



# Sheraton Boston Hotel

Path to 30/20/20





## Starwood Commitment to Sustainability

**Starwood is committed to doing more to consume less and caring for our planet.** Our environmental policy addresses six areas of opportunity, and we are getting started with initial **worldwide focus on Energy & Water - 30/20 by 20**. This is just the beginning of our journey toward environmental sustainability; next we'll work on additional guidance for minimizing and reducing waste and emissions, examining the supply chain and enhancing indoor environmental quality. We'll take all of this on while maintaining the exceptional guest experiences we so proudly deliver.

We know **collaboration is key** in addressing these issues, so we formed a partnership with Conservation International in 2009. We've worked together to set our energy & water goals and establish a platform that will enable us to hit those performance targets. In the future, we'll continue in that vein and also work together on engagement programs to drive awareness about environmental issues.





How are we getting to our goal !

- Building Partnerships with Venders and Utilities
- Sharing Best Practices with counterparts
- Testing new Technologies



## 2012 Projects Completed

- ECM Motors Walk ins / 1.7 ROI
- Power Factor Correction System /4 month ROI
- Advanced Boiler Controls / 1.8 ROI
- VFD Replacements / 1.6 ROI
- Lighting Upgrades / 2.0 ROI
  
- Utility Support – 250,000



**Sheraton Boston Engineering**  
**Energy ROI Analysis**  
**Lighting and Occupancy Sensors**



	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<b>Total Initial Investment</b>	<b>\$ (300,720)</b>									
<b>Rebate</b>	<b>\$ 120,000</b>									
<b>Energy Usage: Therms</b>										
<i>Growth Rates</i>										
Current System		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Proposed System		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Current System	1,512,041	1,512,041	1,512,041	1,512,041	1,512,041	1,512,041	1,512,041	1,512,041	1,512,041	1,512,041
Proposed System	769,550	769,550	769,550	769,550	769,550	769,550	769,550	769,550	769,550	769,550
Savings	742,491	742,491	742,491	742,491	742,491	742,491	742,491	742,491	742,491	742,491
% Variance	49.1%	49.1%	49.1%	49.1%	49.1%	49.1%	49.1%	49.1%	49.1%	49.1%
<b>Cost per ur KWH</b>										
<i>Growth Rates</i>										
Current System		3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Proposed System		3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Current System	\$ 0.125	\$ 0.13	\$ 0.13	\$ 0.14	\$ 0.14	\$ 0.14	\$ 0.15	\$ 0.15	\$ 0.16	\$ 0.16
Proposed System	\$ 0.125	\$ 0.13	\$ 0.13	\$ 0.14	\$ 0.14	\$ 0.14	\$ 0.15	\$ 0.15	\$ 0.16	\$ 0.16
Savings	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
% Variance	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Energy Cost</b>										
Current System	\$ 189,005	\$ 194,675	\$ 200,516	\$ 206,531	\$ 212,727	\$ 219,109	\$ 225,682	\$ 232,452	\$ 239,426	\$ 246,609
Proposed System	\$ 96,194	\$ 99,080	\$ 102,052	\$ 105,114	\$ 108,267	\$ 111,515	\$ 114,860	\$ 118,306	\$ 121,855	\$ 125,511
Savings	\$ 92,811	\$ 95,596	\$ 98,464	\$ 101,417	\$ 104,460	\$ 107,594	\$ 110,822	\$ 114,146	\$ 117,571	\$ 121,098
% Variance	49.1%	49.1%	49.1%	49.1%	49.1%	49.1%	49.1%	49.1%	49.1%	49.1%
<b>Other Savings</b>										
Labor	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Manhours	0	0	0	0	0	0	0	0	0	0
Wage rate	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1.00	\$ 2.00	\$ 3.00	\$ 4.00	\$ 5.00
Controllables	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Controllable 1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Controllable 2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Controllable 3	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Savings	\$ 92,811	\$ 95,596	\$ 98,464	\$ 101,417	\$ 104,460	\$ 107,594	\$ 110,822	\$ 114,146	\$ 117,571	\$ 121,098
HP Margin Impact (pts)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Less: Incentive Fees	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ 92,811	\$ 95,596	\$ 98,464	\$ 101,417	\$ 104,460	\$ 107,594	\$ 110,822	\$ 114,146	\$ 117,571	\$ 121,098
Investment/Rebate	\$ (300,720)	\$ 120,000								
<b>Cash Flow to Owner</b>	<b>\$ (300,720)</b>	<b>\$ 212,811</b>	<b>\$ 95,596</b>	<b>\$ 98,464</b>	<b>\$ 101,417</b>	<b>\$ 104,460</b>	<b>\$ 107,594</b>	<b>\$ 110,822</b>	<b>\$ 114,146</b>	<b>\$ 117,571</b>
Cash Yield on Investment	70.8%	31.8%	32.7%	33.7%	34.7%	35.8%	36.9%	38.0%	39.1%	40.3%
Cumulative Cash Yield	70.8%	102.6%	135.3%	169.0%	203.8%	239.5%	276.4%	314.3%	353.4%	393.7%
IRR	<b>44.2%</b>									
NPV @ 20%	<b>\$ 226,731</b>									
Payback	<b>2.0 years</b>									



