

Name of the Project/ Co-financed Action (Maximum 50 characters with spaces)	TESTING SYSTEM FOR LOW VOLTAGE WIND TURBINES
Short description (Maximum 1,500 characters with spaces)	<p>Project developed in the Zonzamas Integrated Vocational Training Centre in Lanzarote, by the students of training cycles of various professional categories, in the 2018-2019 academic year. The project was led by students in the 2nd year of a Higher Level Training Cycle in Renewable Energies of the Energy and Water Vocational Field.</p> <p>The project consists of a system for testing and checking low-voltage wind turbines by means of a three-phase motor, coupled by means of a belt to the wind turbine shaft, which allows it to rotate. With a programmable automaton and frequency variator, the wind turbine is operated at any speed. Therefore, it can operate the wind turbine with wind speed data obtained from a weather station or real wind data from an anemometer installed on the roof of the building.</p> <p>The project was developed in different phases:</p> <ul style="list-style-type: none"> ➤ 1st phase. Layout and installation of equipment. ➤ 2nd phase. Installation of security measures. ➤ 3rd phase. Installation of programmable automaton. ➤ 4th phase. Location.

Area of activity: (select one or more areas)	<input type="checkbox"/> Access to employment for the active and inactive population Gender equality and reconciling personal and family life and work <input type="checkbox"/> Mobility
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	<input type="checkbox"/> Sustainable integration of NEETs (Young people) <input type="checkbox"/> Entrepreneurship and business creation <input type="checkbox"/> Adaptation to change for companies <input type="checkbox"/> Adaptation to changes for employees <input type="checkbox"/> Active ageing <input type="checkbox"/> Reducing absenteeism and improving access to quality primary and secondary education X Tertiary education improvement, implementation and access <input type="checkbox"/> Lifelong learning <input type="checkbox"/> Integration of marginalised communities <input type="checkbox"/> Promoting social enterprises <input type="checkbox"/> Community-led development strategies <input type="checkbox"/> Improved access to social services <input type="checkbox"/> Active inclusion <input type="checkbox"/> Fighting discrimination <input type="checkbox"/> Modernising labour institutions and transnational mobility <input type="checkbox"/> Institutional capacity and efficiency of public administrations and services <input type="checkbox"/> Competence building for stakeholders <input type="checkbox"/> Sectoral and territorial pacts mobilising for reform <input type="checkbox"/> Low carbon economy <input type="checkbox"/> Digital diary <input type="checkbox"/> Research and development X Access to employment, entrepreneurship <input type="checkbox"/> SME Competitiveness
Specific objective within which the project is framed	Specific Objective 10.4.1. To increase participation in vocational and continuing education and training, especially for those who need to upgrade their skills and qualifications.
Date of implementation/ Duration	12 September 2018 - 12 June 2019/ 10 months.

ESF contribution	85%
Total Budget	15,183 €
Participants (Disaggregate by sex, if available)	8 men
Country	Spain
Organisation	Managing Centre: Directorate General for Vocational Training and Adult Education of the Canary Islands Government. Department of Education, Universities, Culture and Sports.
Web	https://www.gobiernodecanarias.org/educacion/web/programas_cofinanciados/fse-2014-2020/programa_regional_2014_2020/
Social Networks	
Video/s	
Contact Details	<p>Directorate General for Vocational Training and Adult Education.</p> <p>Department of Education, Universities, Culture and Sports.</p> <p>Address: C/. Granadera Canaria s/n. Las Palmas.</p> <p>ZIP CODE: 35002</p> <p>E-mail: fsefp.educacion@gobiernodecanarias.org</p> <p>Person in charge: Rosario Gañán Pérez. Director of Vocational Training and Adult Education</p>

JUSTIFICATION OF THE CRITERIA FOR BEING CONSIDERED GOOD PRACTICE

1. The action has been adequately disseminated to beneficiaries, potential beneficiaries and the general public.

- Poster:



- On the centre's website:

https://www.ieszonzamas.es/index.php?option=com_content&view=article&id=279:documentacion-fse-curso-2016-17&catid=56:docentes&Itemid=101

2. The action incorporates innovative elements.

The innovative character of this project lies in the development and improvement of the mini-wind energy sector, which refers to energy produced in a renewable manner by means of small wind turbines at low voltage.

The possibility of implementing mini-wind energy systems would be an important step forward, especially in areas such as the island of Lanzarote, as it would allow a renewable supply of electricity in isolated places far from the electricity grid, thus constituting a more than interesting alternative in the self-consumption market for homes, agricultural and livestock facilities or industrial estates.

3. Adequacy of the results obtained to the established objectives.

The results obtained were in line with the initially proposed objective, i.e. the installation and testing of low voltage wind turbines in real wind conditions. Furthermore, the results of the low voltage wind turbine testing system were remarkably adequate, being able to detect the correct operation of the installed wind turbines from inside the workshop, based on the real wind data measured by the anemometer installed on the roof of the workshop.

4. Contribution to the resolution of a problem or weakness detected in the territorial area of implementation.

The development of mini-wind energy (small wind turbines at low voltage) as a complement to photovoltaic installations presented some problems on the island of Lanzarote, mainly due to the irregularity of the local winds.

The implementation of systems of this type can help in the choice of the right wind turbine, as it allows to confirm the technical production characteristics and to compare different models of wind turbines under the same wind conditions.

With this type of project, one of the relevant objectives is to contribute to the training of qualified personnel in the professional field of renewable energies, a sector with a clear future projection in the Canary Islands and with a great impact on sustainable development.

5. High degree of coverage of the target population.

The students who attend this training cycle are mainly young people who are looking to enter a growing labour market such as the renewable energy sector.

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

Although it is a training cycle with a traditionally male presence, promoting employability, social inclusion and equality between men and women are part of the centre's objectives, offering them training for the future, with equal opportunities.

This project is a clear example of the commitment to sustainability, awareness of climate change and care for the environment, aspects that are well incorporated into the island's society because Lanzarote is a World Biosphere Reserve, among other things.

7. Synergies with other policies or instruments of public intervention.

With the support of Lanzarote's Regional Council (Cabildo), the students participating in this project visited the Arrecife Wind Farm site, where the mechanical assembly of the 4 wind turbines was carried out, and who were able to collaborate in the interior connections and electrical assembly work. The students from CIFP Zonzamas also visited the electrical substation of the Water Consortium, where the energy generated by the Teguisse I 9.2 MW Wind Farm, currently in operation, is dumped, and where the energy generated by the future Arrecife 9.2 MW Wind Farm will also be dumped.

In addition, in collaboration with the Chamber of Commerce of Lanzarote and La Graciosa, the centre hosted the "Expoenergía" trade fair in 2019.