

On June 9, 2009, the Massachusetts Office of Technical Assistance (OTA) hosted a conference in Marlborough, Massachusetts on water conservation and other greening opportunities for the hospitality industry. The conference, *Saving Money Through Greening Hospitality: Reducing Costs and Attracting Customers Through Water and Energy Conservation, Waste Reduction, and Toxics Use Reduction*, featured speakers from the hospitality industry, experts in water conservation, and government officials. Nancy Stevens, the mayor of Marlborough, welcomed forty attendees from the hospitality sector and other interested parties, stressing the high priority of water conservation and other environmental improvements for the city. The primary topics of the conference were:

- Water Conservation and Stressed Water Resources in Massachusetts
- Energy Efficiency, Renewable Energy, Global Warming and Financial Incentives
- Toxics Use Reduction
- Waste Reduction, Recycling, and Composting
- Green Certifications
- Consumer Demand for Environmental Responsibility
- Business Benefits and Cost Savings

The conference brochure, which includes the event agenda, the presentations, and survey results are available on the [OTA website](#).

Highlights of the Greening Hospitality Conference Presentations

[The Bottom Line Of Green Is Black](#)

Tedd Saunders, President of EcoLogical Solutions Inc., (<http://www.ecological-solutions.net>) and Chief Environmental Officer, The Saunders Hotel Group and Co-Owner, The Lenox Hotel and Comfort Inn & Suites Boston/Airport

Commercial buildings produce **38%** of all carbon dioxide emissions, consume **40%** of total energy consumption, and use **68%** of all electricity. The hotel industry is the 4th most intensive energy user in the U.S. Business Sector.

The Travel Industry of America estimates that 54% of those who stay in hotels are more likely to patronize hotels that practice environmental responsibility. Orbitz estimates that 67% of Americans place importance on eco-friendliness of a destination, and Travelocity estimates that 80% are willing to spend more on an eco-friendly destination.

Hotels should review monthly energy reports detailing usage & cost per occupied room, and look for energy efficiency opportunities with lighting, HVAC systems (implementing preventive maintenance and considering the use of Variable Speed Drives), and operational audits. The 208-room Comfort Inn & Suites Boston/Airport saves enough energy annually to power 97 houses for one year.

[Green Certifications](#)

Glenn Hasek, Publisher & Editor, Green Lodging News (<http://www.greenlodgingnews.com>)

Twenty-one hotels (are now LEED certified (Leadership in Energy and Environmental Design), and hundreds are pursuing certification. 53 properties are now Green Seal certified. 405 are participating in Energy Star. More than 1,000 are participating in Green Key. 18 states offer certification programs. Other notable certifications include: Green Globe, Audubon's Green Leaf, EcoRooms & EcoSuites, Eco Crown, iStayGreen.org, Environmentally Friendly Hotels, Green Suites International, GreenGuard, Sustainable Travel International, and the International Association of Conference Centers. In addition there is a Green Restaurant Association.

Greening Your Hotel

Dan Ruben, Founder and Director, Boston Green Tourism Group

(http://www.bostongreentourism.org/Home_Page.html)

Meeting planners are patronizing hotels that have implemented eco-friendly initiatives; for example there has been an increase in Requests for Proposals (RFPs) from businesses that ask hotels for environmental achievements. The U.S. Environmental Protection Agency (EPA) and the State of Florida now require staff to stay in green hotels. The federal government is also developing a green meeting standard that includes incentives for federal staff and meeting planners to choose green hotels. Orbitz highlights Energy Star hotels.

In the last several years, as hotel electricity costs have soared, Energy Star buildings now use 35% less energy than comparable buildings. For example, the Hyatt Regency Boston reduced electricity use from 12.3 million kWh per year to 7.5 million kWh per year. The Westin Copley Place reduced water use by 22.5 million gallons in 2008 alone (about a 20% reduction). *Reduced energy, water and waste disposal bills go directly to the bottom line.*

Hotels should also follow the EPA Energy Star steps. These steps are: 1. Tune up and turn off; 2. Upgrade lighting; 3. Reduce plug load; 4. Upgrade fan & motor systems and central plants, (examples include changing to efficient boilers, chillers and motors; installing Variable Frequency Drives in fan and pump systems; optimizing system design and operation; 5. Retro-commission your building, (a way to make sure systems are functioning optimally), and stay current with emerging technologies and changing costs/rebates; (for example, Combined Heat and Power and LED lighting are now cost effective in many circumstances); 6. Recognize that preventative maintenance (PM) can cut energy bills by as much as 20% - business should develop a rigorous, structured PM program, which includes cleaning coils, replacing filters, calibrating controls, lubricating and adjusting equipment; 7. Train building operators - consider the Building Operators Certification Program (www.theboc.info/); 8. Utilize Energy Management Systems that can control lighting, heating and cooling, and identify problems; 9. Reduce energy use by computers up to 50% by using Energy Star equipment, laptops, power management, web-based software, and fewer servers.

