ROUTE TO:
General Manager
Sales Manager
Chief Engineer
Executive Housekeeper
Rooms
F & B
Purchasing
Personnel
Front Desk
Lobby

"Green" Hotels Association®

GREENING NEWSLETTER

ENERGY STAR's BUILDING UPGRADE MANUAL

The ENERGY STAR Building Manual is a strategic guide to help you plan and implement profitable energy saving building upgrades. You can maximize energy savings by sequentially following the five building upgrade stages. The manual can be viewed at **www.energystar.gov/index.cfm?c=business.bus_upgrade_manual**. ENERGY STAR® is a voluntary government and industry partnership that makes it easy for businesses and consumers to save money and protect the environment.

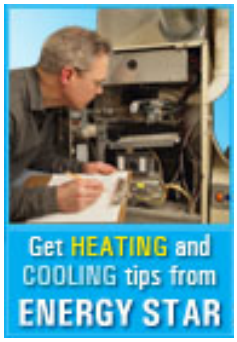
The five stages recommended by the EPA are:

Retrocommissioning (Chapter 5). Retrocommissioning is the first stage because it provides an understanding of how a facility is operating and how closely it comes to operating as intended. Specifically, it helps to identify improper equipment performance, equipment or systems that need to be replaced and operational strategies for improving the performance of the various building systems.

Lighting (Chapter 6). Lighting upgrades, which may include new light sources, fixtures, and controls, come early in the process because the lighting system has a significant impact on other building systems. Lighting affects heating and cooling loads and power quality.

Supplemental Load Reductions (Chapter 7). Supplemental load sources, such as building occupants and electronic equipment, are secondary contributors to energy consumption in buildings. They can affect heating, cooling and electric loads. With careful analysis of these sources and their interactions with HVAC systems, equipment size and upgrade costs can be reduced.

Air Distribution Systems (Chapter 8). Air distribution systems bring conditioned air for heating or cooling to building occupants, and therefore directly affect both energy consumption and occupant comfort. Fan systems can be upgraded and adjusted to optimize the delivery of air in the most energy-efficient way.



Heating and Cooling Systems (Chapter 9). If the steps outlined in the first four stages have been followed, cooling and heating loads are likely to have been reduced. That reduction, coupled with the fact that many existing HVAC systems are oversized to begin with, means that it may be possible to justify replacing an existing system with one that is properly sized or retrofitting a system so that it operates more efficiently. In addition to saving energy, proper sizing will likely reduce noise, lower the first costs for equipment and optimize equipment operation, often leading to less required maintenance and longer equipment lifetimes.

The overall strategy described in the manual is appropriate for all types of facilities, and many of the specific measures described can be used no matter what type of building is under consideration. However, there are also many strategies, priorities and opportunities that are unique to, or most effective in, specific facility types. To address these unique challenges and opportunities, the manual includes a chapter on hotels and motels.

Hotels and Motels (Chapter 12). The major challenge in upgrading hotels and motels is to maintain guest comfort in a wide variety of spaces, including guest rooms, public lobbies, banquet facilities and restaurants, lounges, offices, retail outlets and swimming pools. The opportunities for improved guest comfort, longer equipment life, lower operating costs and an improved corporate image make the challenge worthwhile.

Following are some specific performance techniques from the manual:

Tune-up opportunities. There are a number of easy measures that can reduce energy use in various areas of the hotel:
Peripheral and back rooms. Make sure that HVAC settings in lobbies, offices and other such peripheral rooms are at minimum settings during hours of low use.

Laundry. Set laundry hot water to 120°F (49°C). This is a good temperature for all hot water uses outside of the kitchen, where codes are specific about water temperature.

Pools and hot tubs. Make sure that all pools and hot tubs are covered after hours to diminish heat loss.

Housekeeping procedures. Encourage housekeepers to turn off all lights and set temperatures to minimum levels after cleaning each room. Closing drapes when a room is unoccupied will reduce heat gain in the summer and heat loss in the winter.

Front desk. Teach registration staff that they can help save energy costs by booking rooms in clusters, so that only occupied building areas or wings need to be heated or cooled to guest comfort levels. Rooms on top floors, at building corners, and facing west (in summer) or north (in winter) can be the most energy-intensive to heat or cool; therefore, consider renting them last.

