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# **Greening Your Hotel: Why Start Now? How to Do It**

June 9, 2009

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# Presenter

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Executive Director, Boston Green Tourism

# Presentation Outline

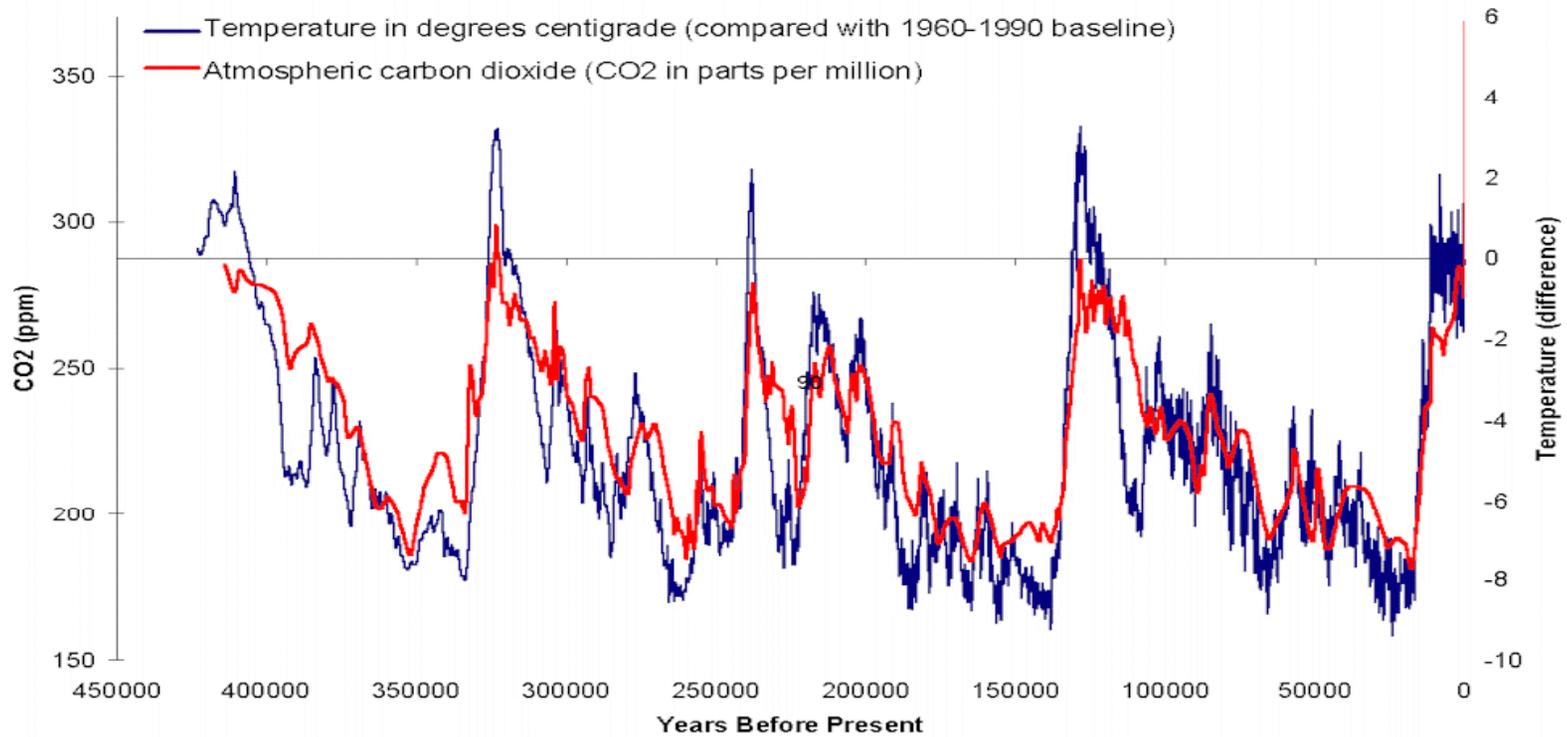
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- I. The big picture: what's behind the green hotel movement?
- II. The benefits of greening your hotel
- III. How to green your hotel

# The Big Picture: Global Warming, 1

- Since last Ice Age, earth's climate has been unusually stable; stability may be coming to an end
- Evidence from the last 1,000,000 years: close association between CO<sub>2</sub> (greenhouse gas) and temperature
- CO<sub>2</sub> is at highest level in 1,000,000 years—and rising quickly; temperatures have started to rise along with it

# The Big Picture: Global Warming, 2



# The Big Picture: Global Warming, 3

- CO<sub>2</sub> released when we burn fossil fuel—coal, oil, natural gas
- CO<sub>2</sub> stays in atmosphere for ~100 years
- Deforestation also contributes to CO<sub>2</sub> build-up because trees bind carbon; ~50% of world's forest cover cleared since 1950
- Scientists: to stabilize climate, we need to ↓ CO<sub>2</sub> emissions by ~ 80% by 2050

