

# Institutionalizing Pollution Prevention in the Berkshire County, MA Hospitality Sector



October 2013

# **Institutionalizing Pollution Prevention in the Berkshire County, MA Hospitality Sector**

---



## **Funding Provided By:**

**Environmental Protection Agency, Source Reduction Grant**

## **Project Team**



**Berkshire Regional Planning Commission**

Amy Kacala, Senior Planner



## **HospitalityGreen**

Evadne Giannini

Elizabeth Olenbush

## **Project Partners**

**Berkshire County Boards of Health Association**

**Berkshire Community College**

**Berkshire Visitors Bureau**

## TABLE OF CONTENTS

<b>Introduction .....</b>	<b>1</b>
Pollution Prevention Benefits.....	1
<b>Berkshire Hospitality Sector P2 Baseline .....</b>	<b>3</b>
Survey of Current Practices.....	3
Pollution Prevention Baseline .....	4
Facility Implementation of Audit Findings.....	5
<b>Findings &amp; Recommendations: Opportunities for Action .....</b>	<b>7</b>
Source reduction outcomes .....	7
Priority Implementation Opportunities for Hospitality Establishments .....	9
<b>Broadening the Reach Through Local Health Inspectors.....</b>	<b>12</b>
Green Facilities Resource Listings.....	12
Green Facilities Improvement Checklists .....	12
Green Facilities P2 Handbook.....	12
<b>Recommendations and Next Steps For Project Partners.....</b>	<b>13</b>



## INTRODUCTION

The Berkshires is a region in westernmost Massachusetts that has long been a summer destination for its rich natural and cultural resource offerings. While the summer season is still by far the busiest, tourist visits continue year round for fall foliage viewing in autumn and skiing and other snow sports in winter. To accommodate this year-round tourism activity, there are some 120 lodging facilities in the region of varying sizes. There are also a number of lodging facilities that are in themselves destinations, such as Canyon Ranch spa and Kripalu Center for Yoga and Health.

According to the Massachusetts Department of Workforce Development<sup>1</sup>, Berkshire County's Leisure and Hospitality sector is the second largest economic driver in the region, with Accommodation and Food Services employing over 3,400 people, not including seasonal employment. Tourism contributes more than \$327 million annually to the region's economy, according to the Berkshire Visitors Bureau (BVB).

More than 2.6 million people visited the Berkshires in 2011, according to the BVB, occupying an estimated 4,300 rooms. A recent study by TripAdvisor.com, the web-based consumer-driven rating service, indicated that the majority of travelers already participate in sustainable lodging practices such as turning off lights, reusing linens and towels, and recycling. The survey also indicates that 62 percent of all travelers consider environmental qualities when choosing a lodging property.

In 2012, Berkshire Regional Planning Commission and HospitalityGreen LLC began implementing an EPA Source Reduction Grant to work with the Berkshire hospitality sector to:

- Develop a baseline of current industry energy, water, chemical and paper use,
- Work with health inspectors to understand the environmental and health impacts of the chemicals, and
- Provide health inspectors with materials to bring and distribute during their routine inspection to lodging facilities and restaurant kitchens to help transition practices to reduce pollution and waste.

## POLLUTION PREVENTION BENEFITS

Improving the pollution prevention practices and instituting sustainable business practices in Berkshire hospitality properties has great potential to improve the health of people, the planet and the properties' profit margin – the so-called “triple bottom line.”

Massachusetts has fairly robust awareness building programs for energy conservation and recycling, which are borne out by the results of both the baseline survey and the property assessments. The “low hanging fruit,” such as switching to CFL's, towel and linen reuse, and recycling bottles, cans and newspapers, are generally known and practiced by hospitality providers. Many are unaware of other

---

<sup>1</sup> “Regional LMI Profile: Annual Profile for Berkshire County Workforce Area, May 2010,” Massachusetts Department of Workforce Development.

money saving, easy to implement operational changes they can make to improve both the environment and their bottom lines. This project created a series of tools, such as Energy and Water check lists, that can be easily implemented by hospitality providers of all sizes.

Toxic chemical reduction through chemical cleanouts and switching to third party certified cleaning products is a particular focus of this P2 program because of the potential to improve worker and public health and safety. Studies have shown that six of every 100 janitors are injured by the chemicals they use. Respiratory illnesses are the largest source of workers compensation claims. Most Americans spend about 90% of their days indoors, where air pollutants can be 2-5 times higher than outdoors.

Using third party green cleaning products improves human health and the environment in many ways:

#### ***HUMAN HEALTH***

- Low VOC's
- Reduced toxicity
- No carcinogens
- No skin irritation
- No skin sensitization
- Reduced asthmagens & fragrances

#### ***ENVIRONMENT***

- Improvement in indoor air quality
- No ozone-depleting substances
- Low phosphates
- Biodegradable
- No additional prohibited ingredients

Smaller lodging properties, which are prevalent in the Berkshires, most frequently use off-the-shelf cleaning products such as bleach and consumer brand-name products such as *Windex*, *Scrubbing Bubbles* and *Fantastik*. *Windex*, for example, contains chemicals including ammonium hydroxide, ethanolamine, and hexoxyethanol that have respiratory effects, cause skin irritation, and the potential for aquatic toxicity if introduced into the watershed. Ammonia and chlorine-based products, both commonly used as sanitizers and disinfectants, produce potentially toxic chlorine gas when mixed together. Switching to third party certified green cleaning products also saves money, conserves water and reduces solid waste generation because most third party certified cleaning products are sold as concentrates.

Larger lodging properties often use a dilution system, which saves a good deal of water and insures consistency in room cleaning, but which often are not third party certified. Ironically, most commercial janitorial suppliers and consumer brand name products DO have lines of third party certified green cleaning products; they just don't advertise them or offer them widely unless educated property owners ask for them.

## BERKSHIRE HOSPITALITY SECTOR P2 BASELINE

### SURVEY OF CURRENT PRACTICES

In September 2012, a survey was sent out to Berkshire County lodging properties to establish a baseline of their environmental practices. The electronic survey was distributed through a Berkshire Visitors Bureau list to 121 lodging facilities of varying sizes across the county. The survey was designed to be quick and easy to complete to ensure a sound response rate and asked questions within five general spheres of facility efficiency and greening. More than 22% of the properties responded within two weeks, an excellent response rate considering that fall is still their tourist season.

#### *Lodging Type*

B&B's	27
Hotels	18
Inns	44
Motels	27
Resorts	5
<b>Total</b>	<b>121</b>

Category of Action	Questions Asked	Key Findings
<b>Policy and Practice</b>	<ul style="list-style-type: none"> <li>• Has your property adopted and displayed an organization-wide environmental policy?</li> <li>• Is your property listed on any green tourism websites?</li> <li>• Does your property provide a courtesy van to and from transportation hubs of to local events?</li> <li>• If your property serves food, how much of the food is from local farms (within 100 miles)?</li> <li>• Do you believe that improved environmental practices could lower your operating costs?</li> </ul>	<ul style="list-style-type: none"> <li>• Only 38% of sites had adopted a formal environmental policy for their establishment</li> <li>• Less than 10% use green practices as a marketing platform</li> <li>• All food-serving properties surveyed use some (25% or more) local produce in their meals</li> <li>• 96% believe that improved environmental practices could lower their operating costs but only 38% have adopted a company-wide environmental policy</li> </ul>
<b>Recycling and Resource Reduction</b>	<ul style="list-style-type: none"> <li>• Does your property currently recycle?</li> <li>• Where do you purchase your soft paper products?</li> <li>• Where do you purchase our office paper products?</li> <li>• Does the property use or offer individually packaged amenities to guests?</li> </ul>	<ul style="list-style-type: none"> <li>• 80% recycle cans, cardboard and newspapers</li> <li>• 96% recycle bottles, which are covered under the state's Bottle Deposit law</li> <li>• Fewer than 10% compost organic materials</li> <li>• 80% still offer individually packaged amenities to guests</li> </ul>
<b>Energy Conservation Measures</b>	<ul style="list-style-type: none"> <li>• Is any of your indoor lighting retrofitted for energy-efficiency?</li> <li>• In the last two years, has your property participated in an energy audit?</li> </ul>	<ul style="list-style-type: none"> <li>• 92% have retrofitted their indoor lighting fixtures for energy efficiency</li> <li>• only 33% have had a recent energy audit</li> </ul>
<b>Water Conservation Measures</b>	<ul style="list-style-type: none"> <li>• Does your property have any water conserving fixtures or retrofits?</li> <li>• Do your guests have the option to reuse their linens and towels during their stay?</li> </ul>	<ul style="list-style-type: none"> <li>• 92% give guests the option of reusing linens and towels</li> <li>• 70% have some sort of water conserving features on their properties</li> </ul>
<b>On-site Chemical Use</b>	<ul style="list-style-type: none"> <li>• Is the property cleaned by an outside service?</li> <li>• Is the property's exterior landscaping maintained by an outside service?</li> <li>• Where do you purchase your cleaning products?</li> </ul>	<ul style="list-style-type: none"> <li>• 85% of properties are cleaned by staff versus an outside service</li> <li>• 61% of properties maintain their own grounds</li> </ul>

## POLLUTION PREVENTION BASELINE

The survey was distributed to 121 lodging properties in the County, representing approximately 4,300 rooms. When the survey was distributed, it was advertised that responding would enter the facility in a chance to win one of ten free facility audits. After results were in, ten properties were selected with attention paid to ensure the sample was representative of the different sizes and types of lodging providers in Berkshire County. The goal was to gather more detailed information from the ten and extrapolate the findings to better understand the impact and potential of the hospitality industry to reduce water, energy, resource, and chemical consumption. Those properties receiving an audit were provided access to an on-line resource tracking tool to enter in their use data to facilitate the data gathering.

In October 2012, an experienced team of HospitalityGreen facility auditors conducted on-site facility assessments. The 10 properties visited have a total of 537 rooms, about 12 % of the county total. Each participating property received a confidential property report and recommendations in a number of operational areas. Based on data obtained during and facility assessments and in follow-up interviews, we estimated annual generation or consumption rates for the 10 surveyed properties, which were then extrapolated to illustrate estimated consumption/generation for the 121-establishment hospitality industry of the Berkshires. After the follow up interviews, we projected some of the environmental and cost savings from implementation of sustainable operating practices.

