

IMPLEMENTING ISO 14001:2004



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What is an Environmental Management System?

- ❖ A systematic framework to manage the immediate and long term environmental impacts of an organisation's products, services and processes
- ❖ Allows an organisation to consistently control its significant impacts on the environment, reduce the risk of pollution incidents, ensure compliance with relevant environmental legislation and continually improve its processes and operations
- ❖ Basically a tool to improve environmental performance

What is ISO 14001?

- ❖ ISO 14001 is an internationally accepted standard that defines the requirements for establishing, implementing and operating an Environmental Management System
- ❖ The ISO14001:2004 standard provides the requirements for an EMS which can be used for the independent certification and / or self-declaration of an organisations management system
- ❖ Emphasis on **continual improvement** of system
- ❖ Based on the Plan-Do-Check-Act (PDCA) model
- ❖ Can be integrated smoothly with Quality or Health & Safety Management Systems
- ❖ Balance between profitability and managing environmental impacts

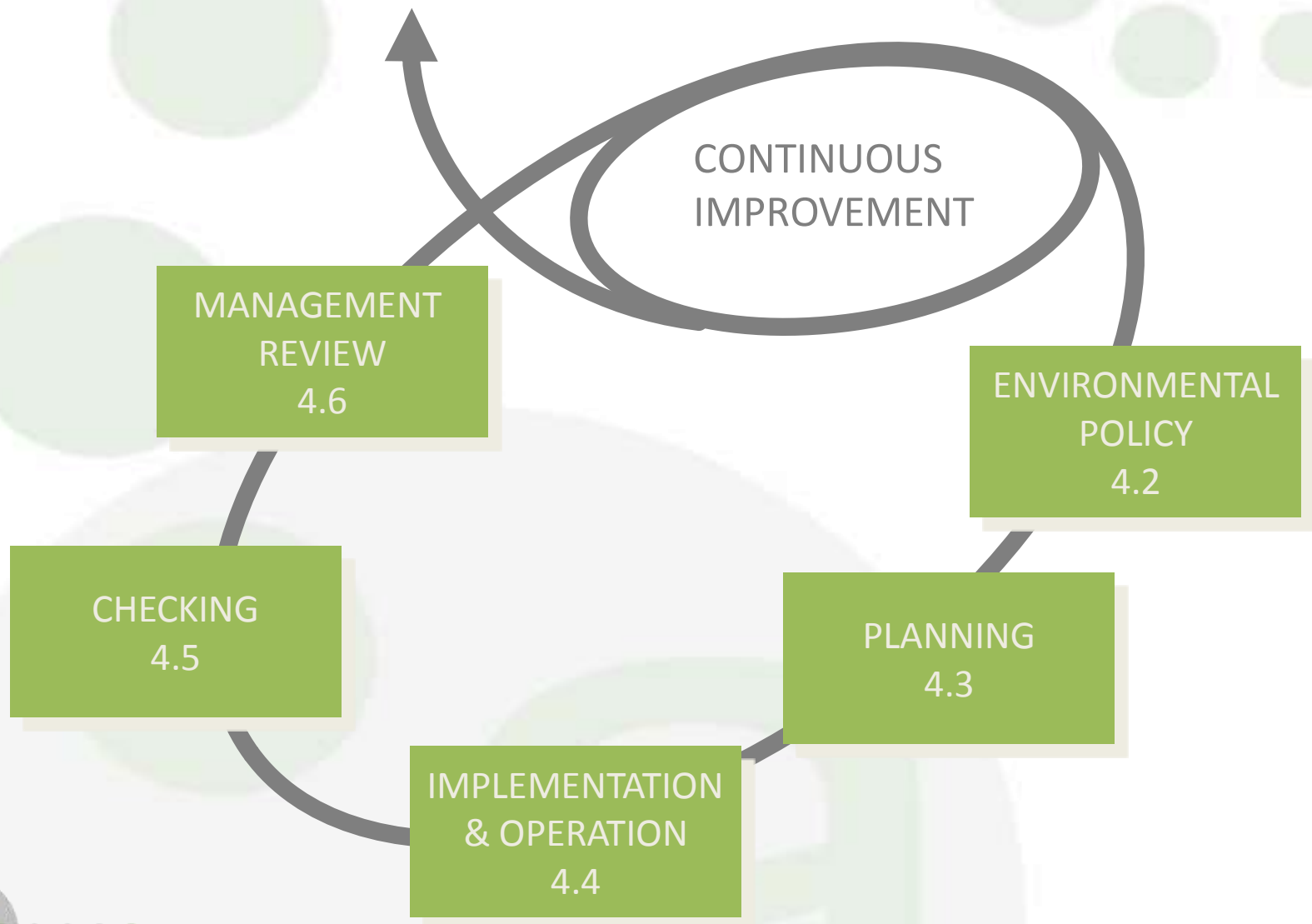
ISO 14000 Series

- ❖ ISO 14001 – Environmental Management Systems. Requirements with guidance for use
- ❖ ISO 14004 – Environmental Management Systems. General guidelines on principles, systems and support techniques
- ❖ ISO 14031 – Environmental Management. Environmental Performance Evaluation. Guidelines
- ❖ ISO 14063 – Environmental Management. Environmental Communication. Guidelines & examples
- ❖ ISO 19011 – Guidelines for quality and/or environmental management systems auditing (replaces ISO 14011)
- ❖ Many others – greenhouse gas emissions; environmental labelling; life cycle assessments

Why Implement ?

- ❖ Maintain compliance & keep up to date with legislation
- ❖ Better control over operations. Prevent environmental problems occurring in the first place
- ❖ Cost savings through more efficient resource use