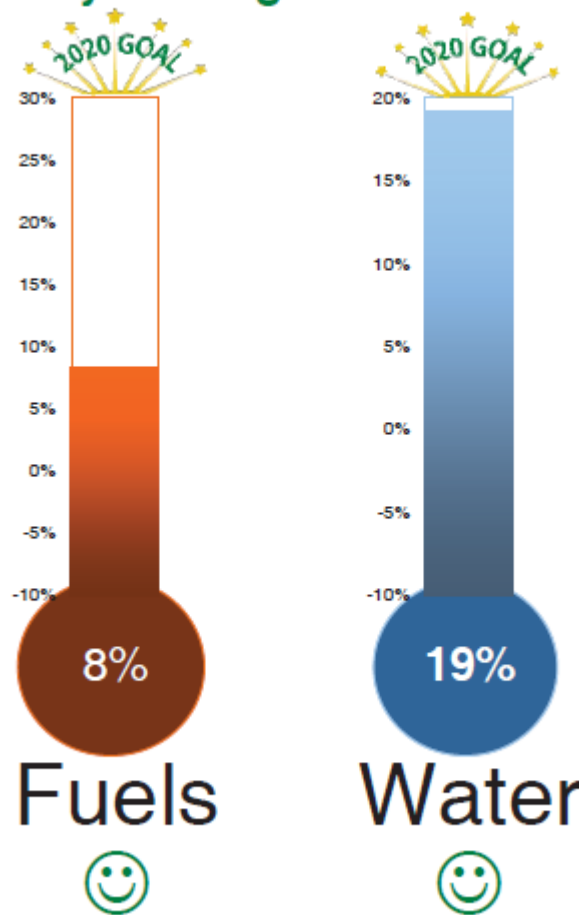
# Progress Thermometers

5677 Sheraton Boston H & T

November 26, 2012



## 30/20 by 20 Progress Thermometers

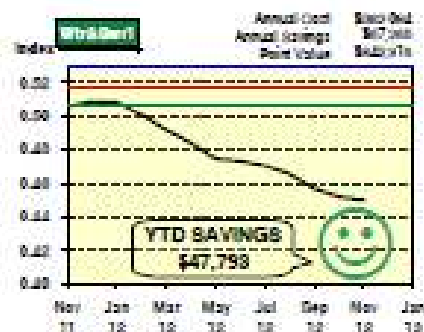
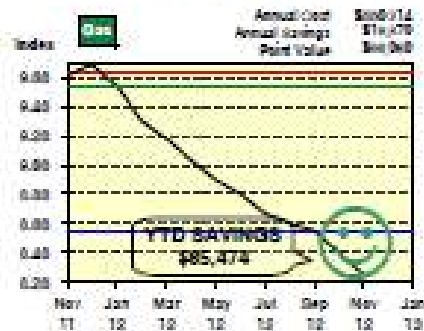
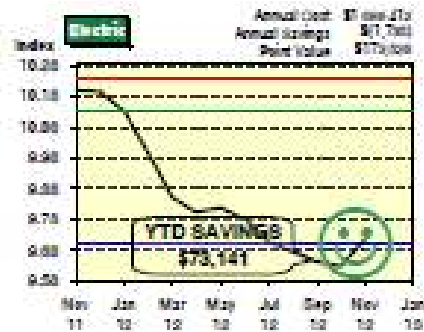


Calculations based on Energard's Energy Efficiency Index:  
annual Btu/sq ft adjusted for change in outside air temp and occupancy

Calculations based on change in kBtu PAR (Per Available Room)  
since Base Year.



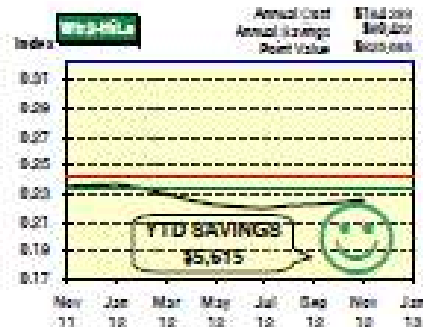
# Educational and Awareness Tools



The Emergard Index is annual energy use per square foot of conditioned space adjusted for changes in outside temperature (Degree Days). Each monthly value is a sum of the previous 365 days of use (rolling annual total). An index trend down indicates savings; an index trend up indicates loss. When the index trend is below the Base Line, savings are generated. The Alert Set Point is 1% above Last Year Index. Base Year end date is presently 1/1/2009.

