GOBIERNO DE ESPAÑA
MINISTERIO DE HACIENDA Y FUNCIÓN PÚBLICA
SECRETARIA DE ESTADO DE PRESUPUESTOS Y GASTOS
SECRETARIA GENERAL DE FONDOS EUROPEOS
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UNIÓN EUROPEA

Una manera de hacer Europa

BUENAS PRÁCTICAS
Actuaciones Cofinanciadas

Experimentation and testing of new technologies that use marine energy resources to generate electricity

The Oceanic Platform of the Canary Islands (PLOCAN)

Programa Operativo Plurirregional de España

Año 2022

Fondo Europeo de Desarrollo Regional

An electrical network to support experimentation and testing of new technologies that use marine energy resources to generate electricity and for the connection of technologies for observation at increasing depths (REDSUB).

The Oceanic Platform of the Canary Islands (PLOCAN) is a Singular Scientific-Technical Infrastructure (ICTS) managed by the PLOCAN Consortium, in which the Ministry of Science and Innovation and the Autonomous Community of the Canary Islands have a 50% share. Its main objective is to facilitate research, technological development and innovation in the marine-maritime field for the scientific and business community. It is included in the Map of Singular Scientific and Technical Infrastructures (ICTS) approved by the Council for Scientific, Technological and Innovation Policy on November 6, 2018.

PLOCAN consists of a test bed at sea, on the Northeast coast of the island of Gran Canaria, of 22 km2 of maritime-terrestrial public domain, declared by Agreement of the Council of Ministers, on March 14, 2014 as a reserve area in favor of the Ministry of Science and Innovation, entrusting its management to the PLOCAN Consortium. The present project consists of carrying out a series of activities ranging from the design, procurement and installation, to the commissioning, of an electrical and marine data network at the PLOCAN test bed. The objective is to evacuate the electrical energy generated in the test bed by the scientific-technical devices that will be installed to be tested for the development of alternative energies, and to deliver them to the transmission grid; as well as to transmit the data in real time for subsequent processing and analysis in a control center on land.

The overall budget of the project was 5,015,000 euros, of which FEDER contributes 4,262,750 euros from the funds allocated to the General Secretariat for Research, from the Pluri-regional Operational Program of Spain 2014-2020 for projects of construction, expansion, improvement, renovation, remodeling or replacement of Singular Scientific and Technical Infrastructures included in the current ICTS Map. This funding has been articulated through a collaboration agreement between the Ministry of Science and Innovation (MCIN) and the Consortium for the design, construction, equipment and operation of the Oceanic Platform of the Canary Islands (PLOCAN) signed on October 30, 2017.

It is considered a good practice because it meets the criteria designed for this purpose:

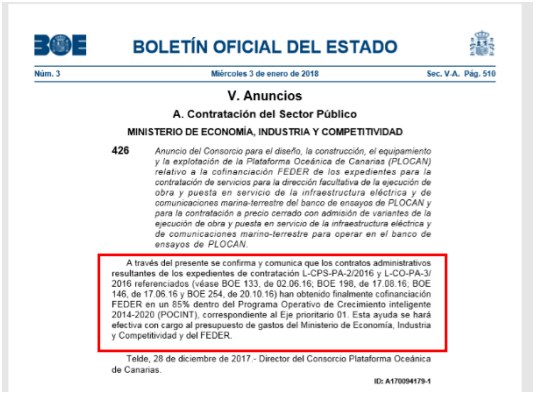
<u>1.- High dissemination among beneficiaries and the general public</u>

When the ICTS Map was approved, the MCIN:

- organized a meeting with the directors of all ICTS in which both the Deputy Director General and the Deputy Assistant Director General for Large Scientific-Technical Facilities of the MCIN informed of the existence of ERDF funds for the co-financing of ICTS.

- published a book on the update of the ICTS Map (Spanish and English) with the ERDF logo and slogan on its cover.

