

## Principal, organic**architect**

nearly 20 years of experience in green building

LEED Accredited Professional, US Green Building Council

Author: "Green Building & Remodeling for Dummies"

Author: "Green\$ense: How to Pay For and Profit From 50 Green Home Projects"

Author: "Sustainable School Architecture"

Founding Chair of Architecture, The San Francisco Design Museum

Board of Directors, Architects/ Designers/ Planners for Social Responsibility

Advisory Boards: Green Home Guide, Ecosa Capital, West Coast Green

Co-Founder, ecoTECTURE: The Online Journal of Ecological Design

Columnist: Natural Home Magazine, GreenerBuildings.com, Luxe Magazine

Developer: Sustainable Design Curriculum Academy of Art University  
University of California Berkeley

CONNECT:

**facebook**

**Linked in**

**twitter**

CONTACT:

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CONNECT:



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[organicarchitect.com/downloads/hospitality.pdf](http://organicarchitect.com/downloads/hospitality.pdf)

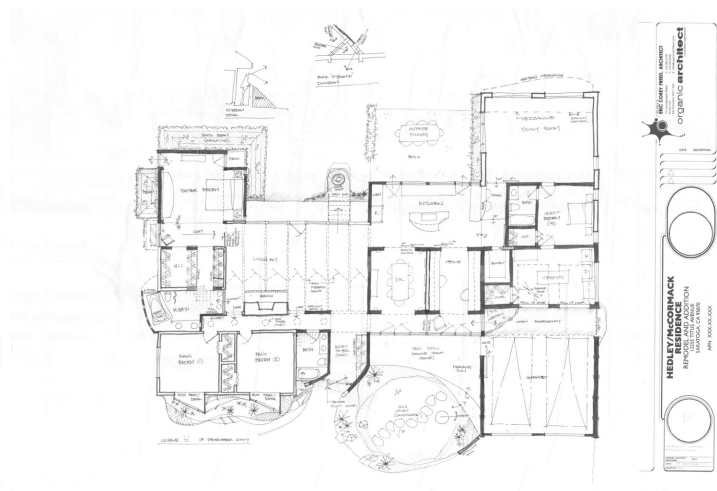
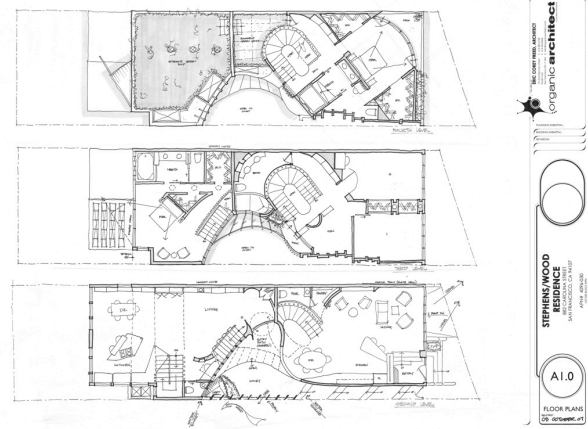
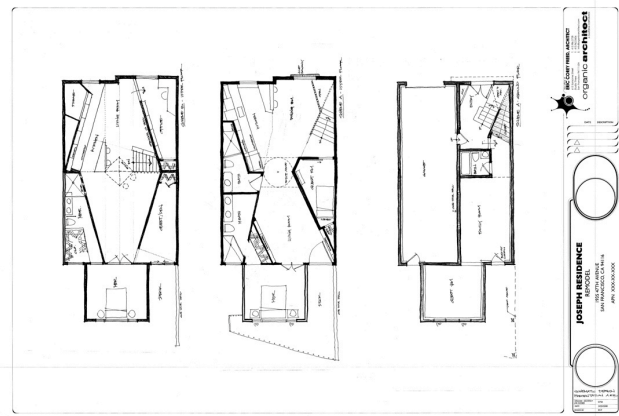
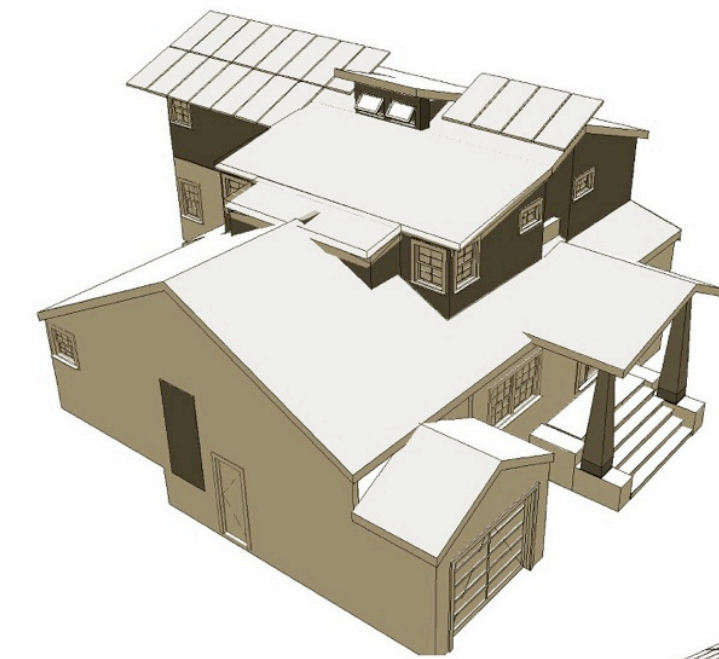
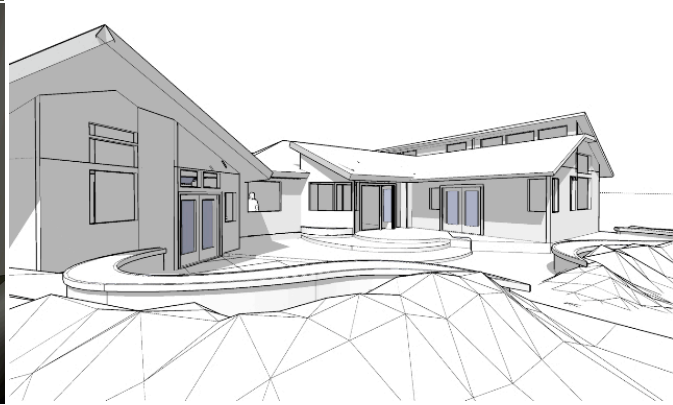
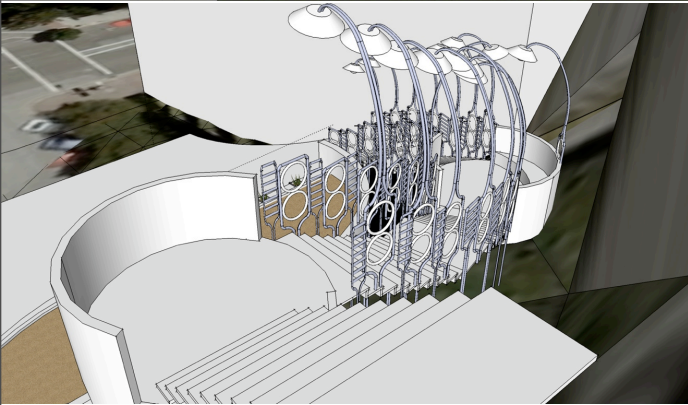
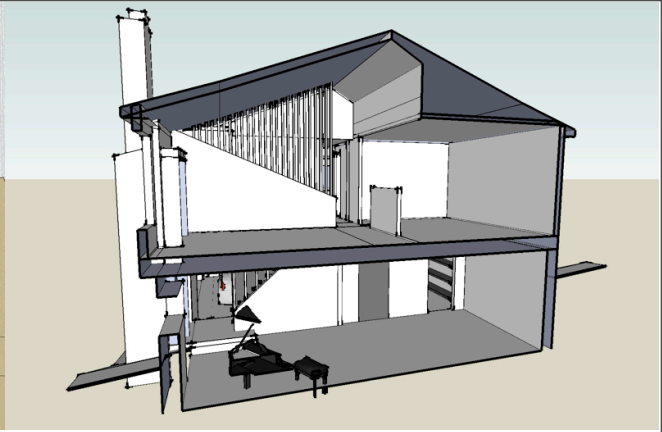
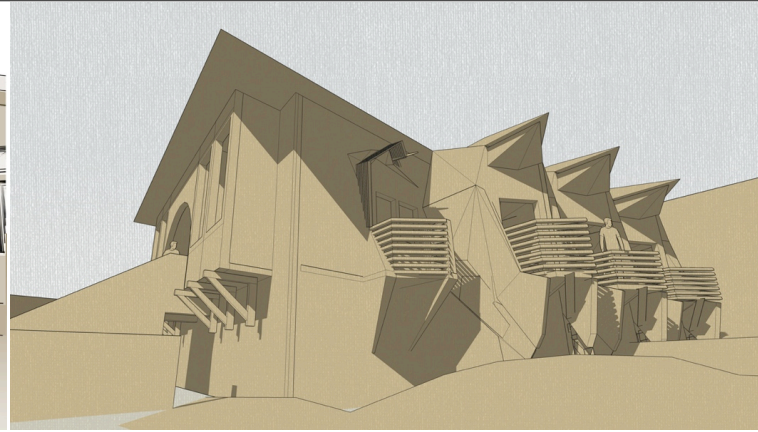
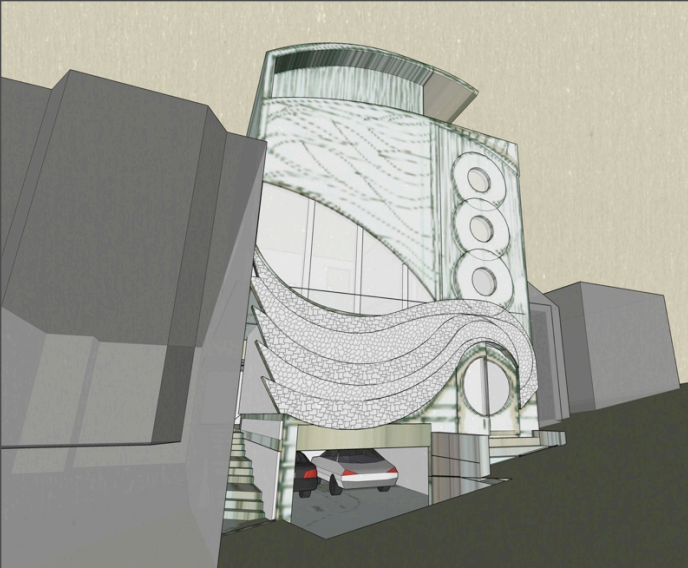


ERIC COREY FREED

"Greenhouse and Design: A Dialogue"  
The Sausalito Museum  
University of California Berkeley

A map of the United States with red dots indicating locations. The dots are distributed across the country, with a higher concentration in the Northeast and West Coast. A blue horizontal band is overlaid on the map, containing the text "THIS PAST YEAR...".

**THIS PAST YEAR...**









Your hands-on, practical guide to the  
materials and construction methods of green building

# Green Building & Remodeling FOR DUMMIES®

Green Building & Remodeling

DUMMIES® 1

Eric Corey Freed  
Architect and principal, organicARCHITECT  
LEED Accredited Professional

A Reference for the Rest of Us!



FREE eTips at  
[dummies.com](http://dummies.com)





**LEED Certified**  
Hippies Welcome.



# 4,389,443

u.s. hotel rooms





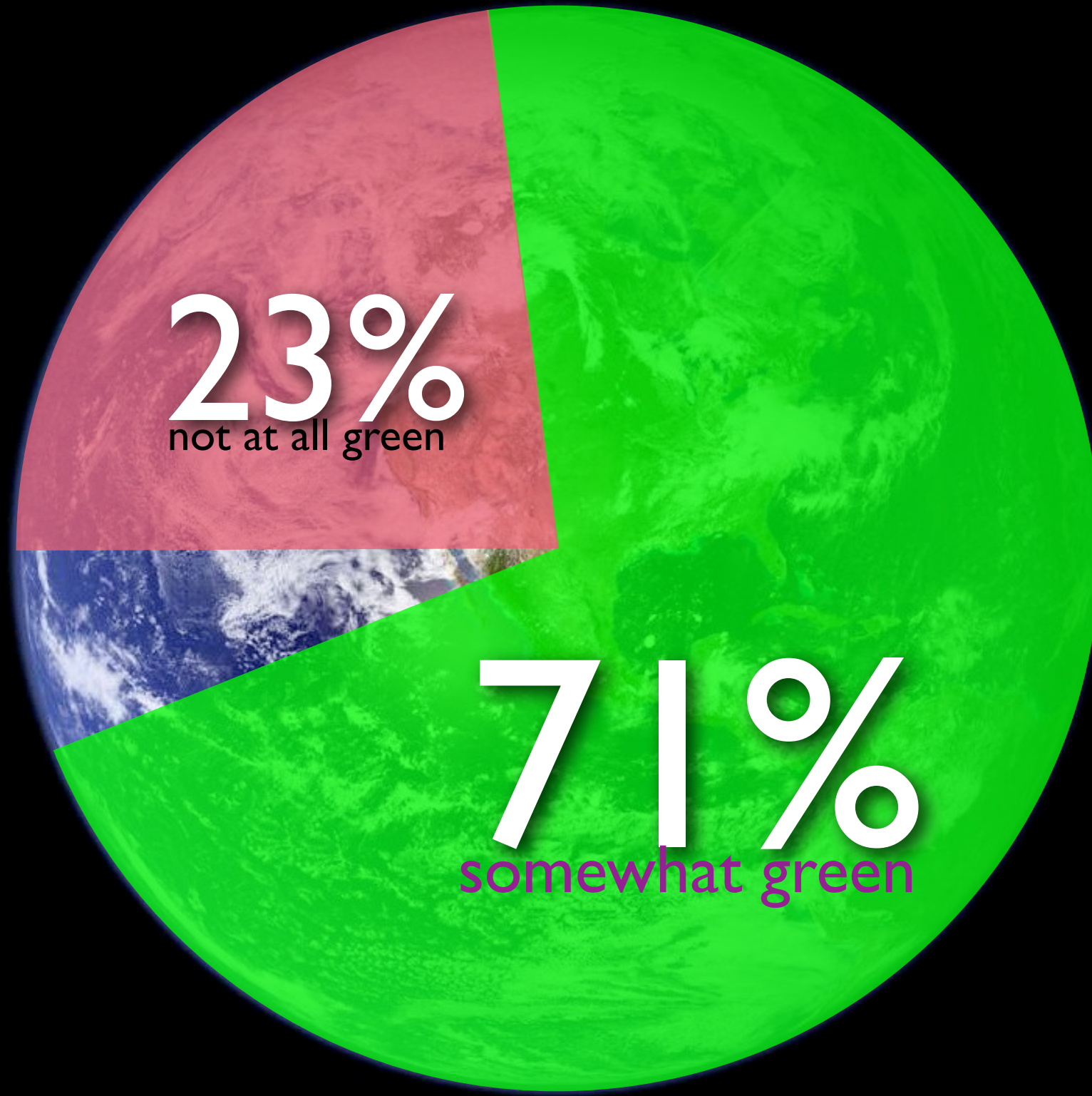
u.s. hotels consume enough to power over