Current Use	Sample Properties – Annual Consumption	Entire Berkshire Hospitality Sector
<b>Recycling and Resource Reduction</b>	<ul style="list-style-type: none"> <li>• 819 tons of waste disposed each year</li> </ul>	<ul style="list-style-type: none"> <li>• 6,825 tons of waste disposed each year</li> </ul>
<b>Energy Conservation Measures</b>	<ul style="list-style-type: none"> <li>• Electricity: 9,301,002 kilowatt hours</li> <li>• Heating fuel: 82,719 gallons (oil, propane &amp; natural gas)</li> </ul>	<ul style="list-style-type: none"> <li>• Electricity: 77,508,350 kilowatt hours</li> <li>• Heating fuel: 689,325 gallons (oil, propane &amp; natural gas)</li> </ul>
<b>Water Conservation Measures<sup>2</sup></b>	<ul style="list-style-type: none"> <li>• 31,013,794 gallons</li> </ul>	<ul style="list-style-type: none"> <li>• 258,448,283 gallons</li> </ul>
<b>On-site Chemical Use<sup>3</sup></b>	<ul style="list-style-type: none"> <li>• 644 lbs. of toxic chemicals<sup>4</sup></li> </ul>	<ul style="list-style-type: none"> <li>• 4,128 lbs. of toxic chemicals</li> </ul>

<sup>2</sup> Many Berkshire County properties rely on well water and septic systems so do not have metering systems. Although we have made projections based on industry statistics, we are not able to verify those projections from the on-site assessments. Water usage also varies greatly depending on whether lodging properties have pools and spas, so the only apples-to-apples projection that can be made is looking at in-room water usage by guests.

<sup>3</sup> A standard hotel uses 2 lbs. of cleaning products per room per year. Two of the 10 surveyed hotels currently use third party certified cleaning products, which means that 80% of the 537 rooms are currently not using green cleaners.

<sup>4</sup> Assumes an average occupancy rate of 60%

## **FACILITY IMPLEMENTATION OF AUDIT FINDINGS**

In May of 2013, each of the 10 properties was contacted to schedule a follow-up interview to determine what they had done since they received the property reports. One property had been sold, and the general manager of another had left and his successor was unable to report on any progress to date. However, that property is a participant in a brand-standard green certification program so is in the process of making many of the recommended changes in order to meet the brand standard.

Measurement and tracking of energy, water and waste/recycling is not on the radar screen for smaller properties despite of the ease of using the resource tracking tool. Most of the B&B's, Inns and Motels are owner-operated, and may employ only a housekeeper or two in season. HospitalityGreen was able to obtain data and enter it into the tool for most of the properties but this was a time-consuming task. Some of the larger hotels and resorts track utility usage and waste/recycling in their own internal formats and supplied those data.

Although the operational changes made on the assessed properties were minimal in the months between the delivery of the property reports and the follow up interviews, there was unanimity on a number of points:

- All of the participating properties felt their participation in the program was valuable and found the information supplied in the Property Reports and Recommendations to be useful.
- All of those reached for follow up interviews said that the SPECIFIC recommendations supplied by the subcontractor were helpful. None knew, for example, that a MassSave rebate program for commercial and institutional lighting was in effect at the time or that there may be rebates for replacement of commercial kitchen equipment.
- B&B and Inn owners commented that lodging properties in the Berkshires are often historic properties or older buildings that are difficult to make energy efficient. They often are too large to qualify for residential energy rebates (such as insulation rebates) but not profitable enough to afford the significant capital investment required for replacement windows, for example.
- Every property reached for a follow up interview indicated that they would pursue certified green cleaning products, primarily as a way to provide a healthier environment for workers and guests and secondarily as a cost-savings measure. Several had already contacted their suppliers to ask for samples of third party certified cleaners to test.
- Another incentive cited for a switch to third party certified green cleaners is the protection of groundwater, as many properties are on private wells and septic systems.
- The one-page energy and water checklists are perceived to be valuable reminders of good conservation practices.
- All indicated an intention to purchase EnergyStar rated appliances such as guest TV's when doing refurbishments or room upgrades.
- Larger properties were completely unaware of the potential for a commercial/institutional food waste ban to be imposed by MassDEP in 2014.
- Properties generally are already aware of periodic e-waste recycling programs in their towns.

- All cited the effects of the recent recession and most stated that their bookings, while improving, are still below the peak of the late 2000's, which has constrained their profit margins.
- All of the properties were interested in a series of Green Lodging Forums that could both showcase successful case studies and address specific issues. The property managers also stated, however, that such forums needed to take place between November and April.
- While interested in additional Green Facilities Training options, most of the small and medium facilities (B&B's, Inns and Motels) said that their staffs were too small to send anyone off-site for training that lasts more than 3-4 hours.

## FINDINGS & RECOMMENDATIONS: OPPORTUNITIES FOR ACTION

### SOURCE REDUCTION OUTCOMES

#### Industry Use and Projected Savings

Current Use	Current Annual Consumption	Measures Assumed Taken	Estimated Resource Savings/Pollution Prevention	Estimated Cost Savings
<b>Recycling and Resource Reduction</b>	<ul style="list-style-type: none"> <li>6,825 tons of waste disposed each year</li> </ul>	<ul style="list-style-type: none"> <li>Composting</li> </ul>	<ul style="list-style-type: none"> <li>1,433 tons solid waste</li> <li>3,808 MMBTUs energy</li> <li>592 MTCO2E</li> </ul>	\$93,145
		<ul style="list-style-type: none"> <li>Participation in E-waste recycling</li> </ul>	<ul style="list-style-type: none"> <li>17,200 lbs hazardous waste</li> <li>12.5 tons solid waste</li> </ul>	n/a
		<ul style="list-style-type: none"> <li>Recycling</li> </ul>	<ul style="list-style-type: none"> <li>107 tons solid waste</li> <li>1629 MMBTUs energy</li> <li>285 MTCO2E</li> </ul>	\$6,955
<b>Energy Conservation Measures</b>	<ul style="list-style-type: none"> <li><b>Electricity:</b> 77,508,350 kilowatt hours</li> <li><b>Heating fuel:</b> 689,325 gallons (oil, propane &amp; natural gas)</li> </ul>	<ul style="list-style-type: none"> <li>Energy Efficient lighting</li> </ul>	<ul style="list-style-type: none"> <li>12,775 MMBTUs</li> <li>785 MTCO2E</li> </ul>	\$168,150
		<ul style="list-style-type: none"> <li>Energy Star electronics replacements</li> </ul>	<ul style="list-style-type: none"> <li>3,211 MMBTUs</li> </ul>	\$141,255
<b>Water Conservation Measures<sup>5</sup></b>	<ul style="list-style-type: none"> <li>258,448,283 gallons</li> </ul>	<ul style="list-style-type: none"> <li>Water conservation operational practices plus water-saving fixtures and toilets (etc.)</li> </ul>	<ul style="list-style-type: none"> <li>19,329,231 gallons of water</li> </ul>	\$193,293
<b>On-site Chemical Use<sup>6</sup></b>	<ul style="list-style-type: none"> <li>4,128 lbs. of toxic chemicals</li> </ul>	<ul style="list-style-type: none"> <li>Switch to third party certified green cleaning products</li> </ul>	<ul style="list-style-type: none"> <li>4,128 lbs. of toxic chemicals</li> <li>1.6 tons solid waste</li> <li>413 gallons of water</li> </ul>	\$81,332

References: EPA WARM Model, Energy Star, and WaterSense Calculators; EPA's 2010 GHG Equivalencies Calculator; AHLA Green. NOTE: Cost of water/sewer is extrapolated as many properties are on private well & septic systems, which are not metered.

<sup>5</sup> Many Berkshire County properties rely on well water and septic systems so do not have metering systems. Although we have made projections based on industry statistics, we are not able to verify those projections from the on-site assessments. Water usage also varies greatly depending on whether lodging properties have pools and spas, so the only apples-to-apples projection that can be made is looking at in-room water usage by guests.

<sup>6</sup> A standard hotel uses 2 lbs. of cleaning products per room per year. Two of the 10 surveyed hotels currently use third party certified cleaning products, which means that 80% of the 537 rooms are currently not using green cleaners.

### Summary of Total Savings and Reductions within Hospitality Sector

Measure Taken	Pollution Reductions			Resources Saved		
	Hazardous Waste (lbs.)	Solid Waste (tons)	CO2 Emissions (MTCO2e)	Energy (MMBTUs)	Water (Gal)	Money (\$)
Efficient Lighting			785	12,775		\$168,150
Green Cleaning	4,128	1.6			413	\$81,332
Recycling		107	285	1,629		\$6,955
Future Composting		1,433	592	3,808		\$93,145
Water Conservation					19,329,231	\$193,293
Energy Star and E-waste recycling	17,200	12.5		3,211		\$141,255
<b>Total</b>	<b>21,328</b>	<b>1,554</b>	<b>1,662</b>	<b>21,423</b>	<b>19,329,644</b>	<b>\$684,130</b>

References: EPA WARM Model, Energy Star, and WaterSense Calculators; EPA's 2010 GHG Equivalencies Calculator; AHLA Green. NOTE: Cost of water/sewer is extrapolated as many properties are on private well & septic systems, which are not metered.

### Underlying Assumptions

**Waste Reduction** – Extrapolating from our property surveys, we estimated that all properties generate about 4,128 tons of solid waste annually. Their recycling of mixed containers, paper and cardboard avoids disposal of 107 tons of solid waste that otherwise would be landfilled or incinerated at the Springfield MRT at an average tipping fee of \$65/ton. Of the total amount of solid waste currently generated, MA DEP estimates that 21 % is compostable organics & paper, yielding a potential reduction of an additional 1,433 tons per year.

**EnergyStar & E-waste** – Our surveys show that 50% of rooms have in-room TV's that are not EnergyStar compliant. Each EnergyStar TV saves 400 watts over older models; multiplied by the 5 hours a day a TV is typically on @ \$.15/kwh, Energy Star TV's save \$141,255. When recycled through e-waste collection programs, these TV's reduce many hazardous substances from going into landfills; we have projected a savings of 8 lbs. of lead each through e-waste recycling of 2150 TV's.

**Energy Efficient Lighting** – 80% of the 4300 rooms have switched to CFL's or LED's. Each room has six 60 watt bulbs that are on for 5 hrs/day that were replaced by 13 watt CFL bulbs. At \$.15/kwh and a 60% average occupancy rate, the net cost savings to the lodging sector is \$168,150 annually. (These figures do not calculate other energy efficiencies realized through this P2 program.)

**Water** – 70% of county properties are instituting some water conservation measures. By replacing ½ of the 5GPM showerheads for 2.5 GPM's with a water/sewer cost @\$.01 a facility and @60% capacity, our facilities are saving \$176,569 and 17,656,875 gallons of water plus additional energy from reduced hot water heating. 20% are replacing 4.5 GPF toilets for WaterSense 1.6 GPF, flushing 4 times daily at 60% occupancy at \$.01 for waste/sewer, saving \$16,724 and 1,672,356 gals of water a year.