CASE STUDY: Retrocommissioning a Marriott: The Los Angeles Airport Marriott, a 1,000-room facility, conducted a retrocommissioning program at a cost of about 22 cents per square foot, or roughly $125 per room. The project was conducted by a team of the company's own staff, including engineers and the regional vice president of engineering, with assistance as needed from an outside consultant. The project developed in-house expertise that will help maintain long-term benefits, which is a result that might not have been

achieved if outside consultants had worked independently on the project. The project team developed 17 recommended measures for the hotel's air-handling units, chilled water plant and other back-of-the-house systems. The average implementation cost for each of the 17 steps was slightly more than $7,500, and the average payback period was less than one year. *The hotel saved $153,000 annually, and 30% of those savings came from a single adjustment to airflow from one air-handling unit.*

Electric Lighting: Many hotel public areas, including corridors and hallways, can use CFLs in wall sconces and in recessed downlights. *A Michigan Marriott replaced its public-space incandescent lamps with CFLs and saved more than $40,000 in energy and maintenance costs.* The historic Willard InterContinental in Washington, DC, installed CFLs in common areas and guest rooms. The investment resulted in fewer complaints about lighting quality, and a six-month payback based on energy savings.

A number of hotel chains have implemented widespread CFL campaigns. One of the measures that helped Marriott International win the ENERGY STAR Sustained Excellence designation in 2007 was the installation of 450,000 CFLs. IHG (InterContinental Hotels Group) announced that the Hotel Management Group, the company's American-operations division, will launch a new environmental initiative to replace more than 250,000 incandescent light bulbs with new energy-efficient CFLs in guest rooms at over 200 company-managed hotels across the Americas.

For **parking lots and outdoor applications**, high-intensity fluorescent (HIF) lighting is often the best choice rather than metal halide, mercury vapor or high-pressure sodium lights. HIF lamps should be enclosed when used outdoors in cold climates. In parking garages, which often use inefficient high-intensity discharge fixtures, high-efficacy fluorescent fixtures can provide more even illumination with fewer fixtures.

In **restaurants and lounges**, LEDs (light-emitting diodes) are frequently used to create specialized lighting effects. Another measure that helped Marriott International achieve the award noted above was the conversion of all **outdoor signage** to LED and fiber-optic lighting. LEDs can also provide an accent to **exterior arch elements and facades** and can serve as **nightlights** in guest rooms. *LEDs now illuminate the exterior of the Hard Rock Hotel & Casino in Las Vegas, providing more flexibility in creating lighting effects and cutting energy bills by $41,000 compared to the previous metal halide fixtures.* Using LED exit signs is also a proven energy and labor-saving measure that can pay for itself in one year.

Controls. For hotels, lighting controls typically consist of **occupancy sensors and scheduling systems**. Occupancy sensors save energy and also help to reduce maintenance costs by lengthening the relamping interval. Turning fluorescents off for 12 hours each day can extend their expected calendar life by 75%, to nearly seven years. In **large restrooms**, ceiling-mounted ultrasonic occupancy sensors detect occupants around partitions and corners. For **hallways**, a recommended strategy is to use a combination of scheduled lighting and dimming plus occupancy-sensor controls after hours. Guests may not like a totally darkened hallway, but dimming lights in unoccupied hallways and stairwells and then turning them up to full brightness when someone enters is a sensible approach. Occupancy sensors are also appropriate for meeting rooms and back rooms.

Some modifications to controls can actually increase guest comfort. *Saunders Hotels' Comfort Inn & Suites Boston/Airport has reduced the amount of overnight lighting used in the guest hallways by half. The results are not only energy savings but also the unforeseen benefit of fewer noise complaints from other guests.* As guests step off of the elevators late at night, with the reduced lighting levels, they seem to instinctively understand that it is "after hours" and are quieter, therefore disturbing other guests much less frequently.

