

# GREENPHILIPPINES

Greening the Philippine Industries with the **ECOPROFIT** Approach



A project funded by  
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## CP MANAGEMENT STRATEGIES and ECO- Controlling



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## As said, there is environmental pressure on our business



the law



suppliers



investors

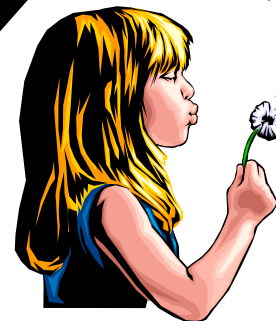


customers



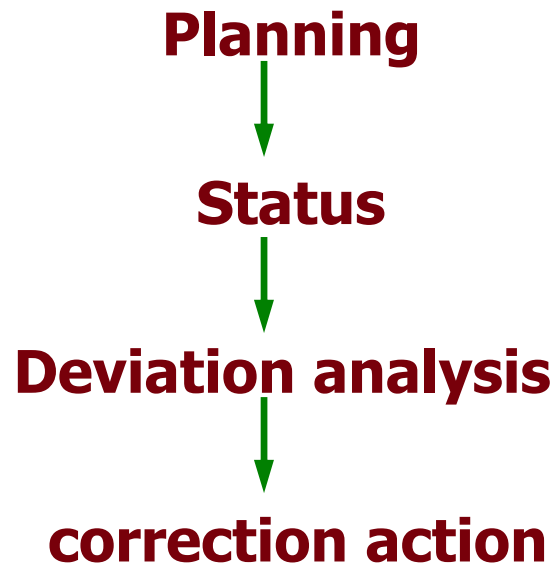
competitors

the public  
neighbours  
unions  
employees



## Controlling for CP-activities

**A feedback system is needed,  
in which planning, reporting, status analysis, deviation  
analysis and corrective measures are combined:**



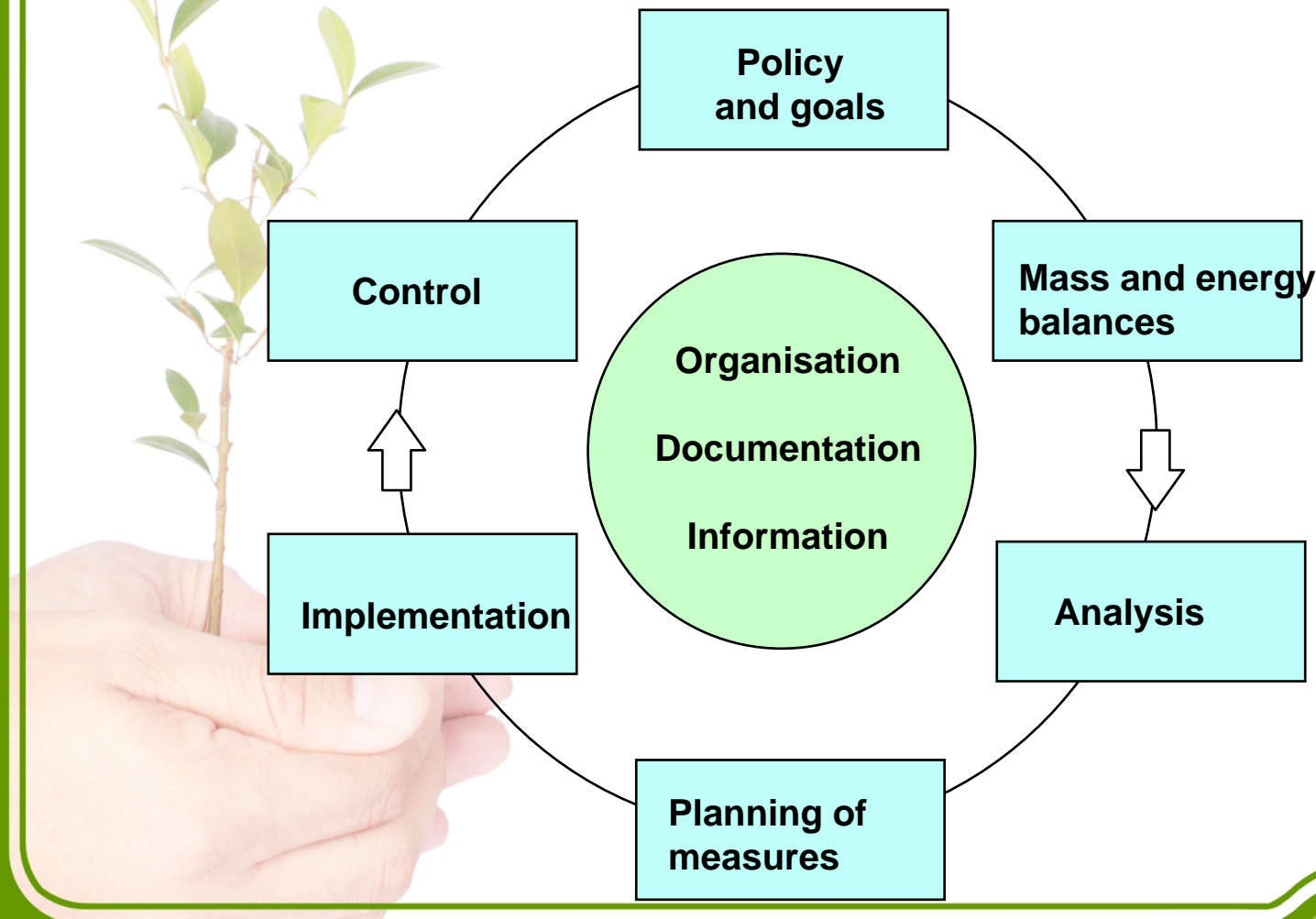
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## Closed loop CP-management controlling system





