

## Environmental Audits for Sustainable Tourism (EAST)

**Location:** Jamaica  
**Type:** Energy efficiency, water conservation, and waste minimization  
**Size:** 2,147 hotel rooms  
**Funding:** Total: US\$175,000  
 Private: US\$132,000  
 Public: US\$43,000  
**Objective:** To implement effective environmental management practices for greater energy efficiency and environmental protection in the hospitality industry.  
**Duration:** 1997 to 2002  
**Scale:** Urban and rural

### Summary

Actions put in place as a result of the implementation of environmental management systems at five Jamaican hotels have reduced energy use per guest night by 12%. These actions also reduced water consumption by 50,000,000 gal and energy use by 1,665,000 kWh. The dollar value of the efficiency gains for the five hotels was US\$616,555, or about US\$330,000 on an annual basis.

### In-Country Principles That Attracted Nondonor Financing

- Capacity building and informed decision making
- Public participation in, and support of, sustainable development

Informed decision-making principles that helped attract private sources of funding included dissemination of best



practices; participation in international forums and workshops; and increased awareness, knowledge, and skills of professionals regarding commercial business practices.

A central element of sector reform efforts that helped attract private financing was increased public knowledge of, and participation in, energy decision making. Knowledge and awareness of the conditions required for providing sustainable energy helped create the popular support necessary for political changes to enable sustainable, market-based provision of energy services. In Jamaica, such knowledge and awareness were increased via programs in professional training, public education and communication, and outreach.

Additional principles that helped attract private funding included the commitment to creating and strengthening a strong human and organizational capacity for sustainable and integrated water management and the consideration of water as an economic, social, and environmental good, including the acknowledgment of the full costs of water management and water services.

### Financing

Total investment costs for the five hotels for which data were collected was US\$175,000. Of this, 75% came from private sources (Sandals Resorts International [US\$56,000] and Couples Hotels [US\$76,000]). The United States Agency for International Development (USAID) contributed US\$43,000.

### The Project

For each of the hotels, an EAST project team, consisting of engineers and hotel operations specialists, assessed the hotel's infrastructure, equipment, practices, and operations to determine the environmental performance baseline and identify opportunities to improve efficiency and reduce environmental impacts. Each hotel then used this information to create an environmental management system (EMS) — a tool to help incorporate environmental care in all key aspects of a facility's operations, management, and decision-making processes.

Actions developed through the implementation of the EMS helped the hotels reduce their use of water, energy, materials, and chemicals and to realize monetary savings.

Examples of actions that led to energy efficiency and environmental benefits included monitoring electricity and water consumption to track performance and identify unusual shifts in energy use that could indicate equipment or operational problems; turning on lights and air-conditioning in

guest rooms only 30 minutes prior to guest arrival, rather than early in the morning of guest check-in; and encouraging guests to turn off lights, television sets, and air-conditioning units prior to leaving their rooms.

Actions that have contributed to reduced water use include backwashing pool filters only when recommended by the equipment manufacturer, starting a voluntary towel reuse program in guestrooms, and training staff on how they can conserve water in their daily activities.

## Technical Data

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Technologies used to achieve energy savings included energy-efficient compact fluorescent bulbs to replace incandescent lights, photocells and timers installed on outdoor lighting circuits to ensure that lights remain on no longer than necessary, and high-efficiency air-conditioners to replace older units.

Water conservation technologies included low-flow showerheads and faucet aerators, submeters to aid in detection and repair of water leaks, drip irrigation and low-pressure sprinkler systems, and trigger nozzles on water hoses.

## Performance Data

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Although the project has included 2,147 hotel rooms, the following data come from the five hotels (673 rooms) for which data were collected.

Energy use was reduced by 12% per guest night. The total savings at the five hotels resulting from the energy-efficiency improvements included 1,665,000 kWh of electricity and 160,000 L of liquid propane gas. Reduced water consumption resulting from water conservation measures totaled 50,000,000 gal.

The monetary savings from these reductions is US\$616,555, or an estimated annual savings of US\$333,000. Average annual per-room savings at each of the hotels ranged from US\$330 to US\$1,160.

In addition to the water and energy savings, carbon dioxide (CO<sub>2</sub>) emissions were reduced by 2,140 tons per year.



## Participants and Roles

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PA Consulting Group conducted the environmental assessments and helped prepare the EMS in cooperation with the participating hotels. USAID contributed financial support.

## Partner Contacts

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Howard Batson, Cognizant Technical Officer  
US Agency for International Development/Jamaica  
2 Haining Road  
Kingston 5 Jamaica

Hugh Cresser  
2 Ardenne Road  
Kingston 10 Jamaica  
Phone: 876-926-3635  
Fax: 876-929-1054  
E-mail: [east@infochan.com](mailto:east@infochan.com)