

Green Hotels Association

GREENING NEWSLETTER

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Drought-Conscious Hotels on the Rise

Don't let the verdant gardens and fountain-filled lobbies of resorts fool you—most of the Western US is in the 15th year of the worst drought to hit the area in more than 800 years. However, some hotels are finding that sustainability is both fiscally and environmentally responsible, especially as travelers grow more conscious of their water consumption.

"We live in a desert, and our community is dependent on water," said Chris Brophy, vice president of the Corporate Sustainability Division for MGM Resorts International. "The hospitality industry has started moving in the direction toward lower-flow fixtures and water-smart practices. But, it takes a while to make that change throughout the community."



The move toward sustainability is exemplified by CityCenter in Las Vegas, a complex launched by MGM Resorts International that encompasses residential units, resorts and casinos.

At around 18 million square feet in size, it's the largest Leadership in Energy and Environmental Design (LEED) Gold-certified development.

"People who come to Las Vegas often don't worry about their water and energy consumption," Brophy said. "They come here to have fun. So we make sure that from a building management perspective we do the right thing without impacting the guest experience."

CityCenter has its own heat and power central plant that produces hot water and 30% of the campus' electricity. The on-site bathrooms have low-flow water fixtures; linens are washed at a default of every three days; and water is only served to guests on request at CityCenter's restaurants. Drought-tolerant native plants are irrigated with a system using sensors to measure variables such as weather and ground moisture. And more recently, restaurants in the complex have stopped thawing meat under running water in favor of defrosting it overnight. These procedures have reduced water consumption by 160 million gallons per year, when measured against the building-code standards of 2007.

However, water conservation is as much a task for the larger community as it is for the hospitality industry. According to Brophy, MGM's resort properties in Las Vegas consume less water per year than do their employees when at home. That's why MGM launched a Drought Buster campaign in June as part of its My Green Advantage, a website that teaches employees about green practices.

Benita Skalada, director of sales and marketing for Hotel Indigo in San Diego, said business groups have become

increasingly environmentally conscious as well. "When companies are looking for a place to hold their meetings, one of the important questions [they ask us] is 'Are [you] green friendly?'" Skalada said. "They want to know what differentiates us from our competitors as far as how we take care of the environment."

Hotel Indigo uses Green Engage, an online tool designed by InterContinental Hotels Group (IHG) to track and assess energy and water usage. IHG launched the program to more than 4,700 of its hotels worldwide in January. The only LEED-certified hotel in downtown San Diego, Hotel Indigo conserves water through water-efficient bathroom fixtures and toilets, drought-tolerant plants and an offsite laundry facility that uses less water through large-load machines.

Plenty of other hotels have embraced similar measures. Courtyard Los Angeles Torrance/South Bay cut its water usage by 15% when it replaced 900 sq.ft. of turf with local California grass. Aloft Hotel Tempe, the first LEED certified hotel in Arizona, utilizes recycling and eco-friendly cleaning products. And Intercontinental Los Angeles Century City Hotel recently replaced ivy plants on its balconies with water-frugal succulents.

Although the initial construction of environmentally friendly buildings may be more costly, both Brophy and Skalada agree that the long-term savings are well worth the initial premium. "We didn't build the least costly facilities," Brophy said. "But, in the long run, we'll make that money back, use those resources efficiently and pay less in the future."

Recent studies conducted by the Center for Hospitality Research (CHR) support the notion that the hospitality industry stands to gain from sustainability. One study states that LEED-certified hotels financially outperform non-certified competitors for at least two years post-certification. CHR also analyzed the effect of Travelocity's Eco-Leaf label on a group of US hotels, finding that certified hotels had more operations-and-customer-driven resource efficiency.

On the flip side, it looks like travelers also have "going green" on the brain. In 2007, 96% of Conde Nast Traveler readers felt that hotels should protect the environment they operate in, and more than 74% said a hotel's environmental measures influence their booking decisions. According to a 2012 Trip Advisor survey, 71% of travelers said they planned to make more eco-friendly travel choices in the next year. As water becomes a scarcer resource for the Western US, drought-friendly hotels may become less of a novelty and more of a necessity.

"Most large hospitality companies understand and embrace the business case for being environmentally responsible," Brophy said. "I wouldn't call it a trend. I would call it the new standard."

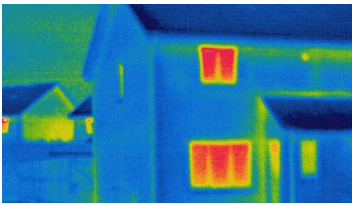
Chudnovsky, Natalie, The hospitality industry is fighting the drought with eco-friendly measures, <http://www.travelogwest.com/Travel/Hotels/Drought-Conscious-Hotels-on-the-Rise/#.VPj1Mnnaa>, December 31, 2014

The best way to get people to save energy isn't through their pocketbook!