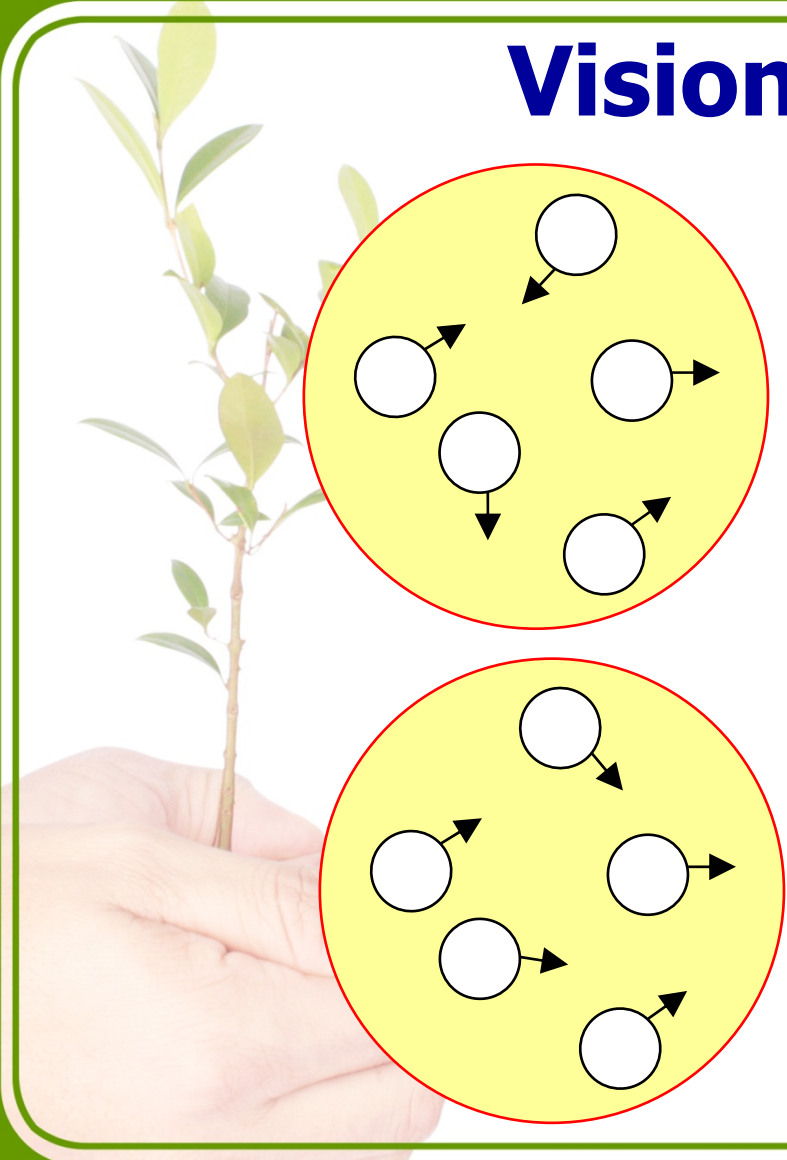
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## Vision orientation



