

Forest of senses - Spain

SUMMARY

Project description: Programme to involve guest in the realisation of an investment in wind energy

Project type: Energy Efficiency, Education in Sustainability, Other

National association: Red Espanola de Albergues Juveniles - REAJ

Project location: Albergue Juvenile Espinosa de los Monteros

Estimation of number of reduced tonnes of CO₂: 83246 kg CO₂ eq

Total funds request: £ 7,000

Total project cost: £ 7,000



Annual £ saves and ROI (return of investment): Saving percentage on power and lighting consumption 14,9%, saving percentage on heating oil consumption 2,65%. For a total saving of £2,777

Why this project should be funded ahead of others: The first reason for being eligible to receive funding is the uniqueness of the space in which the hostel is immersed. As mentioned in the methodology section, Mount Edilla and primeval forest are magical, incomparable and living places, to enjoy nature in all its splendor in any season, a delight for the senses deserves to be taken care of and sustained over time.

Secondly I want to emphasize the youth, preparation and enthusiasm of the staff who work in and by the hostel, which we consider our home. Our visitors are treated as guests to stay between us like friends, we are careful to please their senses and try to make their passage through the hostel unforgettable and make them want to repeat and miss us.

As a third reason, undoubtedly, our strongest bet is environmental education at all levels, a future investment for a more sustainable and more beautiful world.

Also, our linguistic challenge. We ensure that all our hostellers, whatever their origin is, may feel understood and cared for properly.

And finally, having no other source of external financing, project implementation depends largely on the complex fundraising, so claiming the prize would be a tremendous boost for us.

DETAILED PROJECT INFORMATION

JUSTIFICATION:

Climate change, caused by the emissions of greenhouse gas (hereinafter GHG), especially CO₂, is the scourge of our time and there is strong evidence that human activity is responsible for most of the global warming.

Nowadays, almost all the activities we do (transport, food, etc.) and goods we own and use (consumer goods, home, etc.) involve consuming energy, which means contributing to emissions into the atmosphere.

From this perspective, the CARBON FOOTPRINT is a measure of the contribution of the organisations to be socially responsible entities as well as an additional element of awareness for the adoption of more sustainable habits among citizens.



This initiative aims to quantify the amount of GHG emissions, measured in equivalent CO₂ emissions, which are released into the atmosphere as a result of our daily activities or the commercialisation of a product.

This analysis covers all the activities of their life cycle (from the acquisition of the raw materials to their disposal as waste) allowing consumers to decide which foodstuffs they buy based on the pollution generated as a result of the processes these products went through.

Measuring the carbon footprint of a product creates real benefits for organisations. The carbon footprint identifies the sources of GHG emissions of a product. Therefore, this allows defining better goals, more effective emissions reduction policies, and better targeted cost saving initiatives. All as a result of a better understanding of the critical points for reducing emissions, which the organisation may or may not be directly responsible for.

Within this framework of environmental awareness is how, from the Youth Hostel of Espinosa de los Monteros, we want to help erase our carbon footprint and improve our CO₂ emissions into the atmosphere with little gestures.

The Youth Hostel of Espinosa de los Monteros is strategically located in the North of the province of Burgos and in the heart of the Cantabrian Range, less than 100km away from Santander, Bilbao and Burgos. The facility is located in a 110 hectares oak forest called Mount Edilla which offers great possibilities. It is on the outskirts of the town of Espinosa de los Monteros (5km away from the municipality). It has a capacity for 75 people in rooms of 1, 2, 4 and 5/6 people in bed or bunk. It has 4 bedrooms with bathroom.

It has cafeteria service, dining room, terrace with spectacular views, reading room, multipurpose room (50 pax capacity), outdoor classroom (30 pax capacity), climbing wall, outdoor first-aid kit infirmary, warehouses, boilers, kitchen, pantries, laundry room, hygienic toilets and hot showers, wooded and green areas, game areas, heating, telephone, fax, Internet and free Wi-Fi.

An exceptional location offering a friendly and professional treatment and willing to make the youth hosteller's stay an unforgettable experience.

OBJECTIVES:

1. Reducing the emissions of carbon dioxide (CO₂) produced both by the facilities of the hostel and the human activity that take place there, through simple, economic systems based on good practices and environmental education.
2. Carrying out and encourage the participation in environmental education activities aimed at reducing the carbon footprint.
3. Promoting the attendance of guests using the natural and sensory resources of the forest where the hostel is located.
4. Advertising the physical and emotional benefits of lodging in a hostel completely immersed in the woods.
5. Encouraging the consumption of local resources (touristic, gastronomic, cultural...), through monographic conferences, planned excursions or information distribution (brochures, website, blog, social networks).