**Key**

- Use Index Trend
- Alert Set Point
- Last Year Index
- Base Year Index
- \$-\$-\$ Savings (Avoided Cost)



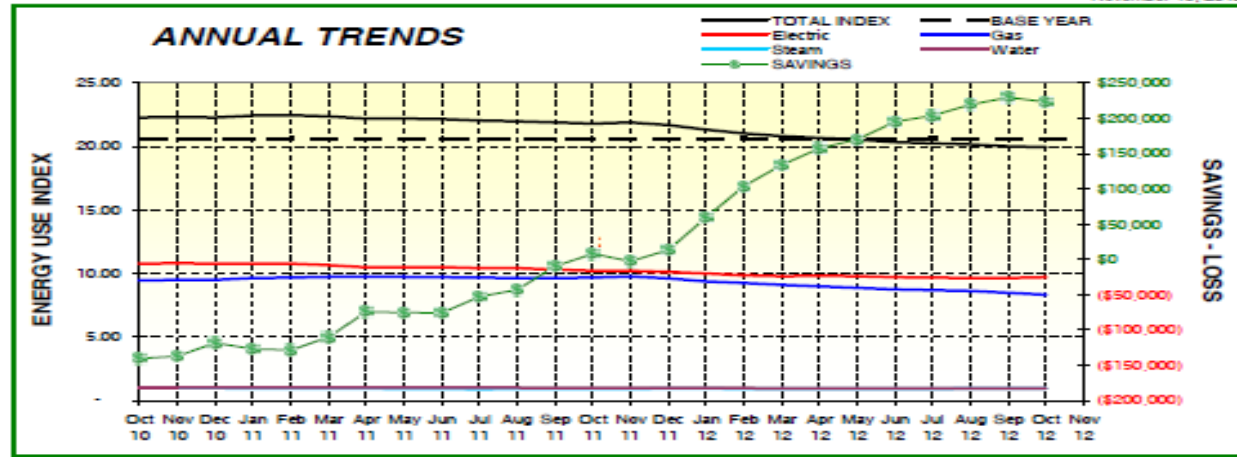
# Educational and Awareness Tools



**QUIKSTAT**  
**ANNUAL ENERGY USE and SAVINGS TRENDS**  
 5677 Sheraton Boston H & T  
 November 15, 2012

**SAVINGS RATE**  
 \$223,349  
 PER YEAR

**STARWOOD**  
 20.53  
 AVERAGE INDEX



Each Energy Use Index is a 365 day total of energy consumption in Btu per square foot adjusted for change in outside temperature and occupancy.

For: 5677 Sheraton Boston H & T Boston, MA To: Jeff Hanulec

Base Year 01/01/2008 - 12/31/2008 Report current through 10/30/2012

	ENERGY USE INDEX	CHANGE	ANNUAL COST	CHANGE
Base Year	20.63	N/A	\$ 3,855,365	N/A
Last Month	20.17	2.3% ☹	\$ 3,176,057	17.6% ☹
This Month	19.94	1.1% ☹	\$ 3,134,323	1.1% ☹

**SAVINGS**

	Electric	Gas	Steam	Water
Latest Annual	\$ (1,735)	\$ 19,870	\$ 26,616	\$ 178,598
Year-to-date	\$ 70,832	\$ 92,497	\$ (2,117)	\$ 48,480



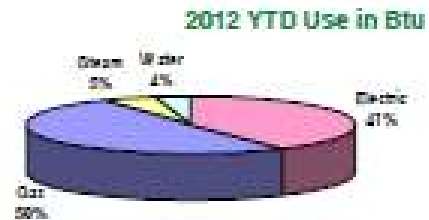
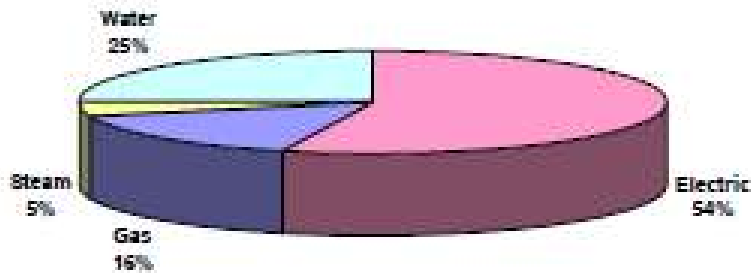


