

UNIDO and CEU Summer University Joint Summer Course on

GREEN INDUSTRY: MOVING TOWARDS THE INDUSTRY OF THE FUTURE

Course contents

Module 1 – distance learning on-line course (March-April 2012) addressing theoretical basics and practical aspects of the topics to be addressed in Module 2.

Module 2 – in-residence course at Central European University, June 25 – July 6, 2012

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.