Load Reduction: Energy savings. Load-reduction measures that reduce the operational time or intensity of hotel HVAC equipment while still maintaining a comfortable work environment can offer substantial savings. Plug loads from equipment such as computers and copiers represent about 7% of electricity used in hotels and motels. In addition, cooking accounts for about 9% of natural gas; water heating uses 5% of electricity and 31% of natural gas. Equipment purchases and operational measures for these uses can be very cost-effective. When purchasing these types of items, look for products that are labeled as "ENERGY STAR qualified" (**www.energystar.gov/purchasing**)—they will use 25 to 50% less energy than conventional models without compromising quality or performance. Not only do they offer significant return on investment because of these savings, many also feature longer operating lifetimes and lower maintenance requirements.

Best practices. The quickest and easiest way to implement load reductions in a hotel or motel is to **ensure that equipment is turned off when it is not needed**. This can be accomplished by encouraging housekeepers to turn off all lights and set temperatures to minimum levels after cleaning each room. For hotel office spaces, a computer monitor can use two-thirds of the total energy of a desktop system, so it is important to **power down monitors** whenever they are not in use. The ENERGY STAR Power Management program provides free software that can automatically place active monitors and computers into a low-power sleep mode through a local area network (**www.energystar.gov/index.cfm?c=power_mgt.pr_power_management**). Whole-computer power management can save $15 to $45 annually per desktop computer; managing only monitors can save $10 to $30 per monitor annually.

For **hotel pools**, simply using a cover on a heated pool can save 50 to 70% of the pool's energy use, 30 to 50% of its makeup water and 35 to 60% of its chemicals.

In the **kitchen**, food preparation equipment should not be turned on for preheating more than 15 minutes before it is needed; simply reducing the operating time of kitchen appliances can cut cooking-related energy consumption by up to 60%. Hot water waste should be reduced in kitchens, bathrooms and fitness rooms; some measures to consider include **automatic faucet shutoff, single-temperature fittings and low-flow showerheads with pause control**.

Equipment placement is also important. Do not install air-cooled refrigeration equipment in areas with poor air movement. For example, ice makers and cooled vending machines are often placed in rooms with little or no air for cooling, which reduces the operating efficiency of the units.

In its energy-efficiency efforts, the Saunders Hotel Group purchased ENERGY STAR–qualified products such as refrigerators, clock radios and televisions for guest rooms and computers and fax machines for offices. *These purchases helped Saunders, which was an ENERGY STAR Partner of the Year in 2005, reduce energy use by 11%, even after a decade of other energy-savings successes.*

In **hotel kitchen** areas, intelligent, variable-speed hood controller systems can also significantly reduce energy costs. In appropriate applications, this technology yields a one- to two-year simple payback. A photoelectric smoke or heat detector determines when and how much ventilation is needed and activates the exhaust fan at the proper speed.

Water heating. More than many other facility types, water heating is a major load for hotels and motels. It accounts for a third or more of a hotel facility's energy consumption, some 40% of which is attributable to laundry and kitchen operations. **Commercial heat pump water heaters** (HPWHs) are two to four times more efficient than conventional water heaters, while also providing space-cooling capacity. In fact, they can cut water-heating costs up to 50%. However, before deciding to use HPWHs, it is important to do a careful economic analysis. They are more expensive than conventional water-heating units, and their performance varies with climate. Direct-vent, sealed-combustion condensing water heaters and boilers with efficiencies higher than 90% are the next-most-efficient option. **Condensing boilers** operate very efficiently during periods of low water demand, unlike traditional hot water heaters, and they can also provide space heating. In general, installing multiple smaller water heaters provides better reliability, effectiveness and efficiency compared to using one large hot water heater.

Air Distribution Systems: Energy savings. On average, ventilation systems consume about 7% of the electricity used in hotels and motels. Savings can be found by installing **efficient fan motors and sizing the system** to match the load (which may now be lower due to retrocommissioning, improved lighting, and load reductions). Even more savings are possible by using **energy-recovery equipment and variable-speed drives**.

Best practices. A hotel ventilation system must be designed, operated and maintained to provide adequate fresh-air intake and prevent mold growth from unwanted moisture accumulation. It is possible to inadvertently supply insufficient volumes of fresh air. This may occur with scheduled ventilation and variable air-volume systems or may be caused by wind, stack effects or unbalanced supply and return fans. Installing an outdoor-air measuring station that modulates the outdoor-air damper and the return damper is relatively simple and ensures sufficient fresh-air supply. Increasing ventilation to safe and comfortable levels will likely increase energy consumption and so should be combined with other energy-saving measures.