**Green Cleaning** - A standard hotel uses 2 pounds of cleaning products per room per year. We found that fewer than 20% of the properties had switched to certified green cleaners but all expressed interest in converting. Projecting the remaining rooms as converting to green cleaners, at a 60% occupancy rate,

yields an annual source reduction of 4128 lbs. of chemicals. Reduction in waste water has been calculated at 10 lbs. per gallon or 413 gallons. Small & medium properties are replacing an average 4 spray bottles per week per property, each weighing 2.5 oz. at an average cost of \$3.99 apiece. (Note: AVERAGE industry saving from switching to green cleaners is 400%)

## **PRIORITY IMPLEMENTATION OPPORTUNITIES FOR HOSPITALITY ESTABLISHMENTS**

### ***Recycling and Resource Reduction***

**Paper Products:** Thirty percent of properties indicated that they purchase recycled content soft paper products (tissues, toilet tissues, paper towels, napkins, etc.), and 40% are purchasing recycled content office papers. In follow up interviews, some properties mentioned that their guests were not happy with the softness or absorbency of recycled content soft paper products, so they were urged to try different sources, as virtually all the major paper manufacturers now supply third party certified soft tissues.

**General Recycling Practices:** As expected in a state with a series of landfill waste bans long in place, most lodging businesses are recycling common items such as bottles, cans, newspapers, and cardboard. However, few provide opportunities for their guests to recycle while on property, which is an area ripe for improvement. Most properties have commercial waste hauling contracts, and recycling is a service supplied by these haulers. The larger properties usually have hauling schedules adjusted seasonally, and have internal tracking systems for their waste and recycling bills. Smaller properties do not. Each Property Report and Recommendations contained a factsheet on Solid Waste and Recycling in Berkshire County, which provided suggestions for how to increase recycling rates, and sources to learn what is recyclable in each Berkshire County community.

**Textile Recycling:** Due to periodic linen and towel replacement schedules, lodging properties generate larger amounts of reusable or recyclable textiles than most businesses. A factsheet was prepared listing options for diverting textiles through donations to non-profits. The follow up interviews indicated that most properties are either internally reusing towels and linens for cleaning rags, or donating them to local non-profits, as they do with periodic furniture upgrades due to property renovations. The properties have not tracked their donations or reuse. Used mattresses, rugs and pillows continue to be a problem, as most reuse options here and in other locations do not accept these items.

**Targeted Source Reduction:** The majority of Berkshire County properties supply individual amenities (shampoo, conditioner, shower gel) to their guests, which generates large numbers of small plastic containers, some of which are recycled and most of which are not. This is another opportunity for source reduction, by replacing individual amenity bottles with refillable containers in the rooms. Properties indicated an interest in learning what might be available, but any such switches would need to be financially justified.

**Composting:** The largest opportunity for additional waste diversion in the Berkshires is composting, which is currently only practiced by a handful of properties. The Massachusetts Department of Environmental Protection (MA DEP) estimates that 21 percent of the Massachusetts waste stream consists of compostable organics (food waste and compostable paper). MA DEP is in the process of

promulgating a commercial and industrial organic waste ban that would apply to any commercial or institutional property generating more than one ton of food waste per week. Many of the larger lodging properties and resorts in the Berkshires, as well as many restaurants, would be affected by the impending food waste ban, but there has been no publicity or outreach in western Massachusetts. In follow up interviews, larger properties were advised to check with their existing waste and recycling service providers to see what options they may be able to provide for composting. Several expressed concern about having limited space for additional containers for food waste separation.

### *Energy Conservation Measures*

**Energy Audits:** Berkshire County has relatively high energy costs and thus an awareness among business owners in general that energy conservation is a cost-containment matter. The Commonwealth of Massachusetts has an aggressive energy conservation program, including the MassSave program in which local utility providers providing free or low cost energy audits. In the initial lodging survey, only 33 percent of the properties had participated in an energy audit, although that percentage was 70% for the properties who agreed to on-site facility assessments. During the assessments and follow up interviews, a number of property managers indicated that some of the energy audit recommendations, such as replacing windows, water heaters or HVAC systems, would be prohibitively expensive. These types of capital intensive energy conservation measures will be undertaken only when a property is replacing aging equipment or doing a significant renovation. Recommendations were made for improvements in operating practices that would lead to energy savings. None of the properties knew what rebates were currently available through MassSave nor were they aware that EnergyStar Portfolio Manager could help them calculate the ROI on potential energy saving expenditures.

**Energy Efficient Lighting:** More than 90 percent of the lodging properties in the baseline survey report that they have retrofitted at least part of their indoor lighting. The 10 visited properties have done so in percentages ranging from 50% to 90%. However, some of the facilities participating in the facility assessments commented that they had removed some CFL's from guest rooms due to guest complaints about slow turn-ons and lack of dimmability or 3-way lighting. Recommendations were made about phase in of newer LED lighting technologies.

**EnergyStar Appliances:** Half of the assessed properties had EnergyStar certified appliances in guest rooms, and the rest indicated that they would do so as appliances are replaced.

**Energy Tracking and Portfolio Manager:** The only facilities found to be tracking their energy use were those brand-affiliated properties participating in chain sustainability programs, as well as a handful of large resort properties. For this reason, getting utility bills was one of the most labor intensive parts of the entire technical assistance program. There was no awareness of EnergyStar Portfolio Manager as a method both to track energy consumption and to forecast savings from potential energy upgrades.

### *Water Conservation Measures*

A high percentage of lodging properties in Berkshire County have their own wells and septic systems, as only businesses and residences in the core cities and towns are located on municipal water and sewage systems. As a result, a number of lodging properties do not know what their water consumption is

because it is not metered. However, they are uniformly aware of the need to conserve water where possible, and also receptive to the idea that reducing toxic chemicals will help to preserve clean groundwater.

**Linen Reuse & Laundry Practices:** More than 90 percent of the properties provide their guests with a towel and linen reuse option, which substantially reduces the amount of water and energy required to launder these items. Some use outside linen services; some do their laundry in-house. None of the latter has installed ozone laundry systems, although several are looking into doing so. There is one commercial linen service in Berkshire County that has installed low energy continuous batch washing equipment; it was the recipient of a MassSaver award in 2011.

**Guest Room Water Conservation:** Seventy percent of the properties responding to the baseline survey reported that they have installed water-conserving features. The on-site assessments verified this, as 80% of the visited properties had water saving features in guest rooms, principally faucet aerators and low flow showerheads. However, some property managers noted that they had occasional guest complaints about the low flow showerheads, which is consistent with other industry experience. Only one facility is offering refillable pitchers instead of bottled water. Recommendations were made to provide refillable pitchers as both a source reduction and water conservation measure.

#### *On-site Chemical Use*

**Cleaning Products:** This is one of the largest areas of opportunity for Berkshire County, especially in the area of substitutions of green cleaning products for current cleaners containing toxic chemicals. Only two of the 10 properties use third party certified room cleaning products.

All of the retailers and wholesalers mentioned in the original baseline survey were contacted to see whether they carry third party certified green cleaning products. While the local janitorial supply houses all can supply such products, none of the local retailers -- hardware stores, grocery stores, or big box stores -- carry third party certified cleaners, not even a basic hydrogen peroxide concentrate.

In follow up interviews, all the properties expressed an interest in making this switch, and several had contacted their existing vendors to ask for third party certified products. The Commonwealth of Massachusetts has invested significant time and money both in Toxic Use Reduction and in vetting products to be included in the statewide Environmentally Preferable Products (EPP) Procurement Program.<sup>7</sup> Berkshire County would benefit at many levels from expanded awareness of this simple, cost-effective strategy for improving public health and reducing chemical seepage into private and public water supplies.

---

<sup>7</sup> <http://www.mass.gov/anf/budget-taxes-and-procurement/procurement-info-and-res/procurement-prog-and-serv/epp-procurement-prog/>

## BROADENING THE REACH THROUGH LOCAL HEALTH INSPECTORS

Most hospitality providers in Berkshire County are small businesses, the vast majority family-owned and operated. In contrast to the larger brand-standard hotels and resorts, they have limited staff and no facilities manager to research or spearhead sustainability initiatives. From the baseline survey, we know that virtually all (96%) believe that improving environmental practices will save them money. So they have the will but lack the knowledge to make improvements beyond the low hanging fruit.

In Massachusetts, health inspections must be conducted on all facilities that serve food, even on a casual basis, such as fairs and fundraising events. Hospitality providers are therefore subject to annual or semi-annual inspections. Massachusetts's health inspectors also have a role to play in solid waste, recycling and composting as, by statute, they must permit, monitor and conduct annual inspections of those facilities. Health inspectors and health agents often serve multiple towns and are primarily concerned with identifying or preventing public health and safety violations, which can include such things as water leaks that can lead to mold or slippage, and solid waste mishandling.

Sustainable practices in foodservice operations are in the best interest of Boards of Health (BOH's) and health inspectors because they help to avoid violations, improve public and employee health and safety, and save money and resources that help the business to be more economically sustainable. After consulting with the Berkshire County Board of Health Association (BCBOHA), a partner in this project, a simple P2 Toolkit was developed for use by health agents and other municipal employees:

### GREEN FACILITIES RESOURCE LISTINGS

**On Line Resources at a Glance** is a one-page document providing the most relevant web links for Berkshire County hospitality providers in each of the following areas:

- Energy
- Green Cleaning & Green Purchasing
- Food
- Waste & Recycling
- Water
- Local & State Resources
- National Resources

### GREEN FACILITIES IMPROVEMENT CHECKLISTS

Simple one-page **Energy and Water Checklists** and **Product Purchasing Guidelines** were developed as handouts to both participating lodging properties and health inspectors. The contents of the checklists are relevant to hospitality providers, as well as to foodservice providers who were not the immediate targets of the outreach portions of this pilot program.

### GREEN FACILITIES P2 HANDBOOK

The **KI\$ Green Practices Guide to Help Prevent Facility Violations** introduces very simple, easy to implement green practices, with a focus on saving energy and water; avoiding common foodservice violations through effective solid waste disposal, recycling and composting systems; and introduces the concept of green cleaning and purchasing. The Guide includes the **Energy Checklist, Water Checklist**, and **Resources at a Glance** so that they are all packaged together in one easy to use format.

All of the documents were produced in electronic formats so that they can be posted on town websites, sent via e-mail, and printed as needed. They can be used as leave-behind pieces by a health inspector during a routine foodservice inspection.

A half-day training workshop for health agents was held at Berkshire Community College, followed by a presentation to a meeting of the Western Massachusetts Public Health Association (WMPHA) attended by 100 health agents and BOH members. These trainings, as well as the P2 toolkit, focused on the how pollution prevention and reduction prevents facility violations and also on toxic chemical reductions through substitutions of third party certified green cleaners.

There was a strong positive consensus that P2 training does have a relationship to public health and safety, and that Green Cleaning information, in particular, needs to be made available to schools, health care facilities, and other vulnerable populations because of the potential for significant impacts on health. Participants also reviewed the **Energy and Water checklists** and the **KI\$ Guide to Green Practices** and felt that they could be used as enhancements to health inspections. However, the participants reinforced the earlier input from BCBOHA staff that health inspectors have very limited time on-site so additional distribution methods should be sought for the P2 Toolkit.