# 1,146,500

homes







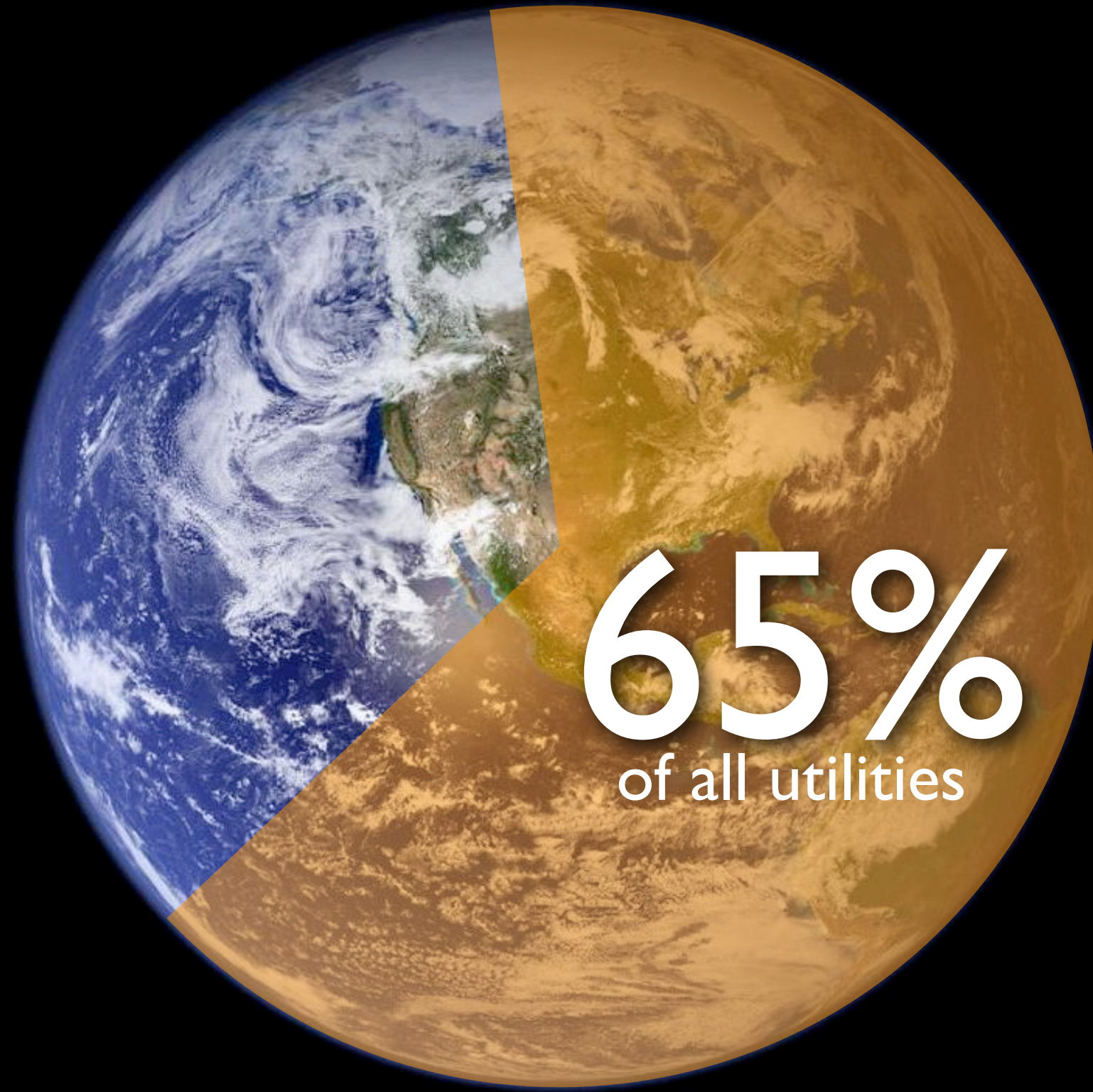
perception of the lodging industry  
among business travelers