PLOCAN includes on its web page images proving the assistance received from the European Regional Development Fund:



BOLETÍN OFICIAL DEL ESTADO

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V. Anuncios

A. Contratación del Sector Público

MINISTERIO DE ECONOMÍA, INDUSTRIA Y COMPETITIVIDAD

426 *Anuncio del Consorcio para el diseño, la construcción, el equipamiento y la explotación de la Plataforma Oceánica de Canarias (PLOCAN) relativo a la cofinanciación FEDER de los expedientes para la contratación de servicios para la dirección facultativa de la ejecución de obra y puesta en servicio de la infraestructura eléctrica y de comunicaciones marina-terrestre del banco de ensayos de PLOCAN y para la contratación a precio cerrado con admisión de variantes de la ejecución de obra y puesta en servicio de la infraestructura eléctrica y de comunicaciones marino-terrestre para operar en el banco de ensayos de PLOCAN.*

A través del presente se confirma y comunica que los contratos administrativos resultantes de los expedientes de contratación L-CPS-PA-2/2016 y L-CO-PA-3/2016 referenciados (véase BOE 133, de 02.06.16; BOE 198, de 17.08.16; BOE 146, de 17.06.16 y BOE 254, de 20.10.16) han obtenido finalmente cofinanciación FEDER en un 85% dentro del Programa Operativo de Crecimiento inteligente 2014-2020 (POCINT), correspondiente al Eje prioritario 01. Esta ayuda se hará efectiva con cargo al presupuesto de gastos del Ministerio de Economía, Industria y Competitividad y del FEDER.

Telde, 28 de diciembre de 2017 - Director del Consorcio Plataforma Oceánica de Canarias.

ID: A170094179-1

Information on ERDF co-financing is included in all procurement documents.

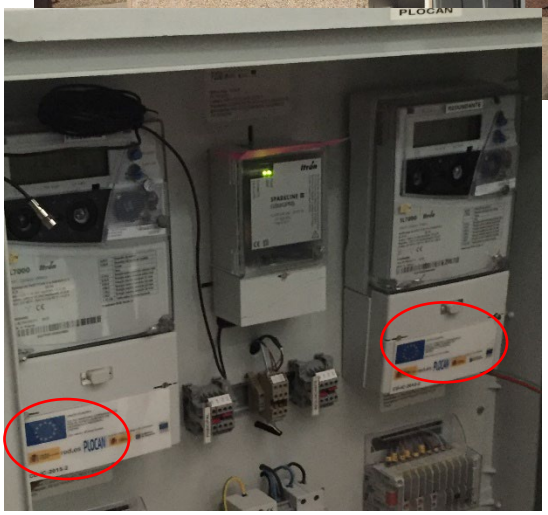
Video of the project on YouTube with images that prove the support received from the European Regional Development Fund:

Illuminated panels to publicize the project in places where the general public visit, with images showing the ERDF co-financing.

These photos belong to the exhibition located at the El Mirador Shopping Center in Las Palmas.

The exhibition includes a section of the submarine cabling installed in the REDSUB project.

Various signage at the different infrastructure sites of this action, with identification of ERDF co-financing:



2. The project incorporates innovative elements

The project has been an innovation in itself, with the installation of two submarine cables of 5MW and more than 4000 meters long, at a depth of 30 m, with all that this implies in terms of technical difficulties in a marine environment. In addition, a multitude of environmental studies have been carried out to guarantee zero impact on the environment in which the installation has been carried out.

3. Adequacy of the results obtained to the established objectives

The ultimate objective of this project was the implementation of a maritime-terrestrial electrical and data network for electricity generation and connection of marine energy resource technologies installed in the area of the PLOCAN Test Bench.

The objective has been fully achieved as the electrical and data network is now in service. On the one hand, the North cable is connected to the Platform's internal network, allowing connection to land and transmission of internal electrical status data, and on the other hand, the South cable is in service, connecting a marine wind turbine generating energy and evacuating it to the transport network, as stated in the project's objectives.