Conventional wisdom holds that the most effective way to get people to save energy is to show them how much money they'll save. Turns out there's a more efficient approach. The amount of money consumers could save by cutting energy just wasn't high enough to be motivating. **Reminders of the environmental health benefits of cutting electricity use** are far more powerful motivation.

Smart meters and appliance-level monitoring technology were installed in the homes of about 120 young Los Angeles couples and families in the randomized, controlled experiment by UCLA researchers. The households were sent weekly e-mails to test the power of different motivational messages.

The group that received reminders of how much money they could save by cutting back on electricity showed no net energy savings over the four-month trial. But a similar group **cut energy use 8% after receiving e-mails about the amount of pollution they were producing, and how it has been shown to cause childhood asthma and cancer**. The health message was most effective in the subset of households with children at home; **they slashed power use a whopping 19%**.



The results fly in the face of even the perceptions of the experiment participants, who were questioned on their

beliefs before the trial began. "Although people said in the survey that money was the most important driver, in fact, that wasn't what happened," said principal investigator Magali Delmas, a UCLA professor of management and environmental economist. "In reality, health was much more powerful as a message."

The UCLA researchers believe that at today's US electricity prices (averaging 13 cents per kilowatt hour nationally, or a monthly bill of about \$107) the amount of money consumers could save by cutting energy just wasn't high enough to be motivating. For most households in the experiment, whose utility bills already were less than half the national average, cutting power use to bring them in line with their most efficient neighbors would slice just \$4 to \$6 off monthly bills. "That's a fast-food combo meal or a couple of gallons of milk," said co-author Omar Asensio, a UCLA doctoral student.

Generally unaware of health consequences - On the other hand, Delmas said participants were surprised by how many pounds of pollutants they could save, and the environmental health connection. "Electricity is invisible to us because it doesn't happen next to us," she said. The experiment, she said, "helped them to see it."

The UCLA research reinforces the findings showing that Americans are generally unaware of the potential health consequences of global warming. The nationally representative survey of nearly 1,300 adults showed that only about one in four (27%) could name a health problem Americans are experiencing related to global warming. 10% answered incorrectly that no health problems were associated with global warming. And a majority either didn't answer the question (43%) or said that they didn't know (14%). Only one in ten of those surveyed said they had given the health consequences of climate change "a great deal of thought."

"Americans primarily see global warming as a threat to plants, penguins and polar bears," said Edward Maibach, director of the George Mason University Center for Climate Change Communication.

Transform the debate - Maibach said Americans generally think about climate change as a stand-off between liberals and conservatives; or between people who care about the natural world passionately and those who believe economic concerns should be paramount. "Reframing global warming as a human health issue does promise to provide meaning to help Americans understand the issue in a new and important way," Maibach said.

There's ample evidence to back up such a reframing. The UCLA researchers said plenty of studies provide strong evidence of the health effects of ambient air pollution from coal and natural gas-burning, the fuels that generate most of the world's electricity. Global health damage estimates already exceed \$120 billion, the study noted.

Doctors: Already seeing health impacts - And in a survey of American Thoracic Society members, 77% of the respiratory health professionals said they were seeing an increase in chronic diseases related to air pollution. The research showed 44% of the doctors surveyed thought climate change was already affecting the health of their patients a "great deal" or a "moderate amount," and 57% said they'd seen injuries related to severe weather.

Delmas said the idea to test health vs. economics-related motivational messages came after a discussion with electrical engineering colleagues who were working on smart metering and related technology. The technology can tell homeowners in real time which appliances are sucking up the most power, and it gives clues as to what to cut back and when.

Creative ways to slash energy use - In fact, the UCLA researchers discovered study participants could come up with creative ways of slashing electricity use—if they were sufficiently motivated. One family, for instance, found that simply moving cereal boxes from the top of their refrigerator improved airflow enough to cut the fridge's power use.



But participants simply didn't bother if the motivational message was about how much money they'd save. Yet that's the carrot many public policymakers wave when trying to spur conservation in homes and offices, which account for more than two-thirds of US energy use. Former US Energy Secretary Steven Chu, for example, a strong advocate of energy efficiency, wrote about the savings opportunities in terms of "\$20 bills lying on the ground," she said

Delmas, who is principal investigator on a UCLA project called Engage aimed at understanding energy conservation motivation, said it might be useful to do future research on whether there is, in fact, an electricity price point at which cost savings become an effective incentive. "At current prices, it's too small and too low for people to care," she said.

