JELARE

Joint European-Latin American Universities Renewable Energy Project

Newsletter 4/2010

Welcome to the fourth newsletter of JELARE

In this edition, you can learn about the past and forthcoming activities of the JELARE project, such as workshops in Bolivia, Brazil and Guatemala and the two JELARE pilot modules on E-Learning and Technology Transfer for Rural Electrification. Moreover, we invite you to note the dates for forthcoming public seminars in Guatemala and Germany.

About the JELARE project

JELARE is a co-operation project involving universities from Bolivia, Brazil, Chile, Germany, Guatemala and Latvia, funded by the EU programme ALFA III. The aim of JELARE is to foster innovative labour market-oriented educational and research approaches in the field of renewable energies at Latin American and European institutes of higher education.

Fostering Innovative Labour Market-Oriented Educational and Research Approaches in the Field of Renewable Energy at Latin American and European Institutes of Higher Education.

"E-Learning: Sustainability, Environment and Renewable Energy, a Multinational Training Pilot Module at the Postgraduate Level" Generated by JELARE Partners

Background: for one week from 4 to 10 July 2010, JELARE project university partners from Bolivia, Brazil, Guatemala and Latvia met in Florianópolis, Brazil. The agenda addressed the need to define the characteristics of an e-learning program that could include topics related to the subjects mentioned in the title. The conclusion was that a pilot module would be jointly implemented due to the scarcity of programmes at the postgraduate level in all countries.

Characteristics: The curriculum needs to be modernised by introducing an increasingly multidisciplinary perspective. The general objective of the postgraduate degree in "Sustainability, Environment and Renewable Energy" is to increase the capabilities of partner universities in virtual education and to implement the selected subjects in a postgraduate study programme at these universities, and at other educational institutions for which individuals may enrol. Specific objectives: to implement this program and conduct an evaluation of the first year to potentially expand it to a Master's degree programme. Expected outputs: develop a joint collaborative program and 13 online courses, with at least 30 graduates at the postgraduate level. Programmed courses include the following subjects according to modules – Sustainability: Sociology of Development, Environment and Sustainable Development, and Planning of the Energy Mix. Environment: Environmental Management and Impact Evaluation, Policies and Regulations for Energy, Environment and Energy, and Environmental Economics. Renewable Energy: Solar, Hydro, Biomass and Wind Energy, one course for each subject, Energy Efficiency and

Renewable Energy, and Renewable Energy Project Management. And for all subjects: Research Methodology. The programme will consist of 390 hours, and 26 credits will be granted for this effort. A calendar has been specified, a division of labour has been agreed upon, and efforts will be made to start the programme by 1 July 2011.

Policy and Regulatory Frameworks for Rural Electrification with Renewable Energy – Bolivian-German Cooperation

The general objective of the pilot project "Technology Transfer" is to develop and implement a technology and knowledge transfer concept for rural electrification with renewable energy, and build capacities for labour market-oriented education and research in renewable energies for rural electrification at participating universities.

The four Latin American universities in the JELARE project are cooperating on the expansion of a comparative study on "Policy and Regulatory Frameworks for Rural Electrification with Renewable Energies in Latin America". This component of the pilot project implies that national studies, which act as the foundation for policy comparison, have been conducted in each of the four countries.

Furthermore, the German and Bolivian JELARE teams are working together on the implementation of a Renewable Energy Technologies Development Centre, which will be implemented concurrently at the Rural Academic Unit of the Bolivian Catholic University in Batallas and the Hamburg University of Applied Sciences. In Germany, the centre will primarily act as a laboratory for students who are interested in off-

grid renewable energy solutions. In Bolivia, the objective is to transfer knowledge of these technologies to the rural areas, with the Rural Academic Unit in Batallas acting as intermediary. The centre will be used to educate students at this rural university, which will be home to a new course of study on renewable energy solutions; it will also serve as the centre for providing capacity-building seminars for municipal technicians, rural teachers and other stakeholders from remote areas. Finally, it will be used to introduce people from the surrounding rural communities to these technologies, which can bring electricity, warm water and (bio)gas for cooking to their homes. The demonstration centre will include a solar home system, wind generator, solar-powered refrigerator, wind-powered water pump, solar thermal system, biogas system, solar dryer, efficient cooking stove and additional equipment, such as a densimeter and multimeter.

Two capacity-building seminars on the use, operation and maintenance of photovoltaic systems will be carried out as a part of the pilot project. The participants will be primarily municipal technicians. In November, a networking seminar on "Solar Photovoltaic Electrification in Bolivia and in the World" will also be held during the German pilot project partner's trip to Bolivia.

News from partners

JELARE Workshop for Integration in the German-Brazilian Year of Science, Technology and Innovation

The JELARE seminar on the German-Brazilian year of science, technology and innovation was held in Florianopolis on 5 July 2010. The seminar was an initiative of the JELARE project whose aim was to encourage the transfer of knowledge and technology between Brazil and Germany in the field of renewable energy, and encourage partnerships between universities and organisations in these countries.