\$ **3,700,000,000** spent on energy

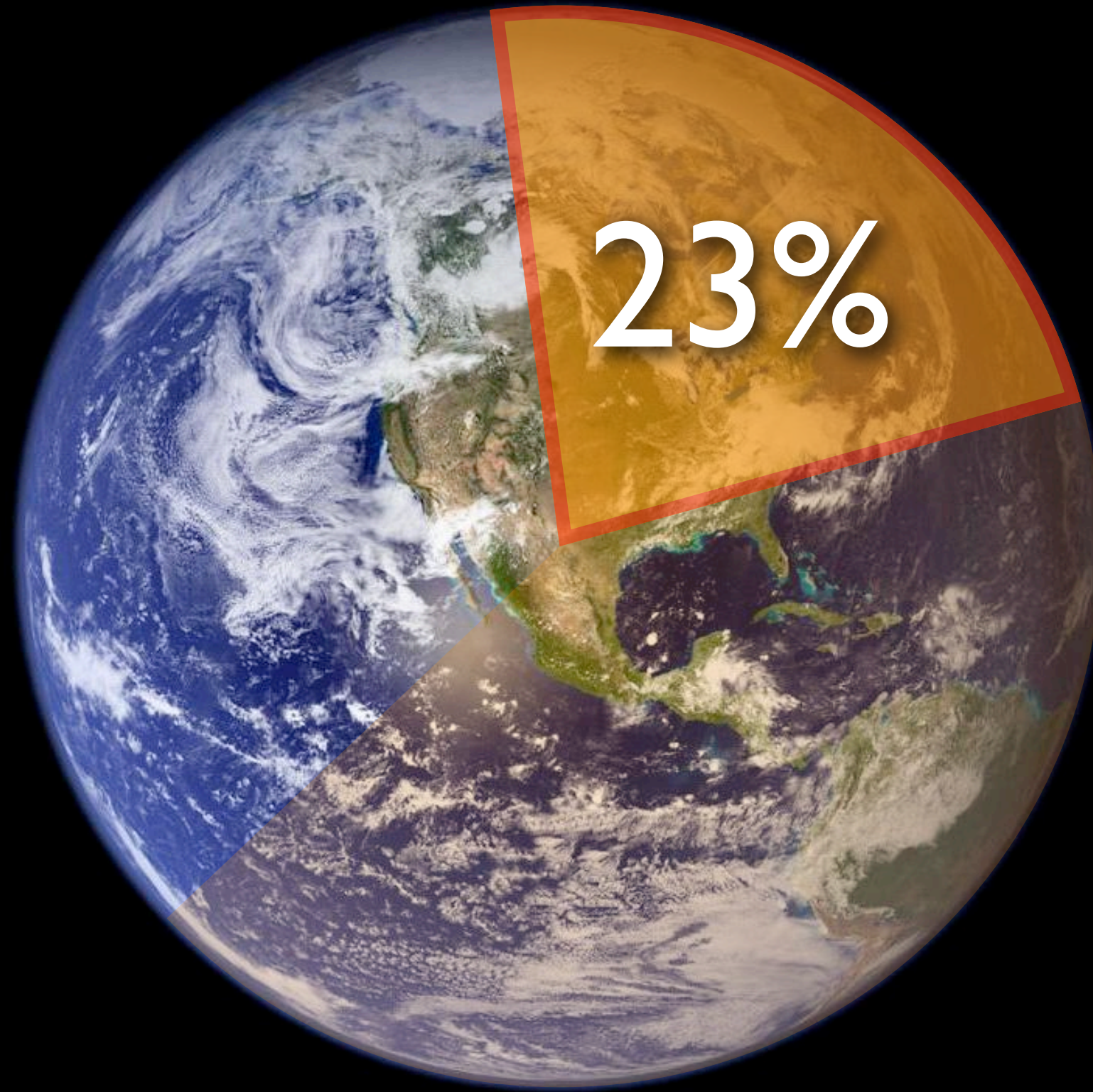






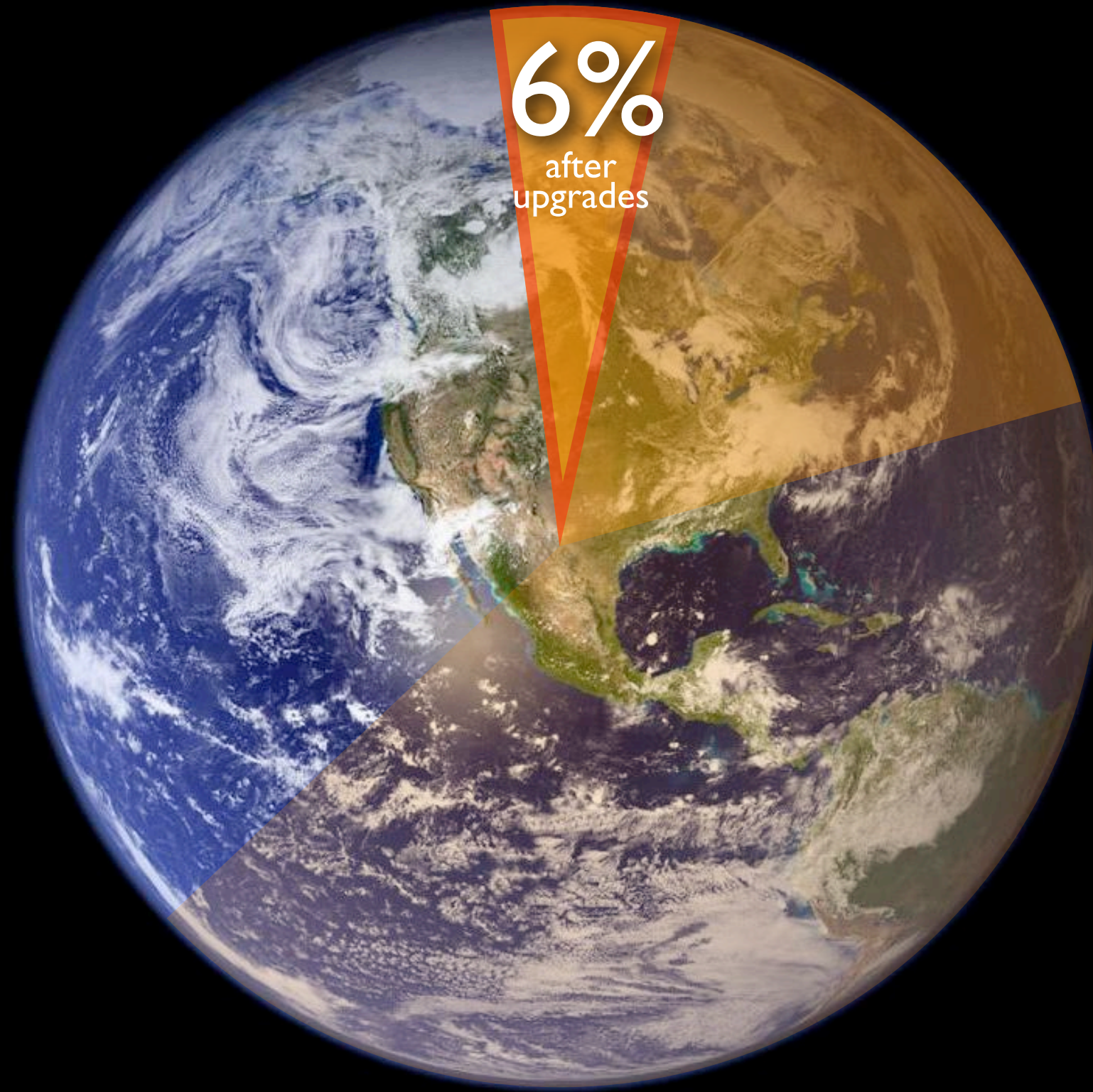
electricity use  
% of all utilities





electricity use lighting only  
% of all utilities





electricity use potential after upgrades  
% of all utilities

**10% energy  
reduction is  
equivalent to  
increasing  
ADR by \$2.45**

green hotels

\$

**11**  
increase

in RevPAR





**potential water savings**  
using ultra low flow fixtures





Hoshi Ryokan Hotel

718  
A.D.



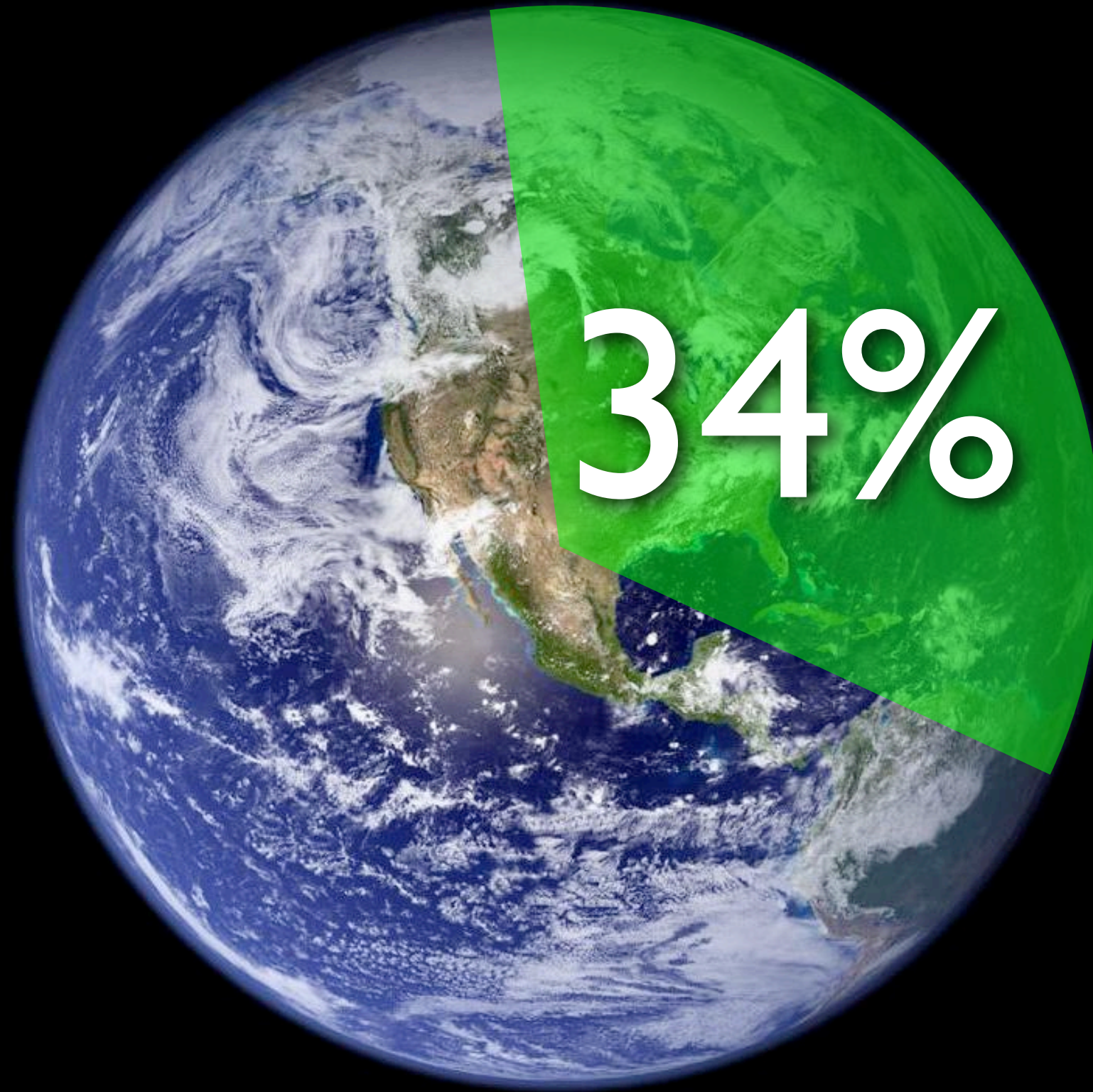






the state of “green” hotels





34%

seek out green hotels  
among business travelers





## SAVE OUR PLANET!

Dear Guest:

Every day tons of detergent and millions of gallons of water are used to wash towels that have been used only once.

PLEASE DECIDE FOR YOURSELF.

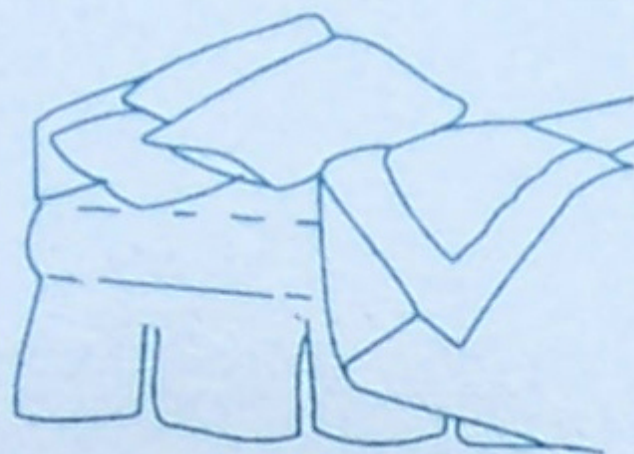
A towel on the rack  
means  
"I'll use it again."



A towel on the floor  
or in the tub means  
"please exchange."



A Percentage of Profits Is Being Donated to Environmental Groups  
© 2004 "Green" Hotels Association®  
P. O. Box 420212, Houston, TX 77242-0212  
www.greenhotels.com, e-mail: green@greenhotels.com  
713/789-8889, Fax 713/789-9786



## SAVE MOTHER EARTH!

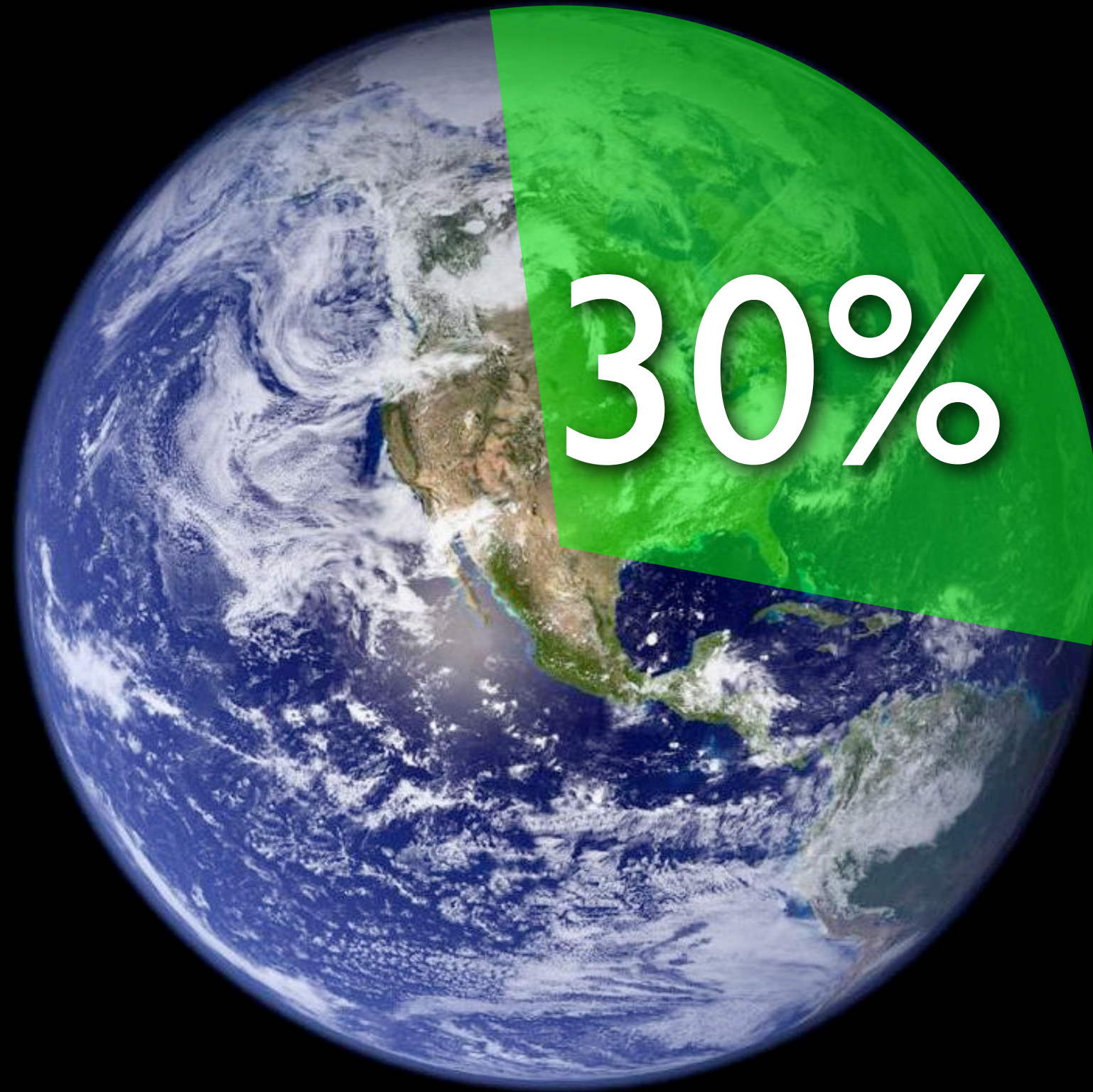
Bed sheets washed daily in thousands of hotels in this world use millions of gallons of water and tons of detergent.

Sheets are customarily changed daily. If you feel that this is unnecessary, please leave this card on your pillow in the morning. Your bed will be made, but your sheets will not be changed that day.

PLEASE DECIDE FOR YOURSELF.







requested linen reuse, but hotel changed anyway  
among business travelers





not allowed to be as green as desired  
among business travelers





it's getting crowded in here...









low hanging fruit



## LINEN REUSE

Proper signage and education.

## LOW FLOW SHOWERS

Uses 2.5 gallons per minute (instead of 5).

## LOW FLUSH TOILETS

Uses 1.6 gallons per flush (instead of 5).

## CFL BULBS

Lasts 10 times as long; uses tenth of energy.

## DIGITAL THERMOSTATS

Programmable and accurate.

## RECYCLING

Lowers your waste bill.

## ENERGY STAR EQUIPMT

Pays for itself in less than a year.

## NON-TOXIC CLEANERS

Fewer claims from staff.





\$67  
\$4  
increase per square foot  
savings





## Avalon Hotel

Portland, Oregon  
Silver - 2008



## Gaia Napa Valley

Napa, California  
Gold - 2007



## Hotel Terra

Teton Village, Wyoming  
Silver - 2008



## Vancouver Hotel

Vancouver, Washington  
Certified - 2006



## University of Maryland Inn

Adelphi, Maryland  
Certified - 2005



## Hyatt Olive 8

Seattle, Washington  
Certified - 2009



## Len Foote Hike Inn

Dawsonville, Georgia  
Gold - 2004



## CityFlats

Holland, Michigan  
Gold - 2009



## Orchard Garden

San Francisco, California  
Certified - 2007



## Palazzo

Las Vegas, Nevada  
Silver - 2008



## Proximity Hotel

Greensboro, North Carolina  
Platinum - 2008



## Snowmass

Aspen, Colorado  
Silver - 2005



## Starwood Element

Lexington, Massachusetts  
Gold - 2008



## The Ambrose

Santa Monica, California  
Silver - 2008



## Callaway Gardens

Pine Mountain, Georgia  
Certified - 2007



## Unity Village Hotel

Kansas City, Missouri  
Silver - 2007



## Avalon Hotel

Portland, Oregon  
Silver - 2008

## Gaia Napa Valley

Napa, California  
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## The Ambrose

Santa Monica, California  
Silver - 2008

## Callaway Gardens

Pine Mountain, Georgia  
Certified - 2007

## Unity Village Hotel

Kansas City, Missouri  
Silver - 2007

85%  
similar





## Sustainable Sites

- Credit 5.2 Maximize Open Space
- Credit 4.3 Alternative Transportation, Low-Emitting and Fuel-Efficient Vehicles
- Credit 6.2 Stormwater, Quality

## Water Efficiency

- Credit 1.2 Water Efficient Landscaping  
No Potable Use or No Irrigation
- Credit 2 Innovative Wastewater Technologies

## Energy & Atmosphere

- Credit 2 On-Site Renewable Energy (3 points)
- Credit 5 Measurement & Verification
- Credit 6 Green Power

## Materials & Resources

- Credit 2.2 Construction Waste Mgmt, Divert 75%
- Credit 5.2 Regional Materials, 20%
- Credit 7 Certified Wood

## Indoor Environmental Quality

- Credit 7.1 Thermal Design
- Credit 7.2 Thermal Verification



“We’ll leave the light on for you.”<sup>®</sup>



(...and everything else too.)



