

# Environmental management

Dr. Ibrahim Busuladžić  
Sarajevo 29.09.2007

## Course structure

- Teaching methods
  - **Time**  
Semester 1  
Lectures 10h  
Seminars 12h
- Examination form
  - In order to receive a passing grade for the course, the reports and presentations of all four exercises must be approved. The final grade is calculated as an average of the grades of the four exercises.

## Goal

- The course provides theoretical and applied knowledge and understanding of strategies, forces and current approaches to management of environmental development and to changes in companies and organizations due to the increased focus on environmental matters. The course will also provide knowledge about the different tools that may be used in the environmental work of a company.

## Learning outcomes

- Describe and explain motivations and forces for the development of environmental management systems in companies and organisations.
- Describe current environmental management systems aiming at implementing and sustaining a systematic and efficient environmental operation of a company.
- Apply environmental management standards such as EMAS and ISO14001 for developing environmental policies, targets and programmes.
- Identify and evaluate the environmental aspects of a company or organisation based on a description of mass and energy balance data of a production unit.
- Identify need and develop plans for environmental education and competence development for staff and employers.
- Develop and formulate procedures for implementation and operation of an environmental management system.
- Describe the processes for certification and registration of an EMS according to ISO 14001 and EMAS.
- Describe and explain the different parts of the most important tools for environmental monitoring and planning, such as Environmental Impact Assessment, Environmental Auditing and Life Cycle Analysis.

## Course program

- HISTORICAL PERSPECTIVE
- ENVIRONMENTAL MANAGEMENT SYSTEM (EMS)
  - An EMS is the combination of people, policies, procedures, review, and plans to help address environmental issues.
  - An EMS is that part of an **overall management system** which includes organizational structure, planning activities, responsibilities, practices, procedures, processes, and resources for...achieving environmental policy.
  - Important EMS elements include continual improvement, management commitment, formalization, and awareness of a systems based approach.

## Course program

### Environmental Management System

#### Why

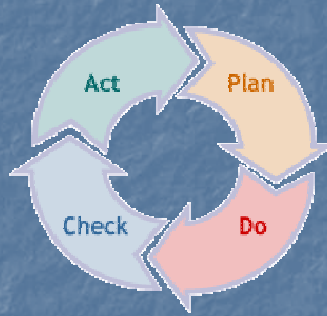
- legislation and enforcement
- stakeholder pressure
- awareness, image, reputation
- competitiveness
- finance

# Course program

## A Basic EMS Framework

- **Plan**  
Planning, identifying environmental aspects and establishing goals
- **Do**  
Implementing, includes training and operational controls
- **Check**  
Checking, includes monitoring and corrective action
- **Act**  
Reviewing, includes progress reviews and acting to make needed changes

## The Continuous Cycle



# Course program

- **INITIAL ENVIRONMENTAL REVIEW**
  - To establish the base for the development of the EMS
  - To identify weaknesses and problem areas in order to resolve them
  - To identify strengths and opportunities for improvement, products, markets
- **ASPECTS**  
ISO 14001 requires:
  - Establish and maintain a procedure to identify the environmental aspects of the activities, products and services, not only those that the organization can control, but also those over which the organization can be expected to have an influence.
  - Determine the environmental aspects that have or can have significant impacts on the environment.
  - Ensure that the significant aspects are considered in setting environmental objectives.

## Course program

- IMPACTS –POTENTIAL ENVIRONMENTAL (air, water, land, natural resources, visual, noise)
- ENVIRONMENTAL POLICY  
"A statement by the organization of its intentions and principles in relation to its overall environmental performance"
  - General principles
  - Strategy and Planning
  - Specific policy goals
  - Compliance
  - Products
  - Training and Communication
  - Worker protection

## Course program

- Objectives and Targets
    - An EMS objective is an overall goal arising from the environmental policy statement set by the organization.
    - An EMS target is a detailed measurable performance requirement related to the objective.
    - Should be SMART
  - The Environmental Action Plan
    - A process of narrowing down from broad, long-term goals through objectives and targets to a plan of action . . . which leads to . . .
    - A plan of action to meet environmental performance goals containing clear, measurable objectives and targets
- Based on:
- the Environmental Policy
  - identified priorities
  - significant environmental aspects

## Course program

- Implementation and Operation
  - Define roles and responsibilities
  - Provide EMS training
  - Establish internal and external communication mechanisms
  - Establish document control system
  - Establish operational controls
  - Integrate with or establish emergency preparedness procedures

## Course program

- Environmental Audit
  - Types of Environmental Audits
  - Steps in the audit process
  - Planning the audit
  - Audit team
  - Audit instruments
  - EMS audit criteria
  - Reporting
  - Management review



- Sustainable development

"development that meets the needs of the present without compromising the ability of future generations to meet their own needs"

## Necessary teaching materials

- Welford, R., Corporate Environmental Management Systems and Strategies, Earthscan, 1998
- UNEP EMS Training Resource Kit, 2nd edition 2001
- ISO 14000 series standards (ISO 14001, ISO14004, ISO 14010, ISO 14011, ISO 14012)
- Notes from lectures, scientific papers and articles from Internet.