Lavelle, Marianne, The Daily Climate, http://www.dailyclimate.org/tdc-newsroom/2015/01/energy-savings-health-benefits?mc_cid=6459d1155c&mc_eid=0cc8cf2bf5

4 ways to (really) get employees on board with a green office

Unconventional educational efforts and flexible training are two key ways to better engage employees in company sustainability efforts. From conserving power to adding recycling bins to the break room, businesses of all sizes are experimenting with widely varied strategies to make their workplaces—and their workforces—more oriented toward sustainability.

Although every change in office behavior has the potential to help the environment, some actions require a more arduous look at sustainability. In many cases, companies are turning to employee learning programs about sustainability to help foster professional development and build a deeper understanding of sustainable business strategies.

The problem: many of these programs are met with mixed success, because these initiatives are either forced upon employees or use outdated content.

So, how can companies make green training more desirable? And can sustainability actually be incorporated into every facet of the business? A few tips:

1. Extend education beyond product design. How great would it be if sustainability was the first product attribute engineers and other product development team members tackled? Keeping sustainability top of mind throughout every stage of the design process—from product assessment to testing—is especially crucial for product designers.



In many cases, however, this mentality is not translated throughout an entire company, as those involved in the product development process have only basic exposure to sustainability concepts. Training cannot focus on product design alone;

product management and procurement must be involved.

For an organization to successfully improve sustainability efforts, all employees, from product designers to managers, need to have a strong foundation in sustainability. That includes a solid understanding of what it is, why it's important and how it can be infused into different aspects of the business.

2. Up the ante with new partnerships. Education programs are becoming more widespread to help train all employees about sustainability. There are many benefits of this type of training, from learning how to naturally speak the sustainability language to implementing methods for incorporating sustainable thinking into core business operations. But given the voluntary nature of these programs, organizations are still struggling to achieve employee engagement. In reality, employees want programs with external validity that enhance their resume, develop their capabilities and make them better professionals.

How can you meet these objectives? Look for a training partner with mass appeal. Empower employees with a learning program that leaves them inspired and recognized by the broader industry, instead of making them feel like it's another item to check off a to-do list. At the conclusion of the

education program, provide employees with certification for the training that includes third-party validation.

With this approach, employees will have a better understanding of the fundamentals of sustainability and ways to incorporate this mindset into every facet of the business. The result is a new type of conversation; projects will begin with sustainability in mind, which is rewarding for employees, your organization and your customers.

3. Offer flexibility for different schedules. Taking employees offline and bringing them into a physical classroom setting proves nearly impossible given the increasing demands of the professional workforce. Tech savvy employees appreciate learning at their own pace and using digital tools to learn on their own time. E-learning is emerging as the option of choice for training and education, allowing employees the time flexibility that is so crucial to us all today. Self-paced learning, alongside a few hours of instructor-led training in a virtual classroom, makes training manageable and removes the offsetting factors employees face, such as extended time commitments and travel constraints.

4. Provide tools to enhance the day-to-day routine. While sustainability is here to stay, one ongoing challenge remains top of mind: How do you instill the discipline to incorporate sustainability in day-to-day operations in a way that ultimately influences outcomes—without any requirements, requests or rewards? Many tools at a company's disposal can make sustainability part of employees' day-to-day schedule, including strategies to implement new products into an organization, ways to assess the current state of products and tactics to reduce consumption of natural resources.

A new product checklist can ensure sustainability is a priority in the early stages by pointing to the most common and potentially effective environmental, health and safety (EH&S) issues that must be addressed before implementation can begin. While evaluating current products, a sustainable product opportunity assessment tool can be used to identify the appropriate specific strategies that respond to market needs. Alongside these tools, a natural resource consumption checklist can be instituted to help project team members identify potential opportunities to reduce consumption.

With all of these pillars in place, from well-rounded knowledge of sustainability to third party validation programs, sustainability can be incorporated into every facet of the company and is an achievable goal. Teams from product design to manufacturing, sourcing, customer service and every day in-office operations will begin to factor sustainability into everyday actions and make better business decisions regarding customer feedback, regulatory requirements and sourcing considerations.

Digby, Gretchen, http://www.greenbiz.com/article/4-ways-really-get-employees-board-green-office?mkt_tok=3RkMMJWWf9wsRogva%2FAZKXonjHpfSx56%2BwpW6C1IM1%2F0ER3FOvrPUfGj4HSodgl%2BSDLdWEYgJlv6SgFSLHEMa5qw7gMXRQ%3D, January 16, 2015

LED Outdoor Lighting - A \$6 Billion Annual Savings Opportunity Ripe for the Picking

Virtually overnight we are starting to see energy-savings LED lighting almost everywhere. Not only was the last Super Bowl played under LED lights, the new flat panel TVs for watching the game were illuminated by LED backlights, and the lights on the poles in the parking lot outside the sports bar and the streets and highways between there and home may have been retrofitted with LEDs as well. And slowly but surely many

of the roughly 3 billion screw-based sockets in our homes are starting to be filled with LED, or light-emitting diode, bulbs that use 80% less energy than the old incandescent light bulbs and last up to 25 years. (Search online for the NRDC light bulb buying guide.)