Controlling mold. Mold and mildew damage to wallpaper, carpet and other materials caused by high humidity levels is estimated to cost the lodging industry $68 million annually. Mold and mildew are caused by leaks in the building envelope in humid areas, oversized HVAC systems, poorly balanced air-handling systems, and insufficient moisture-removal capacity of vapor-compression HVAC systems. **Desiccant HVAC and dehumidification systems** excel at lowering humidity levels, improving indoor air quality and increasing building occupant comfort. Two rooftop desiccant units handle the make-up air requirements for the lobby and hallways of the Park Hyatt Hotel in Washington, DC, eliminating the need for a 100-ton rooftop chiller. Desiccant systems have low maintenance costs and can use a variety of fuels (waste heat, natural gas, or solar thermal energy) to lower peak electric demand, yet they may still be more expensive to operate than traditional HVAC systems, depending on local utility rates.

Heating and Cooling Systems: Energy savings. Heating and cooling represent almost 40% of the electricity and more than half of the natural gas used by hotels and motels. Many hotels heat and cool rooms regardless of whether they are occupied. Hotels tolerate this waste because their preeminent concern is guest comfort, not energy use. However, used correctly, controls and efficient technologies offer the potential for as much as 50% energy savings without compromising guest comfort.

Best practices. Smaller hotels tend to use distributed systems that often run entirely on electricity, most commonly stand-alone package terminal air conditioners (PTACs). Efficiency criteria for PTACs are currently being developed through ENERGY STAR. They will appear on the ENERGY STAR New Product Specifications in Development web page (**www.energystar.gov/index.cfm?c=new_specs.new_prod_specs**). Meanwhile, high-efficiency equipment can be ensured by purchasing equipment at the efficiency levels established by the ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) Standard 90.1-2004, "The Energy Standard for Buildings Except Low-Rise Residential Buildings." This standard provides minimum PTAC efficiency requirements that are higher than those in the federal standards.

For larger hotels, **new chillers** can be 25 to 50% more efficient than equipment 10 or more years old. **Auxiliary condensers** used to preheat makeup water for centrifugal chillers can pay for themselves in less than one year. For central heating, installing **two or more smaller boilers** will meet space-heating demands more effectively and efficiently than one large boiler. **Geothermal heating and cooling** can be a good choice, especially if there is a nearby body of water for a heat source or heat sink.

Controls. The Westin Convention Center Pittsburgh installed a **keycard energy management system**. When a guest enters a room at the Westin, the keycard activates the entry light switch, the bathroom light, a pole light and the HVAC system. When the card is removed from the room, power in the room automatically turns off. The hotel invested $120,000 in the system and reportedly recovered its investment through energy savings in just 10 months. Energy consumption dropped more than 10% in the first year with the system, and engineers expect greater savings in the future as they improve communications with guests about the benefits of the system.

Financial Issues. For property-level hotel decision-makers, **lack of financing** is often cited as the main reason they are unable to take advantage of energy-efficiency opportunities. Hotels are more willing to take on capital improvement projects when third-party funds are available. The importance of financing is also evident in the very short paybacks demanded by the lodging industry. The typical payback period needed for hotel decision-makers to consider an efficiency measure is about two years. The ENERGY STAR Cash Flow Opportunity Calculator (**www.energystar.gov/index.cfm?c=tools_resources.bus_energy_management_tools_resources**) can help hotel and motel managers calculate how much they can afford to invest in retrofits from the anticipated savings and whether it would make sense to borrow funds to finance building upgrades.