ROOMS

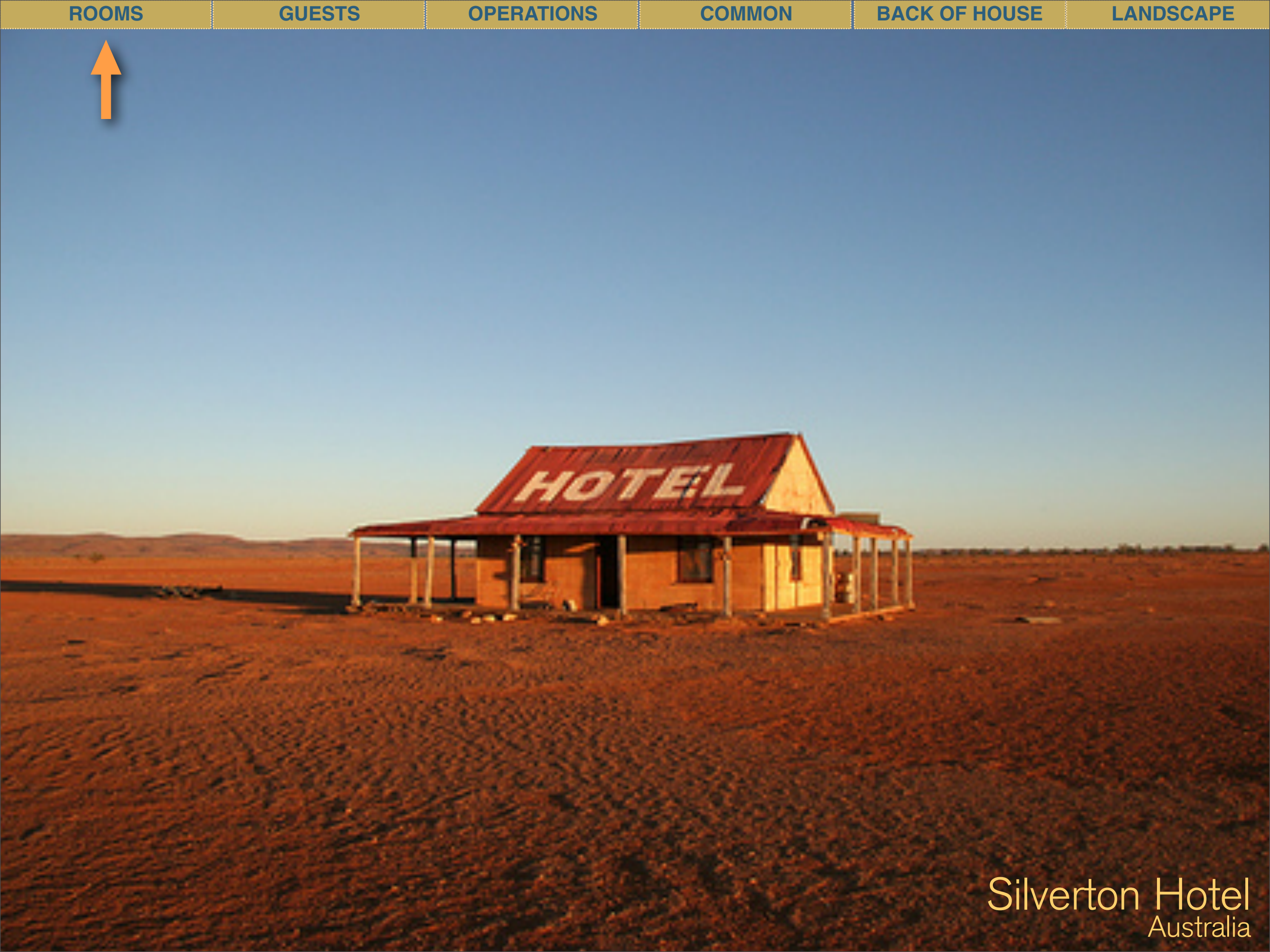
GUESTS

OPERATIONS

COMMON

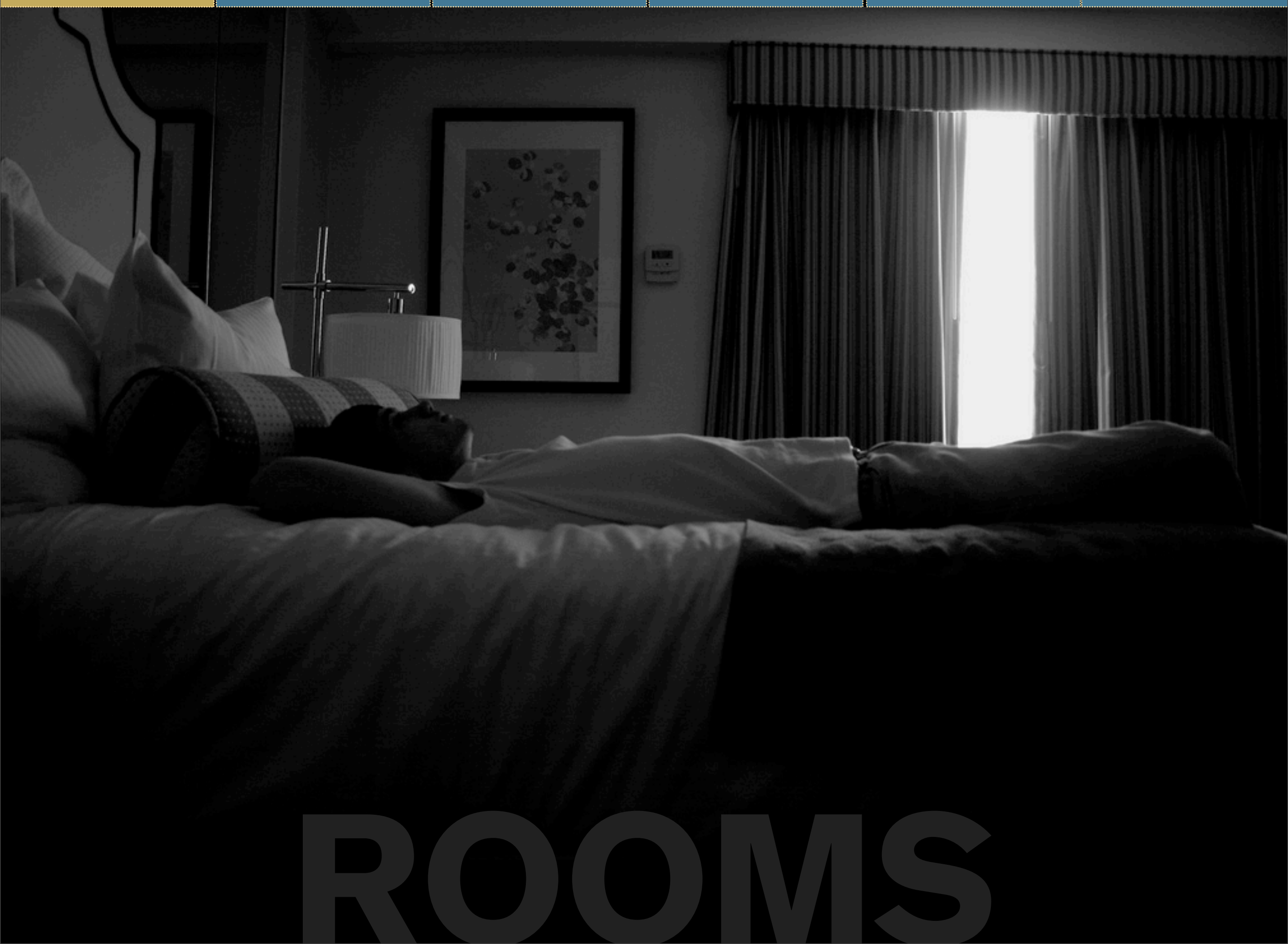
BACK OF HOUSE

LANDSCAPE



Silvertown Hotel  
Australia





# ROOMS





## FINISHES

Recycled, non-toxic, locally sourced, sustainable.

## TASK LIGHTS

Only light the work areas to save energy.

## KILL SWITCH

Turn off all electronics when not in use.

## CABINETRY

Use formaldehyde free cabinets & FSC or bamboo doors.

## MINI BAR

Organic, natural, healthy foods.

## FLOORING

Hard flooring doesn't trap allergens.

## LINENS

Organic, chemical free & non-synthetic.

## CLEANERS

Non toxic cleaners.

# GREEN HOTEL ROOM

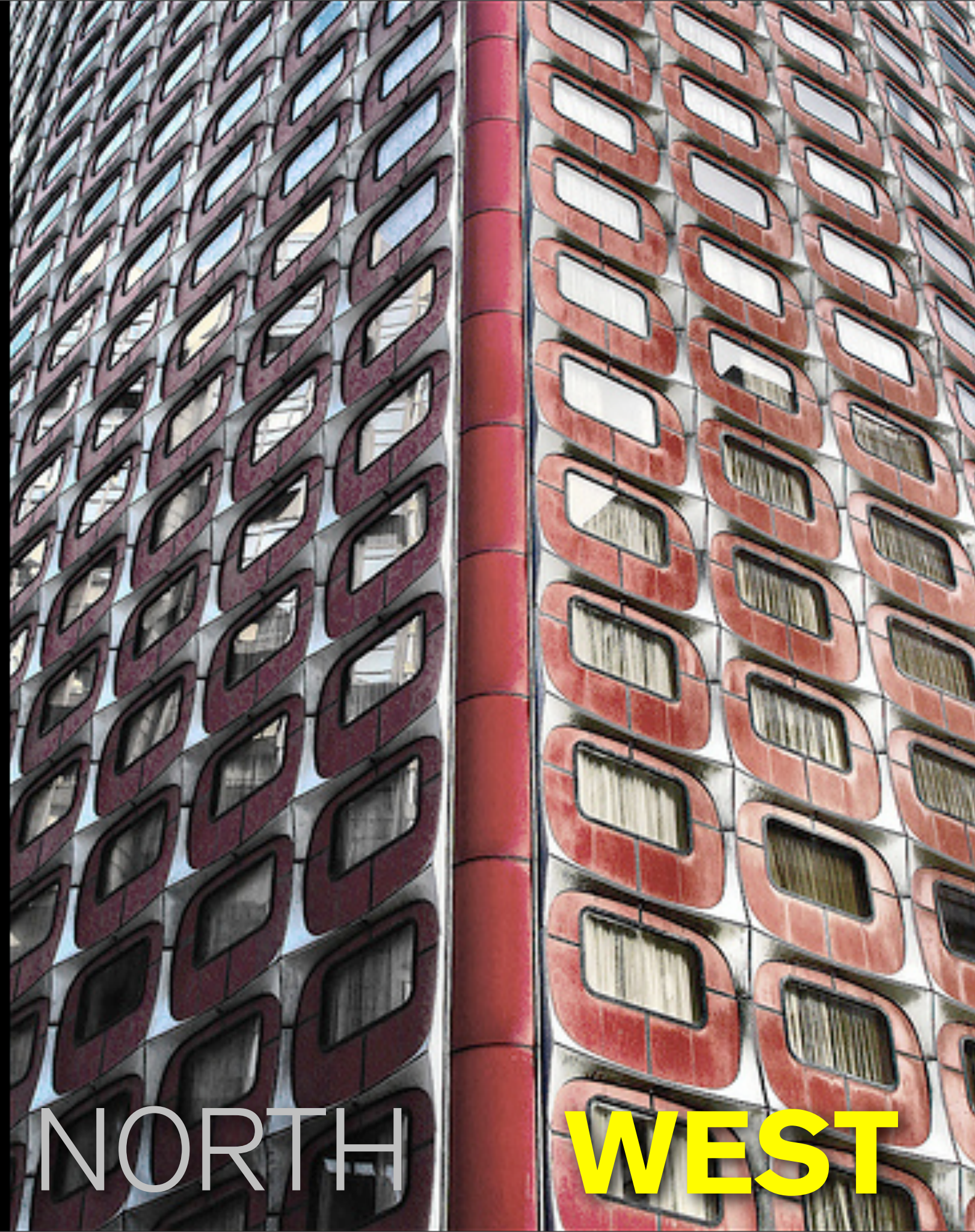
[citystayhotels.com](http://citystayhotels.com)





**DON'T TREAT ALL ROOMS THE SAME**





NORTH

WEST



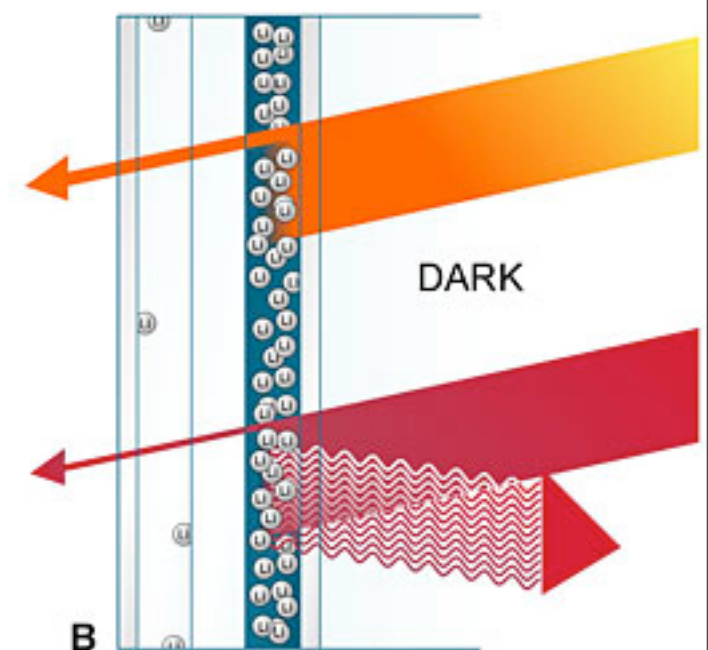
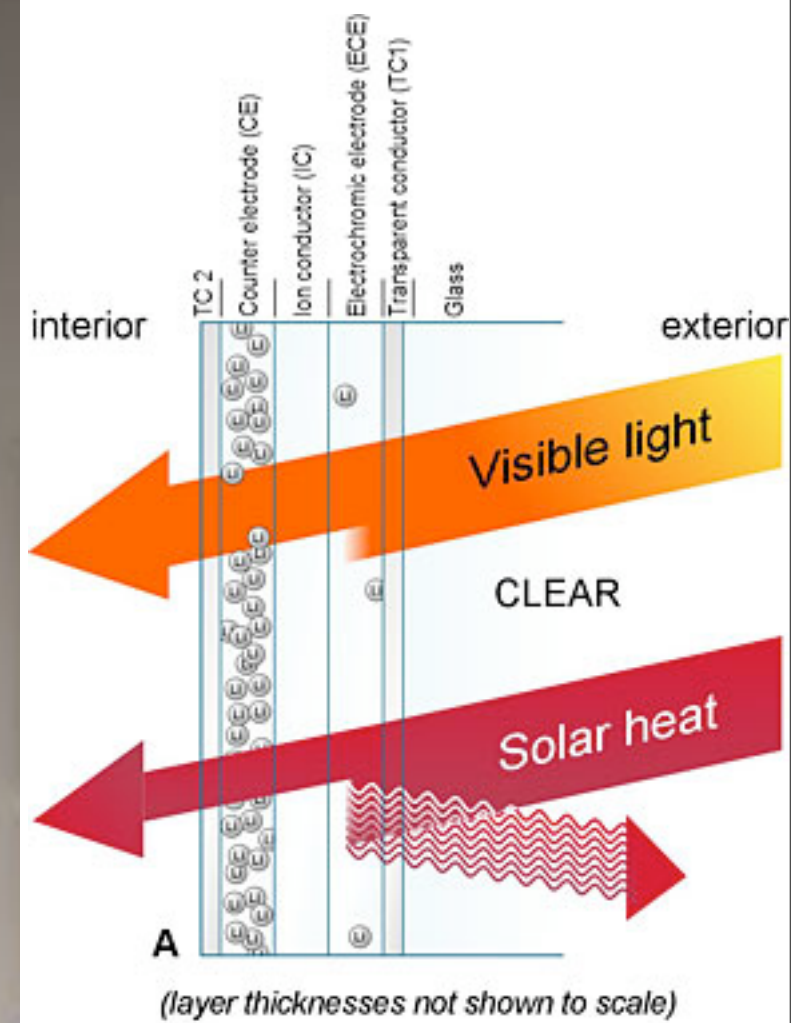
# SHADE SOUTH & WEST WINDOWS























\$

300





each room uses  
**200**  
cards

a year





key card materials add up to:









*green* • *key*™



recyclable keycard





**40%**  
**SHOWER SAVINGS**

[evolveshowerheads.com](http://evolveshowerheads.com)







the minibar is an opportunity





# HEALTHY FOOD IN MINIBAR





in-room recycling







in-room recycling





# GUESTS





same price?