The Resource Guide has been posted on the BCBOHA and WMPHA websites so that it is available to all member BOH's and health agents. BCBOHA and the WMPHA are seeking additional funding to provide green cleaning information to schools, foodservice operators and health care facilities in Berkshire County and Western Massachusetts. A pilot project proposal has been prepared that targets school districts and another that targets foodservice operators such as restaurants and hotels.

## RECOMMENDATIONS AND NEXT STEPS FOR PROJECT PARTNERS

### *Improve hospitality sector's access to information to support implementation of operational changes*

- The project was clearly of value to the 10 participating properties but that is hardly sufficient to move the P2 needle substantially. The rest of the lodging industry in Berkshire County needs access to the same information provided to the participating properties, along with training in how to establish their individual facility baseline and set targets for improvements.
- Publicize Green Facilities training options targeted to hospitality providers.
  - Berkshire Community College already offers “Green Facilities Training” and “Greening Food Services” as 15-hour in-classroom courses. Both of these course offerings are already approved in the Mass Training Pro system, which means that small businesses (less than 50 employees) would qualify for 50% tuition rebates. That limit would include all but the very largest of local hotel & resort properties.
  - A new on-line version of these courses is available, which should be offered to Berkshire County hospitality providers in the off season (between November and April)
  - Workforce Training Funds are available for consortium training projects in Massachusetts, so BRPC should explore whether a group of hospitality providers would want to form a consortium to provide a blended learning (part on-site, part on-line)

program that could prepare properties for Trip Advisor's new Green Leaders certification

- Form a Berkshire Consortium for Green Hospitality Sector
  - Seek funding to form a Berkshires green hospitality consortium, modeled on the successful program in Santa Fe, New Mexico
  - The Green Lodging Initiative could:
    - a) Extend the successes of this P2 initiative to additional lodging properties
    - b) Provide additional training options for hospitality providers
    - c) Host a series of winter green forums for lodging facilities that showcase local examples of sustainability practices in that industry
    - d) Provide networking opportunities for innkeepers interested in sustainable hospitality practices
    - e) Address specific topics of interest, such as current MassSave programs for the hospitality sector or energy conservation strategies and financing for historic properties
    - f) Introduce local properties to TripAdvisor's Green Leaders program, which is a newly announced free certification program

*Improve access to green cleaning options in local stores – and educate about the difference*

- Develop an outreach campaign to provide additional local sources for third party certified green cleaning and paper products
  - HG's follow up work determined that only janitorial supply houses currently stock third party certified cleaning and paper products
  - BRPC should ask local retailers such as hardware stores, food coops and retail grocery chains to carry at least one third party certified hydrogen peroxide concentrated all-purpose cleaner
  - BRPC should approach Staples about carrying its Sustainable Earth cleaners in-store in Great Barrington and Pittsfield
- Work through the Berkshire Region Group Purchasing Program to add products that are on the Massachusetts Environmentally Preferable Purchasing Statewide Contract so that local municipalities, authorities and school districts can source third party certified EPP products that the Commonwealth has already researched. That strategy will get these products into the local public sector marketplace and thus begin to expose other organizations and individuals to the wide variety of third party certified products available in today's market.

# Appendix



## THE GREEN CONCIERGE PROJECT



### CLEANING PRODUCT PURCHASING

#### WHAT IS THE GREEN CONCIERGE CERTIFICATION™?

HospitalityGreen's Green Concierge Certification™ is a nationally recognized third party green facilities certification. The eco-business certification was initially developed for the lodging properties of the New York Catskill Region. Since its development in 2009, over 60 lodging properties in Delaware, Massachusetts and most recently in Santa Fe, New Mexico participate in the certification program. HG's green facilities certification delivers an assessment for performance-based improvements in resource use, conservation, and sustainable business practices. HospitalityGreen's Green Concierge Certification™ encourages Green Team training and employee engagement. For more information, get in touch:

PHONE: (845) 436-6173

WEBSITE: [www.hospitalitygreen.com](http://www.hospitalitygreen.com)

EM: [go.green@hospitalitygreen.com](mailto:go.green@hospitalitygreen.com)

#### WHO CAN PARTICIPATE IN THE GREEN CONCIERGE CERTIFICATION™?

**FACILITIES ELIGIBLE** to participate includes hotels, inns, bed and breakfasts, camps, campgrounds, entertainment centers and food service providers.

**WHY CHOOSE GREEN CLEANERS?** In addition to removing potentially harmful pollutants from your air and water, switching to certified green cleaning products can save businesses significant amounts of money, especially when concentrated products are used. Consider swapping your bleach and ammonia-based guest room cleaners for hydrogen peroxide based ones, for the benefit of your guests' and especially your housekeeping staff's health.

Unfortunately, one of the largest culprits of "green washing" is the cleaning product industry. The term, *green washing*, is generally used when significantly more money or time has been spent advertising "being green". This is often portrayed by changing the name or label of a product, to suggest the product is natural or safe (i.e. putting an image of a forest on a bottle containing harmful chemicals!) With the advent of **third party certification organizations**, product integrity and selection have been simplified. HospitalityGreen has included symbols from the two main certifying organizations, to help you make educated purchasing decisions.

#### LOOK FOR THESE SYMBOLS ON PRODUCT PACKAGING:



*Green Seal* is a non-profit organization that provides science-based environmental certification standards that are credible, transparent, and are not tied to commercial interests. Products are certified based on effectiveness. [www.greenseal.org](http://www.greenseal.org)



*EcoLogo* is a 3rd party certification of products ranging from construction materials to janitorial supplies to paper products and more. [www.ecologo.org](http://www.ecologo.org) **MORE>>**

## THE GREEN CONCIERGE PROJECT



## CLEANING PRODUCT PURCHASING

### HOW TO FIND THIRD PARTY-CERTIFIED PRODUCTS

Ask your current suppliers of cleaning products for a list of Green Seal and EcoLogo products they carry. Sysco, EcoLab, HD Supply, Staples, Hill n Markes and the larger janitorial supply houses in the Berkshire County area currently carry Green Seal and/or EcoLogo-certified cleaning products. At the retail level, certified products are not generally available at this time in local hardware or grocery stores. We suggest you ask your regular suppliers or retailers to stock Green Seal or EcoLogo products.

### JANITORIAL SUPPLIERS IN THE BERKSHIRE REGION:

<i>Name</i>	<i>Address</i>	<i>Phone</i>	<i>Web</i>
<i>CT Brigham Co.</i>	1561 East Street Pittsfield, MA 01201	413-445-5646	<a href="http://www.brigham.com">www.brigham.com</a>
<i>EA Morse &amp; Co., Inc.</i>	1210 Rt. 9 Castleton, NY 12033	800-624-6899	<a href="http://www.eamorse.com">www.eamorse.com</a>
<i>ATSCO</i>	445 N. Pearl Street Albany, NY 12204	518-465-8894	<a href="http://www.atsco-products.com">www.atsco-products.com</a>
<i>Caligari Sanitary Supply</i>	224 Housatonic Street Lenox, MA 01240	413-637-0488	<a href="http://www.caligarihardware.com">www.caligarihardware.com</a>



<b>ENERGY CHECK LIST</b>	v Done	TO DO	COMMENTS
Do you have a policy for future purchasing of Energy Star qualified lighting and equipment?			<a href="http://www.energystar.gov/index.cfm?c=products.pr_find_es_products">http://www.energystar.gov/index.cfm?c=products.pr_find_es_products</a>
<b>LIGHTS — USE DAYLIGHT WISELY</b>			
Replace all incandescent lamps in back of house and exterior fixtures (at minimum) with compact fluorescent lamps (CFLs).			Potential savings 75% - Payback in less than a year.
Consider changing linear fluorescent lighting to T8's or T5's.			Research utility incentives in your area.
Replace all Exit Signs with LED lamps.			No brainer / 80% savings
Consider reflector hoods with LED's for table top lamps.			A reflector hood adds a nice quality to the light, and the pay-back is less than a year.
Replace incandescent bulbs in refrigerators and freezers.			Reduces heat output by 75%
<b>LIGHTING MAINTENANCE - TURN OFF LIGHTS WHEN NOT NEEDED</b>			
Clean light fixtures regularly.			Monthly
Set outdoor lighting controls using an on/off schedule.			Don't forget to change the schedule as daylight hours change
Install "Turn Off Lights" signs where needed.			Bathrooms, closets, utility areas
Turn on lights in active areas only.			Especially for early and late shift employees
Install occupancy sensors in utility closets...			...So these lights aren't on all day
<b>REFRIGERATION SYSTEMS AND ICE MACHINES</b>			
Check age of equipment - Consider replacing if over 15 yrs old.			Research utility incentives in your area.
Is there a strip curtain on the walk in?			Cuts outside air filtration by 75%
Is there an automatic door closure?			Make sure it is working.
<b>MAINTENANCE</b>			
Ice Machine - Keep the lid closed and Adjust the purge water timer / Can you make ice at night?			Make a sign if necessary to keep the lid closed
Make sure that free standing units have room for air circulation on all sides.			Always
Check refrigerant charge.			Bi-monthly
Repair and realign doors.			As needed
Clean evaporator and condenser coils.			As needed
<b>HVAC - MAINTENANCE - STEP 1 — MAXIMIZE EQUIPMENT EFFICIENCY</b>			
Turn off exhaust hoods and hood lights when appliances are not in use.			
Install an Energy Star qualified programmable thermostat.			
Use ceiling fans to promote air circulation.			
Turn off equipment when not in use.			
Cut idle time on all equipment / Use timers.			
Maintain & Repair all kitchen equipment.			