METHODOLOGY:

In order to carry out the previous objectives, the following norms will be followed:

1. REDUCTION OF CO₂ EMISSIONS

1.1. IMPROVING THE FACILITIES AND EQUIPMENT OF THE HOSTEL

Adapting the facilities and fixing those points where CO₂ is higher with the following indications:



1.1.1. ROOM TEMPERATURE:

- Lowering the temperature of the heating thermostat from 20 ° C to 18 ° C during the cold seasons.
- Reviewing the windows, properly insulating those that show cracks or imperfections.
- Checking that the insulation between the rafters of the roof is equal or greater than 200mm and refill the areas where needed.
- Placing bilingual signs (Spanish/English) on the exit doors to remind of the importance of properly closing them in order to preserve the accumulated heat.

1.1.2. ELECTRICAL APPLIANCES

- Renewing the hostel's iron replacing it with a high energy-efficient one.
- Periodically reviewing the washing machines and dryers to make sure they function properly and don't lose power.
- Using the washing machine, the dryer or the dishwasher when they are at full load and programming saving cycles or eco-friendly cycles.
- Drying clothes outdoors whenever possible.

1.1.3. LIGHTING AND POWER

- Replacing all the conventional or low consumption light bulbs and fluorescent tubes with LED bulbs and tubes, achieving lower energy cost and improving the ecology in so doing.
- Switching off all the unnecessary lights and encourage the people to do so by placing bilingual signs (Spanish/English) in the common areas (ex: Your help is vital, switch of the light when leaving..., or similar).
- Placing power strips with switch in every common area to plug several devices at once and turn them off when they are no longer in use by disconnecting them from the power grid using the switch.

1.2. TRANSPORT

Trying to reduce car use as much as possible both for the staff of the hostel and its users, using the following measures:

- Taking turns and carpooling. The three people who work in the kitchen can reach the hostel facilities in one vehicle, so do the two people in charge of the hostel management, reducing the number of motor vehicles from five to two. As for the teaching staff, the five cars they usually use could be reduced to three, leaving the total number of vehicles in five.
- Facilitating the access to the hostel on foot or by bicycle, calling on the relevant authorities for the creation of a cycle lane, wider roadside, or similar, which would allow a safer trip from the village to the building.
- Installing bike racks next to hostel, prompting the use of this vehicle with an informative poster on the benefits of cycling and the available possibilities to practice this sport in the surroundings of the hostel.
- Periodically reviewing (every three months) the tyre pressure of the vehicles that go to the hostel on a daily basis, improving their safety and reducing their CO₂ emission.

1.3. FOOD AND KITCHEN USE

Improving daily activity in the kitchen and adapting the menus to regulate the production of carbon dioxide, following the premises listed below:

1.3.1. ELABORATION OF THE MENUS

- Reducing meat products by 15% in the elaboration of the menus offered to the guests of the hostel, exchanging them for others such as fish or eggs, which contain the same high-quality protein content and whose carbon footprint is smaller.
- Reducing the red meat intake by 10% in the hostel's cooking, in favour of poultry.
- Ensuring that the red meat that is consumed comes from local farms with extensive production on natural pastures and self-supply system.



1.3.2. USE OF THE KITCHEN AND DINING ROOM

- Thawing food in the refrigerator, reusing the energy of the thawing process to cool down the other foodstuffs in the fridge.
- Not introducing warm food in the walk-in refrigerator to avoid an energetic overload of the refrigerator and, additionally, prevent cross-contamination issues.
- Controlling the optimum cooking and frying temperature using a thermometer, not increasing it unnecessarily once it is reached.
- Taking advantage of the residual heat of the stove, grill and oven to finish cooking the dishes and/or heat the room, turning off the hotplates 5 minutes before the end of the operation.
- Using easy to clean and long lasting oilcloth to cover the tables instead of tablecloths made of a) fabric, which has to be washed daily with the energy expenditure it supposes or b) paper, which generates a lot of waste and are not reusable.
- Using biocompatible cleaning and hygiene products.
- Installing individual paper towel dispensers out of the community toilets to reduce the unnecessary use of toilet paper.

1.4. WATER USE

Managing water use in a sustainable way taking the following measures:

- Reducing the water flow by installing flow controllers on taps and showers.
- Checking the cisterns and adjusting the flushing flow to the necessary minimum.

