

Introduction

Pristine beaches, volcanic peaks, and tropical rainforests attract hundreds of thousands of visitors to Saint Lucia every year. According to the World Travel and Tourism Council, Saint Lucia's US\$406 million tourism industry accounts for 37.4 percent of the country's gross domestic product (GDP), making it the eleventh most tourism-dependent nation in the world, and employs 26,400 workers, or 37.1 percent of total employment.

However, additional visitors and luxury hotels have increased the island's energy consumption. Therefore, Saint Lucian hotels stand to benefit from investing in energy efficient technologies and practices. Cost savings aside, the ability to advertise green efforts gives hotels a competitive edge over their competitors.

In February 2004, GSEII organized an Energy Audit Training Workshop in Saint Lucia in order to increase awareness of energy management among the hospital industry. GSEII facilitated a discussion between hotel representatives, government, colleges, utilities, and the local consulting community, Participants identified



The Rainbow Hotel, one of five Saint Lucian hotels that participated in the workshop

barriers to energy management initiatives, developed methodology for hotel energy audits, performed five such audits, and proposed measures to strengthen domestic interest in energy management audits.

Project Description

On February 11-13, 2004, GSEII conducted a series of half-day energy management training workshops and audits for the hospitality sector in the Castries and Rodney Bay areas of Saint Lucia.

This training was part of a project undertaken by Lewis Engineering Inc., Marbek Resource Consultants Inc., and the Saint Lucia Ministry of Physical Development, Environment, and Housing to reduce greenhouse gas emissions through enhancing energy efficiency in the

hospitality sector. The program consisted of an initial one half day workshop session followed by five walk through training audits of hotel properties. The program concluded with a session to discuss findings and analysis from the audits. Attendees included representatives from LUCELEC (the national utility), the Ministry of the Public Service, the Ministry of Communications, Works, Transport and Public Utilities, the Ministry of Physical Development, Environment and Housing, the Caribbean Equipment Corporation, and five hotels.

Audit reports for each individual hotel were prepared and sent to that hotel's representative. The reports described findings along with a series of recommended repairs, replacements, and additions that would improve energy performance. Some recommendations common to most of the audited hotels are given in Table 1.

Table 1: Recommendations in energy management improvement

- Replace incandescent lamps with compact fluorescent lamps in all light fixtures operating more than two hours per day
- Keep exterior condenser units for split system air conditioning systems clean and corrosion free, shielded from direct sun, and refrigerant suction lines are properly insulated
- Ensure exterior condenser units for split system air conditioning systems have unobstructed airflow across the condenser coils and perform regular maintenance checks
- Make solar energy the primary means of providing domestic hot water
- Utilize water conservation measures in all guestrooms
- Institute formal policies and work practices that will reduce energy consumption
- Monitor energy use on a regular basis and compare with occupancy rates
- Ensure attic spaces above conditioned rooms are insulated and naturally ventilated

In addition to developing a checklist for energy audits, workshop sessions shed light on previous experiences and barriers to energy management. For example, workshop participants believed that energy efficiency and guest

comfort cannot easily coexist. Hotel managers also stressed the high cost of energy efficient lighting as a key barrier to energy management. Barriers are summarized below in Table 2.

Table 2: Barriers to acceptance of energy management

- Upper management misunderstanding the true cost of energy
- High cost of energy efficient products, especially lighting
- False perception that energy efficiency and guest comfort are mutually exclusive
- Hotel designs that maximize a view or improve traffic flow rather than improve insulation and ventilation
- Architects' ignorance of high energy costs and the impact of inefficient design

Evaluation of Project Results

The audits evaluated twelve categories for each hotel. A qualitative scale with four categories (Excellent, Good, OK and Poor) was commonly used to evaluate how well a given energy system was working within each hotel. Each had a different and set definition for what "excellent" and the other rankings meant. For example, the energy records for a hotel could only be reported as "excellent" if there was comprehensive data collection and analysis that resulted in active energy savings measures. For aspects of the hotels that could not be evaluated on this system, such as the air conditioning and condensing units, a specific standard was provided.

Beyond technical improvements for energy management practices, the participants also generated suggestions for ensuring the long term adoption of improved energy management practices in Saint Lucia's hotel industry. Participants expressed interest in the marketing potential of energy management programs, highlighting

the experience of several properties on Saint Lucia that had achieved Green Globes certification. A longer term goal of the workshop was to develop continuity in the energy management training field, and Sir Arthur Lewis Community College expressed interest in becoming a training host.

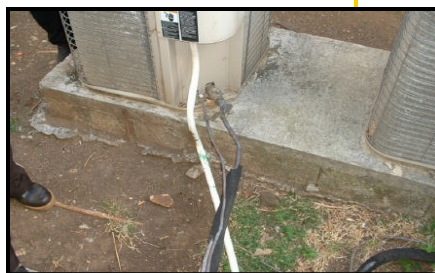
Problems Encountered and Lessons Learned

No significant problems occurred during the three day workshop. However, the project could have had a greater impact with additional resources. This would allow project partners to take an active role in assisting hotels to follow-through on the implementation of project recommendations. At the least, additional resources would have allowed project partners to serve in an ongoing advisory role and/or follow-up with hotels at later date to track their progress towards increasing their energy efficiency. Greater ongoing support would help the hotels capitalize on what they learned during the workshops and

to implement the audits' recommendations.

An additional area of improvement would be to involve local banks and credit unions in the workshops. This would allow these groups to learn about the economic benefits of increasing energy efficiency and to interact with hotels. Many recommendations require investment in capital that will save

money in the long-term due to lower operating costs. Credit unions and banks would help hotels to blunt the impact of the initial expenditures. Having these groups involved in the process would help to secure loans to move forward with hotel improvements.



Audits found many examples of improper insulation:
 (B): Hot water boiler, lacking insulation and hole in roof
 (BL): Un-insulated attic above conditioned guest suites.
 (L): Damaged/missing insulation on refrigerant piping



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