

SOLAR ENERGY AND OTHER RENEWABLE ENERGY SYSTEMS IN BUILDINGS

Presentation

Energy policy is particularly important in the European Union's (EU) sustainable development strategy. The main objective of the EU energy strategy is to ensure the uninterrupted physical availability of energy products on the market at an affordable price for all consumers, whilst respecting environmental concerns and looking towards sustainable development. With regard to energy supply, priority should be given to the action to combat global warming, notably by promoting new renewable energy sources (RES). The EU target is the fulfilment of 20% RES-share in the overall energy production by 2020.

At present, 40% of the energy consumption within the EU corresponds to the residential sector, buildings being the single largest consumer. So, it is clear that buildings will have an impact on long-term energy consumption, and that new buildings should therefore meet minimum energy performance requirements tailored to the local climate

Intelligent Energy – Europe is an EU programme for the promotion of energy efficiency and renewable energy sources. It helps all of us to produce and use energy in more intelligent ways and to increase the use of renewable energy sources. The ‘Novel and Integrated Model of Sustainable Energy Communities’, NIMSEC project, is a granted project of the Intelligent Energy – Europe Programme. It is centred on improving and surpassing the *local level* energy efficiency, and increasing the overall share of renewable energy production. This will be achieved through a series of broad, sequential, and all encompassing actions aimed at creating a novel, pro-active and broadly supported type of *Sustainable Energy Communities*

The University of Burgos (Spain), as a partner of the project, is involved in a relevant novelty of the project, that is, the development and organization of an international engineering and technician training programme in RES in buildings. This program will use a web-based learning environment to teach an open course on solar energy and other renewable energy systems in buildings.

Objectives

The University of Burgos presents a specialized course on SOLAR ENERGY AND OTHER RENEWABLE ENERGY SYSTEMS IN BUILDINGS, in two levels A and B, with the aim of training architects, engineers and technicians who wish to become skilled RES technicians.

The expected outcomes are that the attendants, at the end of the course, would be able to:

- Understand the main role that the renewable energy sources play in the present energy use in buildings context
- Design and manage solar energy and other renewable energy systems for buildings

Program of contents.

Modules	UBUcampus-e Contact hours Hours A/B	Personal work Hours A/B	Total Level A	Total Level B	Weeks (estimation)
Energy Systems in Buildings & Energy	5/3	20/12	25	15	3
Solar Radiation	5/2	20/8	25	10	3
Solar Energy Systems	5/3	20/12	25	15	3
Other renewable energies in buildings (geothermal, biomass, etc.)	5/2	20/8	25	10	3
Total	20/10	80/40	100	50	12

Methodology and assessment.

The course will be taught through the web-based environment of the University of Burgos for distance teaching, *UBUcampus-e*. This virtual platform allows the delivery of electronic textbooks and documents, engineering software tools, simulations, animations, questionnaires and exercises.

Accordingly with the outcomes mentioned above, the main assessment of the course relies on the realization of exercises and the final project, which will show if the attendants have become skilled RES technicians.

Organization and Financing

Universidad de Burgos
Department of Electromechanical Engineering



European Union
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Other Partners

The course will also be carried out in cooperation with some European energy agencies, so please contact them for further issues and queries on how to register for participation in the course:

Local Energy Agency of Pomurje (SI)

lea.pomurje@lea-pomurje.si

Contact person: Mr. Bojan Vogrinčič



Regional Development Agency Medimurje (HR)

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Contact person: Mr. Ivan Plačko



Energy and Sustainability Foundation Province of Cadiz (ES)

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Contact person: Mrs. Isabel Rodriguez Fernandez



Regional Energy Agency of Pazardjik (BG)

reapazar@mbox.contact.bg

Contact person: Mr. Georgi Simeonov



SOLAR ENERGY AND OTHER RENEWABLE ENERGY SYSTEMS IN BUILDINGS REGISTRATION

EDITION	DURATION	DELIVERY OF THE COURSE	ENTRY REQUIREMENTS	INFORMATION
Level A 2009-10	100 hours	February 2010 to June 2010	Engineer, Architect, BSc or equivalent degree	http://www.nimsec.info Universidad de Burgos Department de Electromechanical Engineering emontero@ubu.es
Level B 2009-10	50 hours	February 2010 to June 2010	Technician	