1.5. WASTE MANAGEMENT

Trying to turn “the three Rs” Reduce, Recycle, Reuse, into a daily habit within the facilities of the hostel.

1.5.1. REDUCE

- Buying fresh food (“the shell is better than the packaging” campaign) or in glass containers to reduce the amount of wrapping and packaging.

1.5.2. RECYCLE

- Placing specific small containers for recycling in both the kitchen and the cafeteria to facilitate separation and subsequent use of waste (glass, paper and cardboard, plastic, oil, batteries).
- Separating the organic waste with the intention of composting it and turning it into fertilizer.
- Collecting the paper waste generated both in the kitchen and the office and using it for the production of recycled paper.

1.5.3. REUSE

- Building a compost bin with pallets or fruit crates and placing it in the back of the hostel to fill it with the previously separated organic waste from the kitchen. Once the compost is ready, use it as organic fertilizer in the flower pots of the hostel or a small potted kitchen garden.
- Reusing cooking oil to make soap via saponification with caustic soda and glycerol, adding aromatic plants found in the forest.

1.6. SUPPLIES

Managing to reduce the carbon footprint by adapting the orders and improving the management and contracting of the suppliers:

- Purchasing fresh produce from local suppliers or within a maximum radius of 25km, achieving cutting fuel costs and strengthening the resources of the region.

1.7. OFFICE

Making office IT profitable by improving the reduction of CO₂ it gives rise to as follows:

- Using recycled paper or with guaranteed sustainable forest management (PEFC, FSC).



- Avoiding unnecessary mail or printing to achieve cutting paper consumption as well as the energetic and polluting costs its distribution involves.
- Using recycle tonner and cartridges.
- Turning off the computer and printer when not in use, rather than putting them on standby.

2. ENVIRONMENTAL EDUCATION ACTIVITIES

A great number of environmental activities have been carried out at the hostel of Espinosa de los Monteros which are aimed at a wide range of public and whose goal is to:

- Contribute to the preservation of the biodiversity
- Maintain the well-being of the local population
- Show and explain the territory
- Involve the participants in responsible actions
- Consume few non-renewable resources

Our activities are focused on the environment and their main goals are the interaction with, knowledge about and observation of the nature, in addition to taking part in its conservation. More than 38,000 people have passed through our hands and we have offered them guided tours, environmental education activities, nature classrooms in both Spanish and English, training, conferences, volunteering, etc.

In its facilities we conduct training courses, sport activities, camps, sport campus, outdoor activities, cultural and environmental visits and activities, hiking, active tourism activities... among which we highlight:

- Ruta del Queso Pasiiego y del Estraperlo (Pasiiego Cheese and Contraband Route).- introduction to the Pasiiegos ethnicity, their lifestyle and the harsh history of the maquis and black marketers, tasting local food visit to a farm.
- Visits to the caves of Ojo Guareña (Chapel, Palomera) and its Casa del Parque.
- Languages in Nature.- “Classroom in Nature” and “Weekend in Nature”.- different possibilities to discover the nature and customs of the area within a total linguistic immersion with native bilingual instructors in English, French or German.
- “Aulas de la Naturaleza” (Classroom in Nature).- similar characteristics to the previous point, but entirely in Spanish.
- Bilingual Summer School.- daytime environmental activities aimed at children aged from 4 to 14 with highly qualified instructors.
- “Atrapados en la Casa” (Trapped in the House), live role playing and logic game.- an activity that takes place in the Casa del Parque de Ojo Guareña consisting of a team strategy test. The participants have one hour to show their skills and manage to leave the premises solving all the riddles they encounter, all related to environmental education.
- Basic and advanced ornithology.- learning and observation of bird life.
- Animal tracking workshop.- observation and animal tracking in the forest.
- Botany, Invertebrates, Cooking with Wild Plants, Geology, Bio-construction.
- Path of the Tales, Orientation and Survival, Traditional Music, Traditional Games.
- Fun Science, Food and Diet Technology.
- Agronomy, Organic Farming, Non Chemical Pest Control.

For this 2015-16 course, and in line with the project we are presenting, we are going to implement the following activities aimed at raising awareness of the need to reduce CO₂:

- Organising a Seminar on the “Carbon Footprint” with lectures and workshops conducted by experts in the field from the University of Burgos.
- Using recycled materials with a low impact on the production of CO₂ to carry out the experiments presented in “Aulas de la Naturaleza”, “Classroom in Nature”, “Summer School”, etc., among which:
- Creation of informative posters and classroom blog.
- Building and using the compost bin.
- Making handmade soap with the oil collected in the kitchen.
- Setting up, taking care of and harvesting a potted kitchen garden.
- Planting native trees to repopulate some areas of the forest.



