

Environmental Review

Mapping environmental aspects

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Workshop 2

Cleaner and more Cost Effective Industry in Macedonia

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Agenda

- Introduction
- Starting the work
 - Why?
 - The weather map
 - Exercise
- Mapping methods
 - The traditional way
 - A new visual method
- Eco-mapping
 - Aspects
 - How to do it



Environmental review

Our plan

- Environmental review
 - What is environmental aspects?
 - Why do it?
 - How to do it!
- Methodology
 - Lecture
 - Examples of tools
 - Exercise

- Main Goal:

Knowledge of the concept of environmental aspects and how to identify them

Environmental aspects

What is it?

- A definition:
 - The Environmental Aspect is an element of an organization's activities, products or services that can interact with the environment.
 - Two types:

1. Direct Environmental Aspect

Activities over which a company can be expected to have an influence and control. For example, emissions from processes.

2. Indirect Environmental Aspect

Actual or Potential activities over which the organization can be expected to have an influence, but no control. For example, supply chain controlled aspects, customer controlled aspects, aspects managed elsewhere within the same company.



Environmental Aspects

What is it?

- Typical environmental aspects
 - Emissions to air
 - Release to water of toxic substances
 - Waste generation and handling
 - Contamination of land
 - Impact on communities
 - Use of raw materials and natural resources.
 - Other local environmental and community issues

- What are the impacts
 - Every aspect has an environmental impact
 - Knowledge of environmental aspects and impacts is necessary in order to have a thorough awareness of a company's environmental performance

Environmental aspect

...element of an organization's activities or products or services that can interact with the environment

aspects

ISO 14001:2004

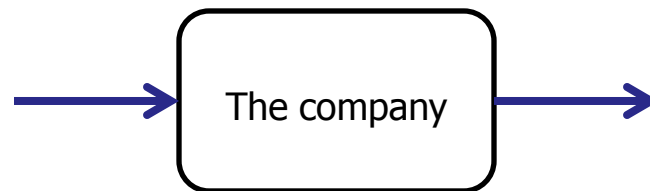
Environmental impact

...any change to the environment, whether adverse or beneficial, wholly or partial resulting from an organization's environmental aspects

ISO 14001:2004

Identifying aspects

The black box



- Environmental accounting
 - Input to production – Output from production
 - Get an overview of the main material flows
 - Quantify resource use and emissions
 - Calculate emissions by using standard factors

- Decide which of the flows deserve attention

IN (per year)			OUT (per year)		
	Consumption	Nature of product		Production	Nature of product
Raw material			Products and services		
Paints	..... kg	....	Finished products	..... Units	....
Solvents	..... kg	....	Semi-finished products	..... Units	....
Auxiliary products used			Service unit	..... Units	....
Lubrication	..... litres	....	Waste		
Detergents	..... litres	....	Packaging waste	..... kg	....
Cleaners, salt	..... litres	....	Hazardous waste	..... kg	....
Office supplies	..... kg	....	Non toxic waste	..... kg	....
Computers and electronics	..... Units	....	Paper and card board	..... kg	....
Packaging			Waste Water		
Films	..... kg	....	Estimate amount		
Cans	..... kg	....	of pollutants in waste water	..... litres	....
Water consumption			Recycling of water in process	..... m ³	....
Distribution water	..... m ³	....	DBO	..... mgr/lit	....
Groundwater	..... m ³	....	CDO	..... mgr/lit	....
Energy			Emissions to Air		
Heating Fuel	..... litres	....	CO ₂	..... kg	....
Gaz	..... m ³	....	SO _x	..... kg	....
Electricity	..... kWh	....	NO _x	..... gr	....
Diesel & fuel for vehicles	..... litres	....	Noise level		
Renewable energy	..... kWh	....	Number of complaints	..complaints	....
Transport of goods			Dust and odours		
road	..... km	....	Value of measures	..... ppm	....
train, water, air	..... km	....		

Identifying aspects

Exercise

Theme: The environmental weather map






Task: Construct 10 questions to ask the workers

Time: 15 + 30 minutes

Who: Individually and groups

How do you feel about management of environment issues in our company ?

Please take 60 seconds and mark the area

					
Use of raw materials, products and resources					
Use and choice of energy (fuel, gas, electricity)					
Use of water and wastewater					
Prevention and reduction of waste stream					
Recycling and selective separation of waste					
Air pollution, dust and odours					
Reduction and control of noise and vibrations					
Storage of products					
Mobility and transport of employees and goods					
Green planning for products and services					
Health and safety in the workplace					
Prevention of environmental accidents					
Environmental information (internal and external)					
Communication with suppliers and subcontractors					
Neighbourhood (dialogue and implication)					
Motivation of managers					
Motivation of employees					
Environmental management practices					

Any idea's ?