Reduce, Reuse, Recycle

Morgan Harriman, Department of Environmental Protection, Bureau of Waste Prevention.

(<http://www.mass.gov/dep/recycle/index.htm>).

Certain wastes are banned from disposal, such as leaves and yard waste, lead-acid batteries, white goods (refrigerators, air conditioners), tires, CRTs (TV and computer monitors), construction and demolition debris, mercury-containing devices (fluorescent bulbs), recyclable paper and cardboard, glass, metal and plastic containers.

Options for reducing waste include: dispensers for shampoo, soap and lotion instead of single-use bottles; optional newspaper delivery (opt-out at check-in); furniture donation/reuse; bulk condiments; commercial coffee makers to replace single-serve units; water coolers to replace water bottles; reusable dishware to replace disposable cups, plates, and cutlery; bulk cleaners with automatic dispensers for facility maintenance, and reusable shipping containers and pallets.

Hotels should consider joining the Wastewise program, which has 149 Massachusetts members. Wastewise is an EPA funded partnership program launched in 1994 that helps organizations eliminate costly waste, benefiting their bottom line and the environment. It is flexible, free and voluntary. Members include the Kimpton Hotels, the Hotel Marlowe, the Onyx Hotel, Nine Zero, the Massachusetts Convention Center Authority, the Omni Parker House, Springhill Suites by Marriott, the Colonnade Hotel, the Seaport Hotel, and Westin Copley Place.

[Water Conservation in Massachusetts](#)

Kathleen Baskin, Director of Water Policy, Executive Office of Energy and Environmental Affairs (<http://www.mass.gov/eea>)

The economic impacts of reduced stream flow due to overuse of water resources include **water supply shortages and bans, and building moratoriums**. The cost savings from water conservation include reduced operation and maintenance costs (energy and chemicals), and lower energy costs that result from a diminished need to pump, treat and distribute water, and collect, treat and dispose wastewater.

If water conservation programs succeed, the large capital facilities (water and wastewater treatment, storage) that communities need can be delayed, downsized, or eliminated, and purchases from wholesale water providers can be reduced.

The 1992 Energy Policy Act's National Efficiency Standards – toilets (1.6 gal per flush), urinals (1.0 gal per flush), showers (2.5 gal per min) and faucets (2.5 gal per minute) – will bring about a 3% - 9% reduction in consumption and \$166M - \$231M in deferred/avoided infrastructure investments by 2020. It is estimated that the City of Boston will save 3.9% in infrastructure investment through 2020. The energy savings from water conservation are also significant. For example wastewater treatment facilities use 3% of total U.S. consumption of electricity and in five minutes, a hot water faucet uses as much energy as a 60-watt bulb uses in 14 hours.

[TUR For Hotels](#)

Rick Reibstein, Manager of Outreach and Policy, MA Office of Technical Assistance and Technology (<http://www.mass.gov/eea/ota>)

Hotels are hazardous waste generators, and must manage the following wastes in accordance with state and federal rules: pesticides, sealants, adhesives, paints, thinners, gasoline, oil, degreasing solvents, boiler and furnace chemicals, refrigerants, cleaners, drain cleaners, and pool chemicals. Using these chemicals may trigger: “hazard communication” requirements to train workers in their safe use; spill reporting, response and prevention requirements; storage reporting and labeling requirements; possible air and/or water permitting or reporting; and risks of liabilities for exposure or contamination (notably Superfund liability). Companies using hazardous chemicals can take actions to ensure that they are properly managed and their attendant risks are reduced. Companies can also calculate how much time and money it takes to manage toxic chemicals properly, and compare their total cost to safer chemicals that they may

be unfamiliar with or that may cost more to purchase. Safer chemicals that do not carry all the associated costs and risks of more toxic products may cost less to use, when the full costs of use are examined. Most facilities calculate these costs as part of overhead, and do not allocate them to the source – the decision to purchase and use a toxic chemical.

Energy Star Opportunities For Savings

Shubhada Kambli, U.S. Environmental Protection Agency, Energy Star program

(<http://www.epa.gov/region1/eco/energy/energystar.html>)

You can't manage what you don't measure, and until recently, a standardized, comparable metric of whole building energy performance did not exist. EPA's Energy Performance Rating System was developed to meet this need. There is a 400% variation in energy use intensity of buildings (Source: Commercial Buildings Energy Consumption Survey). This variation is not explained by age, technology, hours, size, or climate. Therefore attention to how a building is managed and how energy is used within it can lead to significant savings. Companies that use EPA's Energy Performance Rating System can compare their energy use to that of similar buildings. This benchmarking tool will help building owners find opportunities to conserve.

