



# ECOSIGN

## Basic Concepts on Ecodesign

### UNIT 6: Environmental Aspects of an Organisation.



# Objectives

- Identify environmental aspects related to their work activity.
- Be capable of applying them to products.

## 6.1 Introduction to Environmental Aspects

Every activity generates an impact on the environment.  
The extent of such an impact depends on:

- the nature and amount of sources or energy consumed, and
- the waste, dumping and emissions resulted from those activities.

**ENVIRONMENTAL ASPECTS**

Environmental aspects entail a **CAUSE-EFFECT** relationship.

*leads to*

An environmental aspect  an environmental impact

### What are the environmental aspects and impacts?

*According to ISO 14001, are defined as:*

- **ENVIRONMENTAL ASPECT:** *element of an organisation's activities, products or services that can interact with the environment.*
- **ENVIRONMENTAL IMPACT:** *any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects.*

## 6.1 Introduction to Environmental Aspects

### TO ACT ON THE ENVIRONMENTAL IMPACTS:

- Environmental aspects of activities, all processes and operations must be identified.
- Environmental aspects of activities, all processes and operations must be assessed.
- Actions must be prioritised on those environmental aspects that may generate or do generate a larger environmental impact.
- Objectives, goals and environmental programmes must be established.

For that purpose, organisations may adopt and introduce Environmental Management Systems to identify and assess aspects and later take actions on their improvement in a planned manner.

The Environmental Management System works under a recognised standard, such as:

- ISO 14001[1] or
- The EMAS Regulation[2]

[1] UNE-EN ISO 14001:2015. Environmental management systems. Requirements with guidance for use.

[2] Regulation (EC) No 761/2001 of the European Parliament and of the Council of 19 March 2001 allowing voluntary participation by organisation in a Community eco-management and Audit scheme (EMAS).

## 6.2 How to Identify Environmental Aspects

### FACTORS TO BE CONSIDERED IN ORDER TO IDENTIFY ENVIRONMENTAL ASPECTS

- All activities, products and services of the organisation.
- The circumstances in which processes and operations related to the environment are carried out.
- Environmental aspects identification consists of two categories:
  - The organisation and its product manufacturing or provision of services activities.
  - The manufactured products to minimise their impact along their life cycle.

- Once the management system is introduced, the identification is carried out.
- It will be checked at least once a year. If changes in the organisation happen, the aspects must be modified or checked for new ones.

### *STAGES ON THE IDENTIFICATION OF ENVIRONMENTAL ASPECTS*

- Establishment of conditions of the identification.
- Identification of processes and operations.
- Analysis of processes and operations.
- Identification and record of environmental aspects.

## 6.2 How to Identify Environmental Aspects

### 6.2.1 Establishment of conditions for the identification

To establish the operating conditions and circumstances in which the aspects are identified, the following must be considered:

