

Hotel Renovations-Go Green and Save Green - By Bryan Higgins, VP Business Development for First Finish Inc.
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Economical tips for eco-efficient renovations

Lately it seems the term 'going green' is sprouting up everywhere. From fuel efficient cars to energy saving light bulbs, the trend to save money and resources while saving the planet is taking root not only in homes and businesses across the country, but it has also become a top trend in the hotel industry. These days, many properties are not just initiating various 'green' programs, such as changing linens and towels only on request, but many are now instituting green construction, renovation and design practices.

Once seen as a cost-prohibitive practice for hotels, utilizing eco-friendly or 'green' products and implementing conservation programs has begun to equalize in cost and in many cases, can save hotels money, when compared to traditional methods. Guests are expressing increased brand loyalty and guest satisfaction when staying in hotels that support a cleaner planet.

'When hired as a general contractor for a hotel renovation, we believe that our responsibilities extend far beyond ensuring on time and on budget project delivery - it's our duty to ensure that the property is aware of the short and long term benefits of following our environmental best practices.' Bryan Higgins, Vice President of Business Development for First Finish.

#1: Product Selection: Simple Substitutions Offer Lowered Cost and Consumption of Utilities

Decrease Water Consumption

A study by the American Hotel & Lodging Association found that the average hotel consumes about 209 gallons of water per occupied hotel room each day-almost as much as the 243 gallons consumed by the typical U.S. household. According to the American Waterworks Association, the average price of water is about \$1.50 for 1,000 gallons. Over a year's time, a 400 room hotel at 63% occupancy uses 19 million gallons of water used representing an expenditure of \$28,000.

By installing water efficient toilets and flow-reducing nozzles on faucets and shower heads, that same hotel can potentially save almost 2.5 million gallons of water and nearly \$4,000 on its water bill per year. The best part is that design innovations in these energy conserving products means that performance is on par with conventional products, and therefore doesn't negatively impact the guest experience. For example:

Design advances in **water-efficient toilets** decrease water consumption from 3.5 to as low as 1.23 gallons per flush, with no trade-off in flushing power.

Flow-reducing nozzles on bathrooms sinks can reduce output from 2.5 to 1.5 gallons per minute, which reduces a sink's water flow by 30 percent or more without sacrificing performance.

High-efficiency showerheads reduce output from 3 to 7 gallons per minute to 2.5, offering an approximate 40 percent water savings, without much noticeable decrease in water pressure.

One of First Finish's current projects at the Jurys Normandy in Washington DC includes water-efficient toilets, shower heads, toilets and faucets, some of which are GROHE watercare and WaterSense certified.

Our calculations show that these installs should provide the following savings in consumption:

Faucets will reduce consumption by 41%, Shower heads will reduce consumption by 50% and Toilets will reduce consumption by 54%.

For the purpose of our calculation, we will assume that the hotel continues its average 90% occupancy and we will also assume equal water usage across all three fixtures. The results below are the estimated figures*:

Previous Annual consumption (per room)	68,656 gallons
New Annual consumption (per room)	35,495 gallons
SAVINGS (per room)	33,161 gallons
Previous Annual consumption (proj. total)	4,943, 268 gallons
New Annual consumption (proj. total)	2,555, 640 gallons
SAVINGS (scope of project)	2,387, 628 gallons
Annual expenditure reduction (est. \$1.50 / 1000 gallons)	\$3,581.44

Decrease Energy Consumption

According to the U.S. Department of Energy, buildings consume approximately 37 percent of energy and 68 percent of electricity produced in the U.S. annually. If hotels could improve their energy performance by an average of 30 percent, the hotel industry's annual electricity bill savings would be nearly \$1.5 billion, according to the U.S. Environmental Protection Agency (EPA). This would represent a savings of approximately \$365 per available room night per year for every hotel room

in the country. Replacing incandescent light bulbs with compact fluorescent is an excellent first step in economizing what industry experts have identified as representing 35 percent of a hotel's energy bill, however, much more can be done:

Install programmable thermostats

Industry statistics indicate that 50 to 70 percent of a hotel's energy bill is attributed to heating and cooling, therefore, it's important that these systems run as efficiently as possible. Programmable thermostats allow guests to set the thermostat to their desired temperature and allow hotel owners to maintain energy conservation no matter if a room is occupied or unoccupied.

