

As Corcerizas is sustainability. It is necessary, possible and a reality; make it with us! – Spain

SUMMARY

Project Description: The project is aimed to demonstrate from a practical way, the viability of alternatives in order to minimize our environmental and social impact to different sectors of the population

Project Type: Energy Efficiency, Wind & Education in Sustainability

National Association: REAJ (Red Española de Albergues Juveniles)

Project Location: Youth Hostel “As Corcerizas”

Estimation of number of reduced tonnes of CO2 per year: 8 tonnes CO2 per year

Total Funds Requested: £ 24,856

Total Project Cost: £ 27,046

Annual £ saves and ROI (return of investment): £ 2,580 per year – ROI 5 years

Why should this project be funded ahead of others?

Because it is an exemplary project with experience and recognition in the sector

Over the last 10 years, being aware of the uniqueness of the project and the importance of disclosing, communications were presented in various international conferences and courses; active participations were organised in conferences, forums and meetings related to renewable energy, green building and environmental education; moreover articles in newsletters and magazines specialised in the sector were published. Nowadays “As Corcerizas” is a **well-known facility, recognised as a reference** for the implementation of other initiatives and as an example of consistency and alternative to address local and global crisis of climate change.

Overall, it has always been recognised that the hostel As Corcerizas is all about **environmental education and zero CO2 emission**; this aim cannot be achieved without the implementation of the wind turbine and other suggested measures.

Because it relies on experience, professionalism and team involvement

The team of Friends of the Earth has extensive experience and qualifications in education, training, entertainment and outreach, which provide necessary trust for ensuring high quality activities. Also the employees who work in the field of renewable energy and green building have demonstrated professionalism and involvement in the project. Therefore they have proved to be the skilled ones to implement the proposal, given that they know well the location and facilities.



Because it supports a high quality program of activities, is a source of documentation and consultation

All of the programs we develop are adapted to different entities and public. Consequently it has become a source of documentation and consultation for anybody who wants to carry out its own projects while creating a wide network of communication. It has also reached other professional forums related to various sectors such as construction, energy installation, etc. This is essential so that they can adapt their work environment with more sustainable criteria and less environmental impact.

DETAILED PROJECT INFORMATION

The project is aimed to demonstrate from a practical way the viability of **alternatives in order to minimize our environmental and social impact** to different sectors of the population. Thanks to this plan, the alternatives will be incorporated into our way of decisions.

1. Renewable energy: installation of a small wind turbine in order not to use fossil fuels and to monitor the system for remote supervision

It involves the settlement of a wind turbine of 5KW, to eliminate the use of the petrol generator, needed during the winter activities, and consequently generating cost and CO2 emissions savings.

The disclosure of these new systems is essential to **create changes in society**. Therefore we suggest that the small wind turbine goes with a remote monitoring system that provides data collection to determine the availability of local energy resources (wind and solar), parameterization and configuration of web platform with the specific data of the small wind turbine, and thus to be able to analyze data, in order to achieve improvements in the system.

2 Energy efficiency: building a radiant wall with raw clay as a heating system

It should be noted that the design and construction of the Center use techniques and criteria of **green building and bioclimatic architecture** incorporating efficient production systems and energy savers.

Thanks to this project, we will build **a radiant wall made of raw clay** (good for health due to air circulation) which will be used not only as an **educational tool** but also as a way to make **more efficient** the current heating system of the dining room through air heating by sun and biomass.

3 Education on Sustainability: school program, Alternatives to address climate change

Through this school program we expect to make the participants aware of the reality we live in and of its evolution in middle term, by analysing the problems posed to the environment and by enabling us to be part of the solution. Throughout each educational session, it will be analysed what the main sources of CO2 emissions are, what our relationship with its production is and which influence we have to reduce it. Thanks to these three specific proposals we present we want to prove and disclose, through a maximum impact, the viability of a minimal carbon footprint.

Minimal environmental impact

The project has almost no environmental impact; since the wind turbine will be settled **in the same location** where there was the previous one and the same tower will be used. Thus all of the civil work would not be necessary to undertake (excavation, electrification, transport of cement, etc.).

The **materials** used for the construction of the heating system are **safe and bio-compatible**, produced without energy from fossil fuels like in the case of raw clay, local and healthy. The water circulation pipes would be made of polypropylene, while avoiding the use of PVC.

Support to local economic development

The **professionals** that will carry out the implementation of the systems are from Galicia (**local**), which will boost the local economy and reduce transport impacts, given that they will stay in the hostel during the days of the installation.

Through the experience and the training offered throughout the year at the hostel, the professionals are trained to implement innovative measures in other projects; therefore they will be able to expand their labour supply, generate **new areas of work** and respond to social demand.

Management from an NGO

The fact that this kind of facility is managed by a non-profit association is an added value that guarantees the achievement of planned objectives, **prevailing at any time the criteria of sustainability** and providing great confidence in the relation with the users.