A black and white photograph of a man in a room, holding a magazine and standing on a small appliance. The man is shirtless, has a surprised expression with his mouth open, and is holding a magazine titled "Time & Opéra". He is standing on a small, rectangular, light-colored appliance, possibly a toaster or a small oven. The room has a sink, a bed with a patterned blanket, and a coat hanging on a rack in the background. A semi-transparent grey banner with yellow text is overlaid across the middle of the image.

**NOT ALL GUESTS ARE EQUAL**



energy & water use

20%

**MORE IN HOTELS**

HOT

ASS





worldwide

27,397,200

bottles a day





















COLOR

T.V.







TV

MOVIES

CD JUKEBOX

VIDEO PHONE

ROOM SERVICE

ECO PERFORMANCE

HOTEL DASHBOARD

ROOM CONTROLS

GUEST SERVICES

MESSAGES

2

## ENERGY USAGE

LIGHTING	1690 WATTS
MEDIA	0700 WATTS
HEAT / COOL	0210 WATTS
<b>TOTAL</b>	<b>2600 WATTS</b>
AVERAGE GUEST	3000 WATTS

## WATER USAGE

SINKS	15 GALLONS
SHOWER	20 GALLONS
- GREYWATER TOILET	07 GALLONS
<b>TOTAL</b>	<b>28 GALLONS</b>
AVERAGE GUEST	200 GALLONS

**Congratulations!** You've exceeded the savings for **water** and **energy**.  
Your air conditioner will rise 5° at **07:00 PM**.

**ECO TIP:** The shower timer is a friendly nudge after 5 minutes.

## ENERGY PRODUCTION

FITNESS CENTER	2360 WATTS
STAIR SKIPPING	1230 WATTS
<b>TOTAL</b>	<b>3590 WATTS</b>
AVERAGE GUEST	1800 WATTS

## GUEST PREFERENCES

NEWSPAPER DELIVERY IS <b>OFF</b>	CHANGE
HEATER ENERGY SAVER <b>ON</b>	CHANGE
SHOWER TIMER IS <b>ON</b>	CHANGE
LINENS CHANGED <b>2X</b> A WEEK	CHANGE



Welcome, **Mr. Brad Pitt**

You've earned **1,200** Reward Center Points for your eco performance.  
You have **2** new messages. A wake up call for **06:00 AM** is set.

FRIDAY, 01 MAY 2015 08:56 AM

AccuWeather.com®

TONIGHT



SUNSET: 07:12 PM

TODAY



83° H / 27° L



TV

MOVIES

CD JUKEBOX

VIDEO PHONE

ROOM SERVICE

ECO PERFORMANCE

HOTEL DASHBOARD

ROOM CONTROLS

GUEST SERVICES

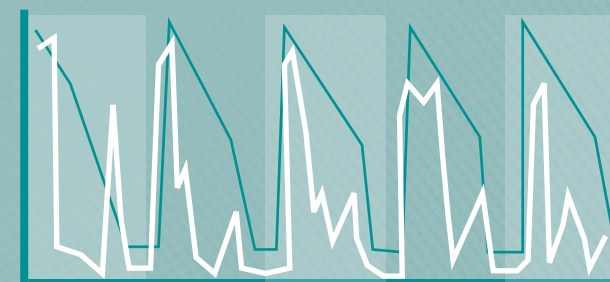
MESSAGES

2

## ENERGY USAGE



## WATER USAGE



**Congratulations!** You've exceeded the savings for **water** and **energy**.  
Your air conditioner will rise **5°** at **07:00 PM**.

**ECO TIP:** Use the refillable metal bottle to save on plastic water bottles.

## ENERGY PRODUCTION



## GUEST PREFERENCES

NEWSPAPER DELIVERY IS **OFF** [CHANGE](#)

HEATER ENERGY SAVER **ON** [CHANGE](#)

SHOWER TIMER IS **ON** [CHANGE](#)

LINENS CHANGED **2X** A WEEK [CHANGE](#)

AccuWeather.com®



Welcome, **Mr. Brad Pitt**

You've earned **1,200** Reward Center Points for your eco performance.  
You have **2** new messages. A wake up call for **06:00 AM** is set.

FRIDAY, 01 MAY 2015 08:57 AM

TONIGHT



SUNSET: 07:12 PM

TODAY



83°H / 27°L



displaying energy & water feedback

20%

improvement



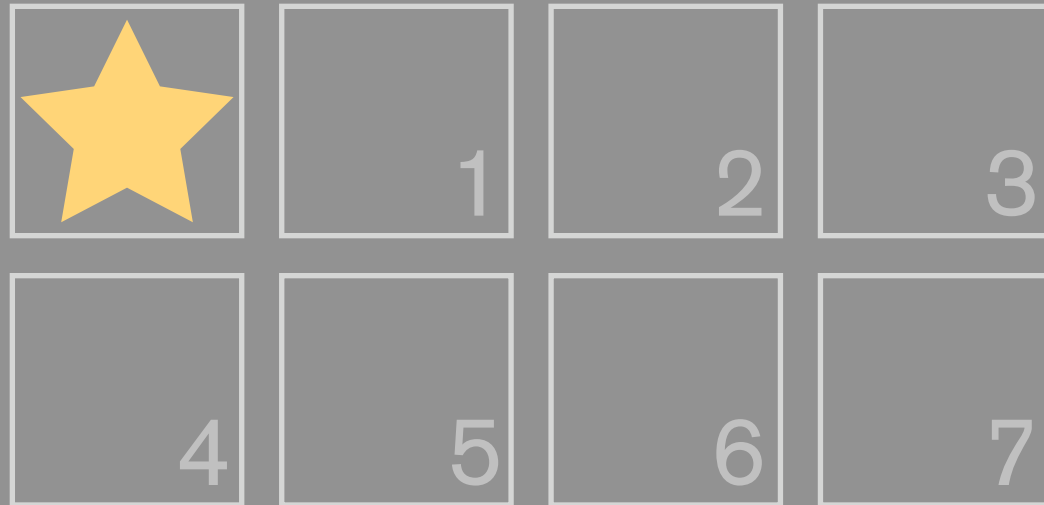




**REWARD GOOD GUESTS**



# GIVE INCENTIVES A HEAD START



Free car wash after **8** washes

**19%**  
returned



Free car wash after **10** washes

**34%**  
returned



CHECKOUT. 12:00 NOON  
LEAVE KEY IN ROOM

# OPERATIONS





one  
one hotel  
ne  
week

1  
families  
00  
52  
weeks

[alexmaclean.com](http://alexmaclean.com)





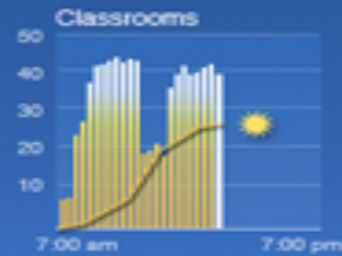


# Electricity

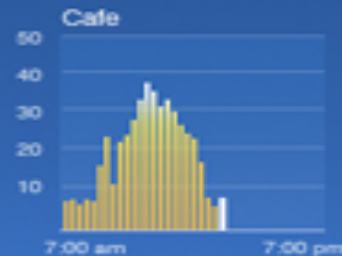
Measured in Kilowatts per hour  
The kilowatt (symbol: kW), is equal to one thousand watts.

Did you know?  
Most electronic devices continue to draw electricity even when turned off or left in "standby" mode. In fact, according to ENERGY STAR, the amount of electricity used nationally by idle equipment is roughly equal to the output of 17 power plants.

38 kw



8 kw



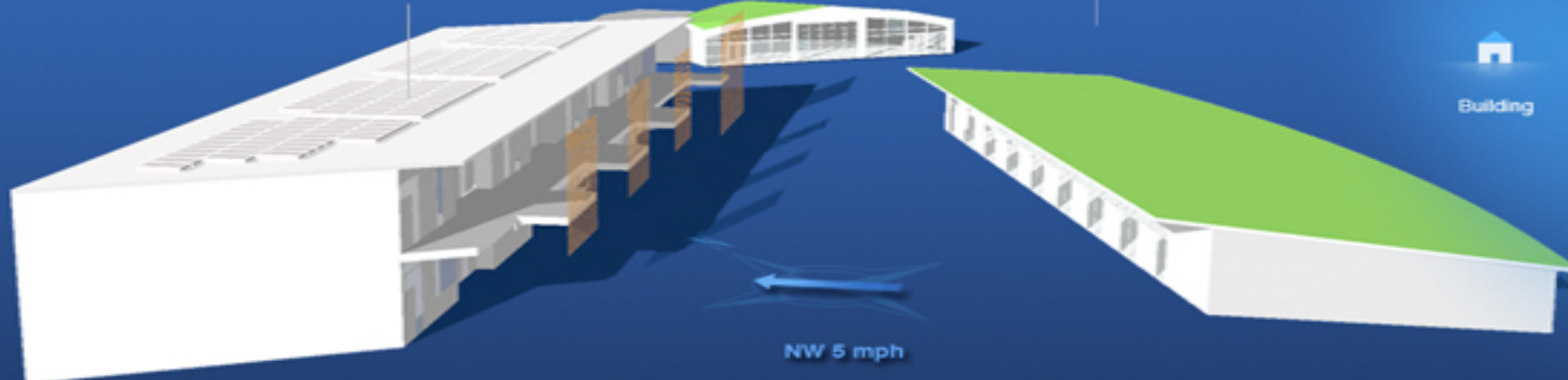
27 kw



3:00 pm



25 kw



51°

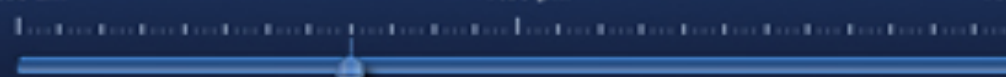
58%

1 inches

7:00 am

7:00 pm

7:00 am



3:00 pm







# GreenEngage

## Report Details

Select a property: Panama Hotel

- Green Engage Home →
- Green Measure →
- Measure Reports →
- Green Manage →
- Google Maps →
- IHG Engage Survey →

### Panama Hotel

Variance

Consumption

Need help? [Take a guided Tour](#)

Energy | Water | Waste | Show data in the range January 2008 to December 2008 [Refresh Report](#)

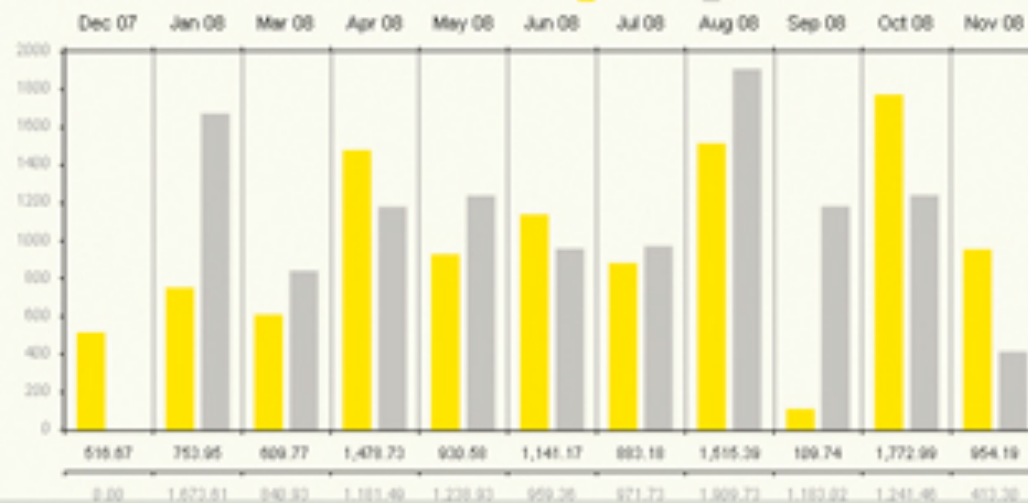
Select report view

Consumption

Benchmark: —

Export as: [Excel](#) [Image](#)

#### Consumption



[Privacy Policy](#)

[Contact Us](#)

[US Patent Pending](#)



InterContinental Hotels Group



daily copies of USA today in hotels

1,200,000  
papers  
(half their circulation)

60% unread

18,197  
emissions of  
cars



# NEWSPAPER



## The New York Times

AVAILABLE 7 DAYS A WEEK

PLEASE PLACE THIS SIDE OUT ON  
YOUR DOORKNOB BY 1:00 AM TO  
RECEIVE YOUR COMPLIMENTARY  
COPY OF THE NEW YORK TIMES NO  
LATER THAN 7:00 AM.