<b>WATER CHECKLIST</b>	v DONE	to do	COMMENTS
<b>KITCHEN WATER FIXTURES — INEXPENSIVE UPGRADES</b>			
<b>DISHWASHER</b> Replace pre-rinse spray nozzle with a low flow of 1.6 gallons per minute(GPM)			Saving up to 66,000 gallons per year or a cost savings of \$1,000.annually depending on usage
<b>SINKS</b> Spray Nozzle: Replace 2.8 GPM with 2.0 GPM			A potential savings of 12,000 gallons of water and approx. \$84.00 per year
<b>SINKS</b> Utility and Hand Sinks: Install faucet aerators reducing water flow to as little as 0.25 GPM			A standard faucet uses 4 to 7 GPM
<b>BATHROOM WATER FIXTURES</b>			
To start - Install faucet aerators in bathroom sinks reducing water usage			Installing aerators does not necessarily require installing a new faucet.
If possible - replace toilets and urinals with low flow models. Refer to EPA's WaterSense website for a full list of products.			<a href="http://www.epa.gov/WaterSense/index.html">http://www.epa.gov/WaterSense/index.html</a>
<b>MAINTENANCE</b>			
<b>FIX LEAKS!!!</b>			Rodents are attracted to water, so check faucets, toilets and pipes.
Read water meters monthly			Check the pressure on the water to the building. It should not be more than 60 psi. If yes, install pressure reducing valves
Shut off water-cooled air conditioning units when not needed, or if possible, replace with air-cooled systems			Purchase EnergyStar qualified equipment <a href="http://www.energystar.gov">www.energystar.gov</a>
<b>STAFF HABITS AND OPERATIONAL MODIFICATIONS</b>			
Turn off water faucets when not in use!			Make it kitchen water policy.
Turn off the continuous water flow used to wash drain trays of the beverage island.			Clean thoroughly as needed.
Reduce the flow to dipper wells for ice cream and butter scoops.			An easy adjustment
Adjust ice machines to dispense less ice if ice is being wasted.			Also consider making ice at night to save energy.
Do not use running water to melt ice in bar sinks.			If possible, dispense with spent ice outside.
Turn off food preparation faucets when not in use. Consider installing foot triggers.			A worthwhile investment for large kitchens.
Run the dishwasher only when full.			Make it kitchen water policy.
Turn the dishwasher off when not in use.			Shut off all appliances not in use.
Defrost food in the bottom of the refrigerator and NOT under running water.			With care full planning, use the bottom shelf of the refrigerator for defrosting daily. FDA approved if defrosting is stored on a tray below prepared food.
Serve water to customers only upon request.			

**WHAT DO YOU MEAN BY  
“GREEN” PRACTICES?**

*We'll show you.*

**WILL I HAVE TO SPEND MONEY?**

*No, not necessarily.*

**DO MY CUSTOMERS REALLY CARE?**

*Yes.*

**WILL IT HELP MY BUSINESS?**

*Yes.*

**MY EMPLOYEE<sup>S</sup>, DO THEY CARE?**

*Ask them.*

**HOW DO I GET THEM TO HELP?**

*Everybody benefits. We'll show you.*

**WILL “GREENING” SAVE ME MONEY?**

*Definitely!!*

**OKAY! WHERE DO I START?**

*Keep It Simple!*

*Open this guide and follow the steps.*



*Funding provided by the Berkshire Regional Planning Commission through a grant from the United States Environmental Protection Agency, Region 1*

---

**A K.I.\$.**  
*Keep It Simple*  
**GREEN PRACTICES  
GUIDE**



**TO HELP PREVENT  
FACILITY  
VIOLATIONS**

---



## How to begin?



“The man who removes a mountain begins by carrying small stones.”  
—Chinese Proverb

## TABLE OF CONTENTS

<i>Are you sure “Green” can keep me out of trouble?</i>	3
<b>1. WHAT ARE “GREEN PRACTICES”</b>	4
<i>Customers and Employees</i>	5
<b>2. WALK IT! CHECK IT! PLAN IT!</b>	6
<b>3. ENERGY — ALL YOU NEED TO KNOW</b>	8
<b>4. GREEN CLEANING &amp; PURCHASING</b>	10
<b>5. WATER &amp; TURNING OFF BAD HABITS</b>	12
<b>6. WASTE, RECYCLING &amp; COMPOSTING</b>	14
<b>7. STORAGE AND PURCHASING</b>	16
<i>Resources</i>	19

## RESOURCES AT A GLANCE



**Energy** NYSERDA’s Focus on Hospitality initiative for commercial kitchens:

<http://www.nyserra.org/commercialkitchens/default.asp>

Energy Star program [www.energystar.gov](http://www.energystar.gov)

For a printable PDF of the Energy Star “Putting Energy into Profit” food service guide, visit:

[http://www.energystar.gov/ia/partners/publications/pubdocs/restaurants\\_guide.pdf](http://www.energystar.gov/ia/partners/publications/pubdocs/restaurants_guide.pdf)

National Restaurant Association’s Environmental Initiative <http://conserve.restaurant.org>



**Green cleaning and green purchasing**

Green Seal Listing of all GS-37 certified cleaning products:

<http://www.greenseal.org/FindGreenSealProductsandServices.aspx?vid=ViewProductDetail&cid=16>

Eco Logo Listing of all Eco Logo products for home and institution: [www.ecologo.org](http://www.ecologo.org)



**Produce**

New York State Restaurant Association [www.nysra.org](http://www.nysra.org) Search “Resources” then click on “Going Green”, for inspiration on sourcing sustainable foods

Local Harvest Searchable database of seasonal/organic produce suppliers across the country [www.localharvest.org](http://www.localharvest.org)

N.E. Seasonal produce distributors [www.baldorfood.com](http://www.baldorfood.com) or [www.blackriverproduce.com](http://www.blackriverproduce.com)



**Waste / Recycling**

HospitalityGreen LLC Use the Resource Tracking Tool (RTT) to help you keep track of your waste and recycling: [www.hospitalitygreen.com](http://www.hospitalitygreen.com)

Environmental Protection Agency’s EPA’s voluntary program for businesses:

[www.epa.gov/wastewise](http://www.epa.gov/wastewise)

Earth First guide to single stream recycling: <http://earthfirst.com/single-stream-recycling-how-does-it-work/>



**Water**

National Restaurant Association’s Environmental Initiative:

<http://conserve.restaurant.org>

Energy Star For a printable PDF of the Energy Star “Putting Energy into Profit” food service guide, visit: [http://www.energystar.gov/ia/partners/publications/pubdocs/restaurants\\_guide.pdf](http://www.energystar.gov/ia/partners/publications/pubdocs/restaurants_guide.pdf)

Environmental Protection Agency’s Water Sense program for businesses:

[www.epa.gov/WaterSense](http://www.epa.gov/WaterSense)

**Local, State and national resources:**

New York State’s Green Restaurant Association <http://www.nysra.org/displaycommon.cfm?an=1&subarticlenbr=225>

NYSERDA’s Focus on Hospitality program (New York State): <http://www.nyserra.org/commercialkitchens/default.asp>

N.Y. Dept. of Environmental Conservation <http://www.dec.ny.gov>

N.Y. Pollution Prevention Institute <http://www.nysp21.rit.edu/>

EPA Region 2 [www.epa.gov/region2/contact2.htm](http://www.epa.gov/region2/contact2.htm)

HospitalityGreen LLC [www.hospitalitygreen.com](http://www.hospitalitygreen.com)

IFMA Foundation: [www.ifmafoundation.org](http://www.ifmafoundation.org)

## OKAY! Have you got 10 minutes?

-  Check your monthly energy and water usage.
-  Let customers and municipal inspectors know what you are doing by clearly stating the real actions you are taking to 'Green' your operations.
-  Include information on your 'Green' practices on all communication material.

Once you see results and financial returns, you will want to do more and tell your customers. There are numerous certification programs, at varying costs, that are now available to the food service industry. Consider one of these programs. Remember, true competitive advantage can be realized through gaining recognition by your customers. As you gain new business, your new customers will help you in continuing to 'Green' your food services. Whether your health department publicly grades you or not; you, your staff and your customers can reap the satisfaction of knowing your establishment instituted "green" practices and met the high standards of food service safety.

### *10 minutes is up!*

Get started. Enjoy 'going green' and saving money!

*"Change is hardest at the beginning, messiest in the middle and best at the end." —Robin Sharma*

The purpose of this K.I.\$. Guide is to show you how to start with some basic "green" practices to help prevent food service violations. And, you will save money not only in reduced fines but on your utility bills too! So take 10 minutes to flip through the guide, and you will see how easy it is to 'Go Green' and save money. With little or no added expense, the guide will give you "What you need to know" to get started. We didn't call it "K.I.S." and not mean it.

If you think, "The green thing is not for me," please, just take a minute and think about it:

- What if you could start right away?
- What if it didn't cost you anything?
- What if you could save money and aggravation?
- What if we showed you how it helps you meet food service safety standards?
- What if we provided you with a few tools to get you started?
- What if we told you, if you don't start now, you are missing a huge opportunity?
- What if we told you, that many of your peers are already 'Going Green?' ...And
- What would your kids say if you told them, you didn't care about their world?

## WHAT IS “GREENING?”

*No, its not all solar panels and windmills, at least not now... Let's think about 'Greening' by looking at a diagram of 'Green.'*



Let's **START** with your **OPERATIONS** first. This is where you can apply **green practices** and realize the highest financial return and in the least amount of time. **FOOD...** Always...We are going to look at best practices for storage and handling. So that's it for now. Soon you will see how you can "Go Green," save money and prevent food service safety violations.

## NEXT STEPS

Often times, plagued with the challenges of handling day to day operations, we forget some of the fundamentals of good business. Below is a short list to help you stay on track.

- After you complete the checklists and talk with your 'Go To' Green employee, develop a simple plan of what you want to accomplish in the next 3 months.
- Take care of easy no-cost maintenance and system fixes first.
- Hold a short staff meeting so everyone knows what's going on. You might be surprised by new volunteers.
- Include a 'Green Update' in your regularly scheduled staff meetings.
- Check in weekly with your 'Go To' Green employee to see what's been accomplished.
- Make adjustments to the plan as needed.
- Evaluate employee suggestions to add or modify the plan.
- Make sure the 'Go To' Green employee keeps records and tracks waste and recycling.
- Track your savings and record violations (if any).

## 7.

### Storage and Purchasing Decisions

---

“A recent study by the Food and Agriculture Organization (Gustavsson, et al., 2011) reported that one-third of all food produced for human consumption is lost or wasted globally, amounting to as much as 1.2 billion metric tonnes annually. Food waste is a global problem of staggering proportions, but the underlying reasons differ between countries. While food waste in industrialized countries is dominated by retail and consumer waste, developing countries have high losses at the post-harvest and processing stages due to spoilage in warm and humid climates resulting from the lack of modern transport and storage infrastructures.”

Improper purchasing and handling of produce, damp storage areas and sloppy inventory controls all contribute to food and financial waste. First before making purchases at all, determine if you really need it. Single serve condiments, individually packaged utensils and styro-foam containers should be evaluated. Perhaps portions are too large. Condiments can be served in closed sanitary containers and carafes. Consider using locally made condiments like syrup and honey.

Purchasing locally can provide a means to acquire fresher produce and in quantities suitable to the scale of your needs. Decisions to purchase locally sourced products have multiple benefits, including support of local economies, reduced delivery time, substantially reduced delivery costs, reduced environmental impact due to vehicle emissions during transport and reduced spoilage or damage during transportation. Buying paper goods in bulk and from sustainable resources that use recycled fibers can save transportation expenses and valuable resources. No one needs a napkin made from harvested trees.