There's no doubt that LED bulbs represent an energy efficient path. And using them to light the way along our streets and highways represents a superhighway to energy savings as these bulbs are often on for 12 hours per day.

illuminating the Outdoor Lighting Savings Potential

While most of us simply look to outdoor lighting to keep us safe and our cities moving after the sun goes down, it takes a lot of energy and money to power the 100 million or so outdoor lights in the US. In fact, outdoor parking and roadway lighting consumes around \$10 BILLION worth of electricity each year—or the same amount of power consumed by 6 million homes. That power often comes from dirty coal-burning power plants that emit carbon dioxide, the heat-trapping pollutant responsible for climate change. And all that electricity necessary to the outdoor street and highway lighting is paid for by your tax dollars, either at the local or state level.

The great news is that the technology and products exist to provide equivalent light levels that can cut a city's outdoor lighting bill by half or more. Given that most municipalities are strapped for funds, shifting to energy-saving LED light bulbs helps local governments cut operating expenses while



at the same time doing their share to reduce their carbon footprint. Recently President Obama issued the Presidential Challenge for Advanced Outdoor

Lighting, which aims to upgrade 1.5 million light poles and work with mayors across the country to encourage the adoption of LED bulbs.

This challenge builds off of lots of great work led by the Department of Energy (DOE) on demonstration projects to validate the effectiveness of outdoor LED lights and to develop procurement guidelines for interested communities and businesses. LED lights are directional light sources, so well-designed fixtures can point the light exactly where the light is needed while also preventing light from going where it's not wanted, such as in the sky or a neighboring property.

Huge Savings Potential

Today, less than 5% of outdoor lighting fixtures use LED bulbs, so the savings potential is massive. As a DOE fact sheet notes, a total shift to LED outdoor lights would save more than \$6 billion and prevent 40 million metric tons of carbon dioxide emissions per year.

Let's hope more cities, and parking lot and garage owners seize this opportunity to save energy and money—and prevent dangerous emissions from power plants. The upfront cost for LED bulbs is quickly paid back and represents a great investment toward lower bills and reduced air pollution for years to come. There really is no good reason to wait.

http://switchboard.nrdc.org/blogs/nhorowitz/led_outdoor_lighting_a_6_bill.html, February 5, 2015

Filthy India air cutting 660 million lives short

India's filthy air is cutting 660 million lives short by about three years, according to research that underlines the hidden costs of the country's heavy reliance on fossil fuels to power



its economic growth with little regard for the environment. While New Delhi last year earned the dubious title of being the world's most polluted city, India's air pollution problem is extensive, with 13 Indian cities now on the World Health Organization's list of the 20-most-polluted. That nationwide pollution burden is estimated to be costing more than half of India's population at least 3.2 years of their lives, according to the study. It estimates that 99.5% of India's 1.2 billion people are breathing in pollution levels above what the WHO deems as safe. Added up, those lost years come to a staggering 2.1 billion for the entire nation, the study says.

India has a sparse system for monitoring air quality, with sensors installed in only a few cities and almost unheard of in the countryside. Yet rural air pollution remains high thanks to industrial plants, poor fuel standards, extensive garbage burning and a heavy reliance on diesel for electricity generation in areas not connected to the power grid. Wind patterns also push the pollution onto the plains below the Himalayan mountain range.

India developed extreme air pollution while relying on burning fossil fuels to grow its economy and pull hundreds of millions of people up from poverty. More than 300 million Indians still have no access to electricity, with at least twice that number living on less than \$2 a day.

[Nytimes.com/aponline/2015/02/21/world/asia/ap-as-india-air-pollution.html?_r=0](http://nytimes.com/aponline/2015/02/21/world/asia/ap-as-india-air-pollution.html?_r=0)

Healthcare Giants Boycott Furniture Containing Flame Retardants

Sixteen major buyers, including tech firms, retailers and US cities have pledged to purchase furniture containing no chemical flame retardants.

Teknion has eliminated chemical flame retardants from all its products, including these Sabrina task chairs. Facebook, Kaiser Permanente and Autodesk are among major buyers that have pledged to purchase furniture that contains no chemical flame retardants. HDR Architecture and Perkins + Will have also signed the pledge.

Initiated by the Center for Environmental Health (CEH), the purchasers' pledges currently represent \$520 million in annual furniture purchases. The announcement follows on the heels of a similar pledge among large healthcare networks in four US states. The boycott is now feasible because of changes to California law, which formerly required the use of chemical flame retardants in upholstered furniture, effectively forcing the standards



onto furniture manufacturers nationwide.