- ❖ Vehicle for positive change – improved employee morale, enhanced public image, raises confidence of customers and regulators
- ❖ Increased tendering opportunities - required at pre-qualification stage by public sector and blue chip companies
- ❖ Increased marketing opportunities
- ❖ Lower insurance costs

ISO 14001 Process (PDCA Model)



Implementation Tips

- ❖ Start with a 'gap analysis' or Initial Environmental Review (IER)
- ❖ Be honest about the drivers / motivations from outset
- ❖ Get buy-in from staff at start – awareness raising session and continually feedback
- ❖ Work in teams / task groups
- ❖ Appoint Environmental Review Committee – Management Rep; Environmental Rep; EMS Auditor
- ❖ Integrate with Health & Safety / Quality Management System if present
- ❖ Realistic timescale – from 6-18 months to design, implement and submit for accreditation

Key Elements 1 – Environmental Policy

- ❖ Cornerstone & starting point of the EMS
- ❖ Public declaration of commitment to improve environmental performance & manage environmental aspects
- ❖ Revise as develop the EMS

Key Elements 1 – Environmental Policy

ISO 14001 Requirements:

- ❖ Appropriate to nature, scale and environmental impacts of Company
- ❖ Commitment to continual improvement & prevention of pollution
- ❖ Commitment to comply with legislation
- ❖ Framework for setting objectives and targets
- ❖ Documented, implemented and maintained
- ❖ Communicated to all staff
- ❖ Available to members of the public

Key Elements 2 – Planning

Environmental Aspects & Impacts:

- ❖ Need to identify and evaluate how business activities impact on the environment

Definitions:

- ❖ *Environmental Aspect*: “elements of company’s activities, products, processes and services that can interact with the environment”

E.g. site run-off, spillage of oil, emissions from paint spraying, hazardous and non-hazardous waste from production

- ❖ *Environmental Impact*: “change or alteration in the environment as a consequence of a particular environmental aspect”. Can be positive or negative.

E.g. deterioration of air quality, low level ozone depletion, leachate pollution from landfill sites