The seminar was opened by Professor Claus-Dieter Wacker, Dean of the Hamburg University of Applied Sciences (HAW). Professor Youssef Ahmad Youssef, JELARE supervisor at the Universidade do Sul de Santa Catarina (UNISUL) Brazil, presented an analysis of the energy sector in Brazil. Professor Walter Leal from the Hamburg University of Applied Sciences (HAW) in Germany, general supervisor of the project, provided an overview of renewable energy in Germany, noting that the increased demand for renewable energy has occurred both for environmental and economic reasons. He stressed that the gradual replacement of fossil fuels with other fuels from renewable raw materials

has already generated savings of EUR 500 billion. "The initial cost should not deter actions because the return in the medium term and long term is worth it," the professor argued.

Three professors from UNISUL presented research in the biofuel field: Professor Anelise Leal Vieira Cubas (UNISUL) presented the technologies needed to develop a thermal plasma reactor – and its use for the disposal of solid waste.

When it comes to ethanol, Professor Rachel Faverzani Magnago highlighted the importance of developing technologies for process improvement. "When the government support programme began about two decades ago, a ton of sugarcane produced 50 litres of biofuel. Today, the same amount of raw materials yields 80 litres, with investments made in recent years to develop new procedures and innovations in agriculture and industrial processes".

Professor Elisa Moecke spoke about her research on biodiesel, which resulted in UNISUL's construction of the pilot plant on "Pinheira beach" in Palhoça to transform waste oil into fuel for fishing boats. Professor Ulrike Arens-Azevedo (HAW) presented the status of research at the Faculty of Life Sciences at the Hamburg University of Applied Sciences (HAW).

The seminar was facilitated by Professor Baltazar de Andrade Guerra (JELARE/UNISUL). Professor Jucimara Roesler, Dean of UNISUL Virtual, closed the seminar, which was transmitted online and watched by more than 300 people via the Internet.

Streaming of the complete seminar is available at:
http://unisul.streambrasil.com/ONDEMAND-UV/unisul_sv_050710.html

Guatemala City: EURO EXPO 2010 a joint event between the European Union and Central American Countries supported by JELARE Guatemala

Objectives of EURO EXPO 2010: The global objective of this event was to energise the economy, employment, markets, foreign investment and competition among countries in the European Union and Central America (Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua). In particular, activities were geared towards establishing a specialised international fair in the region which could support commercial firms that are in a position to take advantage of the opportunities created by the association between Central America and the European Union Agreement.

Activities: The event was held from 27 May to 3 June 2010, concurrently showing an open exposition of products and catalogues, international seminars, workshops, panels/forums and dissemination of successful trade experiences together with business round tables where exporters, importers and investors could meet and close deals.

JELARE contribution: Before the event took place, the organisers, the Guatemalan-German Chamber of Commerce and the Association of Guatemalan Exporters, invited Galileo University and the JELARE Director, Nelson Amaro, Ph.D., to the EURO EXPO Board of Advisers. Four meetings were held where the people responsible for different activities described their goals, and the board on which the European Union was also represented offered suggestions in order to achieve better collaboration or improve these plans. Dr Amaro was also invited to the forum on "Market Development of Renewable Energy: Challenges and Opportunities" on 1 May, where the Minister of Energy and Mines, and representatives from various related organisations, held a discussion and took questions from the audience. About 300 people attended the event. Dr Amaro presented a summary of findings gathered from the 2009 JELARE surveys, which were then published in the book "Study of Renewable Energy and the Labour Market among Universities and the Public and Private Sector in Guatemala".

Bolivia: Capacity Building Seminar on the Modelling Program LEAP

On 2 and 3 September, the Bolivian Catholic University held a capacity-building seminar – "Long-range energy alternatives planning system" – on the modelling program LEAP, a software which allows users to analyse and evaluate energy policies and climate change mitigation

measures as well as other energy-related scenarios, measuring their scope and impact over the medium term and long term. The capacity building was provided for the staff of the Institute of Socio-Economic Studies (IISEC) to contribute to their research activities in energy economics and energy planning.

Forthcoming events

Guatemala City, Guatemala: The Third Convention on Renewable Energy
16 – 18 November 2010

This event consists of panels, round tables, conferences and open expositions on different industrial and institutional renewable energy activities in Guatemala and announcements of future joint collaborations between the Institute of Research and Development on Renewable Sources at the Galileo University, the JELARE project and different firms and institutions in the private, government and nongovernmental sectors.

Contact for more information/ registration: Dr. Cyrano Ruiz, **cyrano@galileo.edu** and Dr. Nelson Amaro, **nelsonamaro@galileo.edu**

Hamburg, Germany: 4th Life Science Colloquium: Energetic Use of Biomass
31 March 2011
9:00 a.m. – 2:00 p.m.

This seminar presents the latest technological developments for generating electrical power and heat from biomass, as well as funding opportunities for research and development in this sector. The seminar will be held in German.

Contact for more information/ registration: Julia Gottwald, **jelare@haw-hamburg.de; www.ls-kolloquium.de**

JELARE Network

The purpose of the JELARE Network is to promote European – Latin American networking and exchange of experiences in employment, research and education in the field of renewable energy within and also beyond the JELARE project partnership. To date, the JELARE network has 180 members from EU and Latin American organisations, such as enterprises, NGOs, ministries, local authorities, universities.

Please register for free JELARE Network membership at **http://www.jelare-project.eu/network.html**

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