# The Big Picture: Global Warming, 4

Impact of global warming:

- Rising sea level will threaten coastal cities
- Water shortages and droughts
- Wildfires: longer season and ↑ intensity
- Violent storms: ↑ intensity and duration; still scientific debate regarding hurricanes and tornadoes
- Spread of tropical diseases
- Heat waves: ↑

# The Big Picture: Global Warming, 5

Impact of global warming (continued):

- ↑ plant and animal extinction
- ↑ pestilence
- ↑ conflicts over resources
- ↑ refugees
- Unanticipated consequences
- Widespread economic damage

“If you don’t do anything about climate change, you can be sure that our economies will go down the drain in the next 30 years.”  
Paul Volcker, former Federal Reserve Chairman

# The Big Picture: Other Issues

- Energy prices likely to soar when economy recovers
- President Obama/Congress/Governor Patrick are enacting programs to address global warming and U.S. dependence on foreign oil
- Overfishing leading to species depletion
- Synthetic chemicals: recognition that we have >100 contaminants in our bodies

# The Big Picture: The Impact on Your Hotel

- Customer concern for the environment will grow—green is *not* a fad
- ↑ price pressure to ↓ fossil fuel use; true for waste and water--but to a lesser extent
- Regulatory pressure and incentives will influence businesses to ↓ fossil fuel, ↑ renewable energy, ↓ water use and ↓ garbage
- Your experience and ability to respond to these trends will help you in your career

# The Big Picture: How Hotels are Responding

- Major environmental initiatives announced by Marriott, Hyatt, Fairmont, Kimpton and more; Starwood's Element hotels are LEED certified
- 405 US EPA Energy Star hotels; many new hotels being built to achieve LEED certification
- 17 states now have green hotel programs; MA program expected soon
- Interest by hotel journals and conferences has exploded

## Why Green Your Hotel: Increase Revenue, 1

- Meeting planners are starting to patronize hotels that care about environment
- ↑ in RFP's from businesses that ask hotels for environmental achievements

## Why Green Your Hotel: Increase Revenue, 2

- U.S. EPA and State of Florida require staff to stay in green hotels--starting a trend
- U.S. govt. developing a green meeting standard that will incentivize federal staff and mtg planners to choose green hotels
- Orbitz highlights Energy Star hotels
- Interest by leisure visitors in green hotels is growing; however, there is confusion about what constitutes a “green” hotel

## Why Green Your Hotel: Increase Revenue, 3

- Hotels are advertising their green virtues and demonstrating their concern to customers
- Hotels are installing allergy-free rooms and selling them at a premium
- Meeting planners now ask for green menus
- Hotels now offer Green Wedding packages

# Why Green Your Hotel: Increase Revenue, 4



**Stephen Johnston**  
General Manager  
Jurys Boston Hotel

“Check into a green hotel.  
And CO<sub>2</sub> checks out.”

Jurys Boston Hotel wanted its friendly service to cater to the environment as well as to its guests. “We are an Energy Star hotel,” says General Manager Stephen Johnston. “And Constellation NewEnergy helped us to take our environmental sensitivity a step further.”

Already a Constellation NewEnergy customer, it was easy for CNE to direct Jurys’ energy dollars toward renewable energy resources. “It’s within budget and didn’t take long to accomplish. It’s easy being green,” Johnston adds. Jurys has a reserved place as one of the first hotels in Boston to go 100% green, avoiding enough CO<sub>2</sub> to equal 10,372 barrels of oil annually. And as Johnston says, “Now our well-known hospitality extends to Planet Earth.”



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# Why Green Your Hotel: Increase Revenue, 5



REDUCE, REUSE, REJOICE!

Happy Holidays and Best Wishes for the New Year  
from your Friends at The Colonnade Hotel

# Why Green Your Hotel: Reduce Costs

- In the last several years, hotel electricity costs of 6 cents/kWh have soared in MA
- Energy Star buildings use 35% less energy than comparable buildings
- Hyatt Regency Boston reduced electricity use from 12.3 million kwh/yr to 7.5 million kwh/yr
- Westin Copley Place: ↓ water use by 22.5 million gallons in 2008 alone; ~20%
- Reduced energy, water and waste disposal bills go directly to the bottom line

## Why Green Your Hotel: Other Reasons

- Recruiting: some people prefer to work for green businesses—especially younger professionals
- ↓ toxic products = ↓ health risks to staff
- Healthy indoor air quality may lead to improved productivity
- You could tell your children how you are doing your part

# How to Green Your Hotel: What is Meant by “Green,” 1

Priority #1: ↓ fossil fuel use

- conservation
- efficiency
- use of renewable energy

# How to Green Your Hotel: What is Meant by “Green,” 2

Other priorities:

- ↓ water use
- ↓ waste: reduce, reuse, recycle
- ↓ toxins
- Environmentally-sustainable food
- Educate staff and customers

# How to Green Your Hotel: Five Paths to Energy Efficiency (1)

## 1. List energy efficiency projects:

- Free
- Cheap
- Expensive and quick payback
- Expensive and longer payback

Do these in order, from top to bottom.

