

UNIDO and CEU Summer University Joint Summer Course on

GREEN INDUSTRY: PATHWAYS TOWARDS THE INDUSTRY OF THE FUTURE

Course contents

Part 1 – distance learning on-line course (March-April 2014)

The e-learning part of the course takes place over four weeks in March/April 2014. It gives participants an initial oversight into the main theoretical approaches in the area of Green Industry and allows them to interact with each other in a facilitated environment. The modules offer some mandatory and optional reading materials, web-resources and multimedia content and are accompanied by discussion-forums. For a successful completion of the online course students need to hand in a case study and pass an online test.

THEMATIC MODULES

Sustainable development -
challenges and opportunities

Green Industry -
policy and practice

Resource use
and resource efficiency

Industrial energy efficiency for
sustainable wealth creation

The e-learning course is constructed around four thematic modules (see box to the right). They cover a wide range of Green Industry related fields and ensure a common base of knowledge for all participants. Each module consists of mandatory and optional readings, some web-resources and a moderated discussion-forum.

ONLINE DISCUSSIONS

In online discussion forums participants are presented three questions on issues related to the overall thematic outlook of the module. They have the chance to contribute their views and to exchange their ideas in a facilitated environment, reflecting their personal geographical and professional backgrounds.

CASE STUDY ASSIGNMENT

In addition to their participation in online discussions participants were required to submit a case study. They can choose from 10 different sample case topics including, inter alia, Green Industry's contribution to the international development agenda, national strategies to achieve eco-efficiency, and monitoring mechanisms for sustainable development. Participants have to apply the chosen topic to their geographical and professional background and to outline new policies for implementing the strategies described therein.

ONLINE TEST

Participants are further asked to pass an online test consisting of 20 multiple choice questions based on the assigned reading materials, as well as on some of the content from discussion forums.

Their overall performance in all three components of the e-learning course is assessed by the Course Director, the Coordinator and experts from EMB in order to select a final list of 25 people, who are then invited for the in-residence part of the programme in Budapest.

Part 2 – in-residence course at CEU Campus, June 30 – July 11, 2014

Each day will consist of

- Lectures (maximum 2-3 lectures, 1½ hrs each)
- Practical work (simulations, case studies, practical work with research instruments)
- Working groups brainstorming (approx. 45 minutes), facilitated by course faculty

Topics

- 1. Introduction to the concept of sustainable development, global development agenda and national strategies**, including the concept of sustainable development; threats to sustainable development and their manifestations; global development agenda; national strategies for sustainable development, role of industrial development, indicators of sustainable development.
- 2. Green industry strategy, materials and energy flow analysis**, including introduction to materials cycles, elements of green industry strategy (decoupling of consumption of inputs (energy, materials), reducing environmental footprint, energy sources substitutions (from non-renewable to renewable), reduction of hazard / toxic intensity, institutionalizing recycling / re-use of materials, environmentally friendly product design, institutionalizing “green industry”-friendly management systems), issues in resource efficient and cleaner production, selected country case studies.
- 3. Environmental management systems, environmental accounting systems, environmental cost analysis**, including ISO 14 00, PLC assessment, eco-design of products (EDeP), environmental accounting systems (key issues), selected case studies.
- 4. Energy efficiency and management standards, renewable energy for industrial applications, energy demand in industries, and renewable energy systems**, including energy efficiency in industries, energy management standards, renewable energy sources for industrial applications (biomass, hydro/water, photovoltaic, solar, wind), energy demand in industries, significance of renewable energy in industrial applications.
- 5. Management of hazardous materials and wastes and environmentally-friendly strategies for the management of waste and water-use management in industry**, including issues and case studies in the management of hazardous materials and wastes, reduction of hazard and toxic intensity, waste management, strategic approach to international chemicals management, case studies and success stories, case studies from participant.

- 6. Envisioning the transition to green industry**, including importance of structured thinking about the future, basic concepts of scenario analysis and planning, backcasting, mechanics of scenario planning, participatory scenario development, building robust policy and technology options and resilience, case studies and lessons learnt (Shell scenarios, World Business Council scenarios, GEO-5 challenge scenario).
- 7. Greening chemicals industry and mining**, including the role of environmental technology innovation in green economy (the example of the Hungarian Environmental Technology Innovation Strategy 2011-2020), alternative technologies, substitution of input materials, case studies.
- 8. Chemical conventions and Montreal protocol**, including Stockholm convention, Basel convention, Montreal protocol, Best Available Techniques (BAT) / Best Environmental Practices (BEP), PSB elimination technologies, remediation of contaminated sites.
- 9. Management of risks and emergencies, and international environmental standards in trade**, including issues in the management of environmental risks, issues in emergency preparedness and response, multilateral and bilateral standards (product standards, process standards, system standards), shelf/private standards.
- 10. Green industry and corporate social responsibility, including** definitions, CSR purpose and objectives, key mechanisms, interlinkages with CSR, case studies, exercise to identify green industry values for CSR strategies.