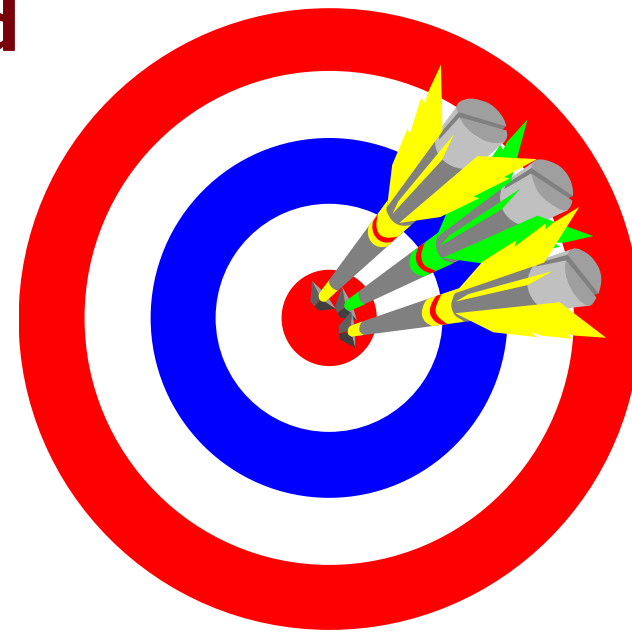
**In which direction  
does the resulting  
force act?**



## Definition of Goals

### Goals are:

- **Legal compliance**
- **Best available practices and technology**
- **Minimization of costs**
- **Continuous improvement**
- **Workers care**
- **Environmental protection**
- **Quality, health, safety**



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## Goals should be

- **S**pecific
- **M**easurable
- **A**mbitious
- **R**ealistic
- **T**erminated



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## Structure of Policy – Goals - Programme





## Instruments of Environmental Controlling or CP management

### ➤ On the strategic level / management review:

- △ Analysis of strong and weak points
- △ Scenarios (best case, worst case)
- △ Material flow analysis, eco-balances
- △ Ecological accounting

### ➤ On the operational level:

- △ Environmental indicators
- △ Material flow analysis and eco-balances
- △ Product line analysis
- △ Ecological accounting

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## Everything is based on the balance of Inputs/Outputs



## Aims of Indicators

- 
- **Comparison of actual to planned situation**
  - **Comparison of companies**
  - **Comparison in time**

## Definition of Indicators

- Which figures reflect goals (of my department) best?
- **What else reflects best, if we do not meet these goals?**
- How can we measure critical deviations best?
- **What or who is responsible for critical deviations?**
- For which useful indicators can we get information easily and efficiently?



## - Useful Indicators -

### ➤ **Non-dimensional indicators:**

- △ Efficiency, yield (product per input)
- △ Recycling quota

### ➤ **Material related indicators**

- △ E. g. cross rated between different materials

### ➤ **Production related indicators**

- △ Material input per production unit
- △ Waste per production unit

### ➤ **Plant related indicators**

- △ Energy consumption per hour
- △ Energy consumption per m<sup>2</sup>



## - Useful Indicators -

### ➤ Time based indicators

- △ Waste per shift
- △ Water consumption per year

### ➤ Employee based indicators

- △ Material consumption per employee (in offices)
- △ Water consumption per employee