After success has been achieved with a few small steps, you can expand your options. Choose wisely and you will find that it is best to keep it simple, ‘Don’t bite off more than you can chew.’

### *Customers and Employees*

Often times in the food service environment, cafeterias, catered meals, restaurants and concession stands, one of our greatest concerns is running an operation compliant with health, safety and municipal codes. This difficult task seems to go unnoticed by our customers. But, with our customers’ growing concerns with food safety and “green/sustainable” practices, our customers are more careful and their attitudes and perceptions have changed. In New York City in July 2010, the Health Department started grading restaurants and began requiring restaurants in all five boroughs to post letter grades summarizing their sanitary inspection scores to help achieve three goals: **1. To inform the public** about a restaurant’s inspection results in a simple, accessible way; **2. To improve sanitary conditions and food safety practices** in restaurants; and **3. To reduce illnesses associated with dining out.** Also, in July 2010, Ohio State University, in association with Queensland University, conducted a study of attitude and behavioral intentions of 455 restaurant customers across five casual dining restaurants in Ohio. Seven out of ten customers believe that restaurants should minimize their impact on the environment. Eight out of ten customers are willing to pay more to offset costs associated with ‘green’ practices. 48% believe that it is healthier to eat at a ‘green’ restaurant, yet they do not want to compromise comfort or quality for ‘green.’

The study clearly identified the lack of information available to potential customers regarding restaurants and the ‘green’ practices they engage in. Consequently, food service providers can use their ‘green’ practices as a competitive edge.

Younger employees are much savvier to real green/sustainable practices. Fellow restaurateurs have stated that they are attracting more reliable employees once they promoted their green practices. Let your staff make suggestions, take pride and get engaged. You need their involvement.

**PICK YOUR ‘GO TO’ GREEN EMPLOYEE.**

## WALK IT! CHECK IT! PLAN IT!

---

When it comes to making changes, we understand money is a prime motivator.

How to cut costs in operations can sometimes be overwhelming, and we often don't even know where the costs are coming from! Certainly our utility bills over the past few years have put us all in a state of 'shock and awe.' Utilities use to be 3% of your gross. They are now 10% and more. But there is more to costs than just energy. Granted, energy is easiest to understand and will reap you the fastest financial returns. But don't underestimate the potential cost savings in modifying water usage, purchasing green chemicals, purchasing local products, paying attention to your waste handling and ratcheting up your recycling.

As seasons change, you should evaluate where and how you can take advantage of local produce. Lettuce can fluctuate in price from \$17 to \$40. Are there local vendors who can supply you both produce and products to help offset the costs of transportation?

So by now, you probably turned the pages and looked at the other pages in this guide. If you didn't; that's okay.

So here is how we **"KEEP IT SIMPLE."**

**EVALUATE YOUR RECYCLING PROGRAM.** At the least you should be recycling cardboard, plastic, glass and aluminum containers. Ask your hauler if single stream recycling is available, which will allow you to put all your recyclables in the same bin. If you generate enough cardboard, ask for a separate dumpster. *Be sure your trash and recycling containers close securely and do not leak so as not to attract pests.* 



**OVER 76% OF THE WASTE FROM FOOD SERVICE** establishments is organic and could be used for composting. Some municipalities and cities are developing food/organic waste collection infrastructures. Inquire in your area if there is a hauler that will handle food/organic waste.



It is possible to compost prep vegetable and fruit waste in enclosed composters out your back door, *without* attracting pests! Many institutions use closed containers like the Earth Machine and are able to make compost in less than 10 weeks. For further information: contact [HospitalityGreen](http://HospitalityGreen.com) for "Turning Kitchen Scraps to Tasty Treats: A Restaurant Guide to Back Door Composting."

### PROPER STORAGE AND HANDLING OF WASTE IS KEY TO BETTER PEST MANAGEMENT.



**Yikes!**

## 6. WASTE, RECYCLING, & COMPOSTING

### FOLLOW THE 6 C'S OF WASTE AND RECYCLING to avoid problems with rodent and insect pests.

6 C's of WASTE AND RECYCLING



**REDUCE YOUR CAPACITY** by assessing the contents of your dumpster and asking: **CAN YOU DO WITHOUT IT?** Is there a more efficient way to deliver the same service and or product without the waste? Try to eliminate wax coated produce boxes and Styrofoam containers, which aren't recyclable. Avoid excessive packaging. Review your waste **CONTRACT** and ask your hauler about potential savings of reducing your trash output and increasing your recycling efforts. Well-handled, recyclable materials are a valuable **COMMODITY** that will save you money on disposal costs. You'll want to have the right kind of recycling **CONTAINER** so that storage for you and handling for your hauler is easy and efficient. All this boils down to effective **CONTROL** of your waste stream.



### #1. ✓ TAKE A WALK WITH THE NEWLY APPOINTED "GO TO GREEN EMPLOYEE."

The first step to implementing 'green' practices is really looking at what's going on right now in your operations. On the following pages are a series of easy to follow check lists. The check lists are comprised of a series of questions which you will be able to answer when you walk your facility or look at your bills or a product,. We have placed next to the question a recommendation that can be implemented at no cost or a low cost. All of our recommendations should be able to save you money and in some cases dramatically reduce your current expenses.

### #2. ✓ CHECK IT.

Now be honest, really look at it. This check list is designed to help you figure out where you are right now. You will have time to decide what you want to do about it. It will be important to prioritize the next steps. So for now, just look at your current operations.

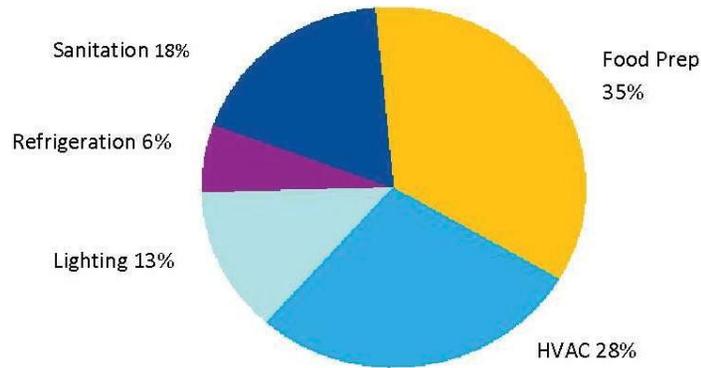
### #3. WHAT'S NEXT?

Since our goal is to reduce costs, we need to ✓ develop an action plan that prioritizes reducing operational costs first. Energy and water are good starting points. Do not underestimate the employee and customer benefits of implementing green chemical purchasing and improving your waste practices. They can also significantly affect your bottom line.

The action plan will need to designate people and actions that need to be taken. The resources in the back of the guide will help you find and get good information in the least amount of time.

# ENERGY — ALL YOU NEED TO KNOW TO START SAVING NOW!

Here's an example of the Average Energy Consumption in a Full-service Restaurant (IFMA 2009)



Restaurants with commercial kitchens consume about 2.5 times more energy than other commercial buildings. (ENERGY STAR 2009)

Significant potential exists to improve the energy efficiency and save money with the current practices in the food service industry.

REDUCE your energy consumption and **SAVE MONEY** by evaluating operational daily practices, changing out bulbs and purchasing Energy Star qualified appliances.

WATER CHECK LIST	v DONE	to do	COMMENTS
<b>KITCHEN WATER FIXTURES — INEXPENSIVE UPGRADES</b>			
<b>DISHWASHER</b> Replace pre-rinse spray nozzle with a low flow of 1.6 gallons per minute(GPM)			Saving up to 66,000 gallons per year or a cost savings of \$1,000.annually depending on usage
<b>SINKS</b> Spray Nozzle: Replace 2.8 GPM with 2.0 GPM			A potential savings of 12,000 gallons of water and approx. \$84.00 per year
<b>SINKS</b> Utility and Hand Sinks: Install faucet aerators reducing water flow to as little as 0.25 GPM			A standard faucet uses 4 to 7 GPM
<b>BATHROOM WATER FIXTURES</b>			
To start - Install faucet aerators in bathroom sinks reducing water usage			Installing aerators does not necessarily require installing a new faucet.
If possible - replace toilets and urinals with low flow models. Refer to EPA's WaterSense website for a full list of products.			<a href="http://www.epa.gov/WaterSense/index.html">http://www.epa.gov/WaterSense/index.html</a>
<b>MAINTENANCE</b>			
<b>FIX LEAKS!!!</b>			Rodents are attracted to water, so check faucets, toilets and pipes.
Read water meters monthly			Check the pressure on the water to the building. It should not be more than 60 psi. If yes, install pressure reducing valves
Shut off water-cooled air conditioning units when not needed, or if possible, replace with air-cooled systems			Purchase EnergyStar qualified equipment <a href="http://www.energystar.gov">www.energystar.gov</a>
<b>STAFF HABITS AND OPERATIONAL MODIFICATIONS</b>			
Turn off water faucets when not in use!			Make it kitchen water policy.
Turn off the continuous water flow used to wash drain trays of the beverage island.			Clean thoroughly as needed.
Reduce the flow to dipper wells for ice cream and butter scoops.			An easy adjustment
Adjust ice machines to dispense less ice if ice is being wasted.			Also consider making ice at night to save energy.
Do not use running water to melt ice in bar sinks.			If possible, dispense with spent ice outside.
Turn off food preparation faucets when not in use. Consider installing foot triggers.			A worthwhile investment for large kitchens.
Run the dishwasher only when full.			Make it kitchen water policy.
Turn the dishwasher off when not in use.			Shut off all appliances not in use.
Defrost food in the bottom of the refrigerator and NOT under running water.			With care full planning, use the bottom shelf of the refrigerator for defrosting daily. FDA approved if defrosting is stored on a tray below prepared food.
Serve water to customers only upon request.			

## 5 WATER — ADJUSTING FIXTURES & HABITS

Restaurants use an average of 5,800 gallons per day of water. About half of the water is used in the kitchen areas. There are many ways to reduce water usage. Most of them require educating your staff to make minor behavior and/or operational modifications.

### TO GET STARTED...

#### Step 1

Do a visual assessment of your kitchen staffs' water practices. Follow the items on the checklist. The list will help you identify easy modifications that can be made to save water and money.