Thank you !

Identifying aspects

The next step: **Methods**

- Methods for identifying aspects
- The traditional way
 - Top-down approach
 - Brainstorming
 - Process oriented
 - Interviewing operators in specific processes
 - Site inspections
 - Often time consuming and generates a lot of documents
- A new method is developed
 - Eco-mapping
 - Bottom-up approach
 - Visual, simple and practical
 - Quick and intuitive

Identifying aspects

Eco-mapping

- A systematic method for identifying key environmental information
 - Mapping the actual current situation
 - Use simple maps/drawings of the floor (in proportion)
 - Walk around and note in the map where there are problems
 - Small problems (areas to monitored or problems to be studied)
 - Large problems (stop necessary or corrective action needed)
 - Use symbols to grade the problems (frequency, scale and severity)
 - Take pictures of significant environmental issues
 - Let workers participate in the mapping process
 - Raise awareness in the organization
 - Outside experts or consultants will be very useful
 - Has fresh eyes and will easily identify problem areas

Identifying aspects

Eco-mapping

■ Seven eco-maps

- Strategic – the satellite view
 - Interaction with neighbors and other external stakeholders
 - Traffic, local environment, effect of products or services and value chain
- Water consumption and waste water system
 - Are there high levels of water consumption – Wastage/bad habits
 - Hazardous substances in waste water / sewer
- Soil and storage
 - Threat to groundwater or soil pollution
 - Secure storage of hazardous substances
- Air, odors, noise and dust
 - Air quality, noise sources, filters
 - Emissions to air from processes or energy

■ Energy

- Energy wastage – inefficiency
- State of installations
- Heat losses - insulation

■ Waste – Generation and handling

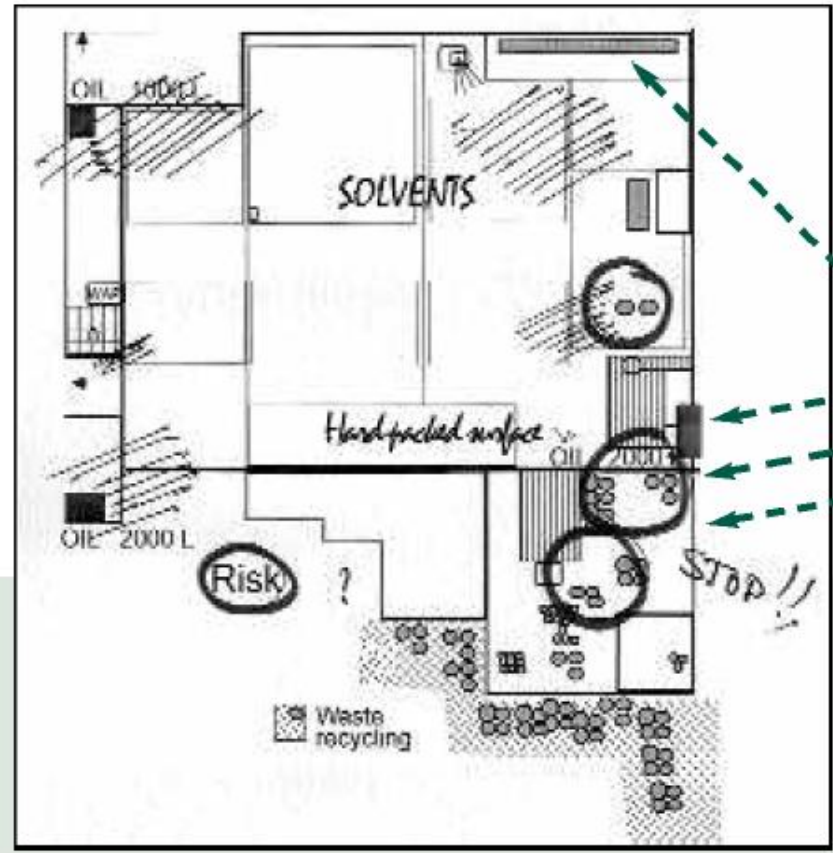
- What is the level of waste generation and recycling
- Preventive measures
- Placement and marking of bins

■ Risks

- Accessible and clearly identified emergency exits
- Procedures
- Dangerous substances and machinery

Identifying aspects

Eco-mapping



Identifying aspects

The next step: **Methods**

- Which method to choose

Depends on several factors

- Size of company and locations
 - Large companies may benefit from using a process oriented method
 - Eco-mapping is most suited to SMEs
 - Company culture
 - Cooperation and involvement of workers are needed
 - Hierarchy
 - Sector
-
- **The methods can be mixed!**

Thank you for your attention!

Questions?

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