9. HOTEL ENERGY SOLUTIONS

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Introduction: Hotel Energy Solutions – a free of charge innovative online software application that offers energy use data analysis, decision-making support and recommendations for investing in energy efficiency and renewable energy technologies, ROI calculator, as well as a carbon footprint calculator. The project delivers information, technical support and training to help small and medium enterprises in the tourism and accommodation sector to increase their energy efficiency and renewable energy usage.

Materials and Methods: This project is in collaboration with the United Nations Programme on Environmental Protection, the International Association of hoteliers and restaurateurs, the European Council on Renewable Energy and the French Agency for Environment and Energy Conservation.

Results: Half of the world's hotels are located in Europe and 9 out of 10 of these are SME hotels. In addition, hotels are among the top five types of buildings in the service sector for energy consumption, after food production, sales and health care. For instance, a typical hotel annually consumes around 320 kWh/m² and releases between 160-200 kg of CO2 per m2 of room floor area. [1]

Hotels may have large energy requirements, as can be concluded from the previous, particularly regarding HVAC installations. However, the energy saving potential of hotels is significant and energy costs may be controlled more efficiently than any other operating costs. Hotels worldwide are recognizing opportunities to implement energy-efficient projects which may include solutions from passive design to something as simple as improving the thermal insulation. [2]

There are also low-cost measures for energy management enhancing that refers only to the manner of equipment utilization as well as the behavior of personnel and guests. All these strategies could assist in lowering or completely eliminating the need for space heating and cooling. The main motivations for hotels to take these actions are, appart from reducing operating costs, demand from customers, improving the hotel‘s image, and reducing its environmental impacts. Implementation of measures for improving the energy efficiency of hotel facilities is possible from an early stage of planning and design of the hotel, but also through its exploitation. [3]

A growing number of tourism businesses are voluntarily participating in labeling and certification initiatives as pressure from customers and the private sector grows. Big European tour operators are now accounting for their carbon footprint and

that of their supply chain to demonstrate environmentally or socially sound practices. The Hotel Energy Solutions can be an asset to these companies in moving towards better energy management.

The engagement of local authorities and industry associations in assisting has been crucial for the success of the project implementation. The testing shows that destinations have a major role to play in promoting energy performance improvements in their hotel sectors – this helps the destination to be more sustainable and to face future challenges regarding the environment and competitiveness. [4]

Conclusions: Implementation of the program in all countries of the world will allow the hotel to effectively and efficiently use energy and significantly reduce its costs, which generally means a great success of the project within the framework of environmental protection.

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