-EI03-01 Guidelines on Environmental Considerations for Engineering Design		EG-EI03-01 建築及土木工程設計的環保指南
	EG-EI03-02 Guidelines on Environmental Considerations for Products/Materials		EG-EI03-02 選擇產品/物料的環保指南
	EF-EI04-01 Environmental Site Inspection Checklist		EF-EI04-01 地盤環境檢查清單
	EF-EI05-01 Contractor Evaluation Form		EF-EI05-01 承建商評估表格
	EG-EI06-01 Environmental Guidance Notes for Supplier / Contractor		EG-EI06-01 服務提供者/供應商環保指南
	EF-EI06-01 Service Provider Evaluation Form		EF-EI06-01 服務提供者/供應商評估表格
	EF-EI06-02 Supplier Evaluation Form		EF-EI06-02 供應商評估表格
	EF-EI06-03 Service Provider / Supplier Performance Assessment		EF-EI06-03 服務提供者/供應商表現評估表格
	EF-EI07-01 Monthly Office Inspection Checklist		EF-EI07-01 每月辦公室檢查清單
	EF-EI09-01 Car Inspection Log Book		EF-EI09-01 車輛檢查日誌
	EF-EP07-01 Corrective Action Report (CAR)		EF-EP07-01 糾正措施報告
	EF-EP07-02 CAR Status Log		EF-EP07-02 糾正措施報告記錄
	EF-EP07-03 EMS Communication Log		EF-EP07-03 環境管理體系信息交流記錄
	EF-EP08-01 Master List of Environmental Records		EF-EP08-01 環境記錄總表
	EF-EP09-01 EMS Audit Plan		EF-EP09-01 環境管理體系審核計劃
	EF-EP09-02 EMS Audit Checklist		EF-EP09-02 環境管理體系檢查清單
	EF-EP09-03 EMS Internal Audit Report		EF-EP09-03 環境管理體系內部審核報告





# **EAR-01 環境因素登記表**

## **Register of Environmental Aspects**

- Office  
辦公室
- Building / Civil  
Engineering Design  
建築及土木工程設計
- Materials and Site  
Equipments Specification  
物料及工地設備的指定
- Use of Vehicles  
使用車輛
- General Construction  
Works  
一般建築工程



# Trade Specific Works

## 行業特定工程

- Demolition (including site clearance)  
爆破 (包括地盤清理)
- Site Formation (including fencing, excavation, blasting and slope works)  
工地平整工程 (包括圍欄、挖掘、爆破及斜坡工程)
- Foundation  
地基
- Steel Reinforcement  
鋼筋
- Structural Steelwork  
結構鋼鐵工程
- Formwork and Finishes to concrete  
模板及混凝土最後加工
- Drainage Works  
排水道工程
- Plumbing and other E&M  
管道工程及其他電機工程
- Concrete Work  
混凝土工程
- Scaffolding  
支搭棚架工程
- Brickwork, Blockwork & Masonry  
砌磚、組磚工作及石工
- Roofing & Waterproofing  
蓋屋頂及防水
- Claddings / Curtain Walling  
外牆骨架/幕牆
- Glazing  
裝配玻璃
- Carpentry and Joinery  
木工及細木工
- Ironmongery  
五金工
- Metalworks  
金屬加工
- Architectural Finishes  
外牆修整
- Painting  
塗漆
- Internal Fittings & Fixtures  
室內裝配及設備
- Road Works  
道路工程
- Road Furniture  
公路設施
- Landscaping  
園林設計
- Testing  
測試
- Bridge Works  
築橋工程
- Marine Works  
海洋工程
- Railway Works  
鐵路工程
- Tunnelling Works  
隧道工程
- Temporary Works  
臨時工程



# Project Specific 特定項目

## ■ Needs

需要

- Project scope can be various  
不同項目範疇
- To tailor environmental control requirements  
控制環境要求

## ■ Example (EAR-01)

實例 (EAR-01)

- Drainage and road works  
渠道及道路工程
- Demolition and foundation works  
拆卸及地基工程
- Internal and External Finishing Works  
內外修飾工程



# Environmental Management Plan

## EI-01 環境管理計劃

- How to prepare and implement a Project Environmental Management Plan (EMP) to control environmental aspects during the course of construction

如何制定及實行個別工程的環境管理計劃，以控制在施工期間所遇到的環境因素





# Waste Management Plan

## EI-02 廢物管理計劃

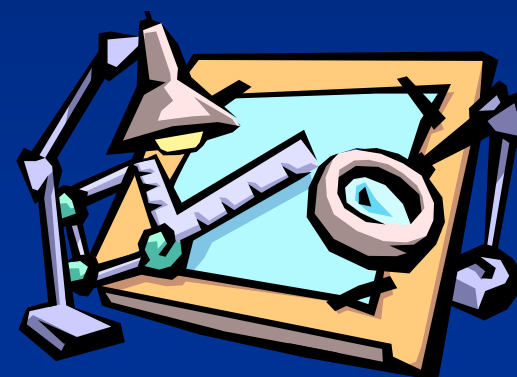
- How to prepare and implement an enhanced Waste Management Plan (WMP) for individual construction project  
如何就制定及執行一套廢物管理計劃給有需要的個別建築項目



