

Reaping the Benefits of an Aggressive Guest Room Energy Management (GREM) Program

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Why Offer the Program?

- Small hotels and motels are a traditionally hard to reach market for EE programs
- Owners have little capital to invest in improving efficiency
- Any improvements by owners are made usually on an “as broken” basis

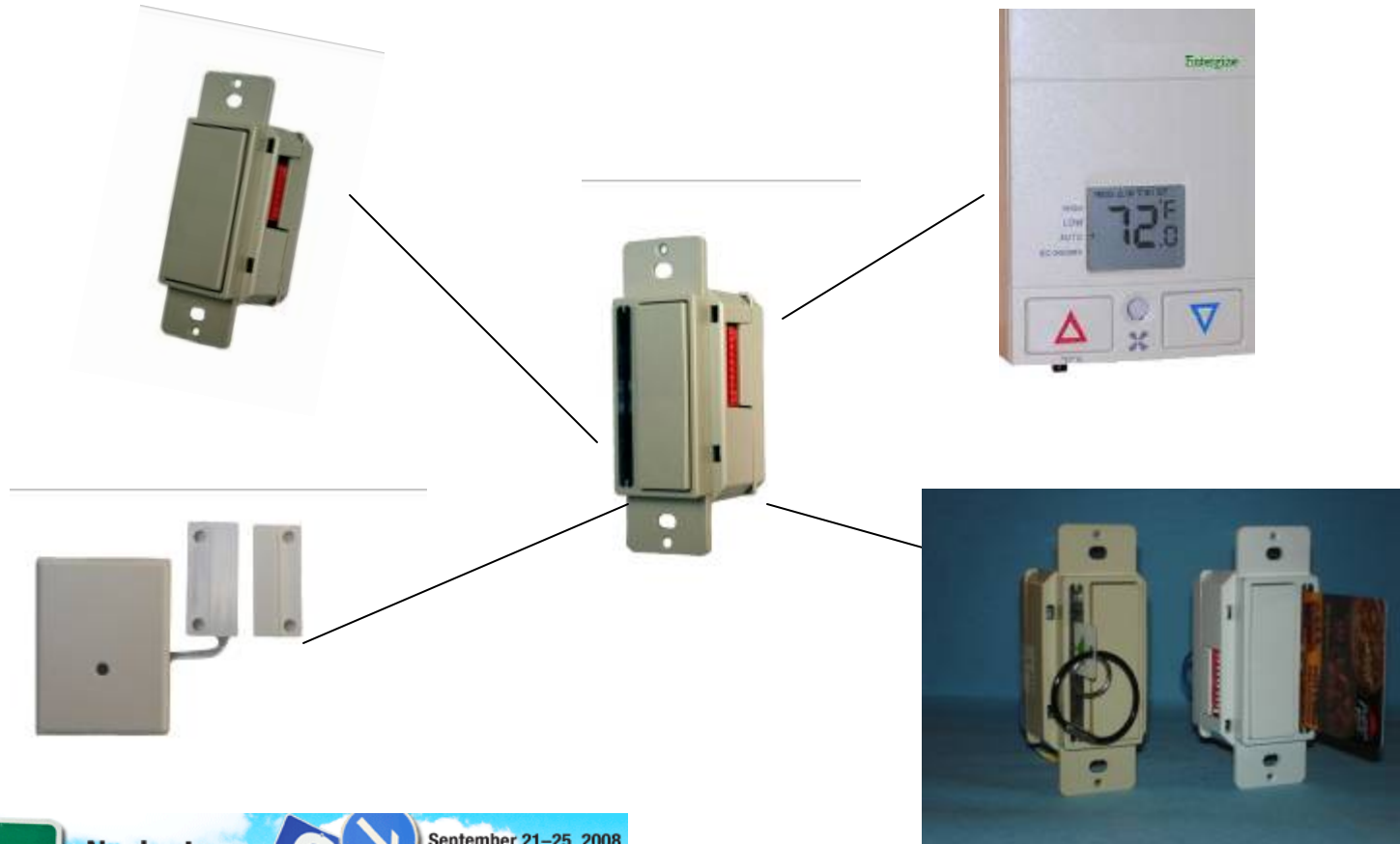
Program Description

- Target customers: Small to mid-sized hotels
 - The “Hard to Reach” customers
- Installation of Guest Room Energy Management Systems
 - Entergize™
 - Telkonet
 - Key Card System
 - Occupancy Sensor System
 - No cost to customer if they assist with thermostat wire installation and have PTACs (non-heat pump)