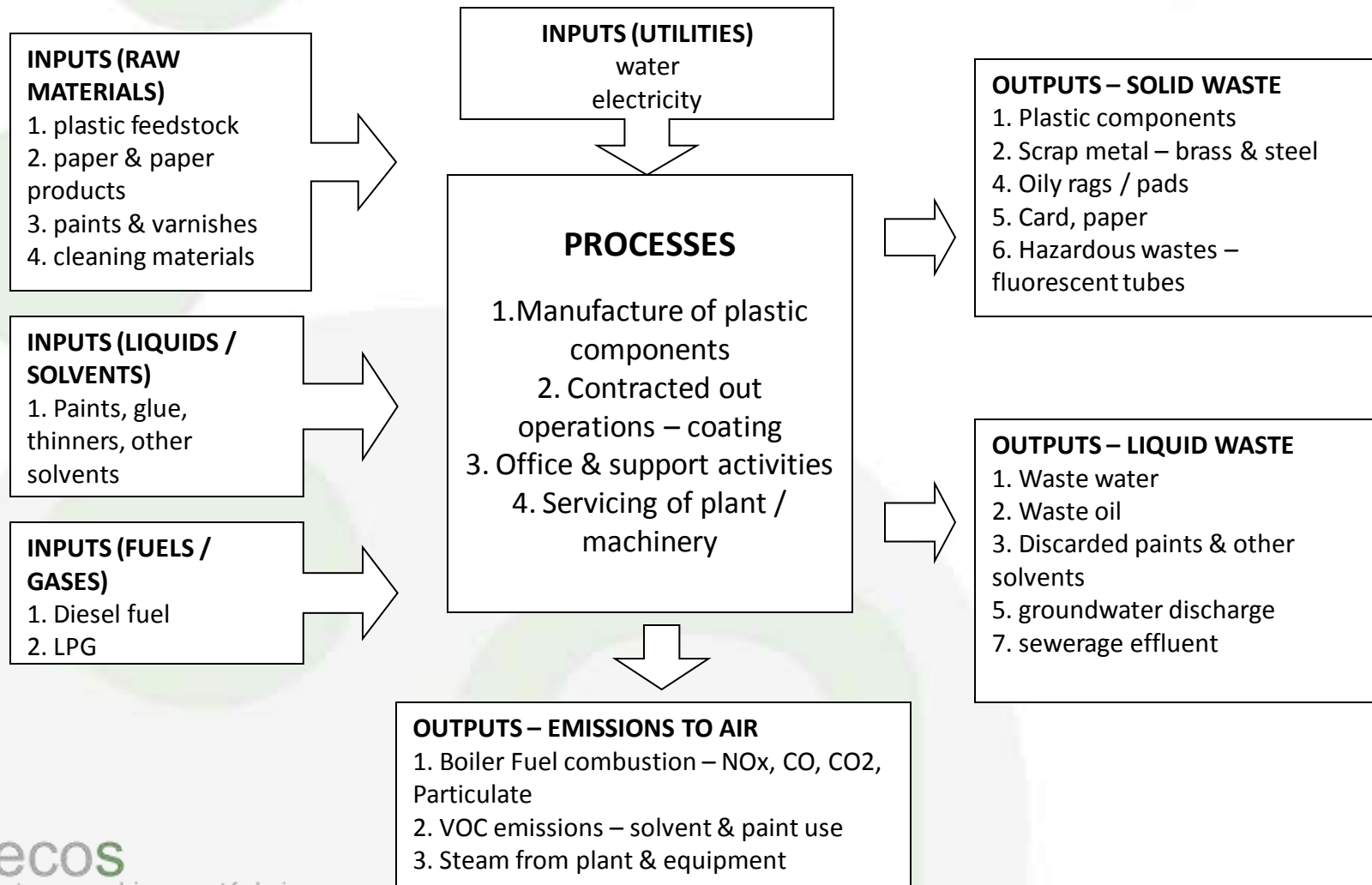
Key Elements 2 – Planning

Environmental Aspects & Impacts – Tips for Determining:

- ❖ Brainstorming session – key staff
- ❖ Flowcharts to map inputs and outputs for all products, services, processes
- ❖ Consider all areas, e.g.:
 - Product design
 - Transport & distribution
 - Contracted operations
 - Office activities
 - Material & waste storage
 - Packaging
 - Product end life
 - Maintenance
- ❖ Consider under ‘normal’, ‘abnormal’ and ‘emergency’ operating conditions

Key Elements 2 – Planning

Environmental Aspects & Impacts – Example Flowchart:



Key Elements 2 – Planning

Environmental Aspects & Impacts – Determine Significance

- ❖ Best done in group environment to ensure objective and reproducible
- ❖ Allocate scores for each environmental aspect according to following categories:
 - Legislation
 - Interested Parties
 - Environmental Severity
 - Likelihood / Frequency
 - Existing controls
- ❖ Agree on cut-off score for significance e.g. above 15