### ➤ Emission based indicators

- △ Actual emissions vs. Threshold values

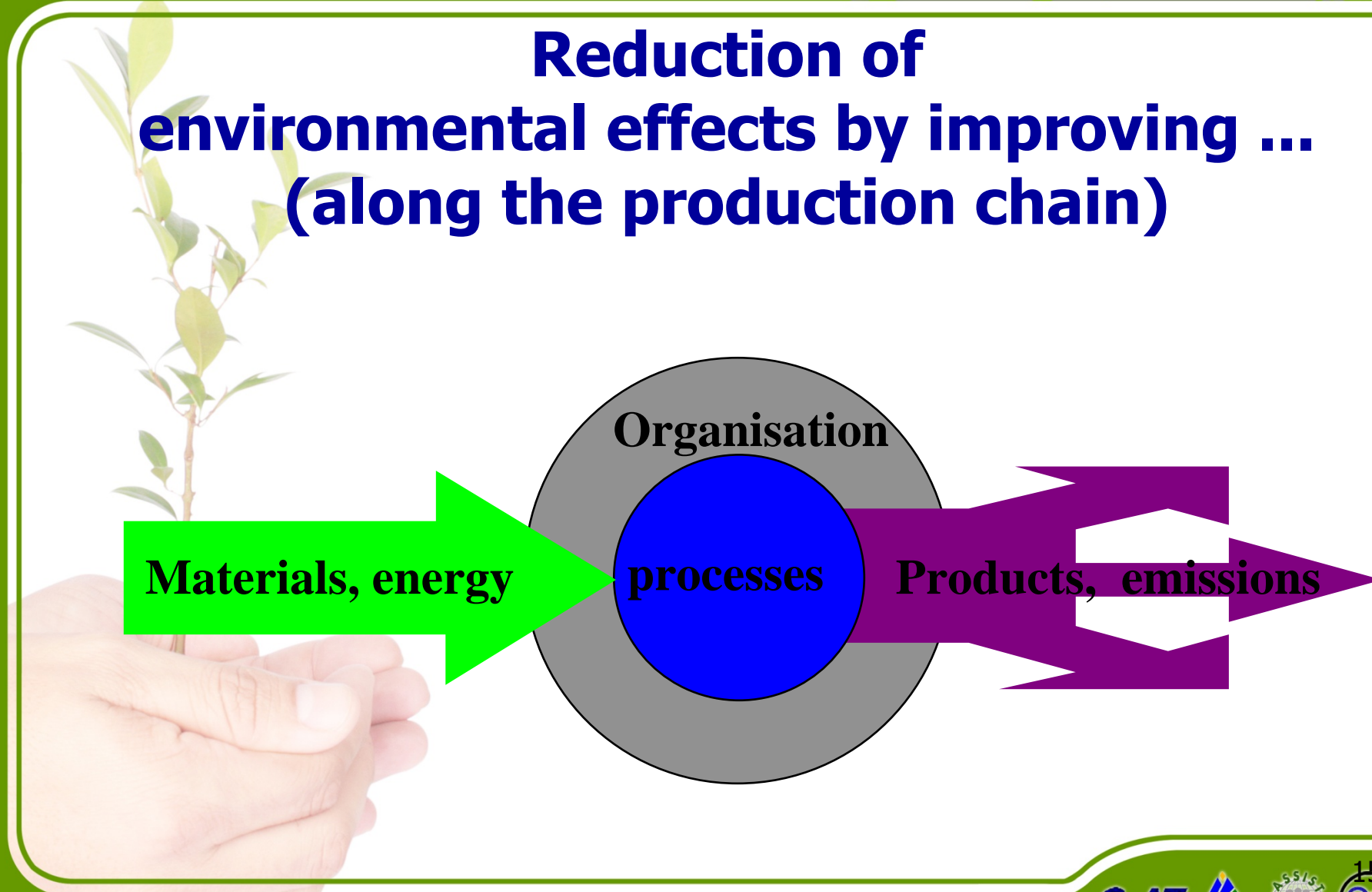
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## Reduction of environmental effects by improving ... (along the production chain)



## Initial review: Environmental register

### Evaluation of processes and equipment

Flowsheet

BAT

Accidents, etc.

### Evaluation of materials

Safety data sheets

Input/Output analysis


### Legal Compliance Audit

Register obligations

### Records of problems, minutes, ideas



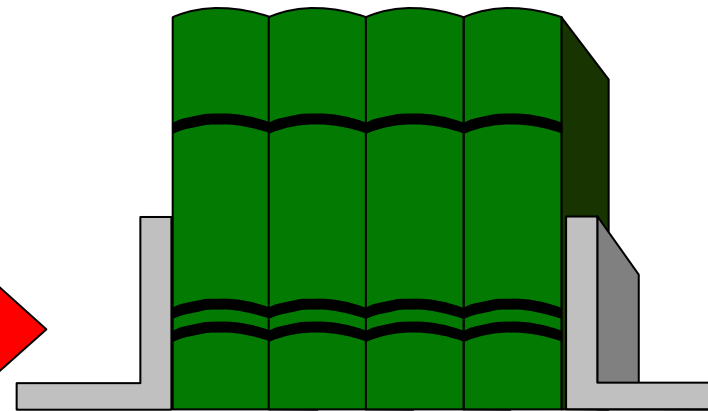
## System documentation



Organigrams, manuals, rules, safety data sheets, limiting values,, standards, emergency action plans, position description, working instructions, etc., etc.

