



sunflower

energy | innovation | development

project newsletter

Issue 2

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Working Towards Sustainable Energy Communities Throughout Europe

With the Support of

A project coordinated by Câmara Municipal de Moura (Alentejo Region, Portugal)

Intelligent Energy



Europe

The Sunflower Project is a European network of 8 partners. The aims of the project are the promotion, dissemination and implementation of good practice examples of Renewable Energy Sources and their contribution to Local Sustainable Development. Increase the ratio of popular involvement in the project and thus start a long and durable community energy vision in line with European energy climate targets.

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RES Training



Report from the training session held at Moura, Portugal in February 2010

22nd February

The session began with the welcoming speech of the Mayor of Moura, José Pós-de-Mina that greeted the students and enhanced the importance of the SUNFLOWER project and of this training in particular.

António Martins presented the SUNFLOWER project, emphasizing its main objectives.

Sandrina Pereira presented the objective of the training and exposed the sessions that would take place that week.

Maria Basílio, from the Polytechnic Institute of Beja, presented the fundamentals of a business plan and provided a budgeted balance sheet and a budgeted income statement of a firm for the students to fill. This was very important to involve the students in the session and consolidate their knowledge. The students were very participant and all tried to solve the exercise exposing questions when they had any doubt.

23rd February

This day was filled with the lecture from Fernando Teixeira, from the Polytechnic Institute of Beja.

24th February

This day started with a visit to the Alqueva's hydroelectric power station and dam.

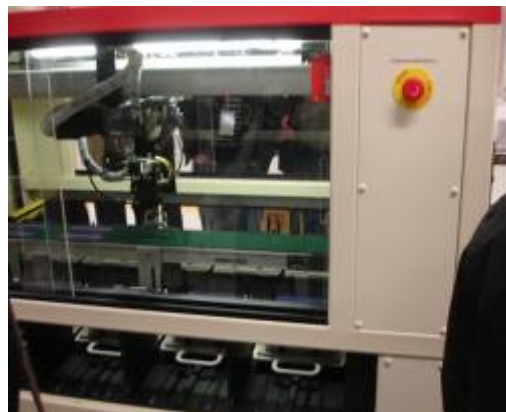


In the afternoon, Raquel Segurado and Sandrina Pereira presented a short introduction to renewable energy sources (RES), where they talked about energy in the past, in the recent past, in the present and in the future. They focused on the energy problem, namely global warming due to energy production related greenhouse emissions and the limitation of fossil fuel reserves. Then, they defined RES and presented it as a potential solution to this problem. They finished with an overview of the European strategy for energy and climate change, the current energy situation in Europe and the last available forecast for the next years until 2030.

Helena Ramos, from the Technical University of Lisbon, presented the fundamentals of hydroelectric energy, and talked more specifically about the use of hydro in water supply systems, referring to available energy assessment and micro-hydro in these systems and

pumped-storage optimization of hybrid (hydro-wind) renewable energy production. Helena Ramos was followed by three of her PhD students (Fábio Gonçalves, Mariana Simão and Oreste Fecarotta) that exposed their research in this area.

The day ended with a visit to the Moura Solar Factory, where the assembly of photovoltaic (PV) panels takes place and to the recently inaugurated Laboratory for the certification of PV modules.



25th February

In the morning there was a visit to the Amareleja Solar PV Power Plant.



The afternoon was divided into two sessions, one with Ana Estanqueiro about wind energy and the second with António Joyce concerning solar energy, both from the Portuguese National Laboratory on Energy and Geology.

In the first session, Ana Estanqueiro gave an overview of the fundamentals of wind energy, focusing on the technology and resource.

António Joyce session on solar energy started with an introduction to the theme, the solar energy resource, the technologies (solar thermal, solar photovoltaics and concentrated solar power), and ended stating future challenges of this type of energy.

26th February

This day started with a session with Mário Costa, from the Technical University of Lisbon, regarding biomass, starting with a bioenergy overview, going to biomass resources and bioenergy technologies.