C & I Energy Efficiency Programs -

Timothy Ceurvels, NSTAR, C&I Energy Efficiency Programs (Electrical),

(<http://www.nstar.com/Business>)

NSTAR offers several programs that include subsidies for cleaner, more efficient energy. Their Construction Solutions program can cover up to 75% of the incremental cost of energy efficiency equipment, with up to 50% cost sharing for technical assistance engineering and commissioning service. It has already paid out over \$6 million dollars and helped companies save more than 31 million kWh a year. Their Business Solutions program can cover up to 50% of total costs, with up to 50% cost sharing for technical assistance engineering and commissioning services, including retro-commissioning, which involves tuning up existing facilities to current optimal energy efficient standards. This program has paid out nearly \$9 million and helped companies save over 70 million kWh thus far. A third program, Small Business Solutions, has paid out \$7.6 million and helped companies save 24 million kWh.

Whole Building Assessment Initiative

Denise Rouleau, Anita Hagspiel, National Grid, (<http://www.nationalgridus.com> or <http://www.thinksmarthinkgreen.com>).

National Grid's Design 2000 plus program for new buildings offers technical assistance and financial incentives to large commercial and industrial customers who are building new facilities, replacing failed equipment or undergoing major renovations. Incentives of up to 75% of the additional cost for efficiency upgrades are available for lighting and controls, HVAC systems, motors, compressed air, variable speed drives, or custom projects. For existing facilities, National Grid offers technical assistance and incentives to help purchase and install energy efficient equipment, and incentives of up to 45% of the project cost are available for both electrical and gas systems. National Grid's Whole Building Assessment Initiative helps customers to assess a building's energy performance (all fuels), identify cost-effective energy upgrades & utility incentives, tie into the EPA's ENERGY STAR program, train, and plan system upgrades.

Real Life Examples of Successful Water Conservation in Hotels

Dan Cook, Conservation Solutions Corporation, Water Efficiency Division,
(<http://www.conservationsolutions.com/>)

Hotels have saved money by implementing a wide variety of water conservation options, including: faucet or shower replacement, urinal or toilet upgrades, ozone laundry systems, swimming pool covers, irrigation system upgrades, and cooling and steam system changes. Savings can be significant. For example, replacing existing 2.2 gal/minute faucet aerators and 1.25 gal/minute showerheads in a 200 unit hotel had a payback of about half a year and life-cycle cost savings over 10 years of more than \$200,000. Ozone laundry systems can reduce hot water costs by 90%, as well as reducing chemical use. Hotels can recover heat from refrigeration or cooling systems, implement solar water heating, capture and use rainwater, and use satellite-based irrigation systems to water only when there is no rain.

References:

OTA Conference Web Page:

http://www.mass.gov/?pageID=eoeeterminal&L=5&L0=Home&L1=Grants+%26+Technical+Assistance&L2=Education+%26+Training&L3=Education+and+Outreach+Programs+for+Businesses&L4=Information+Archives&sid=Eoeea&b=terminalcontent&f=eea_ota_greening_hosp_conf&csid=Eoeea

Presentations

- *The Bottom Line of Green Is Black* -
http://www.mass.gov/Eoeea/docs/eea/ota/resources/the_bottom_line_of_green_is_black_ecological_solutions_tedd_saunders.pdf
- *Green Certifications* -
http://www.mass.gov/Eoeea/docs/eea/ota/resources/green_certifications_green_lodging_news_glenn_hasek.pdf
- *Greening Your Hotel:*
http://www.mass.gov/Eoeea/docs/eea/ota/resources/greening_your_hotel_dan_ruben.pdf
- *Reduce, Reuse, Recycle* -
http://www.mass.gov/Eoeea/docs/eea/ota/resources/reduce_reuse_recycle_morgan_harri_man_massdep.pdf
- *Water Conservation in Massachusetts* -
http://www.mass.gov/Eoeea/docs/eea/ota/resources/water_conservation_in_massachusetts_kathy_baskin_eea.pdf
- *TUR For Hotels* -
http://www.mass.gov/Eoeea/docs/eea/ota/resources/rick_reibstein_ma_ota.pdf
- *Energy Star Opportunities For Savings* -
http://www.mass.gov/Eoeea/docs/eea/ota/resources/energy_star_opportunities_for_hospitality_savings_us_epa.pdf

- *C & I Energy Efficiency Programs -*
http://www.mass.gov/Eoeea/docs/eea/ota/resources/ci_energy_efficiency_programs_2009_nstar.pdf
- Whole Building Assessment Initiative -
http://www.mass.gov/Eoeea/docs/eea/ota/resources/whole_building_assessment_initiative_national_grid.pdf
- Real Life Examples of Successful Water Conservation in Hotels –
http://www.mass.gov/Eoeea/docs/eea/ota/resources/success_water_conservation_hotels.pdf