Key Elements 2 – Planning

Environmental Aspects & Impacts – Determine Significance

Normal Conditions				Significance Score					
Issue	No.	Aspects	Impacts	Leg	Int	Sev	Lik	Con	Tot
Air Emissions	1.1	Vehicle exhaust emissions during normal operating conditions	Local and global air pollution and global warming effect. Emissions of CO ₂ (global warming), CO (toxic to humans), NO, NO _x and SO _x (contribute to acidification, human respiratory problems), VOCs (acts as catalyst for ground level ozone creation with NO ₂ and contains carcinogens)	6	1	9	3	1	-20
	1.2	Use of paints, solvents, adhesives & thinners	Atmospheric pollution by VOCs – aids production of ozone. Localised odours with potential to cause discomfort & nuisance to surrounding staff	6	3	3	1	1	-14
	1.3	Emissions from shot-blasting operations	Localised air pollution – emission of particulate. Use of energy and natural resources. Possible noise pollution	6	1	3	1	1	-12
	1.4	Use of LPG fuel in fork-lift truck	Minimisation of CO ₂ , CO, hydrocarbons, particulates emissions compared with alternative fuels	0	1	6	3	0	+10

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Ref: ER2

Key Elements 2 – Planning

Legal & Other Requirements:

- ❖ ISO 14001 requires you to identify and evaluate the legal and ‘other requirements’ relevant to your company’s environmental aspects
- ❖ ‘Other Requirements’ e.g. industry codes of practice, pollution prevention guidelines, agreements with public bodies
- ❖ Any relevant requirements should be incorporated into the operational and management controls of your EMS.
- ❖ Legal Register needs to be kept up to date – every 3-6 months

Key Elements 2 – Planning

Legal & Other Requirements – Implementation Tips:

- ❖ www.netregs.gov.uk – good on-line source with regular newsletter
- ❖ Subscription services e.g. Croner's Environmental Management
- ❖ Contact your trade / industry organisation
- ❖ Liaison with local regulators – Environment Agency, HSE, Local Council Environmental Health Officer

Key Elements 2 – Planning

Objectives, Targets & Management Programmes:

- ❖ Drive continual environmental improvement of the EMS
- ❖ Should be simple, realistic, flexible and measurable
- ❖ Refer back to Environmental Policy and significant environmental aspects when setting
- ❖ Prioritise and allocate resources – don't try to achieve everything at once!

Key Elements 2 – Planning

Objectives, Targets & Management Programmes - Examples:

5. ENVIRONMENTAL OBJECTIVES AND TARGETS

No.	Objective	Target	Management Programme	Responsibility	Proposed Deadline	Completed / Ref
EO2	To raise environmental awareness amongst staff and knowledge of the environmental impacts of their operations	EO 2.1 – Produce training and awareness initiatives	MP2.1.1 – Carry out environmental awareness training for all new staff as part of the induction training programme			
			MP2.1.2 – Review with all existing staff the need for environmental competence & awareness training on a job specific basis and record on Training Needs Analysis (ER9)			
			MP2.1.3 – Implement environmental awareness & competence training for all existing staff as identified in the Training Needs Analysis (ER9)			
EO3	To implement improved waste management practices	EO 3.1 – Establish a segregated collection system for hazardous wastes	MP3.1.1 – Set up colour-coded and labelled container for hazardous waste in warehouse for disposal of absorbent spill materials & used oily rags			
			MP3.1.2 – Awareness session for staff on disposal methods for hazardous waste and need for segregation			

Key Elements 3 – Implementation & Operation

Procedures:

- ❖ ISO 14001 requires you to establish effective procedures to both maintain the EMS **and** control and minimise adverse environmental impacts
- ❖ 2 basic types:
 - *Systems Procedures* – designed to ensure the EMS itself is fit for purpose i.e. documented, implemented, maintained and continually improved in accordance with the requirements of ISO 14001 e.g. Document Control Procedure
 - *Operational procedures* – designed to control environmental aspects of day to day operations. Specific to each business, but some can be common e.g. Emergency Response; Waste Management; Chemicals Storage