FOREST OF SENSES

The hostel of Espinosa de los Monteros is located in a unique setting, Mount Edilla, immersed in a forest of oak trees, holly and chestnut trees. Its complexity and beauty are such that it earned the name of Forest of the Senses, where each of our feelings emerges, our sensations fly, our mind rests and is soothed, our worries fade away and sorrows disappear among its flowers, birds, springs, ad streams.

Our eyes are delighted with the colours of each season, the bright green of the Spring, the lush Summer, the ochre and gold Autumn, the white Winter covered in snow. But also with the variety of species living there, birds, raptors, deer, weasels, rodents, insects, reptiles, amphibians... Finally with its open sky in between the treetops that fills up with countless twinkling stars at night.

The sense of touch runs wild between the smoothness of the moss, the crisp rustling of the dried leaves, the fresh water of the Trueba River that rebelliously meanders through the forest, the hard thorns of the brambles and brooms, the soft and smooth surfaces of the boulders, the rough and crude bark of the oak trees.

It is the ear that enjoys the birdsong, the murmur of the water, the crackling branches, a muffled step on the snow, the eerie sounds of the animals, bellows, caws, squeals, the hoot of a young owl in the clear night.

Tasting its fruits we pamper our taste to the extreme. The enjoyment starts with the harvest. Wild strawberries, honey, blueberries, sloes, blackberries, chestnuts, mushrooms, sweets offered by the forest scattered across all the seasons. Natural delights to be enjoyed during a walk or to prepare the most delicious delicacies.

The flowers offer us their scents to delight our noses. Heathers, brooms, sages, mint, St. John's wort, chamomile, rose hips... they all sweeten the air we breathe as we walk along the paths of Mount Edilla and invite us to try delicious teas, natural remedies, ointments and creams, magic potions that take us on a journey to the past and make our present more beautiful.

BENEFITS OF LODGING IN THE WOODS:

According to the European project "Startree" that studies and discloses the non-timber resources of the forests, staying, walking, and enjoying the trees in Mount Edilla has the following benefits:

- It improves the school performance of the children who walk and play among trees compared with children living in urban areas, because their attention span and ability to concentrate increase.
- It reduces the blood levels of hydrocortisone, the stress hormone, causing a relaxing effect, a rebooting of the brain, which leads to a feeling of well-being and inner peace.
- It increases the amount of serotonin and endorphins, the hormones of happiness. In addition, it burns accumulated fat, improves blood circulation and the oxygenation of the brain, thanks to the practice of aerobic physical.
- It develops lung capacity and stimulates the sensory receptors, establishing new neuronal connections. The forest makes us healthier, stronger, more sensitive, happier, better.

PROJECT DISTRIBUTION:

The diffusion of the project and the activities proposed to reduce the production of CO₂ at the hostel of Espinosa de los Monteros will be carried out as follows:

- Creation and distribution of explanatory brochures, printed on recycled paper produced in the environmental education.
- Setting up a blog whose entries recount the activities related to the carbon footprint carried out at the hostel.
- Distribution on social networks (Facebook, Whatsapp), as well as Hostelling International, the town council of Espinosa de los Monteros, CEDER Merindades...
- Recording of radio programmes about the project and its positive consequences with both local radio station: "Radio Espinosa Merindades" and "Radio Valdivienso".
- Writing a press release for local and provincial newspapers such as Diario de Burgos, El Correo de Burgos or Crónica de las Merindades.

CALCULATION OF THE CO₂ REDUCTION:

The data will be presented in a table that shows the items we will work on to reduce the carbon footprint, the corrective measures put in place, the initial production, the final, and reduction ratio obtained. It is based on an average of 50 guests a week, a total of 2600 people a year. The value for the expenses in electricity, water, heating oil, motor fuel and paper are averages based on the amounts billed last year 2014.

The data for the exchange coefficients were obtained consulting various bibliographical sources, always making the most favourable estimate. The overall result was obtained quantifying those items whose initial data were known. The significance of the actions undertaken in the environmental education activities or the changes in working and management habits in the facilities on the reduction of the carbon footprint can be evaluated a posteriori.

