HEATING PUMPS – SAVING ENERGY WHILE HEATING WATER IN MITZPE RAMON HOSTEL – Israel

This project addresses the following Sustainable Development Goals (SDGs):

SUMMARY

Project description: In order to increase the environmental sustainability of Mitzpe Ramon Hostel, a new heating system will be installed. This will replace the use of diesel with electrical heat pumps, reducing the hostel's overall CO2 emissions.

Project type: Energy efficiency

National Association: Israel Youth Hostel Association

Project location: HI Mitzpe Ramon

Estimation of number of reduced tonnes of CO2, per year: The project will reduce CO2 emissions by approximately 130 tonnes per year.

Total funds requested: £10,000

Total project cost: £81,000

Annual £ saves and ROI (Return On Investment): We are about to save £56,000 per year and to return the investment in less than 2 years (ROI 1.44).

Why this project should be funded ahead of others: The Israeli association is very active in sustainable subjects. We invest large amounts of money in sustainable projects in order to improve and optimize all our systems and be energy efficient as much as we can. The hostel in Mitzpe Ramon is a unique hostel located on the edge of Ramon Crater, in the desert, and gives services to local and foreign tourists visiting the area. We think it is very important to improve the systems in the hostel and to invest in sustainability. By saving energy costs, the hostel can reallocate its resources to improve the services and to develop educational programmes.

DETAILED PROJECT INFORMATION

Purpose/objectives of the project activity

Today the water heating system in the hostel uses diesel. The new system will have 2 electrical heat pumps. The main purpose of the new system is to increase the energy efficiency of the water heating system in the hostel, to achieve a significant reduction in CO2 emissions and to save energy.

Methodology (How) – project description

The current water heating system uses diesel and the process involves gas emissions, especially CO2. The new system has two electrical heat pumps with cool air condensers. Using the new system, especially in the desert area where the hostel is located, we will heat the water using electricity and will not emit CO2.

Monitoring plan

The pumps have a very advanced computerised monitoring system. This system has an application that will alert in case of faults. The application will be downloaded to the mobile phones of the main relevant hostel staff (maintenance, manager, etc.).

Contribution of the project activity to sustainable development

By changing the heating system to a new one based on heat pumps instead of diesel, we hope to achieve a complete stop of CO2 emissions and to increase the energy efficiency of the hostel.

Estimation of number of reduced tonnes of CO2

Today the hostel uses about 42,000 litres of diesel per year and with the new system we will no longer use diesel. This will reduce CO2 emissions by approximately 130 tonnes per year.

Saved Funds and ROI (Return On Investment)

The cost of diesel (used for the current system) is about £64,000 per year. Two heating pumps with output of 45KWH will reduce the time needed to heat the water. The estimated cost we will need to pay with the new system is less than £7,000 per year. We are about to save £56,000 per year and to return the investment in less than 2 years (ROI 1.44).

Communication plan

We advertise our sustainable actions, as well as HI's actions, in the hostels (bulletin board) and in our newsletter. Elsewhere, we share the HISF details with our guests and potential guests through our website, Facebook etc. We will add the subject to the news.

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