# Building and Civil Engineering Design

## EI-03 建築及土木工程設計

- Control requirements that address the SEA related to design and material specifications  
工程項目的設計及物料有關的重要環境因素的管制要求
- Guidelines on Environmental Considerations for 與設計人員溝通於設計上的環境考慮
  - Building / Civil Engineering Design  
建築及土木工程設計
  - Selection of Products/Materials  
選擇產品 / 物料
- Design Personnel / Consultant  
設計人員 / 顧問





# Best Practices for Construction Activities

## EI-04 良好建築活動措施

- Best practices for staff (and subcontractors)
  - 提供良好措施指南給員工及承建商
    - controlling environmental impacts of construction activities  
控制建築活動所帶來的環境影響
    - to comply with legal requirements on construction sites  
建築地盤內遵守法律規定
- Environmental Site Inspection Checklist  
地盤環境檢查清單



# Best Practices for Construction Activities

## EI-04 良好建築活動措施

- Air Pollution Control  
空氣污染控制
- Water Pollution Control  
水污染控制
- Noise Pollution Control  
噪音污染控制
- Waste Management  
廢物管理
- Handling and Storage of Chemicals and Dangerous Goods  
處理及貯存化學品及危險品
- Protection of Flora, Fauna and Historical Heritage  
保護植物、動物及古蹟文物
- Resource Conservation  
資源保護
- Potential Accidents and Emergency Situations  
潛在意外及緊急情況



# Selection and Control of Contractors Regarding Environmental Performance

## EI-05 選擇及管理環保承建商

- influencing the **indirect** EAs related to the contractors / suppliers for construction activities.

影響與聘請的承建商/供應商有關的**間接性**環境影響。

- Form

表格

- Contractor Evaluation Form  
承建商評估表格
- Environmental Guidance Notes for Supplier / Contractor  
服務提供者/供應商表現評估表格
- Service Provider Evaluation Form  
服務提供者評估表格
- Supplier Evaluation Form  
供應商評估表格
- Service Provider / Supplier Performance Assessment Form  
服務提供者/供應商表現評估表格







# Others

## 其他

- EI-06 Green Procurement for Office  
EI-06 辦公室的綠色採購
- EI-07 Environmental Office Practices  
EI-07 環保辦公室措施
- EI-08 Environmental Practices for Vehicles  
EI-08 車輛的環保措施



# EI-06 Green Procurement for Office

## EI-06 辦公室的綠色採購

- Applies to service providers, include:

適用於服務提供者，包括：

- Waste collection / recycling contractors  
廢物收集 / 循環再造之承建商
- Office cleaning, carpet cleaning and pest control contractors  
辦公室清潔、地毯清潔及滅蟲防治之承建商
- Office renovation contractors  
辦公室翻新之承建商
- Office equipment maintenance contractors  
辦公室設備保養之承建商
- Office building, air-conditioning systems and fire fighting system maintenance contractors  
辦公室大廈、冷氣系統及滅火系統維修保養之承建商
- Bulk contract / tender suppliers deliver goods  
大量合約 / 投標供應商運送貨物給環保建築有限公司



# EI-07 Environmental Office Practices

## EI-07 環保辦公室措施

- Applicable to the operations in the office  
適用於本公司辦公室的運行
  - Resource Utilization  
資源利用
  - Green Pantry  
綠色茶水間
  - Handling of Office Wastes  
處理辦公室廢物
  - Indoor Air Quality  
室內空氣質素



# EI-07 Environmental Office Practices

## EI-07 環保辦公室措施

### ■ Paper saving

#### 節省紙張

- use double-side, reuse, separate for recycling, use e-mail, less photocopying, electronic documents, reuse envelopes, etc.

雙面使用、循環再用、分類循環再造、使用電子媒體作內外溝通渠道、減省影印、使用電文子文件、循環再用信封等等。





# EI-08 Environmental Practices for Vehicles

## EI-08 車輛的環保措施

- for controlling environmental impacts of vehicle activities

控制車輛活動所帶來的環境影響

- Use and Maintenance of Company Vehicle(s)

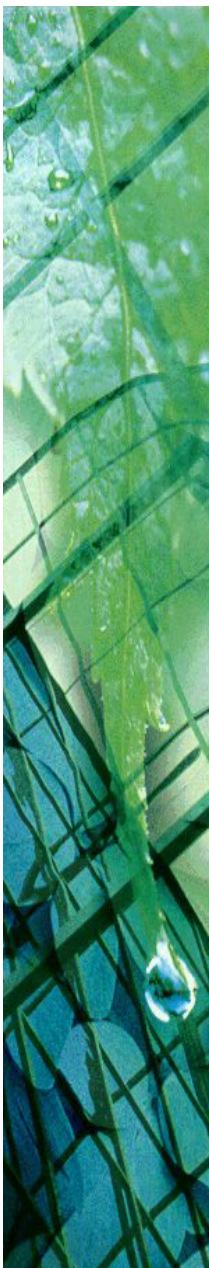
公司車輛的使用及保養





# To conclude...

## 總結



# Common Mistakes in Construction

## 建造業常見的錯誤