The updated regulations require a different testing method and can now be met without use of toxic additives that were once ubiquitous.

Groups That Have Boycotted Furniture with Flame Retardants

HDR has also worked with CEH to publish a list of furniture suppliers that have totally eliminated flame retardants from their products as well as those that offer some products without these chemicals. According to the list, those that have eliminated flame retardants are:

- Andreu World
- Arcadia Contract
- Bretford
- David Edward Company
- Global/GLOBALcare
- Humanscale
- Izzy+
- Neutral Posture
- OFS Brands
- Teknion
- Wieland

Though not listed by HDR, Ekla also makes commercial contract furniture containing no chemical flame retardants. Manufacturers that have removed the chemicals from certain product lines are Haworth, Herman Miller, Leland International/Freshcoast and Martin Bratrud.

"Manufacturers, of course, can continue to use flame retardants if they choose," notes Jean Hansen, sustainable interiors manager at HDR, "but many have said they are excited to move away from flame retardant use."

Melton, Paula, <http://www2.buildinggreen.com/article/healthcare-giants-boycott-furniture-containing-flame-retardants>

SHARK-FIN BANS HARD TO POLICE

On a recent morning in this city's bustling Chinatown, a state wildlife official peeked into plastic bins filled with live bullfrogs and glass jars stuffed with dried abalone at various shops, searching for illicit shark fins. There were none to be found. It was perhaps a sign that the state's eight-month-old ban on shark fins, a traditional Chinese delicacy served in soup, was working, said the inspector. Just which is the case is difficult to determine, Mr. Farrell said, as his department contends with a growing list of such laws to enforce. "We hover around the same number of officers in the field and every year we just get more and more stuff piled on," said Mr. Farrell, a 21-year-veteran at the department. Among other recently added duties: patrolling 19 new protected areas along the Northern California coast and a package of rules governing Dungeness crab trapping.

The situation is mirrored in the seven other states with bans on the pricey fins, which sold for up to \$500 a pound in California before its ban went into full effect. Just a handful of violators were caught last year. Wildlife officers and experts in the field say the results underscore the difficulty of trying to police laws resulting from the public's growing enthusiasm for protecting critters of all types.

Since 2010, Hawaii, Oregon, Washington, Illinois, California, Maryland, New York and Delaware have passed prohibitions on the sale of shark fins and food containing them. Efforts to pass bans in four other states are gaining traction as wildlife advocates make the case that killing sharks for their fins is cruel and contribute to a drop in the animal's numbers. But just how the bans are affecting the shark-fin trade isn't entirely clear. Pointing to the dearth of citations, officials in several states said that shopkeepers, restaurateurs and fishermen appear to have fallen into line with the new laws. Publicity surrounding the bans—including graphic videos

of fishermen slicing off fins and tossing mutilated sharks back into the ocean to die—appears to have decreased demand here and in Asia, according to fin traders and wildlife advocates.

Still, imports of dried shark fins into the US haven't fallen, hovering at around 57 metric tons since bans started going into effect in 2011. Globally, 26 million to 73 million sharks are estimated to be killed every year just for their fins. The market is worth \$400 million to \$550 million annually. A quarter of the world's shark and ray species are threatened with extinction due to overfishing and other factors.

Shark-finning was banned in US waters in 2000, but the law doesn't ban fin imports or serving the fins in food. That prompted wildlife advocates to push for individual state bans. Officials in the six states where bans were in effect in 2013 reported issuing a total of seven citations last year, with potential penalties of fines or jail time. Four citations were issued in Washington and one in California. In Illinois, a Chicago restaurant owner got a \$120 ticket. In Hawaii, a fisherman accused of directing his crew to de-fin sharks and toss them overboard got a \$100 fine.



Last week, California wildlife officers announced their first big shark-fin bust. Seafood distributor Michael Kwong was allegedly caught with more than 2,000 pounds of what is believed to be shark fins in a San Francisco warehouse. Mr. Farrell said a restaurant cited for serving shark-fin soup pointed officers to Mr. Kwong. He faces up to six months in prison, a fine up to \$1,000 or both.

Mr. Farrell said the bust was especially hard-won given the size of California's staff of wildlife officers. The state has about 240 on-the-ground wardens—35 fewer than in 1990—to cover 159,000 square miles of land, 29,000 miles of streams and rivers and 220,000 square miles of ocean, says the California Fish and Game Wardens Association.

Policing the ban on shark-fin soup here has been politically sensitive because of the dish's long-standing place among San Francisco's large Chinese population. Merchants in Chinatown have bristled at inspections. A non-profit advocacy group, the Chinatown Neighborhood Association, is fighting the ban in federal court, claiming it amounts to discrimination. The state is seeking to dismiss the suit.