Next, Susana Sobral, from the Regional Agency of Alentejo, talked about regional projects for biomass. She mentioned the ALTENER project "Planning the use of Biomass: evaluation of the biomass potential in three European regions: Alentejo (Portugal), Jaén (Spain), Como (Italy)" and a technical project for a pellet plant in Alentejo, with residues from olive and vineyards pruning residues.

In the afternoon, Susana Martins, from ADRIMAG (Association for Rural Development of the Montemuro, Arada and Gralheira Mountains) presented the project CRER (Business Creation Support Methodology) and the initiative ERASMUS for young entrepreneurs.

The last session of this training was dedicated to a roundtable, moderated by Luís Alves from Institute of Mechanical Engineering – IST, where the students could give their opinion regarding the training, if it was interesting, useful and to point out its positive and negative aspects. The students were also asked to mention their future prospects, if they intended to create a company and/or to develop work in the RES area.

This discussion aimed to assess what went right and wrong in this training in Moura, in order to replicate or solve the respective issues in time for the training in Sliven.

Some comments from the students .

- *Very satisfied with the contents of the training that he considered very comprehensible*
- *Learned a lot of things, but there were too much information*
- *Very interesting training;*
- *Opportunity to exchange views*
- *It was very useful to have a good overview of all of the technologies*
- *Wonderful opportunity;*
- *Shared experiences with other students – network*
- *Very nice experience;*
- *Very good academic point of view*
- *Very interesting course;*

Final Remarks

The main conclusions were that the students liked the training and were grateful for the opportunity to form a network among them, but they missed the opportunity to discuss with entrepreneurs.

The students were informed that the professors present in this training, as well as the people from the organisation, are available to stay in touch and respond to any doubts they might have. They were also told that they can have access to the presentations that will be given in the training in Sliven in July.

Participants names and country

Vitor Machado PT, Rita Paleta PT, Nuno Teixeira PT, José Miguel Martins PT, João Rodrigues PT, João Fonseca PT, João Figueiredo PT, Filipe Coelho PT, David Maloney UK, Christopher Pye UK, Susann Klatte UK, Jayne Carrick UK, Neven Krustev BG, Vesselin Chobanov BG, Ivan Aleksiev Karavelov BG, Elitsa Nancheva Naneva BG, Radek Sedlačik CZ, Jan Vidomus CZ, Petra Nezdarová CZ, Robert Krainer CZ, Zahi Dib FR, Chibunna Onyems Igwe FR, George Wandrille FR, Arnaud Goussebaile FR, Ander Badiola ES, Michelangelo Serra IT, Armando Riccardo Gaeta IT, Lavinia Di Francesco IT, Harry Stulemeijer NL, António Gato PT, Alexandra Raposo PT, José Nobre PT, Miguel Relva PT, Valter Rodrigues PT, Pedro Martins PT.

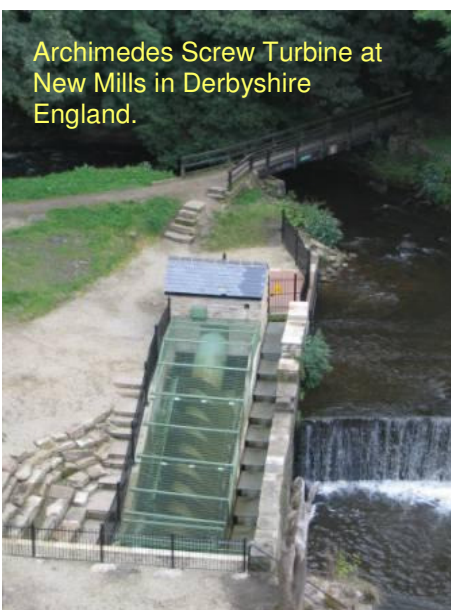
The first 28 attendees correspond to the one selected and financed by the SUNFLOWER project partners. The next 7 attendees came to the training at their own expense.

Esk Energy Community Hydro Scheme



Esk Energy are an independent group of local resident supported by the North York Moors National Park Authority's Community Renewable Energy Project . The aims of the group are to help Esk Valley communities become more energy efficient and reduce their carbon dioxide emissions, also to help individuals to adopt responsible and sustainable energy practices, namely energy conservation, energy efficiency and renewable energy technologies, thereby improving the social, economic and environmental welfare of the community.