Additional Installed Measures

- No cost installation of in-room compact fluorescents
- Bathroom motion sensors with nightlight
- Low cost installation of common area lighting retrofits
 - Fixtures
 - Exit signs
- Vending machine controls

The Entergize System



Telkonet System



Watt Stopper Passive Infrared



Program Strategy

- Offer as many cost-effective measures as possible for lowest owner cost
- Offer installation of measures
- Eliminate lost opportunities

Customer Outreach and Recruitment

- Marketing materials developed jointly with utility
- Customer recruitment through lodging associations, other community business organizations
- Personal recruiting visits and demonstrations
 - Working Demo Kit for GREM System
 - “Walk through” energy assessment to include lighting and vending opportunities
 - Simple payback analysis presented for co-pay items
 - Formal customer proposal
- Testimonials and case studies

Program Delivery

- Franklin Energy Field Technicians
 - Guest Room Energy Management Controls
 - CFLs in rooms
 - Watt Stopper sensor with LED night light
 - Showerheads/Aerators/Pre-Rinse Spray Valves (if electric water heat)
 - Vending machine controls
- Electrical Subcontractors
 - Common area lighting fixtures

Program Goals and Initial Assumptions

- Average kWh savings per room initial **projection:**
 - 1,250 kWh
 - 65% PTAC, 35%PTHP
 - 35% ¾ ton, 45% 1 ton, 20% 1¼ ton
- **Actual** kWh savings per room
 - 1,093 kWh per room
 - 36% PTAC, 64% PTHP
 - 28% ¾ ton, 62% 1 ton, 10% 1¼ ton

Energy Savings / Room: Summary

- Initial projections: 1,340 kWh per room
 - ~47% participation rate (~40% with GREM)
- Current projections: 1,299.8 kWh per room
 - ~45.5% participation rate (~32% with GREM)

Energy Savings / Room: Bathroom Sensors

- Initial projections: 197 kWh per room
 - Penetration rate of only 10%
 - 197 kWh / sensor (depends on watts controlled)
- Current projections: 222 kWh per room
 - Penetration rate of 108% (use 100%)
 - 222 kWh / sensor

Energy Savings / Room: Common Area Measures

- Initial projections: 133.2 kWh per room
 - Vending / Snack misers – ~1 ½ per hotel
 - LED, T8, CFL fixtures - ~17 per hotel
- Current projections: 65.3 kWh per room
 - Vending / Snack misers - ~2 per hotel
 - LED, T8, CFL fixtures – less than planned, but this could change over time

Closing the Deal

- Customers with all free measures, no problem
- Customers with co-pay:
 - Usually have very short paybacks (one year or less)
 - Multiple layers of approval authority required
 - Significant number of these still hesitant to agree to program
 - \$1,000 to \$5,000 required
 - Cannot or unwilling to pay this small amount

Challenges

- Wide variety and age of HVAC units, even in same hotel
- Units not designed for thermostat
 - Interface boards and wiring schemes
- Lack of equipment documentation and wiring diagrams
- Recruiting of qualified installers
- Training

Lessons Learned

- MUST ensure proper instructions from front desk staff to guests
- MUST provide post installation equipment operation training to management and staff
- MUST provide a method to support facility staff even after the program is over
- MUST get equipment manufacturers total buy-in to post install support
- MUST maintain consistent installer training and quality assurance

Contact Information

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