



Opere Project

INTERESTING FACTS

Life + Programme
Environment and Governance
Policy

Total Budget: 1.190.479 Euro

Duration of the Project: 42
meses

July 2013-December 2016

PARTNERS

University of Santiago de
Compostela (Lider)

EnergyLab

www.life-opere.org



The Project is financed by the
European Community's Financial
Instrument for Environment LIFE

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1 THE PROJECT

OPERE Project, co-financed by the European Programme Life +, started last year in July with the main objective of minimizing the energy management in high energy consumption facilities.

The Project is coordinated by the University of Santiago de Compostela (USC), in cooperation with the Technology CentreEnergyLab.

The Monte de la Condesa Complex, located in the Campus Vida of the USC was selected as pilot plant for the implementation of the project. It comprises the facilities of the Faculty of Optics, Faculty of Physics, the University Residence of Monte de la Condesa and the Institute of Orthopaedics. In addition, one of the three cogeneration plants providing heat and electricity to the entire campus and which is located within the above mentioned complex is also included in the scope of the project.

Monte de la Condesa building was initially designed and built as a Maternal and Child Hospital and was subsequently assigned to the University. Due to the large size of the building, it was allocated to various uses and therefore each of its facilities has its own energy demands. About 25.000m² from the entire building, distributed in six floors, ground floor and basement are the target of the study.

Throughout the following actions, the project aims to reduce the environmental impact derived from the high energy consumption of the USC as well as its costs:

1. Preparatory Actions: Carrying out energy audits with the aim of assessing the status of the energy system in the pilot plant, identification and evaluation of the best options for energy improvement and application for the necessary permits in order to undertake such improvements.
2. Implementation Actions: These actions include the development of the engineering projects, installation of the new equipment and systems and their start up. In addition, the results obtained with the new system will be analysed in order to evaluate the results and the system will be optimized.
3. Actions for the Monitoring of the Impact of the Project: Monitoring of certain environmental and socioeconomic parameters when finalizing the project with the aim of measuring and assessing the impact achieved after its implementation.



4. **Communication Actions:** These actions have the aim of disseminating and spreading the project, its objectives, results and possibilities of replication in other facilities. These actions are implemented by the creation of the web site, social media, brochures, information panels and other elements.
5. **Management Actions:** These actions are carried out in order to ensure that the development of the project is running as planned and that the objectives and terms set up at the beginning of the project are met. Management tools will be developed for that purpose, as well the organization of periodic meetings and the monitoring of the established indicators.

The project duration is 42 months and the ending date is on December 2016. The expected results from the implementation of the project are the following ones:

- Obtaining a model of an efficient energy system which can be implemented in other facilities
- Reduction of the energy consumption
- Reduction of the pollution emissions
- Obtaining a cost benefit analysis on the implementation of the energy efficiency measures
- Achievement of a relevant socioeconomic and environmental impact

2 PARTNERS



The University of Santiago de Compostela, with more than five hundred years of existence, is constituted by two campus placed in two of the main cities in Galicia: Santiago de Compostela and Lugo. The academic offering of the University includes 63 official university degrees plus three degrees of its own. Likewise it offers a wide range of official masters and doctorate programmes. Every year the University has around 30,000 students, more than 2,000 teachers as well as the management staff, consisting of about 1,200 people.

University facilities occupy a total of over one million square meters and have 82 buildings. With the aim of assessing energetic problems existing in the various buildings of the USC, during the year 2000 the Plan for Energy Optimization which aims to manage the control and power supply systems in an optimized and environmentally friendly through the application of new technologies starts.



The Human Resources team from the USC participating in the OPERE Project is mainly integrated by:

- Researchers from the Technological Research Institute
- Researchers from the Information Technology Research Centre
- Technicians from the Infrastructure Area
- Technicians from the Energy and Sustainability Unit
- Technicians from the Research and Innovation Vice-rectorate
- Staff specifically hired for the development of the project

<http://www.usc.es>



EnergyLab is a technological centre specialized in energy efficiency and sustainability. It was established in 2008 as a non-profit private foundation nucleated around private and public institutions.

Its mission involves identification, developing, promoting and spreading technologies, processes, products and consumption habits contributing to the improvement of energy efficiency and sustainability through its applications in the industry, household products, transport and building.

EnergyLab makes a commitment to technology in relation with building, mobility, alternative energy and industry, by offering energy efficiency and sustainability oriented services as well as participating in R+D+ i demonstration projects. Finally, it is also carrying out an important activity within the scope of training and dissemination targeted to different sectors related with energy efficiency and sustainability.

<http://www.energylab.es>

3 OPENING EVENT



Last Thursday 20th of March the meeting for the presentation of the LIFE OPERE Project on energy efficiency in the Faculty of Mathematics of the University of Santiago de Compostela was celebrated.

56 people from businesses associations, universities, private companies, public administrations as well as self-employed from the field of the project sector participated in the meeting.



The Technical Workshop was opened by the Research Vice-rector, Francisco González and the General Director of EnergyLab, Rocío Fernández. After the opening, four presentations on technical aspects of the project were given and as a conclusion a round table on Performing Savings and Energy Efficiency in



commercial buildings in which several experts of the sector were participating was organized.

The Workshop was very useful to publicize the OPERE project among different agencies and members of the field of energy efficiency as well as people from the academic domain.

For more information:

<http://www.life-opere.org/en/events/introduction-opere-life-program-energy-efficiency-actions-university-santiago>

4 CONCLUSION FOR THE FIRST PHASE

The first phase of the Project, which consisted of conducting an energy audit in the Monte da Condesa facilities, is completed and the established objectives have been successfully met.

The specific activities undertaken were:

- A.1.1. Characterization of the facilities. This activity consisted in an initial analysis through an exhaustive review of all the available documentary information provided by the staff from the USC involved in the project, on the segmentation of the electrical infrastructures and the air conditioning of the building in order to justify the actual status of the facilities and the modifications applied on the original documentation available from the segmentation of the different centres by technical inspections and audits on site.
- A.1.2. Characterization of the uses and users. During this phase, a series of interviews and surveys to the staff involved in the operation of the centres with responsibility for air conditioning and lighting services were performed in order to analyze habits and behavioural patterns, which allowed to identify: the main uses of spaces for each service, exceptional uses, missed areas, habits of users with negative impact on consumption as well as to identify errors in the management of air conditioning and lighting services and other sources of consumption in each of the centres.
- A.1.3. Characterization of the complex. At this stage the main campus building typologies were identified and a detailed study of the cladding and insulation level in each of the different sites based on visual inspection during the technical visit, as well as the technical documentation provided by the USC was conducted. Along with this assessment of the



exterior walls, a thermal study by thermal images of those most sensitive areas to generate energy losses by the current state of their insulation and aging infrastructure was performed.

The next activity will consist in developing a proposal for energy efficiency improvements which can be applied in the scope of the project.

5 CONTACT DATA

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