### Instruction system:

- transparency
- definition of responsibilities
- guarantee of actuality and use of best available practices





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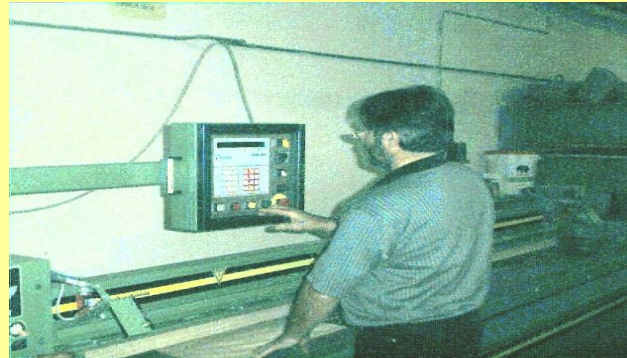


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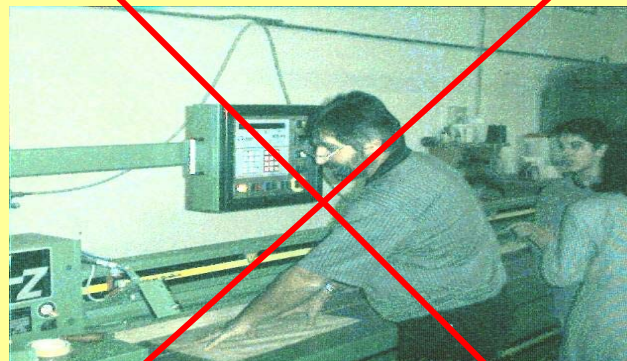
## Procedures: keep it simple!



How to work at the press:  
**CORRECT!**



**WRONG!**





## Environmental programme, an action plan

### ➤ Environmental objectives on all concerned levels of the enterprise

△ quantitative ones with indication of time frames, responsibilities and methods

### ➤ Establishment of an environmental programme in relation to objectives

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## Example:

Area	Goals	Date	Measure	Responsible	Budget
<b>Water</b>	use of rainwater for compressor cooling	Okt.95	Definition of a project, planning, installation of collection tanks, pumps and piping	head of maintenance	500.000 ATS
<b>Waste</b>	reduction of solid waste by 30%	Dez.95	improvement of waste separation by training, research for recycling possibilities	waste manager	100.000 ATS

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## EMS standards show the "bricks" of environmental management systems

- ⊙ Policy
- ⊙ Review of environmental effects
- ⊙ Legal requirements and compliance
- ⊙ Objectives and program
- ⊙ Organisation
- ⊙ Training

- ⊙ Communication
- ⊙ Documentation
- ⊙ Procedures
- ⊙ Correction and Prevention
- ⊙ Auditing

*Input:*  
Materials,  
Energy

**Production  
process**

*Output:*  
Products,  
Waste,  
Emissions

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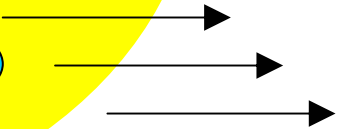


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## CP guides to a preventive strategy and tools for prevention in the EMS frame

- ⊙ Prevention as element of the policy
- ⊙ Tools for review of environmental effects
- ⊙ Registration of legal requirements
- ⊙ Options for improvement
- ⊙ Program
- ⊙ Training

*Input:  
Materials,  
Energy*



*Output:  
Products,  
Waste,  
Emissions*



## An **ECOPROFIT** based management system aims at improving the organisation

- Which activities have environmental aspects?
- **Which activities are critical?**
- Responsibilities and clear regulations?
- **Training**
- Prevention
- **Controlling**
- Auditing



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## Additional steps from CP/ECOPROFIT activities to efficient Management systems

- Involvement of all employees
- **definition and description of responsibilities**
- environmental planning process
- **definition and description of procedures**
- clear, transparent documentation
- extension of areas under consideration  
(**planning, purchasing, products, communication, training, measuring equipment, abnormal situations, corrective measures, records, audits**)
- periodic review of the system, not only the program
- **integration with H&S and quality**



## Common standards for CP based managementsystems are

- **The EMAS regulation (Environmental management auditing Scheme)**
- **ISO 14001; ISO 18000; HACCP**
- **but not certificate for environmental controlling systems**

# GREEN PHILIPPINES Competitiveness

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## Advantages of CP based MS for the Company

- image and publicity
- long term continuance of the company
- transparency of decisions

Cost minimization

- lower insurance rates
- better conditions for a credit
- identification of saving potentials

EMS

Risk minimization

- legal compliance
- avoidance of damages, accidents
- identification of weak points

- systematic environmental protection
- eco-Controlling
- increase of envn. awareness
- motivation of the employees

Improvement of the organisation



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**The Target:  
An "Integrated management system",  
no matter which standard!**