There are cases where the hotel ownership structure can be helpful in pursuing energy efficiency upgrades. For example, many hotels and motels are franchise operations. On one hand, that structure can add layers of bureaucracy that make it

harder to get approval for energy-efficiency measures that cost more than a certain amount. On the other hand, it enables projects to be designed centrally and rolled out to many locations, taking advantage of economies of scale. Franchisers may also have the ability to finance or arrange financing for the projects that they require franchisees to put in place. For example, Choice Hotels International has formed a strategic partnership with Panasonic to provide ENERGY STAR televisions designed specifically for the hotel market. Choice Hotels expects its franchisees to purchase tens of thousands of these Panasonic televisions. *The ENERGY STAR televisions draw only three watts of power or less when switched off, which results in an energy savings of up to 75% over conventional models.* The TVs also feature energy-management circuitry that places the unit into a standby mode that helps reduce the energy wasted when guests fall asleep or leave the room unoccupied.

Go to the following web address, and see what else you can learn from Energy Star about saving energy and reducing costs.

http://www.energystar.gov/index.cfm?c=
business.bus_upgrade_manual

HOWDY BAMBOO STUDIO!

ALLY MEMBER Bamboo Studio offers a reusable, disposable and biodegradable dinnerware. Their line includes, round and square plates, bowls, flatware, skewers, trays, serving pieces and more. Handcrafted from the sheath of the bamboo plant, these elegant, dynamic pieces are strong, leak resistant, 100% biodegradable and environmentally friendly. The bamboo sheath is a protective covering found on newly emerging bamboo plants. As the plant matures, the sheath falls to the ground. The result is a beautiful reusable, disposable dinnerware. Bamboo is one of the world's best sustainable resources. It can grow up to a meter or more per day and matures in four to five years. Bamboo takes in nearly five times the amount of greenhouse gases and produces 35% more oxygen than an equivalent stand of trees.

Bamboo Studio's line is perfect for any casual or eco-friendly event. Plates can be engraved as you wish. The flatware is a cost efficient replacement for plastic utensils, and is functional—the knife will cut a steak.

When you need the performance of plastic from an environmentally-friendly product, there is only one choice, Bamboo Studio! To learn more, call Rusty Burleigh at **404/642-1157** or **949/951-2064** or visit **ecobambooware.com** TODAY!

WATER DEMANDS

Douglas County, an affluent suburban enclave south of Denver, requires that developers ensure that each single-family home can draw 245,000 gallons of water a year while the average household uses close to 200,000. Developers of a new community, Sterling Ranch, say they can get by with supplying just 91,000 gallons a year—and they expect homeowners will use just 72,000.

Permits are still pending but plans envision 12,000 homes, many priced at about $350,000. All homes will use low-flow toilets, faucets and showers, which cut water use on average 20-30%. The big savings will be outdoors. The first step is to "use grass as a throw rug instead of a carpet."

Both individual yards and communal landscaping will use grass only as accent strips. The rest of the space will be planted with drought tolerant trees and shrubs—and in a concept called "agriburbia" with crops such as strawberries, sweet corn and herbs.

Yards will be sunk down a couple inches below the sidewalk so they act as a bowl, soaking up moisture. Any runoff—or rainwater—that does hit the pavement will flow down into 55,000-gallon cisterns built under the streets. That water will be available to homeowners for outdoor irrigation. But it will be rationed tightly.

All athletic fields in Sterling Ranch will be artificial turf. If the technology pans out, tall poles with photovoltaic panels on top may be planted in the bottom of the communal reservoir to act like giant parasols, shielding the stored water from evaporation.

All of which makes some neighbors uneasy. Nearly 400 have banded together to criticize the development. They are concerned about the added traffic and the visual clutter. But most of all, they worry about water. While the developers are taking the high ground and say this is good for the environment, others think they're just being cheap. The claim is that the developers simply want to get in as many houses as they can, using as little water as possible, because water rights are expensive.

Simon, Stephanie, "In Arid West, Thirsty Lawns Get Cut From Plans," Currents, The Wall Street Journal, October 13, 2009

California Water Crisis in Court

California's long-running battle to avert a state water crisis moved from the river delta to Sacramento County Superior Court as the legality of an agreement that created the largest agriculture-to-urban water transfer in US history is challenged. The 2003 agreement's purpose was to keep California within its annual allotment of water from the Colorado River. California is one of seven Western states that draw water from that river.