One of their ideas is to generate electricity using the power of the River Esk at Ruswarp Weir without detriment to the visual attractiveness of the area or the local wildlife. Esk Energy hope to install a 50kW Archimedes Screw type turbines on the south side of the River Esk adjacent to the existing fish pass. The turbine would generate 50kW of green electricity, which would be sold via the local electricity network. Any profits made by the scheme would be ploughed back into energy projects in the North York Moors.



Archimedes Screw Turbine at New Mills in Derbyshire England.

The Archimedes Screw turbine has been chosen for this site for a number of reasons. It is the most efficient turbine for the site given the flow regime in the area with periods of little flow and times of significant flow when the river floods. The turbine is very robust and capable of dealing with the onslaught of trees in the river during floods. Small logs, trees and rubbish can pass safely through the turbine without damaging it and as a result expensive screening can be omitted. Through rigorous testing the turbine has been shown to be fish friendly.

All the licences and permissions are now in place for this project. The Environment Agency have spent money on equipment for the fish monitoring. The EA are treating this site as a national test case and are now aiming to work differently to accommodate the current and foreseeable surge in interest in hydro power and have released national maps showing hydro power potential.

Esk Energy together with the CREP team and NP external funding officer are looking at funding options to ensure this project goes ahead.

Opening Of BTEK On 9th June



The Lehendakari Patxi López has officially opened BTEK, the Technology Interpretation Centre at Bizkaia Technology Park.

- The official opening of BTEK is the first official function to take place on the 25th anniversary of Bizkaia Technology Park.
- Also present at the ceremony, with the Lehendakari, were the Secretary of State for Education, the Councillor for Industry, Innovation, Trade and Tourism, the Chairman of the Network of Technology Parks in the Basque Country, the Director of Bizkaia Technology Park and the Director of BTEK, among others.
- With the objective of promoting Technology among young people, BTEK uses an exhibition space divided into different Subject Areas.
- The building consists of two pyramid-shaped volumes and has already received several architectural awards.
- Bizkaia Technology Park has invested 11 million Euros on the construction of the building and the development of the content.



SPACES OF THE TECHNOLOGY INTERPRETATION CENTRE AT BIZKAIA TECHNOLOGY PARK

Innovation Kiosk



Communication and publication of the latest scientific and technological advances. This is also a space for the interchange of information between different parties.

The network and the digital world



A new era, Digital World, Black boxes, Digital Technology in each corner, the Threads of the Network, Network Users and Alone or in Company? are the modules in this space.

Your home today and tomorrow



On the one hand, this space experiments with sustainability at home and on the other with new and innovative technologies in the home. Technology for the home, New materials, Technology ¡chup!, ¡chup! BTEK giving off sparks are the modules in this space.

Opening Of BTEK On 9th June



Full steam ahead! Other worlds around us



This corner is formed of modules relating to nanotechnology and biotechnology; in addition it has another space in which it analyses sustainability from the technological point of view. Smaller than small, Nanotechnology, Biotechnology, Robotics and Sustainability are the main modules.

L@btek



In the laboratory-workshop there are workshops relating to the subject areas on exhibition at BTEK, including robotics, biotechnology, nanotechnology, materials....activities which cannot be carried out in schools or which may complement the activities at schools.

THE BUILDING



The BTEK building is the work of the architect Gonzalo Carro (ACXT), who designed it as a landmark in the landscape, using two pyramid-shaped volumes, separated on the outside, but joined together below the ground. To date, this singular and original building has already received several awards:

Arch Daily Best Cultural Building in 2009

Architecture Platform. Building of the Year 2009.

AR Awards 2009- Mention of honour

VIII Sao Paulo Biennial of Architecture 2009- Honour mention.

LAMP 2010 First prize for best exterior lighting

Finalist in the COAVN 2010 award.

Finalist in the NAN 2009 award.

Extracts from a Press release issued by Bizkaia Technology Park for the Official Opening of BTEK on 9 June 2010.

Further details about the Sunflower project can be found on the Sunflower Website

www.sunflowerproject.eu



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