

Project Proposal:
EUROPEAN MASTER ON ECOEFFICIENCY

Motivation:

The EU is committed to reducing its overall emissions to at least 20%, to increasing the share of renewables in the energy mix to 20%, and to cut the overall energy consumption by another 20% below 1990 levels by 2020. It is a fact that renewable energies are experiencing in Europe in the last years an important growth driven by favourable policies, financing, promotion and professional training. So the EU target set on renewable energies will likely be easily achieved. However, reducing the energy consumption by 20% requires a global and ambitious effort on energy efficiency. As opposed to renewable energies, where important investments are required, the key factor for energy efficiency is especially an appropriate training in the field. Hence, promotion is needed in order to disseminate efficient technologies and practices to companies and stakeholders in general as well as encourage a strong program for courses on specialisation in energy efficiency techniques and, in general, develop strategies for knowledge transfer.

An effective way to promote the training of professionals in the energy efficiency sector is through the establishment of specialized master programs run by networks of European Universities with the collaboration of companies and research centres.

Starting from a well established network of European universities, municipalities, companies and research centres specialized in the field assures the success of the initiative. This is why Prepare is a very suitable network for promoting such a master's program.

Short description:

The project proposal is aimed at filling the knowledge gap on energy efficiency of professionals through the organization of a specialized master course in different European Universities. The master should cover different disciplines having all the same objective: reducing the energy and materials consumption of products and processes.

The master program should satisfy Bologna requirements (official master). The overarching aim of the Bologna Process is to create a European Higher Education Area (EHEA) based on international cooperation and academic exchange that is attractive to European students and staff as well as to students and staff from other parts of the world. The envisaged European Higher Education Area will

- facilitate mobility of students, graduates and higher education staff;
- prepare students for their future careers and for life as active citizens in democratic societies, and support their personal development;

- offer broad access to high-quality higher education, based on democratic principles and academic freedom.

Fully in line with Bologna's requirements, the European master on Ecoefficiency proposed will likely have the following features:

Objectives: Train post-graduate students to fill the gap between the growing industry demand for specialised energy efficiency expertise and the skills available in the job market.

Target students: Directed towards engineers wanting to specialise in any of the following disciplines: sustainable consumption and production, ecodesign and ecoinnovation, industrial ecology, energy efficiency in thermal systems, energy efficiency in electric systems, bioclimatic architecture.

Teaching method: on-site. An associated on-line or semi on-line master program can be eventually discussed.

Duration: 1.5 academic years (120 ECTS).

Place: different European Universities depending on the subjects chosen. At the end of the master, the student should have studied in at least 2 different Universities or research centres.

Official language: English for all specialization sections and the language of each country hosting the core and master thesis section.

Structure: 3 parts: core, specialization and master thesis in a company or research centre.

- **Core section:** first part of the master. Overview of all subjects covering the master on Ecoefficiency. The duration will be 1 semester and it will be offered by different European Universities simultaneously in their own language. The subjects covered can be initially the following:
 - Sustainable consumption and production
 - Social Responsibility
 - Energy efficiency in thermal systems and cogeneration
 - Energy efficiency in electric systems and automation
 - Industrial Ecology
 - Ecodesign and Ecoinnovation
 - Bioclimatic Architecture
- **Specialization section:** second part of the master. Specialization in one of the subjects seen in the core section. The duration will be 1 semester (following the core section). The official language will be exclusively English. This part of the master will be offered by universities with demonstrated experience in the subject chosen.
- **Master thesis:** third part of the master. The project work takes place on the premises of a host company or a research centre inside or outside the European

Union. The language depends on the host company. Students will be assisted in finding a placement. Duration is 1 semester.

Coordination: The coordination of the master programme should be carried out preferably by an independent entity. The Prepare secretariat can be a good candidate for that purpose.

The structure proposed is based on the European Master in Renewable Energy which is successfully running since 2002.

Responsible persons of the project:

Dr. Alicia Valero/ Prof. Antonio Valero
Centre of Research for Energy Resources and Consumption (CIRCE)/ Universidad de Zaragoza
María de Luna, 3
50.011 Zaragoza
Spain
aliciavd@unizar.es

Dr. Rebeka Lukman
University of Maribor
Slomškov trg 15,
SI-2000 Maribor
Slovenia
rebeka.lukman@uni-mb.si

Lead partner:

CIRCE

Potential partners:

The following Universities/entities showed interest in the project at the Barcelona Prepare meeting:

Universities

- University of Zaragoza
- University of Aalborg
- National Technical University of Athens
- University of Skopje
- University of Belgrade
- University of Maribor
- University of Ostrava

Cleaner production centres:

- Centro de Actividad Regional para la Producción Limpia (Spain)
- Cleaner productin Centre in Serbia
- ...

Research centres:

- Laboratório Nacional de Energia e Ecologia - LNEG (Portugal)
- Ecodesign Centre of Wales (UK)
- Swiss Centre for Efficiency (Switzerland)
- Österreichisches Ökologie-Institut (Austria)
- Andalusian Institute of technology (Spain)

Companies:

- Prospektiker (Spain)

Funding scheme:

For the organization of the master's program as well as for the coordination activities among partners and the development of the materials required for the course, the aim is to apply for European funding. The following calls have been selected as suitable candidates:

- Tempus is the European Union's programme which supports the modernisation of higher education in the Partner Countries of Eastern Europe, Central Asia, the Western Balkans and the Mediterranean region, mainly through university cooperation projects.

Time frame:

1. Wait for the call to be published (at the end of Nov)
2. 31 Dec 2009 – a draft proposal
3. 15 Jan 2009 – closing the partnership for the project
4. 15 Jan till end of April 2010 – writing a project proposal and collecting required documents (writing commitments, etc.)
5. Deadline: end of April

Additional information:

The title of the master as well as its final structure are initial proposals. They can be modified according to suggestions from partners.

Next steps and responsibilities:

A letter of interest (see Annex) should be sent to Alicia Valero and Rebeka Lukman by January 10 2010.