**WATER ATTRACTS RODENTS and  
\*\*A DRIPPING FAUCET CAN WASTE UP TO  
1,000 GALLON\$ A WEEK\*\*  
THAT'S MONEY OUT OF YOUR POCKET!**

ENERGY CHECK LIST	v Done	TO DO	COMMENTS
Do you have a policy for future purchasing of Energy Star qualified lighting and equipment?			<a href="http://www.energystar.gov/index.cfm?c=products.pr_find_es_products">http://www.energystar.gov/index.cfm?c=products.pr_find_es_products</a>
<b>LIGHTS — USE DAYLIGHT WISELY</b>			
Replace all incandescent lamps in back of house and exterior fixtures (at minimum) with compact fluorescent lamps (CFLs).			Potential savings 75% - Payback in less than a year.
Consider changing linear fluorescent lighting to T8's or T5's.			Research utility incentives in your area.
Replace all Exit Signs with LED lamps.			No brainer / 80% savings
Consider reflector hoods with LED's for table top lamps.			A reflector hood adds a nice quality to the light, and the pay-back is less than a year.
Replace incandescent bulbs in refrigerators and freezers.			Reduces heat output by 75%
<b>LIGHTING MAINTENANCE - TURN OFF LIGHTS WHEN NOT NEEDED</b>			
Clean light fixtures regularly.			Monthly
Set outdoor lighting controls using an on/off schedule.			Don't forget to change the schedule as daylight hours change
Install "Turn Off Lights" signs where needed.			Bathrooms, closets, utility areas
Turn on lights in active areas only.			Especially for early and late shift employees
Install occupancy sensors in utility closets...			...So these lights aren't on all day
<b>REFRIGERATION SYSTEMS AND ICE MACHINES</b>			
Check age of equipment - Consider replacing if over 15 yrs old.			Research utility incentives in your area.
Is there a strip curtain on the walk in?			Cuts outside air filtration by 75%
Is there an automatic door closure?			Make sure it is working.
<b>MAINTENANCE</b>			
Ice Machine - Keep the lid closed and Adjust the purge water timer / Can you make ice at night?			Make a sign if necessary to keep the lid closed
Make sure that free standing units have room for air circulation on all sides.			Always
Check refrigerant charge.			Bi-monthly
Repair and realign doors.			As needed
Clean evaporator and condenser coils.			As needed
<b>HVAC - MAINTENANCE - STEP 1 — MAXIMIZE EQUIPMENT EFFICIENCY</b>			
Turn off exhaust hoods and hood lights when appliances are not in use.			
Install an Energy Star qualified programmable thermostat.			
Use ceiling fans to promote air circulation.			
Turn off equipment when not in use.			
Cut idle time on all equipment / Use timers.			
Maintain & Repair all kitchen equipment.			

# GREEN CLEANING & PURCHASING

## Choosing and Substituting Green Products

Choosing products, evaluating performance quality and moving staff to accept the changes can be a daunting process. Familiarize yourself with the following symbols of green product certification, and follow the steps outlined in the chart to overcome the obstacles of change. You *can* switch to non-toxic, “green” cleaning products and still comply with food service safety standards in the areas of *employee health, protection from contamination, and protection from chemicals*, particularly because you’ll be improving indoor air quality by swapping out bleach and ammonia for non-toxic substitutes.



*Green Seal* is a non-profit organization that provides science-based environmental certification standards that are credible, transparent, and are not tied to commercial interests. Products are certified based on effectiveness.



*EcoLogo* is a 3rd party certification of products ranging from construction materials to janitorial supplies to paper products and more.



*FSC Forest Stewardship Council* is a non-profit agency which certifies whether paper fibers come from sustainable sources.



*Recycled content* means the product is made with post-consumer recycled content. Aim for a minimum of 30%, which will be indicated next to the symbol on the package.



*Sustainable Forestry Initiative* certifies the product was made with paper fiber from responsibly managed forests, and/contains post-consumer recycled fiber.



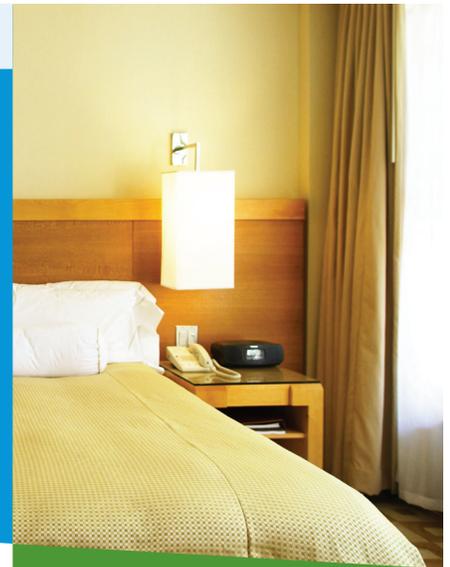
*Processed Chlorine Free* means chlorine was significantly reduced or eliminated from the manufacturing of the paper product in question.

PURCHASING CHECKLIST	✓ Done	To Do	Comments
<b>STEP 1.</b> Take inventory of all your current cleaning and paper products.			
<b>STEP 2.</b> Check the labels of your products for the symbols listed above.			
<b>STEP 3.</b> If you don't see any of these symbols on your products, at least change out your all-purpose cleaner and paper towels.			
<b>STEP 4.</b> Call your distributor and explain that you are looking to change your all-purpose cleaner to a Green Seal or Eco Logo product, and your paper towels to a product with a minimum of 30% recycled content.			What products do they carry that carry these certifications? Ask. Remember that the product must have the symbol on its package.
<b>STEP 5.</b> Request samples for trial and ask the distributor to arrange for demo and training of your staff on how to use the cleaning product.			Green cleaning products are extremely cost effective, as they are often sold in concentrate form, requiring dilution with water.

## HOTEL

# SAVE ENERGY & MONEY

while enhancing your guests' comfort.



### Opportunity and Benefits

We all know that guest satisfaction is your top priority. If you're looking for ways to improve your Average Daily Rate (ADR), energy efficiency can help you do just that. U.S. hotels spend almost \$4 billion a year on energy costs, and that energy expense is the fastest growing operating cost in the industry. A hotel that can cut energy expenses by just 10% will see an increase in profit margin by \$0.62-\$1.35 (limited service vs. full service hotels). And remember, saving energy reduces carbon emissions and pollution—offering a quick and easy path to demonstrate and promote your company's commitment to the environment.

The Mass Save program offers technical expertise to help you identify what energy-saving improvements may be available to you. Our experts understand the importance of aesthetics and comfort and want to help you use energy efficiency to take those aspects to the next level—all while saving you money.

### Incentives and Financing

Program incentives and financing can help make your energy efficiency projects a reality so that you can start saving energy and money. Our energy specialists can help guide you through this process.

### Training

Maximize the impact of your investment dollars through the Mass Save program, by offering your staff training to learn about the latest equipment and best practices available for energy efficiency. Your staff can then apply the lessons learned to the everyday operation of your hotel for optimal productivity and efficiency.

### ABOUT MASS SAVE

Mass Save® is an initiative sponsored by Massachusetts' gas and electric utilities and energy efficiency service provider, including Berkshire Gas, Cape Light Compact, Columbia Gas of Massachusetts, National Grid, New England Gas Company, NSTAR, Unitol, and Western Massachusetts Electric Company.

The Sponsors of Mass Save work closely with the Massachusetts Department of Energy Resources to provide a wide range of services, incentives, trainings, and information promoting energy efficiency that help residents and businesses manage energy use and related costs.

### Start saving now!

Get started on improving your hotel's performance today. Visit us online at [MassSave.com](http://MassSave.com) Some restrictions may apply.

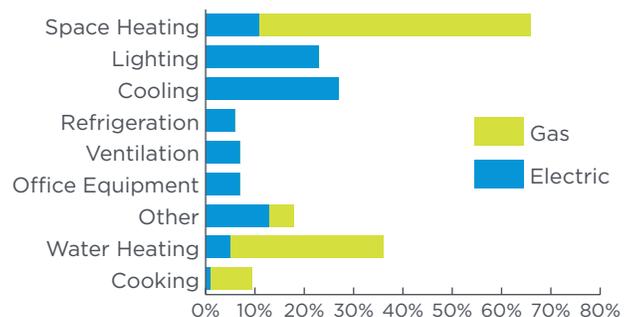


# Here is a list of some energy-efficient measures you can implement at your hotel:

- 1 Commissioning and Recommissioning:** Ensure all your systems are tuned up and operating at maximum efficiency. Recommissioning should be performed every 3-5 years to save a typical 100,000 sq. ft. hotel roughly \$20,000 a year.
- 2 Water Heating:** Consider commercial heat pump water heaters or direct-vent, sealed combustion condensing water heaters and boilers with efficiencies greater than 90% to cut your hotel's largest energy expense by up to 50%.
- 3 Heat Recovery:** Hot water costs can be further reduced by using HVAC, shower, or laundry room heat recovery systems.
- 4 Lighting and Lighting Controls:** Install CFLs in table, floor and ceiling lamps in guest rooms, LEDs for specialized lighting effects in restaurants and lounges, and high efficiency T8 lamps and ballasts in back room areas. Use occupancy sensors, and don't forget that even outside and parking lighting can be improved.
- 5 HVAC Equipment:** Consider upgrading to high efficiency HVAC equipment—heating, ventilation and air conditioning—such as air source heat pumps and other Cool Choice qualified equipment.
- 6 Vending Misers:** Savings can be found in the most unlikely places. Install a vending miser in your vending machines to control refrigeration and lighting costs during underused hours.
- 7 Kitchen Appliances and Low Flow Spray Valves:** Maximize savings and improve your food service energy management by installing gas kitchen equipment and high efficiency refrigeration equipment. Additionally, installation of low-flow pre-rinse spray valves in the hotel kitchen helps save up to \$600/year on water, gas, and sewer charges.

- 8 HVAC Controls:** Gain more efficiency and improve comfort. Install controls room by room to ensure that heat and air conditioning don't operate at full blast when rooms are unoccupied.
- 9 Pool Heating/Pool Cover:** High capacity, gas powered water heater for a swimming pool and large insulating cover to prevent heat loss from a heated pool or water loss through evaporation.
- 10 Demand Control Ventilation (DCV):** CO<sub>2</sub> sensors control the amount of ventilation based on the actual number of occupants and related ventilation need. DCV can generate substantial energy savings when the space is occupied below the design level.
- 11 Ozone Commercial Laundry System:** A system that uses an ozone additive to reduce water use, fuel use, and chemical use.