Elinson, Zusha (zusha.elinson@wsj.com), "Shark-Fin Bans Hard to Police," <http://online.wsj.com/news/articles/SB10001424052702303636404579393410962355346>

Busting the myth of costly green buildings

Using two of their green-certified projects, Surbana International Consultants seeks to prove that building sustainably does not necessarily require high upfront costs and can lead to greater benefits in the long run.

Datum Jelatek, a mixed development in Malaysia that is set for completion in 2018, is an example of a certified green building with hardly any additional construction costs for going green. The steady rise of green buildings across the world

in recent years is a visible reflection of green architecture's move from fringe to mainstream. But despite its proliferation, one common misperception that has lingered is that building green is costly. This is a myth that Surbana International Consultants, a Singapore-headquartered building consultancy, aims to debunk.

This fear of higher costs is hindering individuals, clients and those in the construction industry to pursue green buildings and certification. Most are not aware that costs can be minimized with the right strategies in place, says Surbana. The firm, which has its roots as the building arm of the city-state's public housing authority, has years of experience providing quality living spaces that are affordable. In recent years, the firm has expanded their footprint beyond Singapore to reach countries such as China, India, Vietnam and the United Arab Emirates. There, they not only promote cost-effective structures, but also green architecture. The firm also strictly complies with ISO-14000 environmental standards, a set of internationally recognized criteria that enables organizations to operate in a more sustainable manner.

In Singapore, for example, their [Trelodge@Punggol project](#), which has features like **solar panels on the roof** and a **rainwater harvesting system**, became the first ecologically



designed public housing to receive a Green Mark Platinum Award from the country's Building and Construction Authority. Joy Gai, senior engineer for sustainable design at Surbana said the most commonly asked question they receive from clients these

days is: "How much more will I have to pay to build green?" The issue of costs is dependent on various factors. The site location or the natural environment where the building is to be constructed plays a big role, as well as the size of the building, the direction of the clients and the amount of time consultants are involved. Citing two recent projects by Surbana, Gai explains how these factors and their costs can be managed during the construction phase to achieve a low- or zero-cost green building, particularly through the use of passive design strategies.

Sky Residences, Sungai Petani Kedah, Malaysia

Located at the Cinta Sayang Golf Country Resort in Malaysia, Sky Residences is an 18-story condominium development launched in 2009, which is the country's first LEED-awarded building. Gai explained that LEED was their standard of choice since it was internationally recognized and its mandatory requirements for naturally-ventilated buildings were easy to comply with. The certification is also based on an accumulation of points matching a set of different criteria.

Still, the developer of Sky Residences, shared that their LEED certification "has not come easily." Every phase over the project's two years of construction, from design to waste generated, was carefully controlled and monitored. Since a certain number of points are needed per category under the LEED scheme, Surbana's strategy was to focus on those with minimum cost impact. This means they applied sustainability principles to different components of the building design that would not require huge investments, such as: **assessing the natural conditions of the site and incorporating the environment into the development**; implementing good

construction practices, such as **segregating waste for recycling** and **prohibiting smoking on site to maintain clean air quality**; using **water-efficient fittings** and **LED lighting** and implementing a **comprehensive building control system that monitors energy use**. This enabled the firm to attain a sufficient number of points within the LEED Silver rating range.

A highlight of Sky Residences is the significant use of **natural ventilation and daylight** within the building. "The design of the building followed the orientation that would capitalize on these best. **Window openings and locations were carefully examined using computer analysis tools to ensure thermal comfort**," explained the engineer. After applying these minimum cost design strategies, the total cost of building Sky Residences amounted to about SGD 17.5 million.

Their experience in this project and LEED certification could help inform others that low or no additional costs for building green is possible. But no two projects are the same, so nobody can completely guarantee that going sustainable is free for all projects.

[Datum Jelatek in Malaysia](#) is another example of how green buildings can be built with minimal cost. The project consists of four residential towers—linked together with the country's first Sky Garden Ring—which is located in a mixed development project in Kuala Lumpur, set to be completed in 2018. Similar to Sky Residences, these residential buildings make ample use of **natural ventilation to maximize the breeze and natural light**. Surbana uses this approach to help reduce air conditioning use and costs. But they also take note of the amount of light that comes in, since this can lead to heat transfer affecting the interior atmosphere. One of the ways the company lowered construction costs was by **recycling construction waste**. A **rainwater harvesting system** was also added to reduce water used for irrigation.

Compared to Sky Residences, the Jelatek project had the better advantage in terms of managing the green building design and costs, noted Gai. The GBI consultant was on-board in the very early stages, particularly the concept stage, so we were able to influence the architectural design from the beginning and we were able to put some basic green features into the tender specification." These include **passive design elements** that involved no costs for the client yet boost the GBI score. Passive design features choices that use the natural environment such as the **building site and climate for improved indoor air quality**, as opposed to active design components like building technologies that can be pricey.