Extra Benefits:

Providing a living experience of sustainability:

The improvements obtained through this Fund will join a living project which is constantly growing; so that the visitors will **see, "in situ"**, the functioning and benefits of all of the **measures already applied for carbon footprint reduction**:

- Self-production of renewable energy (with this project we would incorporate wind power)
- The facilities were designed and built with green building criteria (with this project we would build a radiant wall with raw clay)
- Organic waste are treated through composting
- Waste water is purified by a filter plant
- The food served is prepared, as far as possible, with local organic food and fair trade criteria.

Staying at the hostel is an experience by itself, thus the project will be focus on some of the **possible solutions to the major environmental problems** we live in; that would give the opportunity to see and assimilate the fact that explanations and theoretical applications are feasible and achievable

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SW 3.5 GT Small Wind Turbine

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- Designed and manufactured by Anelion.
- High durability components.
- Maintenance-free.
- High energy performance.
- Valid for Grid-Tied and Off-Grid applications.
- Low noise level.
- Redundant electronic-mechanical braking systems.
- Strict quality controls of all systems and components.
- Designed according to IEC 61400-2 standard.



- A company policy focused to offer always products with the highest quality and reliability, lead us to develop a wind turbine based on an innovative and high-tech concept.
- Features such as the passive downwind yaw system and fixed pitch blades turn it into a strong system with surprising reduced maintenance requirements.

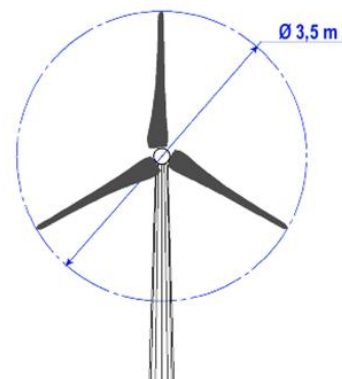
- The commitment to offer a close collaboration with our customers, giving the best support is one of our aims.
- You can already turn the wind into electrical energy, contributing to create a more sustainable planet from your home or business.

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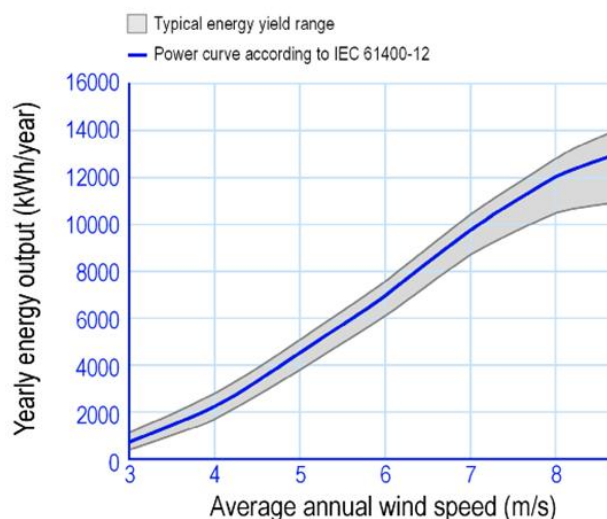
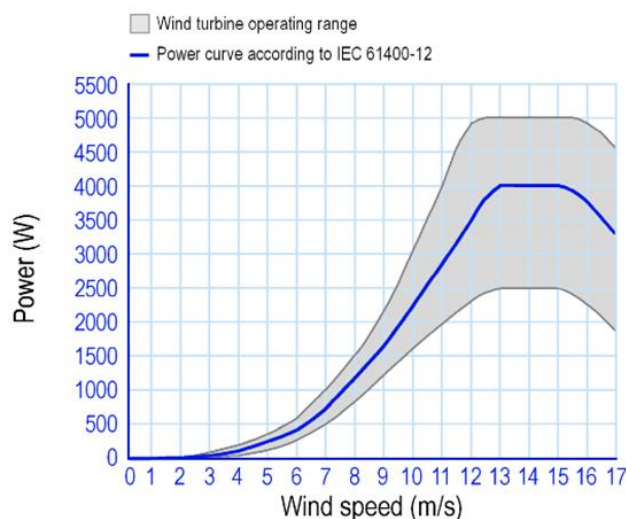
Technical Specifications

Maximum power (Wp)			5000
Power at 12 m/s			3500
Weight (Kg)			95
Diameter (m)			3,5
Swept area (m²)			9,62
Rotor			3 blades
Blade material			Glassfiber Reinforced composite
Operating rpm			100-465
Generator			Direct Drive PMSG
Yaw control			Passive
Power control			MPPT
Inverter			Delta Solivia 5.0 / SMA WB5000TL-20
Inverter configuration			Single-phase grid-tied
Braking system			Electronic dynamic load + electro-mechanical redundant system
Cut-in wind speed (m/s)			3,5
Max. Power wind speed (m/s)			17,5
Survival wind speed (m/s)			60
MAXIMUM VALUES	Wind turbine	Voltage (Vrms)	400
		Current (Arms)	20
	Inverter	Voltage (Vrms)	280
		Current (Arms)	22
Warranty (years)			3



Noise

Rings of 40dB(A) at different wind speeds. 10m Tower height.



Data measured according to IEC 61400-12 standard

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