FOUR SEASONS HOTEL  
*Austin*

# NEWSPAPER



## THE WALL STREET JOURNAL

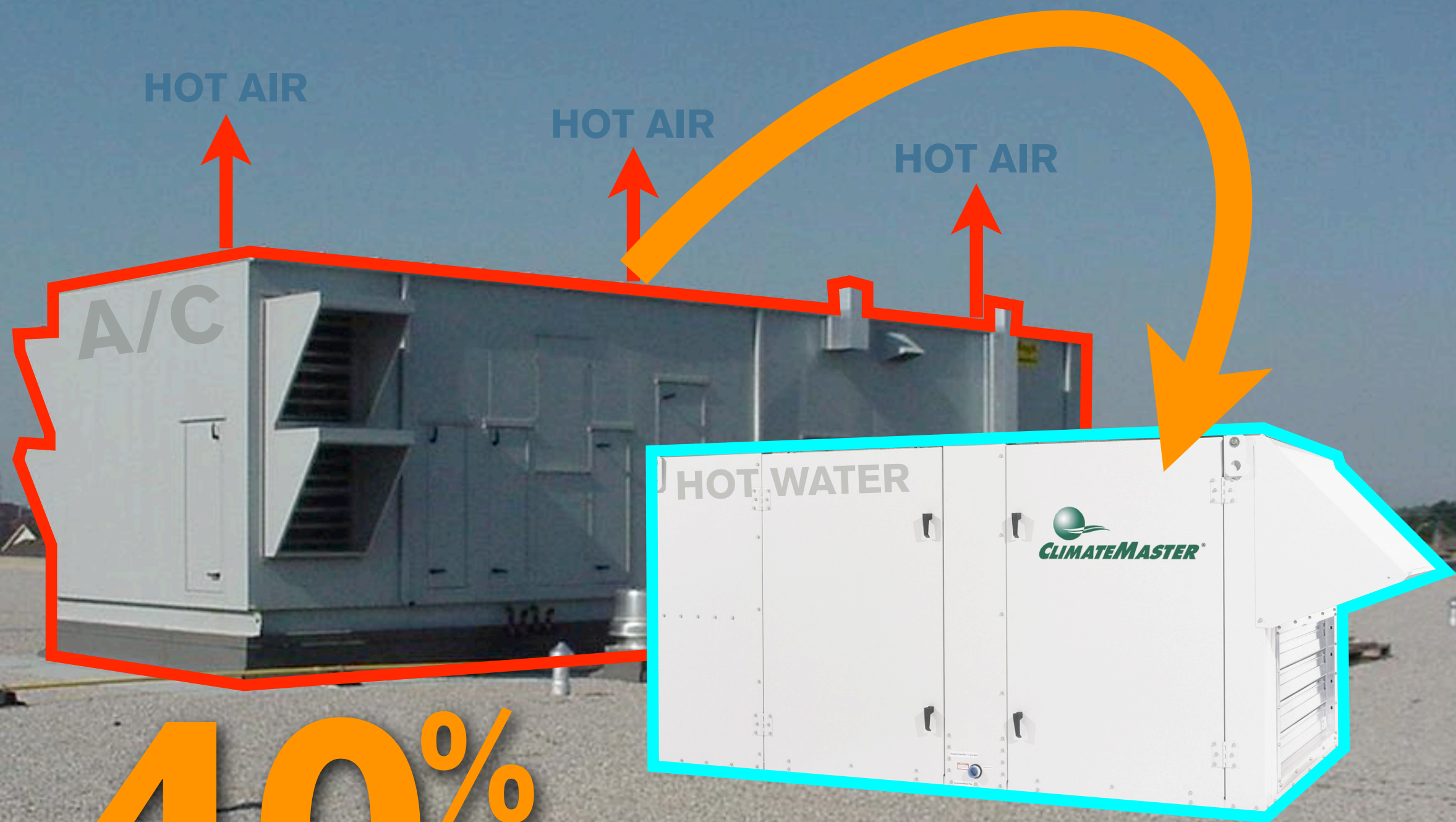
AVAILABLE MONDAY - FRIDAY

PLEASE PLACE THIS SIDE OUT ON  
YOUR DOORKNOB BY 1:00 AM TO  
RECEIVE YOUR COMPLIMENTARY COPY  
OF THE WALL STREET JOURNAL NO  
LATER THAN 7:00 AM.



FOUR SEASONS HOTEL  
*Austin*



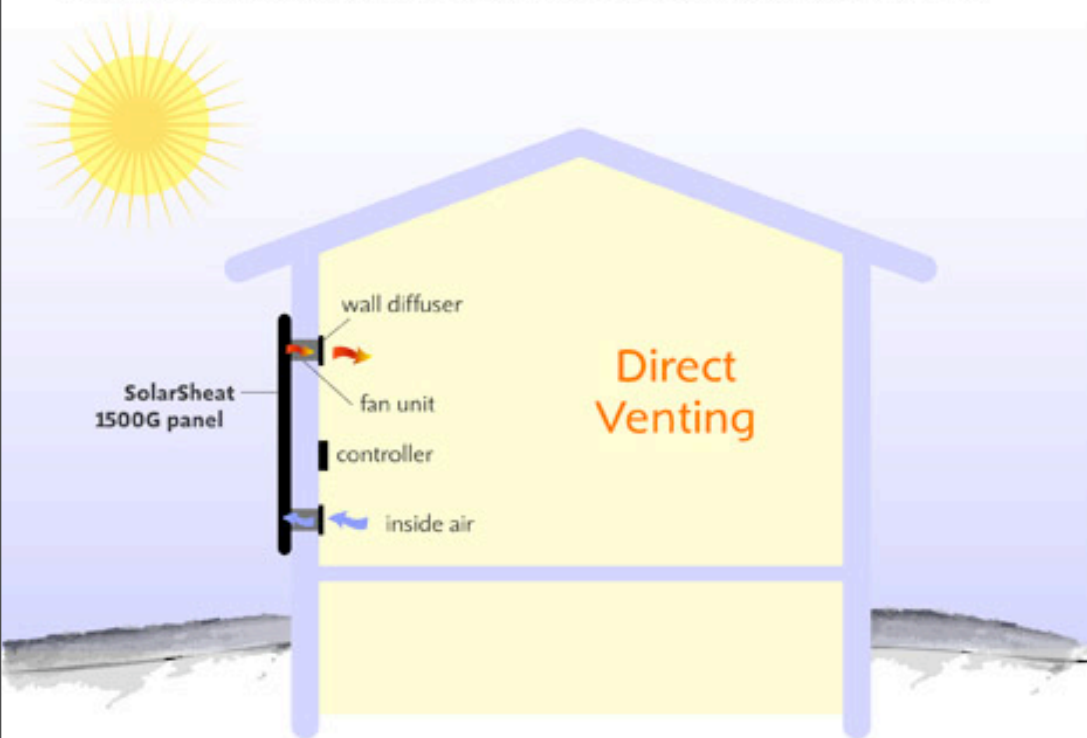


**40%**  
off  
**HOT WATER BILL**



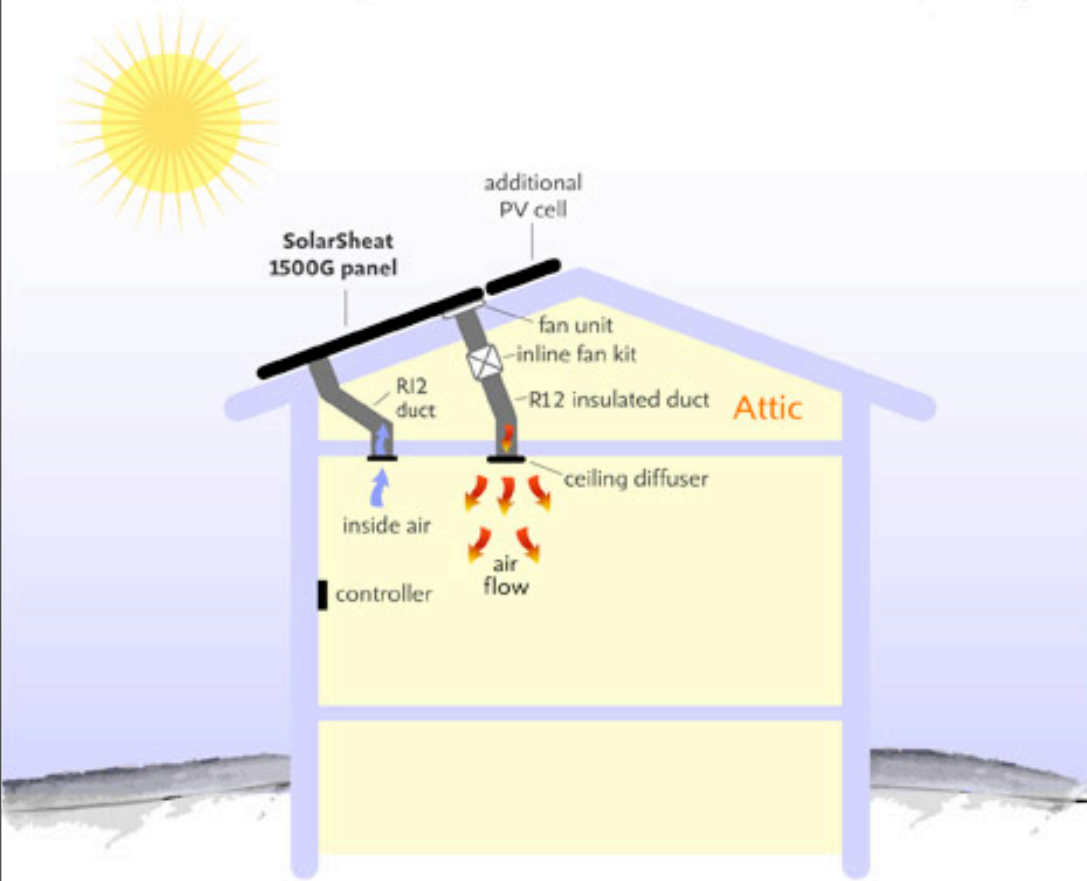
#### Direct Venting into a Room - SolarSheat 1500G

How it works: The SolarSheat 1500G panel heats inside air. The amount of heat produced is based on the volume of air passing through the solar panels and the degree of sunshine. The SolarSheat is a supplemental heating system. It does not work at night. No AC electricity is required.



#### Roof Mounting - SolarSheat 1500G

How it works: The SolarSheat 1500G panel heats inside air. The amount of heat produced is based on the volume of air passing through the solar panels and the degree of sunshine. The inline fan kit can be powered by an AC/DC wall adaptor or with an additional PV cell, to keep it off the grid.





using non-toxic cleaners reduces

87%

AIRBORNE TOXINS





get rid of carpeting in the rooms

\$

46,141,825

spent on vacuuming

enough to power

34,829  
homes





*1/3  
OF THE FOOD  
WE BUY  
WE THROW  
AWAY!*





# COMMON AREAS



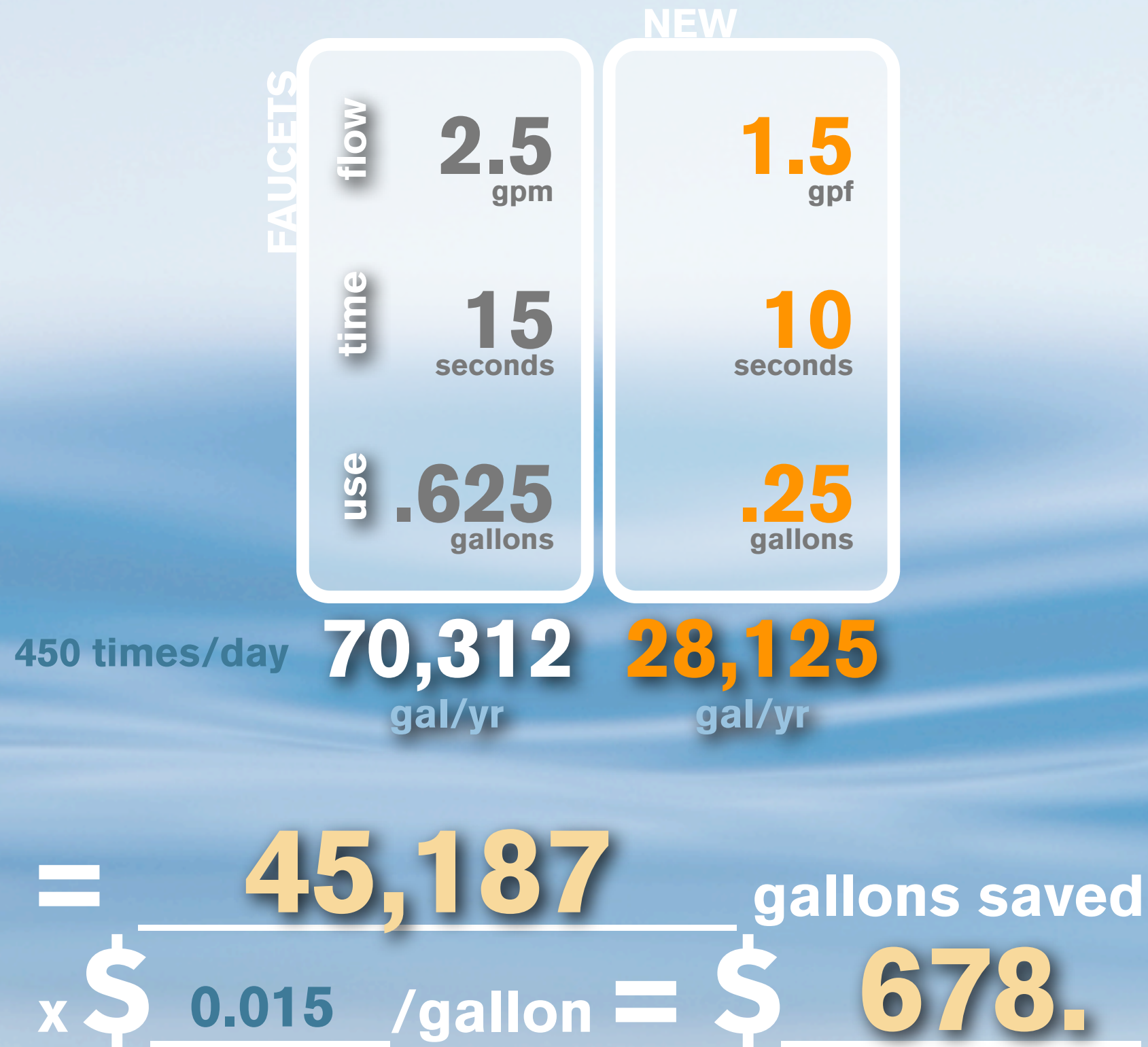








# UPGRADE TO LOW FLOW PEDAL VALVES







\$130  
per SIGN  
per year





\$**300**  
per CAB per year





0,000

hotel elevators in u.s.





efficient elevator controls can save enough to power

20 homes





**75** percent savings on  
**ENERGY**

**4** car emissions  
each saving

\$ **6500** year





\$350 per year



# COMMUNITY INVOLVEMENT

red lights indicate  
poor performance

green lights indicate  
better performance





**GALLE FACE HOTEL  
ADMIRE  
YOUR DECISION  
NOT TO SMOKE**  
C.G.

Its good for you  
**PLEASE  
WALK DOWN**  
2 flights only





TO PREVENT  
MOSQUITOES  
ENTERING THE ROOM  
**PLEASE DO NOT OPEN**  
THE WINDOWS.



If you reuse the towels,  
a donation will be made to  
a nonprofit environmental  
organization.

A donation has already  
been made to a nonprofit  
environmental organization,  
since we trusted you'd  
reuse your towels.

45%  
more



Many prior hotel guests have been eco-friendly by reusing their towels.

Most of the guests in this room reuse their towels.