Formula to optimize design, multiply benefits

The overall strategy to manage green building costs while achieving design effectiveness is all in the "design optimization," stressed Gai. According to the senior engineer, there is a four-step formula that Surbana follows to minimize costs while achieving sustainability:

Start from the site condition. Understand the surrounding environment and list the natural resources available that can be used. "The idea is to let nature take the first step to help you achieve good design." Use computer simulations to analyze how natural wind, light and other conditions impact the project. The goal is to make the most of passive design. Add active design features or green technologies like solar panels or lighting sensors, insofar as it can boost building performance. "Cost benefits have to be evaluated to prioritize which green features are important and to avoid misuse of technologies. Sometimes, project developers bring in the

trendiest or most advanced technologies into the building design and assume these are green, but this will only cause a flooding of technologies that increase the building cost unnecessarily." [Apply for green building certification](#). Whether LEED or GBI, the standards they require further improve the initial environmental design.

Implement these principles and the building can be green with minimal additional investment. "Honestly, the green building movement is still approached top-down, with the government directing the industry to follow regulations and enticing businesses with incentives. Most developers and clients are only interested with green buildings because of the prospect of receiving payback benefits, funding, additional media mileage or winning green awards," said Gai.

"As consultants, we are, therefore, willing to go the extra mile to prove to them that building green is not necessarily about all these or about costs alone. Applying sustainability in building design and construction has many other substantial benefits such as [improved health and comfort for occupants, and long-term operational savings](#)," she added.

<http://www.eco-business.com/news/Busting-myth-costly-green-buildings/>

YOUR USED CASH ISN'T TRASH More Worn-Out Bills That Once Ended Up in the Landfill Are Being Recycled

The Fed destroys more than 5,000 tons of US currency a year—billions of dollars in torn, dirty or worn-out bills that are withdrawn from circulation and shredded. Most of it once went to landfills, but the central bank has pushed for years to go green with all that green.

It's now succeeding in bringing the dollar out of the dump, recycling more than 90% of its discarded bills. Power plants burn them for fuel. Compost piles turn them into fertilizer. Some of them even end up in manufactured goods.

United Fibers LLC is one of many destinations, receiving three shipments of shredded cash a month at its factory in Chandler, AZ. Old money, it turns out, is good for making cellulose insulation for houses, which mostly relies on recycled newspapers and other paper products for raw material. It's also been good for marketing. "When you tell people you're actually insulating their house with shredded money, it's a great selling point for us," the manager said.

The Fed gets most of its attention for high-level discussions about the economy and its decision to adjust interest rates. But the flip side of monetary policy is the central bank's mundane tasks of ordering money from the Treasury Department's Bureau of Engraving and Printing, distributing freshly printed bills to banks around the country and replacing them when they're limp and worn out. Dollar bills are made from a mixture of cotton and linen for durability, but they wear out eventually. The \$5 bill, for example, has an estimated lifespan of just under five years.

Government officials used to destroy unfit currency by setting it on fire; the Federal Reserve Bank of Richmond's 1953 annual report boasted it had "money to burn." Today, shredders ensure the money taken out of circulation stays out of circulation.

A little shredded cash goes into souvenir bags for visitors to regional Fed banks or the bureau's printing plants in Washington and Fort Worth. But despite efforts over the years

to find new uses for old money, most of it ended up being sent to landfill. Before 2010, only about 30% of shredded cash was being recycled. But times were changing. In 2011, the Fed began a push to increase recycling, asking officials across its 12 regional banks to seek local vendors that could reuse the material without any additional costs to the system.

The system was looking for ways to be more green, more environmentally friendly. The Philadelphia Fed in 2011 began sending its shredded cash to a local power plant. Rather than just sitting in a landfill, it's producing electricity. Across the country, the share of shredded currency being recycled climbed to 41% in 2011 and doubled to 82% in 2012. In 2013, 94% of the systems' destroyed cash—nearly 4,900 tons—was recycled.

Most of the recycled material goes to power plants or into compost piles to become fertilizer, with a smaller amount of shredded currency going to manufacturers like the United Fiber insulation plant.

But for the trash incinerator in the City of Commerce, CA, it's just another source of fuel. The plant burns 350 tons of garbage from local homes and businesses daily to produce electricity. It also incinerates 400 to 500 tons a year of shredded cash from the Fed.

The Treasury also signs off on a few dozen requests a year from people looking to use it for commercial or artistic purposes. In recent years, the cash has been used to fill luxury dog beds, to manufacture knife handles and to "fashion into a brick" for novelty purpose.

Leubsdorf, Ben, Your Used Cash Isn't Trash, The Wall Street Journal, December 23, 2014

Don't put old electronic items in the trash!