Key Elements 4 – Checking

Monitoring & Measurement:

- ❖ Fundamental to maintaining an ISO 14001 compliant EMS
- ❖ Allows you to track performance in terms of meeting objectives and targets; maintaining legislative compliance; achieving continual environmental improvement

Examples:

- *Monitoring particulate emissions from process stacks*
- *Maintaining monthly data on quantities waste sent for recycling*
- ❖ Activities governed by environmental permits or discharge consents will require regular process monitoring
- ❖ Monitoring equipment must be calibrated & maintained

Key Elements 4 – Checking

EMS Audits:

- ❖ Essential to determine whether EMS is operating as it is designed to do so i.e. in accordance with the commitments set out in the Environmental Policy and in accordance with all of its procedures
- ❖ Audits also ensure the EMS continually improves through the identification and remediation of non-conformities
- ❖ EMS audit schedule needs to include:
 - System audits – audits of each element of the EMS
 - Environmental Procedure audits – audits of each environmental procedure for which specific controls have been formulated
 - Regulatory Compliance audits – audits carried out to ensure compliance with current legal requirements

Key Elements 4 – Checking

EMS Audits (Cont):

- ❖ Frequency of EMS audits should depend on the nature of your operations; the relative significance of your environmental aspects and the results of previous audits
- ❖ Aim to audit all parts of the EMS at least once a year
- ❖ Important that auditors are trained in both general auditing techniques and have an awareness of environmental management and associated regulations
- ❖ External consultants may be able to provide this service
- ❖ Further guidance in ISO 19011:2002 – “Guidelines for quality and/or environmental management systems auditing”

Key Elements 4 – Checking

EMS Audits – Sample Audit Schedule:

EMS Ref	Description	Month 2010/11												Complete
		April 2010	May 2010	June 2010	July 2010	Aug 2010	Sep 2010	Oct 2010	Nov 2010	Dec 2010	Jan 2011	Feb 2011	Mar 2011	
EM1-EM20	Environmental Manual	*												
EP1, ER6	Spills/Emergency Response Procedures		*							*				
EP2	Chemicals Storage			*							*			
EP3	Monitoring of Storage Areas				*									
EP4	Waste Management Policy					*						*		
SP1, ER1-ER3	Environmental Aspects & Impacts						*							
SP2, ER5	Register of Applicable Legislation	*							*					
SP3, ER4	Objectives & Targets		*							*				
SP4, ER9	Training Needs									*				
SP5	Communications										*			
SP6	Documentation & Control of Records											*		
SP7	Non-Conformance & Corrective Action												*	
SP8, ER7, ER10	EMS Audits	*												

Key Elements 5 – Management Review

Management Review Meetings:

- ❖ Typically held once or twice a year - frequency depends on the size / complexity of your organisation and EMS
- ❖ Regular reviews important to ensure:
 - Continual improvement of the EMS
 - EMS kept within budget
 - EMS aligned with business priorities and needs
 - Support of key management is maintained

Key Elements 5 – Management Review

Management Review – ISO 14001 requirements:

- ❖ Inputs to Management Reviews should include:
 - Results of internal audits
 - Communications from interested parties (e.g. members of the public, statutory agencies)
 - Environmental performance of the company
 - Extent to which objectives and targets have been met
 - Status of corrective and preventive actions
 - Follow-up actions from previous management reviews
 - Changing business, environmental and operational circumstances
 - Recommendations for improvement (e.g. from staff or auditors)