The agreement called for the Imperial Irrigation District, which provides water to the farmlands of California's Imperial Valley and is the largest holder of rights on the Colorado River, to transfer up to 300,000 acre-feet of water a year to water agencies serving the San Diego, Los Angeles and Palm Springs areas. An acre-foot is equal to about 26,000 gallons.

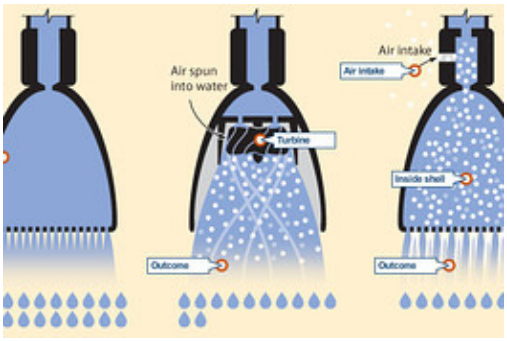
Matheny, Keith, "Court case may deepen Calif. water crisis," USA Today, November 9, 2009

ENJOYABLE GREENER SHOWERS

The hope is that new technology will allow people to have greener showers and enjoy them as well. That new technology includes turbocharged shower heads that spray a mixture of minimal water and maximal air. The quest to reduce shower-water consumption started more than a decade ago. In 1992, Federal regulations capped shower-head spray for the first time. The rules said shower-heads couldn't pump out more than 2.5 gallons of water per minute—less than half the flow that was common until then.

In response, many manufacturers took their existing shower heads and choked their flow. The typical tactic was to insert a small washer called a "flow restrictor" into the shower head.

That slashed water use. Today the 2.5-gallon per minute shower head remains the legal standard. Heads are still manufactured with flow restrictors, but the washers don't always save water because they can generally be easily removed.



The EPA is hoping to guide consumer choices. Its WaterSense program stamps a seal of approval on bathroom fixtures that save water but perform well. Their labels are scheduled to go on shower heads next year. The EPA's proposal is to label shower heads that spray less than two gallons per minute, the target the agency thinks is beneficial and realistic. That would result in an average eight-minute shower that uses some 16 gallons of water—20% less than with a conventional shower head.

Water-strapped cities are moving to impose regulations. Miami-Dade County, FL, began requiring in 2008 shower heads that spray no more than 1.5 gallons per minute. San Antonio will limit shower heads to a flow of two gallons per minute starting in January. New York is contemplating tougher shower-head limits. So the hunt is on for a technological fix.

For years, auto makers have used turbochargers, which force more air into the engine, to boost power without burning more fuel. Now, shower-head manufacturers are adopting a similar concept. The idea is to force air into the shower head, where it mixes with water. The objective is a fluffed-up mixture that dupes bathers into believing they are experiencing the same pressure to which they are accustomed.

One company's low-flow shower head, installed in several high-end hotels, pulls in air using a principle called a "**Venturi vacuum**." Another's uses a **small turbine**, which divides the water into tiny droplets and mixes in air. Both produce a powerful spray. But as always with new technology, there are downsides. Small water droplets cool faster than big ones, so aerated shower heads often require hotter water—and according to some estimates, roughly 10% more energy—than traditional models. That sacrifices one environmental benefit for another.

Ball, Jeffrey, "Under Pressure: Bathers Duck Weak Shower Heads," Currents, The Wall Street Journal, November 13, 2009

TURF BATTLE

There's a turf war under way over America's lawns. Later this year, the EPA plans to expand its WaterSense conservation program to include a voluntary label for newly built homes. Homes could win certification if they consume roughly 20% less water than standard new homes. Along with criteria for high-efficiency toilets and faucets, the program has a landscaping clause that could strictly limit the amount of turfgrass participating builders plant.

Locally, some cities and water agencies, in Florida, Nevada and Texas, already offer homeowners and builders financial incentives for taking steps to decrease water usage. But the EPA's latest bid to go green would take the movement national, and that has the turfgrass industry up in arms. Under the plan, WaterSense would give participating builders two options for landscaping new homes. **The first:** Turfgrass can't exceed 40% of the landscapable area. **The second:** Builders may use a "water-budget" approach and an EPA-provided online tool to design landscape based on a regionally appropriate amount of water, as well as individual plants' water needs.