4. Contribution to the resolution of a problem or weakness detected in the territorial scope of execution

Marine renewable energies are a potential source of energy that can contribute to improve the reduced energy mix in Spain. In general, in the islands and particularly in the Canary Islands, the offshore wind and wave potential is adequate to consider its exploitation; however, the technologies necessary for this purpose are still in a stage of development that is not very mature, hoping that in the next ten years the sector will be able to start its commercial development. In this context, the present project was developed in the PLOCAN Test Bank to promote the R&D&I of new marine renewable energy technologies that use as primary energy that of waves, tides, currents or wind that require large potentials and/or depths. For the generation of electricity from the primary energy used, it is essential to have an Underwater Power Grid connected to the Transmission Grid that allows the connection of the experimental devices and the evacuation of the electricity generated in them during the tests of the different technologies. The proposed infrastructure allows the evacuation of up to 15MW of medium voltage power, distributed in several positions for the connection of wave converters and marine wind turbines.

5. High degree of coverage of the target population.

The PLOCAN Test Bench is one of the three international locations where most tests are performed. These test benches are considered fundamental for the correct development of these technologies, since it is the only way to test in real, operational and extreme conditions the behavior of the electrical systems that compose them. The availability of REDSUB eliminates obstacles and lowers the access threshold for research groups and SMEs to offshore energy production technologies, their arrival on the market or their socio-economic value, by substantially simplifying the requirements of all kinds needed to connect the production devices to the grid and radically simplifying the time required to do so.

On the other hand, society in general is a direct beneficiary of this project, in an average of 5000 homes and will also benefit from the reduction of CO2 discharges produced by the substitution of electricity production from fossil fuels both from the 15 MW installed in the test bed and what may be produced in the future as a result of the results of the research that will be carried out.

6. Consideration of the horizontal criteria of equal opportunities and non-discrimination, as well as social responsibility and environmental sustainability.

As stated in several national and international reports, one of the problems still to be faced and solved in the field of science and technology is the still considerable effect of gender bias. The work addressed in

this project falls within multiple scientific and engineering areas in which, at PLOCAN, a majority of women have worked; in fact, the technical manager of this project and head of the PLOCAN Test Bench is a woman engineer. On the other hand, PLOCAN's staff shows a fairly balanced distribution in relation to gender equality, with 56% men and 44% women.

Within the measures addressed in the context of PLOCAN's Corporate Social Responsibility, measures related to labor rights and policies are contemplated, including equality and work-life balance policies. In relation to environmental sustainability, measures related to the consumption of water, electricity, paper and other raw materials, the control of emissions and discharges, waste and its recycling, environmental management and biodiversity are adopted.

On the other hand, the possibilities of environmental studies in relation to the electrical installation of this project is a contribution to the reduction and improvement of the management of the environmental impact of the installations of electrical production from marine energies. During the execution of this project, exhaustive environmental studies have been carried out, including measurements of hydrodynamic conditions, underwater noise associated with the cable installation activities, as well as levels of electromagnetic fields associated with the same, monitoring of the presence of crustaceans in the cable installation area and the quality of the water and sediments.

7. Synergies with other policies or instruments of public intervention

Through the aid for the promotion of youth employment of the Youth Employment Program for aid from the European Social Fund, we contribute to the improvement of the employability of people over 16 and under 30 years of age in the activities developed in PLOCAN (underwater vehicles, management of oceanographic data infrastructures, dynamization of the blue economy, etc.). Other personnel programs with which synergies have been established have been: 2+2 training program, 0.5+2 training program and Grants for Technical Support Personnel contracts.

At the European and international level, PLOCAN establishes synergies through multiple public intervention instruments, by way of example:

- ILIAD is an EU-funded project aimed at developing and implementing virtual ocean models that provide highly accurate predictions of the future evolution of the global seas.

- AtlantECO, also funded by the EU, aims to determine the structure and function of the Atlantic microbiome in the context of ocean circulation and the presence of pollutants.

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