Chances are, many Americans received shiny, new gadgets for the holidays—meaning their old electronics will either collect dust in a closet or get tossed out. These unwanted laptops, tablets and printers contribute to the enormous amount of electronic waste, or e-waste, that continually piles up in our landfills. According to the EPA, 3.4 million tons of tech gear was trashed in 2012, and unfortunately, only 12.5% of e-waste is currently recycled.



Not only is this an environmental nightmare, e-waste also negatively affects our health. As DoSomething.com states, "E-waste represents 2% of America's trash in landfills, but it equals 70% of overall toxic waste. The extreme amount of lead in electronics alone causes damage in the central and peripheral nervous systems, the blood and the kidneys."

Without a federal mandate on e-waste, it's up to individual states to take the lead. One such state is New York. To combat this growing health and environmental threat, as of January 1, 2015, it is now illegal for NY state residents to toss out electronics with their regular trash. This law encompasses just about all the electronic equipment that New Yorkers commonly own, such as computers, DVD players and televisions. Under the new law, residents will have to properly recycle their gizmos or pay a \$100 fine per violation.

Electronic equipment, which often contains lead, mercury and cadmium, now makes up the largest and fastest growing

component of the hazardous materials entering the waste stream.

enn.com/sustainability/article/48137

FLIGHT PLAN **National parks temporarily declared** **“no-fly zones” for drones.**

It usually begins with the best of intentions: Taking the new birthday present for a spin in the wide-open spaces above Joshua Tree. Getting a closer look at the big-wall climbers on Yosemite’s El Capitan. Capturing stunning footage of the Grand Canyon to rekindle people’s love of the parks.



But operating remote-control aircraft (also known as drones or unmanned aircraft) can require serious skill and

discretion—more than a user’s manual might imply. Within the last year alone, more than half a dozen icon parks have suffered the consequences of a growing hobby unchecked. In Joshua Tree, a drone cut through the silent awe of school children soaking in a serene desert landscape. In Grand Canyon, a drone buzzed back and forth across a popular sunset vista before crashing into a canyon wall. Another drone flew dangerously close to a crowd of 1,500 visitors seated in the Mount Rushmore amphitheater before skimming the four presidents’ heads. A drone hovering over a bighorn sheep herd in Zion reportedly separated adults from lambs.

In response, National Park Service Director Jon Jarvis hit the brakes last June when he issued a temporary ban on drones system-wide. This gives the agency an opportunity to step back, evaluate the effects of unmanned aircraft on visitors and park resources, and draft a new rule for public comment, likely within the next 12 to 18 months.

It would be easy to applaud a blanket ban based on the negative impacts alone. But there’s a flip side to a ruined sunset in the Grand Canyon. Thanks to drones, rangers in the Everglades might boost efforts to eradicate invasive Burmese pythons by rigging drones with thermal-imaging

technology that can spot the snakes from the air. Staff in Olympic National Park can observe changes to the Elwha River, now that the dam is gone. Search-and-rescue teams can save money and avoid risks associated with sending manned helicopters and fixed-wing aircraft into disaster zones. And park staff in Haleakala can monitor the fence line that keeps feral animals like pigs and goats from wreaking havoc on the park—a much cheaper and more efficient option than monitoring on foot.

“As a conservation scientist, my primary focus on drones is for management and research—and for those two things, they’re brilliant,” says Ryan Valdez, landscape conservation manager at NPCA. “But it’s tougher when you’re dealing with recreation.” And recreational use is the gray area in which film and photography can sometimes fall. But the power of aerial footage to inspire park connections and advocacy is undeniable; one California photographer went so far as to argue that Ansel Adams would be the first to fly a drone up the face of El Capitan if he were alive today.

“It’s absolutely stunning,” Valdez says of drone-captured footage, “and if used in the right way, it can be an incredibly positive and influential way to help people appreciate parks from a distance.” With these benefits in mind, the Park Service may still allow restricted use for adequately trained film and photography crews with a special permit.

How Drones Are Saving Africa's **Elephants and Rhinos**

Drones are quickly becoming a beacon of hope for park rangers in Kenya, where poachers have slaughtered hundreds of elephants and rhinos since 2012. A recent undercover project testing drones in a major wildlife reserve decreased poaching by 96%, prompting the government to deploy drones in all 52 national parks and reserves. “We have tried so many other security measures, but they have failed us,” Paul Udoto of the Kenya Wildlife Service said. “The drones will have a capacity to spot the poachers before they even kill an animal.”

Leinbach Marquis, Amy, npca.org/news/magazine/all-issues/2014/fall/flight-plan.html, Fall 2014

FINAL WORDS . . .

"Faling in love is a desolating experience, but not when it is with a countryside.

T. H. White