**Hotel Energy Use by Type - Electric and Gas Use**



Source: Data from U.S. Energy Information Administration

Brought to you by:





**HOSPITALITY GREEN**

SUSTAINABLE PRACTICES FOR BUSINESS

WWW.HOSPITALITYGREEN.COM | GO.GREEN@HOSPITALITYGREEN.COM

P.O. BOX 222 • 35 MAIN STREET • MOUNTAINDALE, NY 12763

TEL: (845) 436-6173 | FAX: (845) 434-2896

## ON LINE RESOURCES AT A GLANCE



**ENERGY Mass Save** provides energy audits, rebates and other energy efficiency measures:

[www.masssave.com/business](http://www.masssave.com/business)

**MA Dept. of Energy and Environmental Affairs (DOER):**

[www.mass.gov/eea/energy-utilities-clean-tech/energy-efficiency/ee-for-business-](http://www.mass.gov/eea/energy-utilities-clean-tech/energy-efficiency/ee-for-business-institutions/)

[institutions/](http://www.mass.gov/eea/energy-utilities-clean-tech/energy-efficiency/ee-for-business-institutions/)

**Energy Star Program:** [www.energystar.gov](http://www.energystar.gov) **Energy Use and Energy Efficiency in Restaurants:**

[www.energystar.gov/ia/business/small\\_business/restaurant\\_factsheet.pdf](http://www.energystar.gov/ia/business/small_business/restaurant_factsheet.pdf)

**Energy Star Guide for Restaurants putting Energy into Profit:**

[www.energystar.gov/ia/partners/publications/pubdocs/restaurant%20guide%20508%20-%20Dec%202009.pdf](http://www.energystar.gov/ia/partners/publications/pubdocs/restaurant%20guide%20508%20-%20Dec%202009.pdf)



### GREEN CLEANING & GREEN PURCHASING

**Green Seal** :Listing of all GS-37 certified cleaning products:

[www.greenseal.org/findgreensealproductsandservices.aspx](http://www.greenseal.org/findgreensealproductsandservices.aspx)

**Eco Logo**: Listing of all Eco Logo products for home and institutions: [www.ecologo.org](http://www.ecologo.org)

**US EPA Environmentally Preferable Purchasing:** [www.epa.gov/epp](http://www.epa.gov/epp)

**NERC Green Purchasing Resources:** [www.nerc.org/topic\\_areas/environmentally\\_preferable\\_green\\_purchasing](http://www.nerc.org/topic_areas/environmentally_preferable_green_purchasing)



### FOOD

**Berkshire Grown:** Farm to table organization: [www.BerkshireGrown.org](http://www.BerkshireGrown.org)

**Mass Grown:** Lists local food sources: [www.mass.gov/agr/massgrown/](http://www.mass.gov/agr/massgrown/)

**MIT's Guide to Sustainable Catering:**

[web.mit.edu/workinggreen/docs/sustainable\\_catering\\_guide.pdf](http://web.mit.edu/workinggreen/docs/sustainable_catering_guide.pdf)

**Putting Food to Good Use:** [www.epa.gov/wastes/conserve/materials/organics/pubs/food-guide.pdf](http://www.epa.gov/wastes/conserve/materials/organics/pubs/food-guide.pdf)



### WASTE / RECYCLING

**HospitalityGreen LLC:** Resource Tracking Tool (RTT) tracks waste and recycling [www.hospitalitygreen.com](http://www.hospitalitygreen.com)

**Environmental Protection Agency's** voluntary program for businesses: [www.epa.gov/wastewise](http://www.epa.gov/wastewise)

**MA DEP Waste & Recycling program:** [www.mass.gov/dep/recycle/](http://www.mass.gov/dep/recycle/)

**Recycling Works MA:** [www.recyclingworksma.com/](http://www.recyclingworksma.com/)



### WATER

**National Restaurant Association** Environmental initiative: [conserve.restaurant.org/](http://conserve.restaurant.org/)

**Environmental Protection Agency's Water Sense** Program for businesses: [www.epa.gov/WaterSense](http://www.epa.gov/WaterSense)

**Massachusetts Water Resources Authority Water Efficiency and Management for Restaurants:**

[www.mwra.state.ma.us/04water/html/bullet3.htm](http://www.mwra.state.ma.us/04water/html/bullet3.htm)

### LOCAL AND STATE RESOURCES

**MA Department of Environmental Protection:** [www.mass.gov/dep](http://www.mass.gov/dep)

**US EPA Region 1:** [www.epa.gov/aboutepa/region1.html](http://www.epa.gov/aboutepa/region1.html)

### NATIONAL RESOURCES

**US EPA Pollution Prevention in the Hospitality Industry:** [www.epa.gov/region2/p2/hospitality](http://www.epa.gov/region2/p2/hospitality)

**IFMA Foundation:** [www.ifmafoundation.org](http://www.ifmafoundation.org)

**HospitalityGreen LLC:** [www.hospitalitygreen.com](http://www.hospitalitygreen.com)

# Paper Steps

## Taking the Steps to Environmentally Responsible Paper

In the Steps below, 'environmental attributes' are defined as:

- Post-consumer Recycled Fiber
- Pre-consumer Recycled Fiber
- Agricultural Residue Fiber
- Forest Stewardship Council (FSC) Certified Virgin Fiber<sup>1</sup>



[click to see papers that meet these criteria](#)

[click to see papers that meet these criteria](#)

### ENVIRONMENTALLY IMPROVED PAPER

Meets the minimum criteria below and at least 50% of fiber has environmental attributes

- MINIMUM CRITERIA:**
- Minimum 30% post consumer recycled
  - FSC certification required on papers with more than 50% virgin content
  - No controversial sources<sup>4/5</sup>
  - Enhanced Elemental Chlorine Free (EECF)<sup>2</sup> Processed Chlorine Free or Totally Chlorine Free (PCF or TCF)

**ENVIRONMENTAL BENEFITS:** 50% post-consumer recycled paper emits approx. 19-25% less greenhouse gases, and saves the equivalent of 8 to 13 trees per short ton.<sup>3</sup>

### ENVIRONMENTALLY SUPERIOR PAPER

Meets the minimum criteria below and all fiber (100%) has environmental attributes

- MINIMUM CRITERIA:**
- Minimum 50% post consumer recycled
  - Virgin fiber can not have controlled wood content<sup>6</sup> or controversial sources<sup>5</sup>
  - Processed Chlorine Free or Totally Chlorine Free (PCF or TCF)

**ENVIRONMENTAL BENEFITS:** 100% post-consumer recycled paper emits 25-50% less greenhouse gases, and consumes no trees.<sup>3</sup>

To find a list of Environmentally Improved and Environmentally Superior Papers visit [www.WhatsInYourPaper.com](http://www.WhatsInYourPaper.com).

### ENVIRONMENTALLY INFERIOR PAPER

This paper has no, or very minor, environmental attributes

- MEETS NO MINIMUM CRITERIA:**
- No/minimal recycled content
  - Virgin tree fibers not FSC-certified
  - Paper bleaching not Enhanced Elemental Chlorine Free (EECF)<sup>2</sup>, Process Chlorine Free (PCF) or Totally Chlorine Free (TCF)

**ENVIRONMENTAL IMPACT:** 100% virgin paper emits 5,483 to 6,855 pounds of greenhouse gases and consumes 15-26 trees per short ton.<sup>3</sup>

### TRANSITIONAL PAPER

Meets the minimum criteria below and at least 10-30% of fiber has environmental attributes

- MINIMUM CRITERIA:**
- 10% post consumer OR may be 100% virgin only if it has FSC certification
  - Virgin fiber can not be from controversial sources<sup>4/5</sup>
  - Paper bleaching not Enhanced Elemental Chlorine Free (EECF)<sup>2</sup>, Process Chlorine Free (PCF) or Totally Chlorine Free (TCF)

**ENVIRONMENTAL BENEFITS:** 30% post-consumer recycled paper emits approx. 10-15% less greenhouse gases, and saves the equivalent of 4 to 8 trees per short ton.<sup>3</sup>

1. Refers to virgin from FSC certified forests.  
 2. Enhanced Elemental Chlorine Free paper is made using technologies such as oxygen delignification and ozone bleaching prior to bleaching with chlorine dioxide.  
 3. Source: Paper Calculator from Environmental Defense, based on national (US) averages and varies by paper type. Does not include emissions from the burning of biomass.  
 4. FSC paper may contain pure, mixed or recycled sources. A 'transitional paper' does not include virgin fiber from controversial sources.  
 5. Controversial Sources include Endangered Forests as defined in the Ecological Attributes of Endangered Forests (reference), and those sources dealt with in FSC under the Controlled Wood Standard, including fiber sources from High Conservation Value Forests or Ecosystems, or where there is a risk of illegal logging, violations

of traditional or civil rights, ecosystems subject to conversion, or fiber from genetically modified organisms.  
 6. To qualify for 'Environmentally Superior Paper,' no controlled wood content is allowed.

• The comparisons in this chart are assumed to be applied to a consistent grade of paper. Shifting from one grade to another, particularly from papers made from chemical pulp to those made from mechanical pulp may produce quite different comparisons of environmental impacts.  
 • The criteria above correspond to the pulp rating system for [www.Pulpwatch.org](http://www.Pulpwatch.org)  
 • The Paper Steps is based on the Hierarchy of Environmental Papers developed by Markets Initiative [www.marketsinitiative.org](http://www.marketsinitiative.org)



# HOSPITALITY GREEN

SUSTAINABLE PRACTICES FOR BUSINESS

## **PAPER TALK!**

### ***TERMS AND FACTS YOU NEED TO KNOW FOR PURCHASING ENVIRONMENTALLY PREFERABLE PAPER AND PRINTING***

When purchasing paper look for these symbols and terms **on the ream of paper.**



**Recycled Content:** Choose the highest level of post-consumer recycled content paper that meets your needs. Post-consumer recycled content is paper that comes from you and me and not manufacturer's waste which is called pre-consumer recycled content. The recycled content in the paper will be labeled on the stacking side of the ream of paper. The EPA and Green Seal call for a **minimum of 30% post-consumer**, and there are a number of manufacturers that offer products that meet or exceed that standard, including 100% post-consumer recycled paper. Recycled paper takes less energy and water, generates less air pollution to manufacture and supports municipal recycling programs.

**Chlorine-Free:** The chlorine commonly used to remove spots and impurities from paper releases toxic byproducts into the environment. There are three choices:

- **Elemental Chlorine-Free (ECF)** paper reduces dioxins and improves water quality but doesn't eliminate all adverse environmental affects.



- **Processed Chlorine-Free (PCF)** or **Total Chlorine Free (TCF)** are preferred because they greatly reduce or eliminate chlorine from the process.



**FSC:** the **Forest Stewardship Council** is a nonprofit agency that certifies whether paper fibers are from sustainable sources (virgin, controlled or recycled). FSC certification can be sought by anyone involved in the making and use of paper products but mainly applies to the forestry practices of paper manufacturers and their suppliers.

**Coatings and Colors:** Avoid colored papers and those with heavy ink coverage or special coatings that generate more harmful waste products.

**Alternative Fibers:** Experiment with some of the new paper and printing materials that have come on the market made from rapidly renewable sources such as bamboo, sugarcane, hemp and other kinds of recycled waste, such as pop-bottle tops, that can be used for banners and signs.

**Printing Inks and Chemicals:** Printing inks and processes traditionally contain toxic substances that can leach into the groundwater and release harmful vapors and VOCs (Volatile Organic Compounds) into the atmosphere. A truly green printer will work to reduce or eliminate these hazardous substances. Ask your printer for soy based inks, which are much better for the environment.

©All Rights Reserved - Developed by HospitalityGreen LLC 10-1-09