Install LED nightlights

Forty percent of travelers leave the bathroom light on as a night light - that's over \$50 in energy annually per room. LED night lights consume less than 50¢ of energy annually and can be hardwired as a light switch or a socket outlet. They're also helpful in preventing night time falls, the number one cause of guest injury.

'One thing that had always made an impact on me was the number of dumpsters used in hotel renovations and the amount of debris going to the landfill. We worked very hard, project by project alongside our suppliers, subcontractors and clients to reduce the amount of waste in our projects. As a result we've since recycled upwards of 200,000 lbs of carpet, padding and ceiling tile per project, when the conditions are right.' David Burman - President, First Finish Inc.

#2: Recycle - most construction demolition debris can be recycled

Over 6 billion pounds of carpet finds its way into our landfills each year, however, since 2002, 745 million pounds of recycled carpet has been used in items such as composite lumber, tile backer board, roofing shingles, railroad ties, automotive parts, carpet cushions and stepping stones.

It's a well-known fact that recycling such items as used plastic containers and old newspapers has a positive impact on the environment and the economy. But, did you know that construction demolition debris can be recycled too? Everything from cardboard and plastic to items such as carpet, acoustical ceiling tiles and wall vinyl can be recycled.

Each year, 325 million tons of recoverable construction and demolition materials are generated in the U.S. By partnering with local and regional recyclers of construction waste products, hotel renovation service providers can do their part in improving that statistic by incorporating eco-friendly recycling practices into their operations.

An average hotel renovation uses 20 to 30 dumpsters (3 to 4 tons per dumpster), which translates to approximately 120 tons or 240,000 pounds of potential landfill impact per renovation. Landfills where construction debris is typically dumped are major sources of soil and water pollution, as well as major producers of significant quantities of greenhouse gasses. In a typical renovation, roughly 300 pounds of carpet per room can be recycled. Every 100 square yards of carpet recycled equals a savings of 44 gallons of oil.

Depending on location, recycling containers, which typically hold 40 percent more than conventional debris receptacles, can typically be a pass-through cost or just a slight price increase. However, the difference between the fees for a recycling container versus a traditional landfill disposal container usually equates to less than 1% of overall renovation costs.

Also, the price discrepancy between recycling receptacles and landfill receptacles is anticipated to quickly decrease over time as new landfills are moved further away from urban centers, increasing transportation costs.

First Finish Inc.

First Finish Inc. has been implementing eco-friendly best practices in their hotel renovations since 2006/7. Their efforts have led to the recycling of more than half a million pounds of carpet, padding and acoustical ceiling tile for their projects with the Marriott brand alone.

Fairmont Hotels & Resorts and Lexus, two flagship brands, have recently formed a green-alliance to promote their passion and commitment to environmental sustainability. First Finish was selected as the General Contractor to build the prototype 'Eco-Suites', now serving guests at the Fairmont Washington DC. The suite is made up of local and organic materials, eco-friendly paints, recycled products as well as renewable resources.

For more information on how you can incorporate sustainable practices on your next renovation, please feel free to contact Bryan Higgins or Jason Stock at First Finish Inc.



First Finish, Inc., 8300 Guilford Road, Suite F, Columbia, MD 21046 | 410-290-6450

<http://www.firstfinish.net>

*Notes on estimation

Efficiencies were calculated using the following figures:

New consumption divided by previous consumption minus one, to provide % change in usage (represented as savings gallons per min 'gal./min.' or gallons per flush 'gal./fl.')

Toilets previous consump. est. : at 3.5 gal./fl.

New consumption is: 1.6 gal./fl.

Savings: $(1.6/3.5)-1 = 54\%$ saving

Faucets previous consump. est. : at 4 gal./min.

New consumption is: 2.35 gal./min.

Savings: $(2.35/4)-1 = 41\%$

Shower heads previous consump. est. : $3+7/2=5$ gal./min.

New consumption is 2.5 gal./min.

Savings: $(2.5/5)-1 = 50\%$ saving

Annual estimates per room are based on 209 gallons daily multiplied by the 365 (#days in a year), multiplied by the occupancy rate of the hotel (in this case 90%). Total water savings was calculated by averaging the savings equal across the water usage figure.

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