**33%**  
more





5000 watts





gear & flywheel assembly



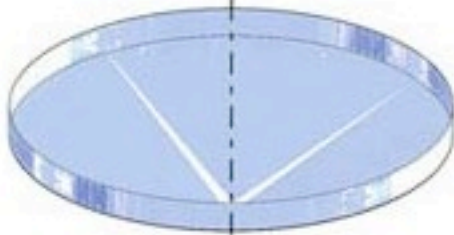
rotating magnetic wheel



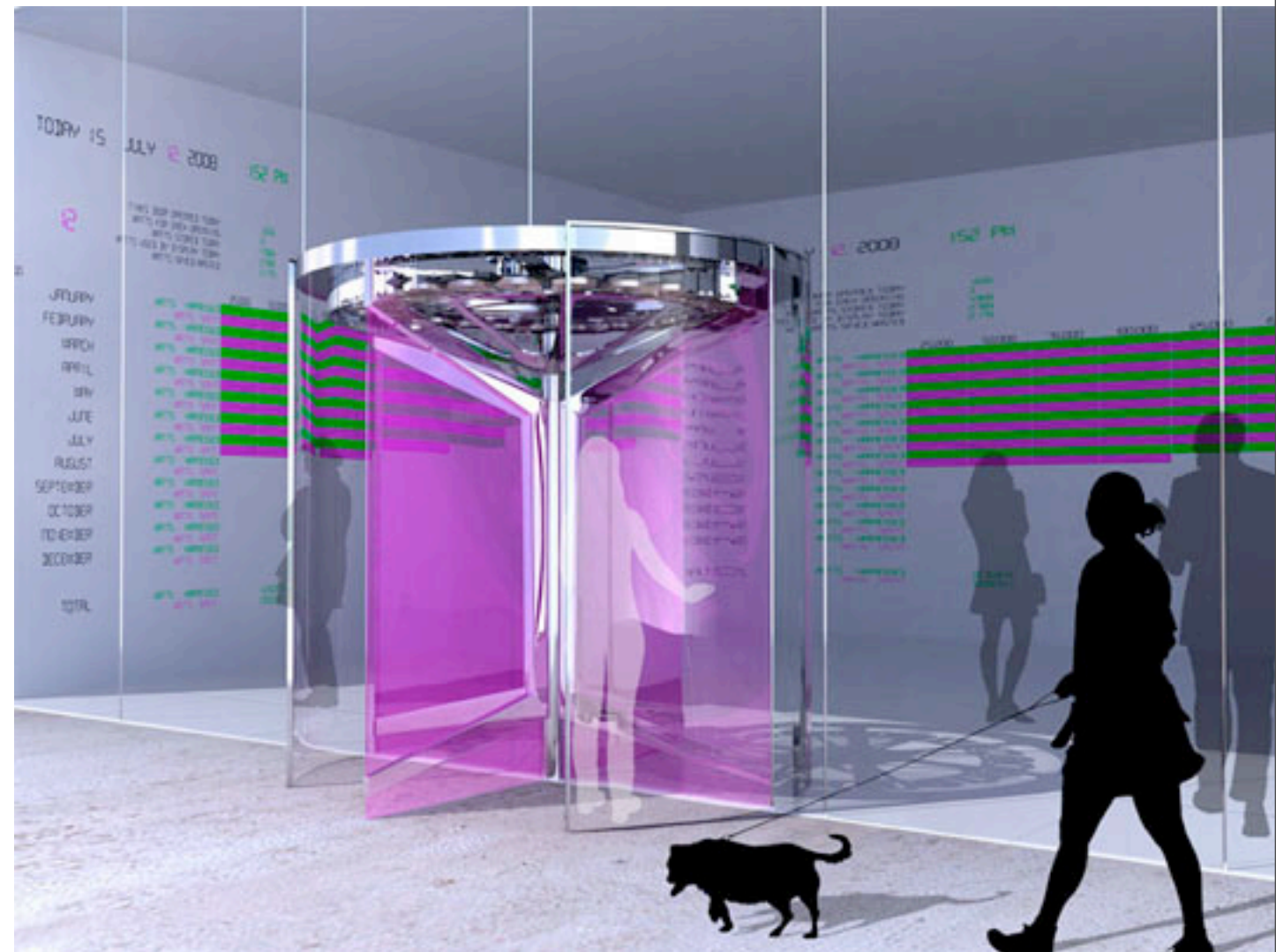
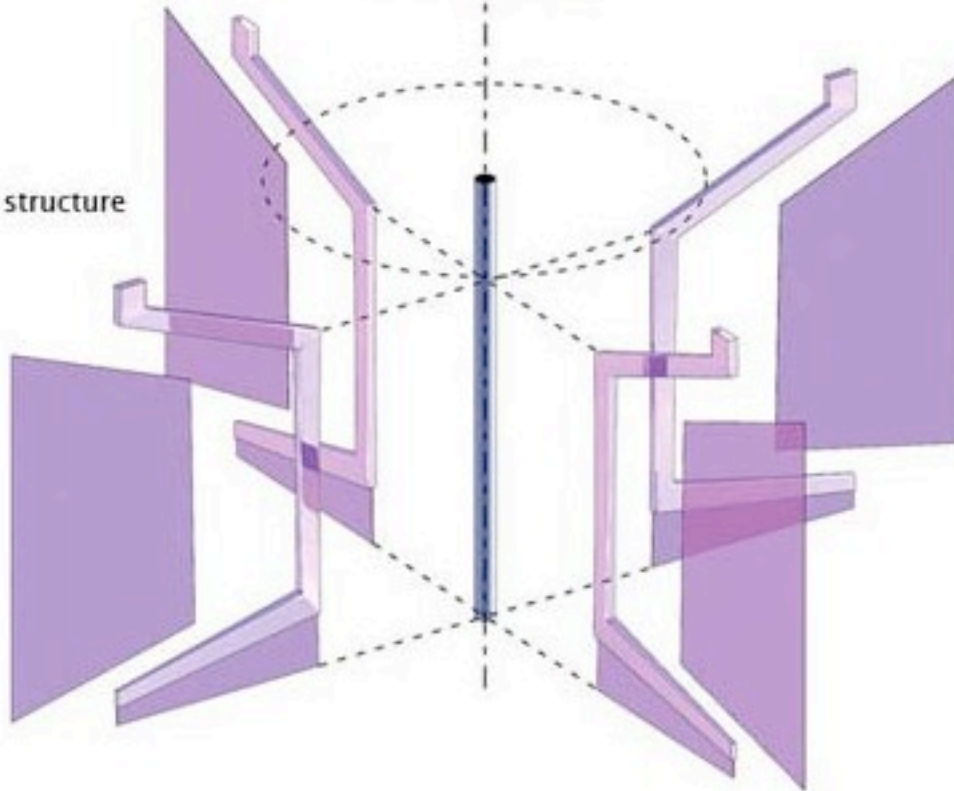
fixed wire coil wheel



glass protective enclosure



door panels & structure







# BACK OF HOUSE



A close-up, top-down view of a washing machine drum. The drum is made of a perforated metal mesh. In the center is a white plastic agitator with a star-like shape. The lighting is bright, highlighting the texture of the drum and the agitator.

# 200%

TOTAL ENERGY SAVINGS

# 185° > 150°

lower temperature







CHANGE YOUR FILTERS

50%

OFF YOUR HVAC BILL

31%  
of energy use





# LANDSCAPE







# SOLAR POOL HEATING

75%

ENERGY SAVINGS

17%  
of energy use



100% HYBRID  
CARBON FIBER  
CONSTRUCTION





zipcar.com

zipcar.com







# COOL ROOF SAVINGS

70



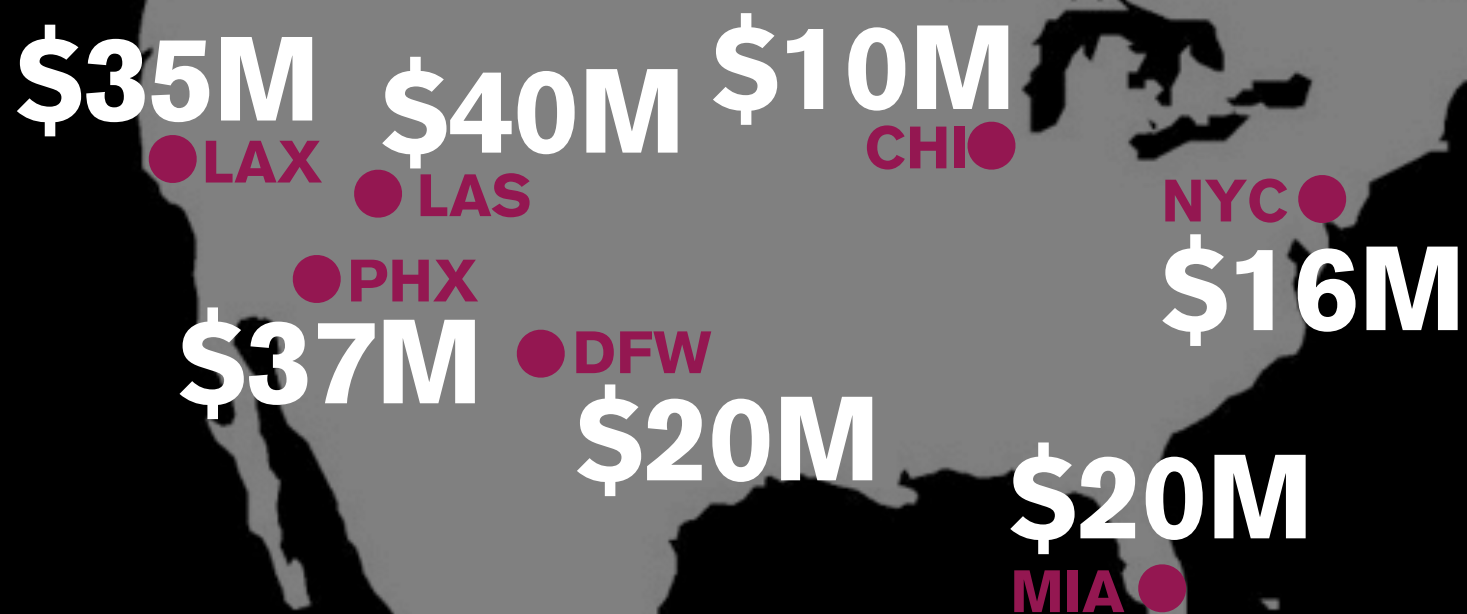
40° C

cooler



# COOL ROOF SAVINGS

**\$4,000,000,000** by 2015





# GREEN ROOF SAVINGS

**40%**  
**energy savings**











$$1000_{sf} = 632_{gal/in}$$

$$9285_{sf} = 5868_{gal/in}$$

65,000<sub>sf</sub> building / 7 floors  
= 9285.7<sub>sf</sub> roof area

$$= \underline{21} \text{ inches per year}$$

$$\times \underline{5,868} \text{ gallons} = \underline{123,240} \text{ gallons/year}$$



# DRIP IRRIGATION

A photograph of a cornfield with young green plants. Black plastic drip irrigation lines are laid out in rows on the sandy soil between the plants. The scene is brightly lit, casting shadows of the plants onto the ground.

**WATER SAVINGS**

60%



# POROUS PAVING

20°

**LOWER TEMPERATURE**



53 Old Bedford Rd, MA 02790

Borden St

green roof

cool roof

solar panels  
shade south

native  
plants  
w/drip

porous paving  
shade trees

water catchment

total energy savings  
**80%**

69 m

© 2009 Tele Atlas

elev 43 m

Jul 29, 2007

Eye alt 278

42°49' N 71°06'44.99" W



# 50% ENERGY SAVINGS SUMMARY

metric tons of co2 saved

10,765,804

barrels of oil saved

25,036,752

coal fired power plants

2.5





metric tons of co2 saved

**10,765,804**

co2 cuts required by 2020

**58,000,000**

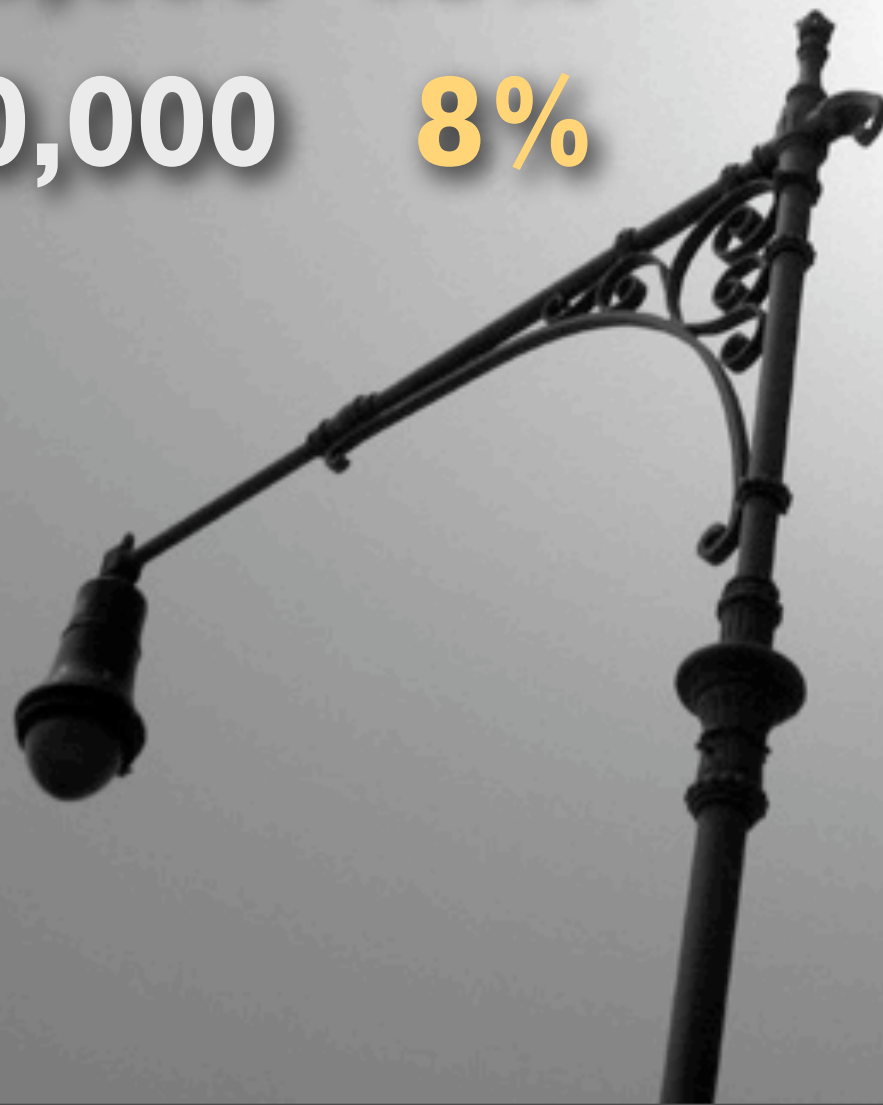
hotels alone

**19%**

co2 cuts required by 2050

**1,450,000,000**

**8%**





metric tons of co2 saved  
**10,765,804**

barrels of oil saved  
**25,036,752**

coal fired power plants  
**2.5**







=



+



u.s. hotel  
energy savings

Libya

oil imports  
U.A.E.