## 2. Lump all capital expenses for energy efficiency into one loan that is paid out of savings on energy bills

# How to Green Your Hotel: Five Paths to Energy Efficiency (2)

## 3. Follow the EPA Energy Star steps:

- Tune up and turn off
- Upgrade lighting
- Reduce plug load
- Upgrade fan & motor systems and central plants (↓ size if poss.— after taking steps above, Δ to efficient boilers, chillers and motors; install VFD's in fan and pump systems; optimize system design and operation, etc.)

## 4. Retro-commission your bldg.

## 5. Stay current with emerging technologies and changing costs/rebates; for example, Combined Heat and Power and LED lighting are now cost effective in many circumstances

# How to Green Your Hotel: PM/EMS are Keys to Energy Efficiency

- Preventative Maintenance can cut energy bills by as much as 20%!
  - Develop rigorous, structured PM program: clean coils, replace filters, calibrate controls, lubricate and adjust equipment, etc.
  - Train bldg operators; consider Building Operators Certification Program ([www.theboc.info/](http://www.theboc.info/))
- Energy Mgt Systems can control lighting, heating and cooling; and identify problems
- Computers: ↓ energy use by up to 50% by using Energy Star equipment, laptops, power mgt, web-based software, fewer servers, etc.

# How to Green Your Hotel: Use On-line Resources regarding Energy Efficiency

- ENERGY STAR for Hospitality:  
[www.energystar.gov/index.cfm?c=hospitality.bus\\_hospitality](http://www.energystar.gov/index.cfm?c=hospitality.bus_hospitality)
- NStar's Energy Advisor:  
[www.nstar.com/business/energy\\_efficiency/energy\\_advisor/](http://www.nstar.com/business/energy_efficiency/energy_advisor/)

# How to Green Your Hotel: Consider Renewable Energy

- Purchasing Renewable Energy Certificates (REC's):
  - Select green-e certified
  - Consider reverse auctions
- Solar thermal: good applications now have a 4 to 7 year payback, when including incentives; systems require maintenance
- Solar PV: new MA and federal incentives and Power Purchase Agreements are making it financially viable; prices likely to drop further

# How to Green Your Hotel: Reducing Water Consumption, 1

- Some hotels achieve 30% - 50% reduction
- Meter and audit to know where your water is used
- Benchmark to better understand your opportunities
- Target high use areas: kitchens, public areas, guest showers, toilets, showers, cooling towers

# How to Green Your Hotel: Reducing Water Consumption, 2

Common places to ↓ water use:

- Leaks: detect and repair
- Faucet aerators
- Showers: 1.25 gallons per minute showerheads
- Toilets: 1.28 gallons per flush
- No-flush urinals with trap system

# How to Green Your Hotel: Reducing Water Consumption, 3

Common places to ↓ water use (continued):

- Kitchen: pre-rinse spray valve, efficient dishwashing equipment, thaw food in walk-in refrigerator—not under running water; review other habits
- Ozone laundry system
- Swimming pools covers
- Irrigation: satellite-based system, cleaned cooling tower blow-down water, rainwater and gray-water

# How to Green Your Hotel: Reducing Water Consumption, 4

Common places to ↓ water use (continued):

- Chemical free treatment for cooling towers, chillers, heat exchangers
- Steam systems: detect water loss; make repairs
- Efficient water heating: insulate water pipes, recover heat from refrigeration and cooling systems
- Water Awareness

# How to Green Your Hotel: Reduce Waste, 1

- Why recycle:
  - Reduce waste disposal costs
  - Comply with MA Waste Bans
  - Recycling is most visible part of your environmental commitment

# How to Green Your Hotel: Reduce Waste, 2

- Common commodities to recycle:
  - Cardboard
  - Paper
  - Plastic containers
  - Metal
  - Glass

# How to Green Your Hotel: Reduce Waste, 3

- Hotels with advanced programs also recycle:
  - Food and yard waste
  - Used cooking oil
  - Construction and Demolition waste
  - Surplus property, such as furnishings and appliances
  - computers

# How to Green Your Hotel: Reduce Waste, 4

- Determine your savings potential by conducting a waste audit:
  - Earth911 Business Waste Audit Form:  
[www.earth911.org/library/brrc/pdf/WasteAssForm.pdf](http://www.earth911.org/library/brrc/pdf/WasteAssForm.pdf)
- Then, find a recycler:  
[www.earth911business.com](http://www.earth911business.com) helps you locate recycling companies serving your area