It's said that America uses 30 to 70% of its water outdoors. That the nation's water supplies need closer monitoring and preservation is generally not in dispute. Water managers in 36 states anticipate shortages by 2013. A five-year study of Nevada homes that converted lawn to Xeriscape found converted areas used 75% less water on average.

Public officials are trying financial persuasion to convince consumers to ditch grass. The Southern Nevada Water Authority runs a "Get Off Your Grass, We'll Pay Cash" program that pays customers $1 to $1.50 per square foot of grass removed and replaced with desert landscaping. To date the program has converted turf equivalent to roughly 2,400 football fields. Building codes in the Las Vegas area also require that new homes cannot have any lawn in the front yard and only 50% lawn in back.

Florida has its own voluntary program, called Water Star, that limits how much high-volume-irrigation landscape—often that's turfgrass—participating builders can install. But that can conflict with rules enforced by many homeowner associations. However, Governor Crist has stepped in and signed a bill permitting homeowners to replace lawns with more "Florida-friendly" plants, regardless of neighborhood covenants. Some cities, such as Apopka, FL, regulate the type of grass permitted for new homes to favor more drought-tolerant varieties such as Bahia and Bermuda over St. Augustine.

Other financial incentives include:

Albuquerque Bernalillo County Water Utility Authority, NM: Water-bill credit of up to $0.75 per square foot for converting landscape designated as high water use—such as Kentucky bluegrass and sheep fescue—to lower water use plantings. Plus, 25% off the cost of renting equipment for grass removal.

City of Chandler, AZ: $200 to $600 rebate for replacing turf areas with non-grass, low-water-use, drought-tolerant plants.

San Antonio Water System, TX: $100 gift certificate to nursery for, among other things, "having no more than 50% of the landscape planted to turf" (only Bermuda, buffalo or zoysia varieties—no St. Augustine). Additional water bill credit of $50 to $300 for low water usage.

Aurora Water, Aurora, CO: "Xeriscape Rebate" offers residential customers up to $1 per square foot for replacing turf grass with low-water-use plant material.

City of Fort Worth Water Department, TX: 7,000 free dual-flush white toilets to replace 3.5 to 7 gal/flush with 0.8 to 1.28 gal/flush.

Other water-saving rebates are listed at **epa.gov/watersense.**

Bounds, Gwendolyn, "Turf Battle heats Up Over Limits On Water-Guzzling Landscapes," The Wall Street Journal, September 17, 2009
Lee, Mike, "City offers free toilets in effort to save water," Fort Worth Star-Telegram, November 26, 2009

WELCOME PURA STAINLESS WATER BOTTLES!

Green hotels are versed in the environmental problems resulting from the manufacture, transportation and disposal of bottled water. ALLY MEMBER Pura's reusable water bottles present several opportunities for green hotels to promote their eco-messaging, educate others about the benefits of reusable water bottles and generate additional revenue.

For example, green hotels can recommend that clients provide Pura water bottles at their conferences and events. In lieu of drinking bottled water, attendees can refill their Pura bottles at water stations. Since Pura can provide custom-printed bottles, they also make great souvenirs!

Instead of selling bottled water in guest rooms, offer Pura reusable water bottles. Pura will assist by providing compelling information on the environmental, health and cost issues associated with bottled water. In addition to providing a retail revenue stream, Pura bottles help promote your hotel's greenness.

Pura bottles are crafted from food-service-grade stainless steel, feature a stainless steel lid, and are backed by a lifetime warranty. Unlike plastic bottles and aluminum bottles requiring a questionable liner, Pura stainless steel bottles are BPA- and toxin-free. For more information on opportunities with Pura reusable water bottles, please contact John Thornell, Vice President Business Development, at **john.thornell@purastainless.com** or **505/204-8089**.

Greener and Cheaper via Shipping

In the growing effort to confront global warming, many companies profess their determination to cut their greenhouse-gas emissions. But most draw the line where some of the biggest gains could be made: SHIPPING.

The reluctance is, in some ways, understandable. Companies need smooth-running supply chains, which often leave little room for flexibility in transportation. Growth of overseas manufacturing, meanwhile, coupled with demand for fast deliveries, has led to increasing reliance on the kinds of shipping that create the most carbon emissions: jets and trucks.