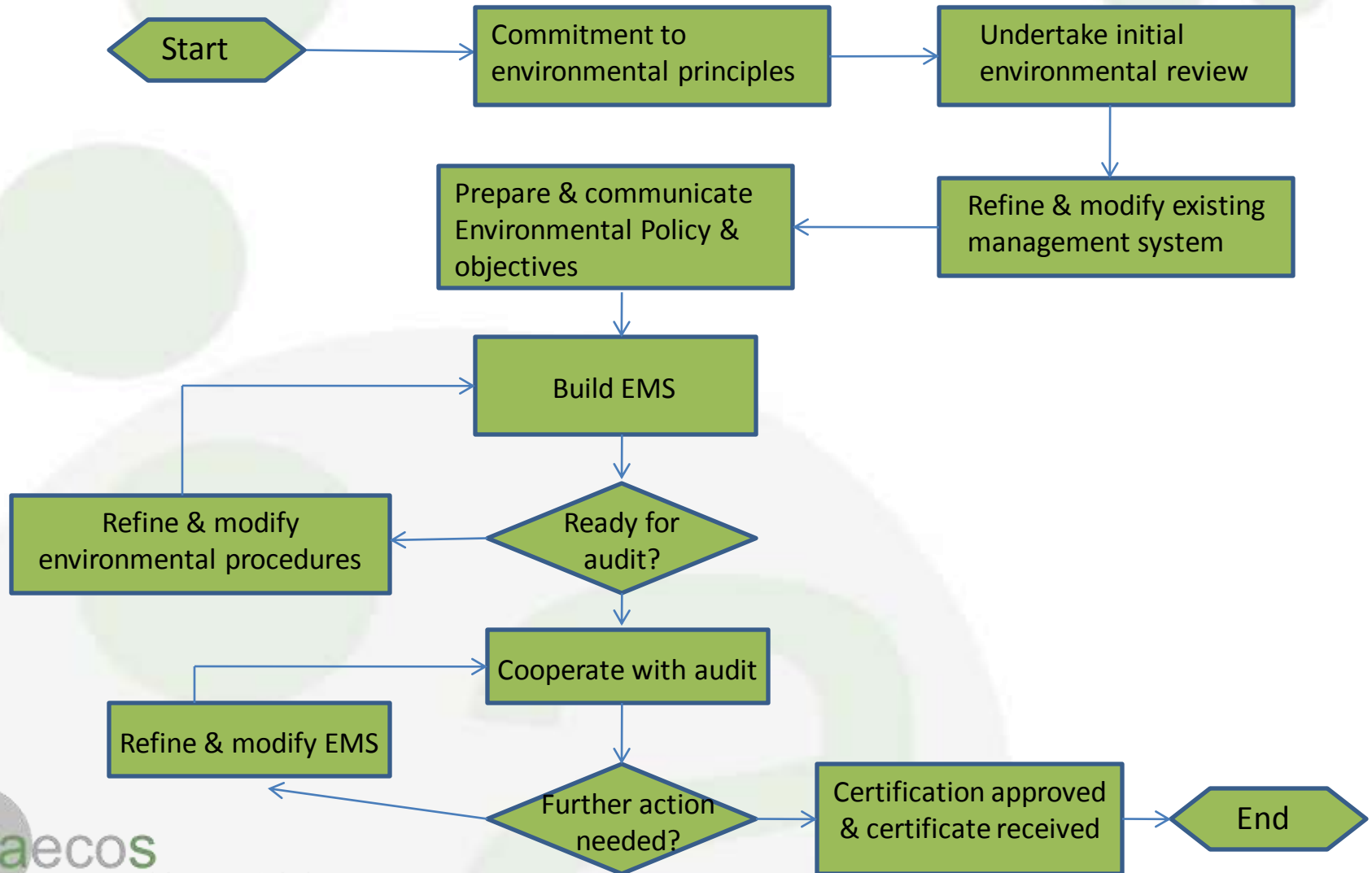
Independent Certification

Is it Necessary?:

- ❖ Not really – significant company benefits accrue from actual implementation of an EMS and adopting the principles of ISO 14001
- ❖ **However**, many blue chip companies and public sector organisations now require ISO 14001 certification before tendering stage
- ❖ Certification means that an independent body has audited your EMS and found it to be robust, effective and well maintained - which provides stakeholders with high level of confidence
- ❖ Decision depends on whether it will add value to your operations

Independent Certification

Route to Certification:



Aecos Environmental - Services

How can we help?:

- ❖ Gap analysis – to assess where you are in relation to achieving ISO 14001
- ❖ Tailor made EMS implementation packages to suit you – from discrete elements to full system
- ❖ ISO 14001 toolkits available for self-implementation – additional support can also be added
- ❖ Full range of support services – staff training, internal audits, waste management options

Aecos Environmental

If you'd like more information, or a free, no obligation review, please contact us:

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