CONCEPT INITIAL PRODUCTION CORRECTIVE MEASURES:

CONCEPT	INITIAL PRODUCCIÓN	CORRECTIVE MEASURES
HEATING	16476 l/year de heating oil = 50312,4 kg CO ₂ eq	
Thermostat regulation		Decreasing the thermostat setting by 2°C we achieve a 700 kg CO ₂ eq reduction in heating oil
Windows and roofs insulation		630 kg CO ₂ eq reduction in heating oil
POWER, LIGHTING	179520 Kwh/year = 69115 kg CO ₂ eq	
Use of power strips with switch		Putting 10 power strips with switch in strategic places of the hostel, we achieve a 1367,7 kg CO ₂ eq reduction in power
Buying an A+ range iron		185 kg CO ₂ eq reduction in power
Installing LED bulbs		Replacing all the light bulbs with LED bulbs we achieve a 44 kg CO ₂ eq reduction per bulb = 8668 kg CO ₂ eq in power
MOTOR FUEL, USE OF HOSTEL'S STAFF VEHICLES (10 CARS, OVERALL 10Km COMMUTE)	1825 l/year = 5083.9 kg CO ₂ eq	
Carpooling to the hostel in turns		Cutting the number of vehicles by half, we will achieve a final reduction of 2542 kg CO ₂ eq in motor fuel
Periodic tyre pressure revisions of hostel's staff cars		A 3% reduction in motor fuel consumption, which means a 164,25 kg CO ₂ eq decrease in motor fuel
FOOD, MEAT PRODUCTS INTAKE	3900 kg of meat products (veal, chicken, pork, turkey, and their by-products)= 71760 kg CO ₂ eq	
Meat intake reduction		Cutting the meat products intake by 15%, the CO ₂ eq production is reduced by 10764 Kg de CO ₂ eq
Red meat reduction		Replacing 10% of the red meat with poultry (chicken or turkey) we decrease by 3919.5 kg CO ₂ eq
WATER	9600 m ³ /year= 7564.8 kg CO ₂ eq	
Installation of flow controllers, aerators		Installation of flow controllers (aerators) on all taps and showers. Water cost reduction estimated at 30% = 2269,5 kg CO ₂ eq
NON-RECYCLED PAPER	4485 kg/year (toilet paper, napkins, table covers, sheets) = 13545 kg CO ₂ eq	
Use of recycled paper		Use of recycled paper in the office (30 kg/year), carbon footprint reduction of 36 Kg CO ₂ eq
Planting trees		Planting native trees (1 per guest, average of 2600 people/year) = 52000 Kg CO ₂ eq less
TOTAL	INITIAL PRODUCTION: 217381 kg CO₂ eq	CORRECTIVE MEASURES: - 83246 kg CO₂ eq
		217381 kg CO₂ eq - 83246 kg CO₂ eq = 134135 kg CO₂ eq REDUCTION PERCENTAGE: 38,3%



MONITORING PLAN:

The actions proposed to conduct monitoring of corrective measures are:

- Teaching all staff of the hostel, some practical lessons on CO₂ reduction project based to ensure its proper development.
- Developing protocols for new ways to act to reduce CO₂ in the daily activities of the hostel and its subsequent placement in accessible places to all staff and guests.
- Filling tables in order to control fried and boiled foods temperatures. The same with cooling chamber and thermostat.
- Quarterly reviewing of bills of light, heating oil, motor fuel, and power by the manager of the hostel.
- Stating carpooling turns and placing them in a visible place of the shelter.
- Planning of visits to automotive workshop to review the tyre pressure of vehicles of hostel staff.
- Elaboration of new menus including the above changes.
- Formulation of surveys and questionnaires to hostellers about the information and lessons learned on the carbon footprint.
- Control and care of newly planted trees.

CONTRIBUTION OF THE PROJECT ACTIVITY TO SUSTAINABLE DEVELOPMENT:

One of the most important pillars of this project is environmental education. Based on it and try to promote the importance of reducing the production of CO₂, we propose the following parallel activities that we hope will improve the sustainable development of our hostel and around the globe:

- People's March in cycling around the hostel with the motto "IN THE FOOTSTEPS OF CO₂", after which a picnic is held in the oak forest with typical products of the area and a discussion of awareness of the issue.
- Paper recycling workshops, a world without plastics, for kids of CEIP Santa Cecilia, Primary school of the town of Espinosa de los Monteros.
- Promotion of beef and foal meet of Merindades, produced by a totally ecological grazing system and high nutritional quality, performing a gastronomic seminar at the hostel entitled "SUSTAINABLE AND NUTRITIONAL LIVESTOCK".

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