# How to Green Your Hotel: Reduce Waste, 5

- Review your trash disposal contract to assure that you save \$ by recycling:
  - Eliminate volume requirements—they discourages recycling
  - Consider paying by the pickup rather than per ton
  - Recycling allows you to ↓ size of trash containers and frequency of pick-up
  - Consider bidding trash and recycling separately
  - Consider giving bid to recycler who subcontracts trash
- Single stream recycling might ↓ space needed for recycling and make it easier to train staff; it might ↓ your reimbursement for certain materials

# How to Green Your Hotel: Toxic Use Reduction / Improving IAQ, 1

- Green cleaning products
- Integrated pest management
- Low VOC: paints, carpets, sealants, caulks, adhesives, furniture, wallboard. Avoid formaldehyde in countertops, glued wood, particleboard, insulation
- Boiler and chiller water treatment: consider non-chemical and less toxic alternatives
- Pool chemicals: storage hazards, alternatives, overuse
- Organic Landscaping

# How to Green Your Hotel: Toxic Use Reduction / Improving IAQ, 2

- Assure good ventilation: too little leads to poor indoor air quality; too much reduces energy efficiency
- Consider smart controls and heat-exchanging ventilation
- Assure that your make-up air is far from truck exhaust, chemicals and dust
- Combustion sources (sterno, gas stoves, furnace, cars) can be unhealthy; use CO monitors, seal ducts
- Routinely inspect vents, belts, fans: can have energy efficiency benefits as well

## How to Green Your Hotel: Toxic Use Reduction / Improving IAQ, 3

- Develop a plan for mercury
- Mercury is in bulbs, thermostats, switches, gas and water flow meters, boilers, standing pilot lights
- Ensure proper disposal at end of life
- Faulty seals and preparation for disposal can cause exposure and vapor emissions
- Substitute other products when upgrading, except fluorescent bulbs

# How to Green Your Hotel: Environmentally Sustainable Food

- Local
- Organic
- Less meat
- Eliminate non-sustainable seafood
- Fair Trade
- Shade-grown coffee

# How to Green Your Hotel: Assess Performance

- Benchmark your facility using measures like EPA Energy Star and Hotel Association of Canada's Green Key Eco-Rating Program criteria
- Compare your hotel to its peers
- Consider performing a gap analysis for LEED O&M certification
- Consider a professional audit

# How to Green Your Hotel: Establish Objectives

Establish your objectives and priorities with owners and other stakeholders

# How to Green Your Hotel: Develop Expertise, 1

Develop the expertise you need or find it from outside the organization:

- Organize a Green Team
- Enroll engineers in Building Operator's Course
- Read Green Lodging News and its website
- Hire consultants if necessary

# How to Green Your Hotel: Develop Expertise, 2

- Join EPA's Energy Star for Hospitality:  
[www.energystar.gov/index.cfm?c=hospitality.bus\\_hospitality](http://www.energystar.gov/index.cfm?c=hospitality.bus_hospitality)
- Join the EPA's WaterSense Program:  
[www.epa.gov/watersense](http://www.epa.gov/watersense)
- Join the EPA's WasteWise Program:  
[www.epa.gov/wastewise](http://www.epa.gov/wastewise)

# How to Green Your Hotel: Identify Financial Resources

- Identify funds in your capital budget
- Identify tax breaks and utility rebates associated with capital investments. Start with <http://dsireusa.org/>. Utility rebates are much richer in 2009! Check for updates often.
- Identify vendors who will install energy-saving equipment for free; for example, CHP or solar PV and thermal vendors who install their unit and sell you power at a discount

# How to Green Your Hotel: Successful Practices

- What gets measured gets done
- Carrots work better than sticks
- Ask staff to sign a commitment letter
- Assign champions for recycling, energy, etc.
- Collaborate with peers in other hotels
- Make this project fun; celebrate your successes

# How to Green Your Hotel: Proving that You Are Green, 1

- Benefit of certification: outside parties proclaim that your facility is green--it confers credibility
- If your hotel isn't certified, make the point yourself: website, media stories, ads, statistics, responses to RFP's etc.
- A Marketing representative should be on your Green Team
- Internal marketing: recycling bins, brochures in rooms, signs, etc.; helps secure repeat business

# How to Green Your Hotel: Proving that You Are Green, 2

- Certification programs: imperfect but improving
- Hotel certification programs: EPA Energy Star, USGBC's LEED, Green Seal; soon: Massachusetts!
- Hotel restaurants: Green Restaurant Association, Certified Green Commercial Kitchen Program

# Conclusion

- The green hospitality movement is growing and is here to stay—it's not a fad
- Hospitality industry is going green because of customer demand, energy prices, govt policy and desire to do good
- Your hotel will benefit in many ways by going green

Questions? Comments?

# Contact Information

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