barrels of oil saved

32,000,000







=



+



u.s. hotel  
energy savings

Argentina

oil imports Egypt

barrels of oil saved

23,200,000







=



+



u.s. hotel  
energy savings

South Korea

Vietnam

oil imports

barrels of oil saved

28,285,000







=



u.s. hotel  
energy savings

France  
oil imports

barrels of oil saved

32,468,000









what's next:

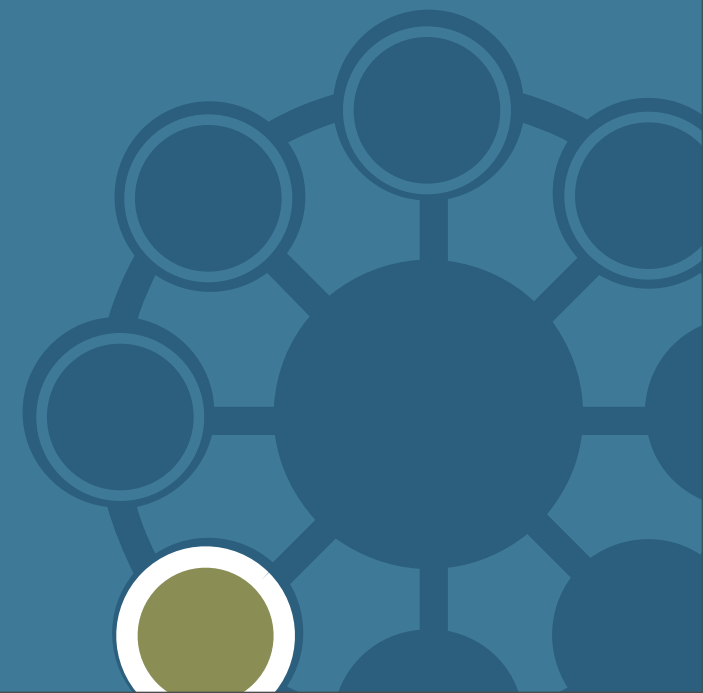
5

action steps



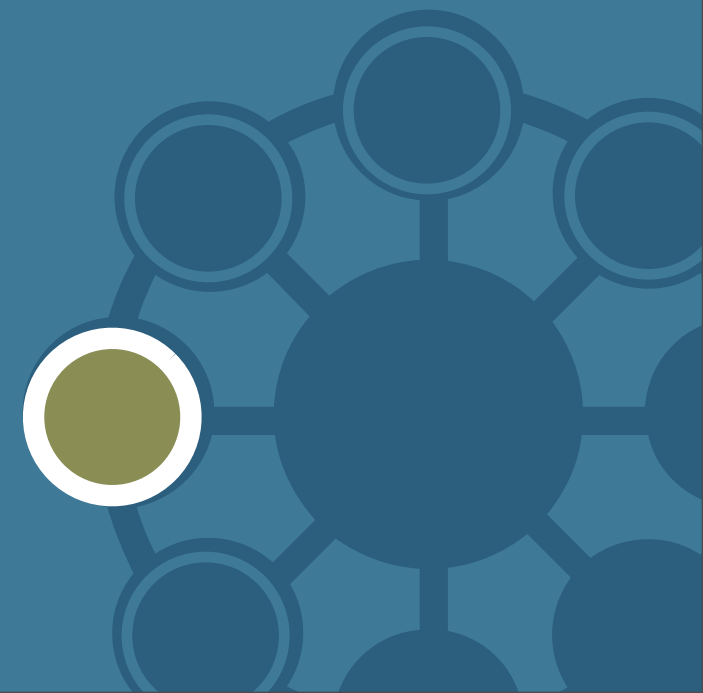


**1 get a free waste  
assessment from  
atlanticenergy.net**





2 put capital people  
in same room  
as operations





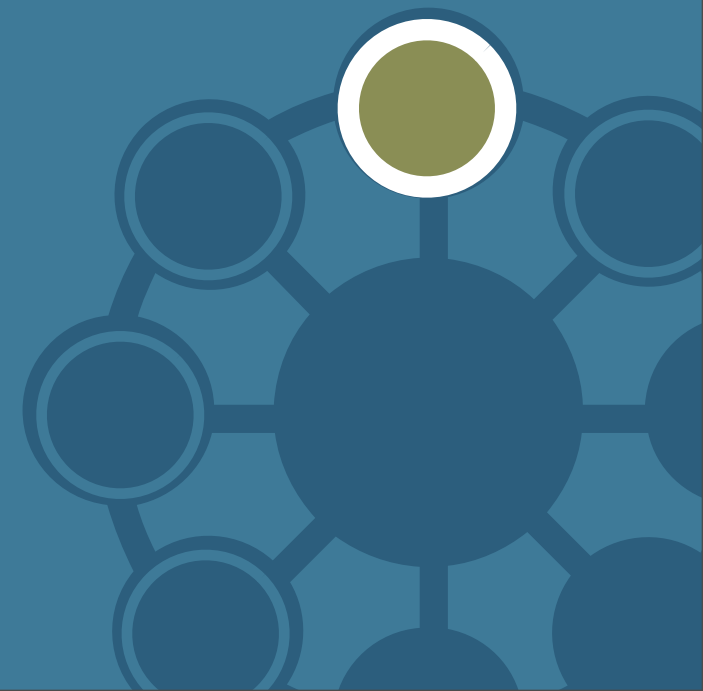


**follow the money  
to uncover the  
easiest savings**





# 4 measure everything measurable





**5 learn from guests  
by asking for  
their input**







“you must be the  
**CHANGE**  
you wish to see in the  
**WORLD...**”

-Mahatma Gandhi



**QUESTIONS**

CONNECT:



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contain additional notes  
& ideas not shown in  
presentation. They are  
included in this PDF for  
your enjoyment.





GRAND HOTEL

Greta Garbo  
John Barrymore  
Joan Crawford  
Wallace Beery  
Lionel Barrymore



A Metro-  
Goldwyn-  
Mayer  
PICTURE

# GRAND HOTEL









# WHAT CAN WE CHANGE?

MEN

**2**

urinals

**1.5**  
gpf

**2**

toilets

**2**  
gpf

**2**

sinks

**2.5**  
gpm x 15

**0**  
gpf

**0.8**  
**1.6**  
gpf

**1.5**  
gpm x 10

NEW

WOMEN

**3**

toilets

**2**  
gpf

**2**

sinks

**2.5**  
gpm x 15

**0.8**  
**1.6**  
gpf

**1.5**  
gpm x 10

NEW






**A 10 percent reduction in energy costs is equivalent to increasing ADR by \$0.83 for limited service hotels and by \$2.45 for full-service hotels.**

**\$11 increase in RevPAR  
(Revenue per available room)**



A photograph of a commercial laundry room. In the foreground, a large industrial washing machine with a circular door is open, showing its interior drum. Behind it, a row of similar machines extends into the background. A blue plastic bag sits on top of one of the machines. The room has white tiled walls and a tiled floor. A window is visible in the upper right corner.

**Direct Injection Ozone Laundry System typically reduces chemicals, water and sewer usage 40% & energy to heat water 60%; Utilities rebates cover up to 80% of upfront investment & GSI's leasing packages ensure monthly cost savings far exceed regular payments.**

- Reduce chemicals usage an average of 40 percent with Ozonated water;
- Extend the life of linen at least 25 percent by eliminating many chemicals harmful to textiles;
- Cut water and sewer bills 40 percent through the elimination of rinse cycles;
- Expand hotel laundry operations' capacity by eliminating rinse cycles — Shaving 7 minutes off the typical laundering process for every load, enhancing machine production and life significantly while bolstering employee productivity; and
- Reduce the energy required to heat water 60 percent to 80 percent;



# energy use

Hospitality spends \$3.7 billion a year on energy.

Electricity use accounts for 60-70 percent of the utility costs of a typical hotel.

America's 47,000 hotels spend \$2,196 per available room each year on energy

\$2,405,000,000 spent on electricity =  
12,657,894,737 (12.66 billion kW)  
enough to power 1,146,548.44 homes

4,389,443 hotel rooms  
= 12,657,894,737 kW / 4,389,443  
= 2883.71 kW per room



# energy savings

Hospitality spends \$3.7 billion a year on energy.  
39% is gas, so, \$1.443 B spent on gas / \$1.16 per therm  
1,243,965,517.2 therms gas used

Using calculator: <http://www.epa.gov/cleanrgy/energy-resources/calculator.html>

## **ELECTRICITY SAVINGS:**

6.33 B kW saved  
4,545,976 metric tons of CO2 saved  
10,572,037 barrels of oil saved  
eliminates 1 coal power plant

## **GAS SAVINGS:**

1,243,965,517.2 therms saved  
6,219,828 metric tons of CO2 saved  
14,464,715 barrels of oil saved  
eliminates 1.3 coal power plants

## **TOTAL SAVINGS:**

10,765,804 metric tons of CO2 saved  
25,036,752 barrels of oil saved  
eliminates 2.3 coal power plants

## **NEEDED:**

5.8 B metric tons of CO2 emissions globally  
need to cut 10%, or 58 M metric tons by 2020 to meet 2000 levels  
need to cut 25%, or 1.45 B metric tons by 2050 to meet 1990 levels

hotels could save 10,765,804 metric tons of CO2  
so hotels cut 7.43% of our 1990 CO2 goals for 2050 (25% reduction)  
or 19% of our 2000 CO2 goals for 2020 (10% reduction)

## **OIL IMPORTS:**

hotels could save 25,036,752 barrels of oil every year

### Annual Oil Imports:

Libya	37,000,000
UAE	1,474,000
Argentina	17,595,000
Egypt	5,605,000
France	32,468,000
Germany	19,192,000
S. Korea	17,657,000
Vietnam	10,628,000

DATA: [http://tonto.eia.doe.gov/dnav/pet/pet\\_move\\_impqus\\_a2\\_nus\\_ep00\\_im0\\_mbbi\\_m.htm](http://tonto.eia.doe.gov/dnav/pet/pet_move_impqus_a2_nus_ep00_im0_mbbi_m.htm)





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# RevPAR

Green hotels show higher:

AVERAGE RATE FOR AN OVERNIGHT ACCOMMODATION

RevPAR (Revenue earned per available room)

Customer Satisfaction

PKF Capital Managing Partner Henry Bose told a conference here on green hotels. “For every dollar you can add to the bottom line of a San Francisco hotel, more than \$11 is added in value,”

He noted that the USGBC has recorded dramatic savings in large green commercial buildings the size of hotels—30% energy savings, 35% less carbon output, 50% less water and as much as 90% less waste. USGBC also reported a decrease in operating costs of as much as 9% for sustainable commercial buildings and an increase of 7.5% in value and a 6.6% higher return on investment.

“It is important to note that hotels are extremely resource intensive, open 24 hours, 7 days a week, whereas commercial buildings are used primarily only during business hours. That means the financial benefits of operating a green hotel are likely to be much higher than what USGBC says about the commercial office sector,” says Bose. “Hotels that are less costly to operate are simply more valuable to owners.”

A 10 percent reduction in energy costs is equivalent to increasing ADR by \$0.83 for limited service hotels and by \$2.45 for full-service hotels.



operational  
housekeeping  
efficiencies



local food in  
restaurant



multi function  
rooms  
(movable)



design doors

on hold

opens



# low hanging fruit

68 percent of U.S. hotels said they had energy-efficient lights, and two thirds had implemented towel- and linen-reuse programs, up from just over half five years ago.

## 11 Minimum Guidelines for Going Green

Below is a list of actions properties of any size should take to stake their claim as an eco-friendly establishment. Each step contains further tactics, including case studies, statistics, and additional resources. AH&LA members who have further questions may get one-on-one advice from our [Green Guru](#).

1. Each hotel should form an [Environmental Committee](#) that is responsible for developing an Environmental Green Plan for energy, water, and solid waste use.
2. Manage your hotel's [environmental performance](#) by monitoring the electric, gas, water, and waste usage information on a monthly and annual basis.
3. Replace [incandescent lamps](#) with compact fluorescent lamps wherever possible.
4. Install [digital thermostats](#) in guestrooms and throughout the hotel.
5. Implement a [towel and/or linen reuse](#) program.
6. Install [2.5-gallons per minute showerheads](#) or less in all guestroom baths and any employee shower areas.
7. Install [1.6-gallon toilets](#) in all guestrooms.
8. Implement a [recycling program](#) --including public spaces -- to the full extent available in your municipality; document your efforts.
9. Implement a [recycling program for hazardous materials](#) found in fluorescent bulbs, batteries, and lighting ballasts through licensed service providers.
10. Purchase [Energy Star](#) labeled appliances and equipment.
11. All [office paper products](#) should have 20% or more post consumer recycled content.



# lighting

Guest lighting accounts for 30-40 percent of hotel electricity consumption.

Energy-efficient lighting can save 20-75 percent in energy use.



# water use

Typical hotels use 218 gallons of water per day per occupied room.

Water-efficient fixtures can reduce water and sewer bills by 25-30 percent.



# perception I

Deloitte Survey

Independent on line survey of 1555 business travelers 4/08

71% believe the lodging industry is only 'somewhat' green



# perception 2

Deloitte Survey

Independent on line survey of 1555 business travelers 4/08

23% say the lodging industry is not at all green.