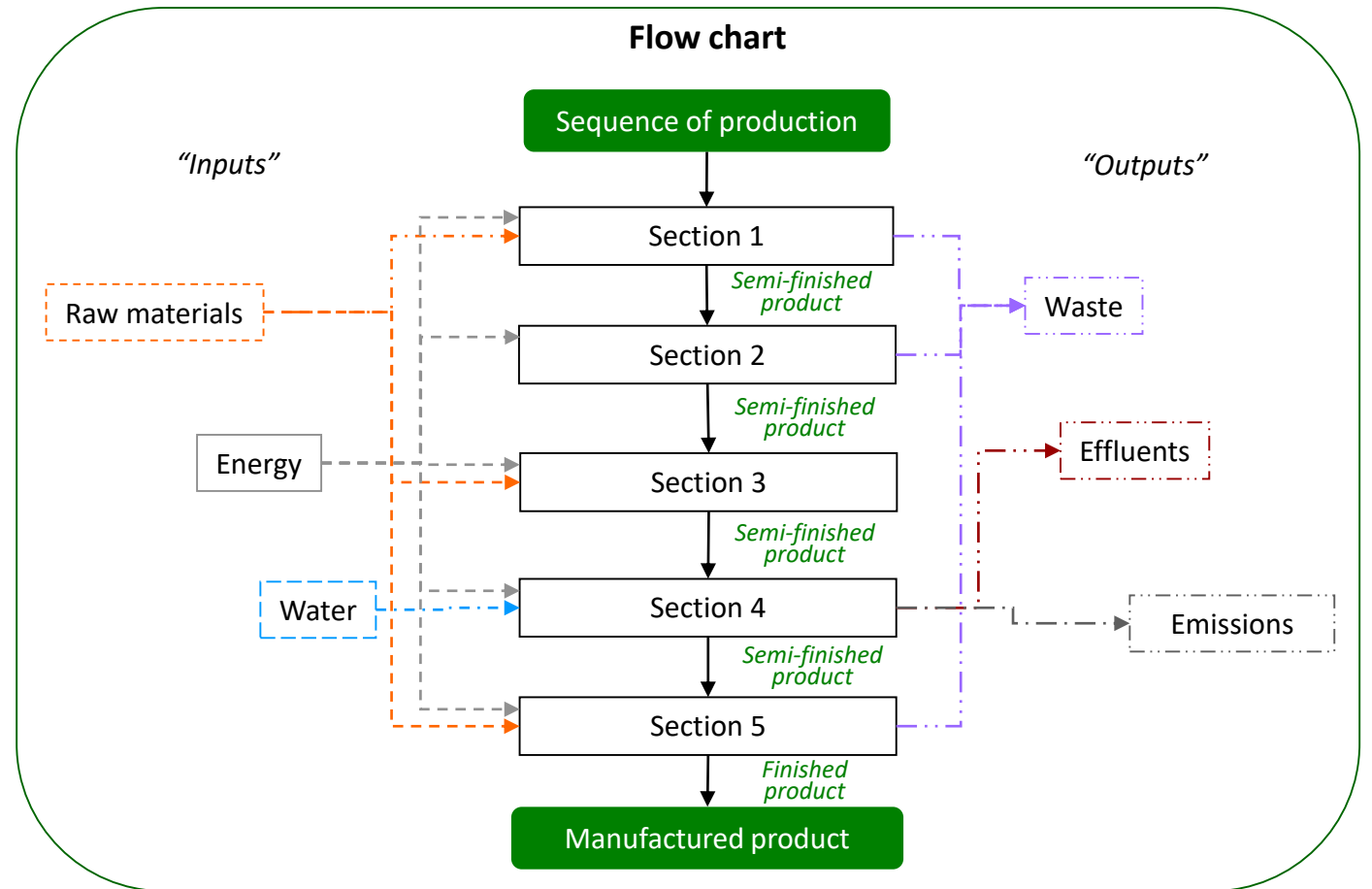
- Standard operating conditions.
- Abnormal conditions such as:  
startups, shutdowns, preventive maintenance, etc.
- Incidences, accidents or emergency situations which may be the result of activities such as:  
Leaks, accidental effluents, etc.
- Possible aspects related to past and future activities.

## 6.2 How to Identify Environmental Aspects

### 6.2.2 Identification of Processes and Operations

The organisation must identify the processes and operations associated to them, which may end having an impact on the environment.

To use flow charts helps displaying every operation associated to the production manufacturing, provision of services or any other activity involved in the environmental impact generation.



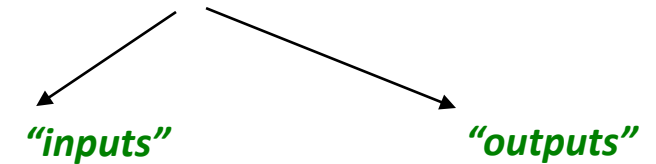
## 6.2 How to Identify Environmental Aspects

### 6.2.3 Analysis of Processes and Operations

#### TO CARRY OUT THE ANALYSIS, WE NEED:

- An analysis of the “inputs” and “outputs” of each of them, considering also the auxiliary and service activities.
- A recognition of risk situations in each area.
- An identification of the product’s life cycle on the basis of which other aspects will be identified. This will happen specifically in those processes in which the organisation has a larger intervention –use phases, delivery to customer, product materials and packaging.