# Educational and Awareness Tools

## Utility Expenses 2011 - 2012

5677 Sheraton Boston H & T

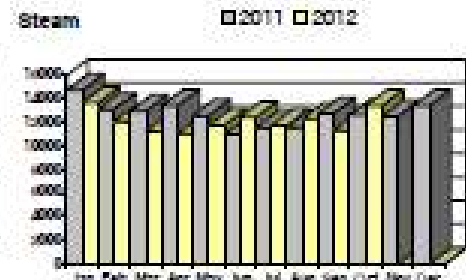
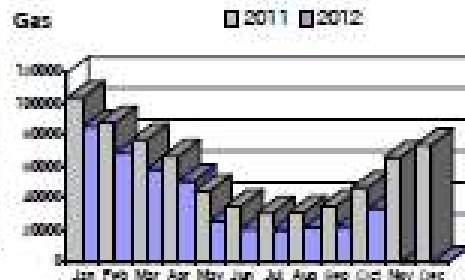
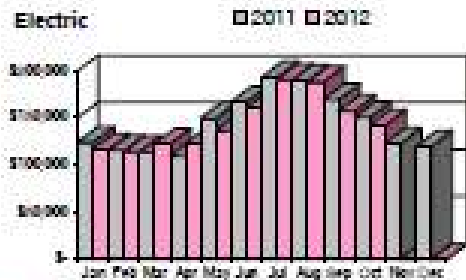
### 2012 YTD Expense



The Expenses pie chart (left) shows the relative YTD expense by utility.

The Use pie chart (above) shows the corresponding amounts of Btus purchased.

This comparison is especially useful when the purchase of equipment powered by different fuel sources is being considered.



# Energy Honor Roll

11/15/2011



**Sheraton**  
**Boston**  
HOTEL

THESE  
PROPERTIES  
HAVE ACHIEVED  
AT LEAST  
0.8% TOTAL  
ENERGY  
REDUCTION FOR  
THE CURRENT  
MONTH.  
A SUSTAINED  
0.8% ENERGY  
REDUCTION PER  
MONTH WILL  
RESULT  
IN A 10%  
REDUCTION FOR  
THE YEAR.

Address	percent
4077 The Westin Cassang Otr	10.83%
5405 Westin Detroit Metro Arpt	5.09%
5716 The Westin St. Francis	3.11%
5673 The Westin Seattle	3.03%
5120 Sheraton Suites Galleria	2.96%
0253 Sheraton Centre Toronto	2.75%
5676 Sheraton San Diego Hotel	2.40%
5509 Westin Galleria Dallas	2.20%
0258 Sheraton Kauai Resort	1.92%
5391 Westin Biglemat Resort	1.75%
5668 Sheraton Farsigany	1.72%
5505 The Westin Bayshore	1.69%
0161 Westin Peachtree Plaza	1.56%
5709 The Westin Alexandria	1.53%
5679 W Seattle	1.48%
5101 Westin Meana Sunrider	1.41%
5269 Westin La Cantera Resort	1.35%
5983 Westin Phoenix Downtown	1.33%
5951 W San Francisco	1.30%
0248 W Times Square	1.24%
5674 The Westin Cincinnati	1.23%
4052 St Regis Washington DC	1.22%
4058 Sheraton Fremiere	1.11%
5106 Sheraton Maui	1.10%
5677 Sheraton Easton H & T	1.10%
5707 Sheraton Puerto Rico	1.09%
4073 St Regis Atlanta	1.08%
4142 The Westin La Paloma	0.99%
5817 W Washington DC	0.97%
0244 The Westin Miami	0.95%
5394 The Westin Charlotte	0.94%
5678 Sheraton New York H & T	0.92%
5115 Sheraton Society Hill	0.90%
5404 The Westin Bellevue	0.90%
4126 W Atlanta Buckhead	0.85%
0149 W New Orleans	0.84%
4085 W Chicago City Center	0.84%
5520 W Dallas Victory	0.82%



## Additional Sustainability Programs

### Partner: Clean the World

All used soaps and bathroom amenities collected and shipped to an organization for donation to communities in need

✓ 2,894 lbs collected YTD

### Partner: EcoBuilding Bargains

One time collection of unneeded attic stock paint

✓ Over 500 gallons collected for recycling

### Partner: Grainger

Continuous collection of batteries, light bulbs and ballasts for recycling

### Partner: AP Frycool

Continuous collection of fryer oil for recycling to bio-diesel – YTD converted 13000 #s of fryer grease to 1800 gallons of BIO fuel