These “inputs” and “outputs” are  
“environmental aspects”



Are consumed:

- Materials
- Consumables
- Energy
- Water
- Etc.

Are generated:

- Waste
- Effluents
- Emissions



## 6.2 How to Identify Environmental Aspects

### 6.2.4 Identification and Record of Environmental Aspects

#### IDENTIFICATION OF INPUTS AND OUTPUTS BY CATEGORY

The identification of environmental aspects may be classified by categories, either for “inputs” or for “otuputs”:

- “inputs”**
- Are consumed:
- Materials, types
  - Consumables, types
  - Energy, types
  - Water
  - Etc.

- “outputs”**
- Are generated:
- Waste, types
  - Effluent, types
  - Emissions, types

**Environmental aspects** will be defined according to the following information:

- Aspect designation.
- Origin (of each input) and destination (of outputs).
- Quantity (absolute or relative numbers).
- Unit of measure.
- Characteristics –physicochemical- of the environmental aspect to typify the aspect, at least in a qualitative way.

*Environmental aspects records will allow the organisation to: display the array of aspects with all the data collected*

## 6.3 How to Assess Environmental Aspects

In order to assess environmental aspects, the organisation has to define criteria which allow to establish a hierarchy according to their importance.

It must be carried out in normal or abnormal conditions, or in incident, emergency or accident conditions.

### CRITERIA FOR ASPECTS ASSESSMENT

- General: may be applied to several environmental aspects.
- Reproducible: may be applied in different conditions or situations.
- Capable of independent checking (by several people and with the same result in every case).

### CONSIDERATIONS FOR ASPECT ASSESSMENT

- The extent of the resulted aspect: consumed, emitted, dumped, etc.
- How frequently does it happen.
- How large is the area affected, e.g. a soil affected by a leak.
- Hazard, severity and toxicity.
- How far-reaching is the aspect, close to limits allowed by legislation or internal criteria.
- How sensitive is the environment where the aspect is generated.
- Legal requirements which may exist on the environmental aspect.

## 6.4 How to Prioritise Environmental Aspects

In order to prioritise the organisation's aspects, the regarded model for the classification will be:

“significant environmental aspect”.

### METHODS TO CARRY OUT A PRIORITISATION OF ENVIRONMENTAL ASPECTS:

- Significance matrix.
- Percentage assessment.
- State of regulation.
- Interest of the people concerned

The assessment and prioritisation result must be:

- Coherent with the actual situation of the organisation.
- Focused on the reduction of environmental aspects.
- Recorded on a file.

### Methods of quantitative assessment

#### Significance matrix

| Criterion |        | High | Medium | Low  |
|-----------|--------|------|--------|------|
| CRITERION | High   | S    | S      | S/NS |
|           | medium | S    | S/NS   | NS   |
|           | Low    | S/NS | NS     | NS   |

S= Significant ; NS= Non-significant

#### Percentage assessment

Once assessed, 10% of the highest aspects are catalogued as significant.

### Methods of quantitative/qualitative assessment

#### State of regulation

Due to the importance of environmental legislation in the environment, a rank is established to pinpoint as significant those aspects which are regulated under current legislation.

#### Interest of people concerned

The significance degree of an aspect is established considering the external interested parties. An aspect is significant and a priority if complaints do exist associated to such aspect, or those aspects are regulated under current regulation.

## 6.5 How to Establish Objectives, Goals and Environmental Programmes

### TO ESTABLISH OBJECTIVES, GOALS AND ENVIRONMENTAL PROGRAMMES, THE ORGANISATION MUST:

- Clarify if they will be applied only to some specific units.
- Consider that they are in line with :
  - The organisation's environmental policy.
  - The significant environmental aspects.
  - The legal and regulatory requirements.
  - The opinions of interested parties.
- Make an environmental management programme "strategy planning".

### *AN ENVIRONMENTAL MANAGEMENT PROGRAMME MUST CONSIDER:*

- The implementation of actions and improvements needed to achieve the goals and aims in a planned manner.
- "Goals" to achieve partial targets.
- The assessment of its effectiveness by means of "indicators" to measure the degree of compliance achieved.
- A periodic review of the programme (update).

Thank you for your attention

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