But transportation-related emissions can be cut without hurting a company's efficiency. In fact, done intelligently, the changes can make supply chains—and their companies—more efficient and profitable. What follows is a four-stage process for cutting shipping emissions in a way that helps both the environment and the company.

1. Laying Foundations: The process begins by setting goals, developing metrics and getting assistance from third-party experts.

Activities at this stage are mostly about raising awareness in the company and deciding where to focus attention—on using less energy, fitting more boxes onto each pallet, improving fleet fuel efficiency, requiring carriers to operate more efficiently or all of the above. Several Fortune 500 companies, including DuPont Co., have begun to report such goals in social-responsibility and sustainability progress reports.

How progress will be measured and reported is important. Don't just record how many gallons of fuel were conserved; show how much money was saved. This will help build support throughout the company. And when setting goals, get the input and support of managers directly involved: This leads to better cooperation and more realistic goals.

Consultants, government and non-government organizations help find ways to save on energy and emissions. The Environmental Protection Agency's SmartWay (**epa.gov/smartway/**) program helps companies identify products and services that reduce fleet emissions.

2. Internal Practices: Before asking supply-chain partners to change their ways, a company has to change its own.

Train employees to shut off lights and computers, and encourage them to carpool or take public transportation to work. Buy energy-saving equipment that cuts costs and enhances employee commitment. Johnson & Johnson, FedEx Corp. and others have invested in hybrid or biofuel company cars and other vehicles. Some companies also have installed—and are using—video-conferencing equipment to reduce business travel. The savings in energy costs that start to result at this stage will help pay for these and bigger technology investments that follow.

3. Supply Chain: Once a company has its own house in order, it can start talking to suppliers and customers about making cuts together in shipping emissions. Adjustments usually need to be negotiated at both ends, whether the company plans to change the shipping method, say, from road to rail, or redraw its delivery routes. By working with its customers to schedule preferred delivery times, Dell Inc., for one, says it increased its first-attempt deliveries 80%.

New technology like route-planning software, automatic shutoffs on idling engines, and more fuel-efficient trucks come into play at this stage, too. Office Depot Inc. says that routing software it purchased helped the company consolidate deliveries and reduce local shipments by as much as 50%.

4. Strategic Partners: The ultimate goal is for companies and their supply-chain partners to form networks that plan shipping strategies together in ways that minimize emissions. Basing supply and manufacturing facilities nearby, for starters. Companies that operate at this level—and none that we know of do—must agree on a firm commitment to energy conservation, and employ shipping managers who are experts in both logistics and environmental sustainability.

These are goals good for the planet and the bottom line. They cut shipping costs by increasing efficiency, and they reduce a company's vulnerability to rising fuel prices.

Golicic, Susan L., Courtney N. Boerstler and Lisa M. Ellram, "Greener, Cheaper," Sustainability, The Wall Street Journal, October 26, 2009

HELLO SEED-SUCKER T-SHIRTS!

ALLY MEMBER Seed Sucker t-shirts display environmental messages supporting positive change for our environment. Our current line is a soft blend of 70% bamboo, 30% organic cotton and each shirt comes with a "PLANT-ABLE" hang-tag. No more trashing the trash! Our niche is that the hang-tags are made with Lotka seed paper, which is embedded with wildflower seeds. So, whether you actually plant your tag and watch it grow or throw it away . . . no worries . . . it is biodegradable. The only way we are adding to our

landfills is by adding a touch of green!

With an eye toward detail, gender specific cuts, contrast stitching and meaningful messages, we offer shirts for all ages – ranging from baby onesies to men's XL. As fashionable and comfortable as our shirts may be, countless hours of research and consideration went into the selection of materials used in our manufacturing process and our design choices. Quality, sustainability and meaningful . . . we are spreading eco-awareness, one t-shirt at a time. The choice is ours, the time is now . . . together, we can make a change! Visit us at **seedsucker.org** or call **469/248-2500** TODAY!

UTILITY TURNS TABLE SCRAPS INTO ELECTRICITY

While many see restaurant leftovers as trash, a San Francisco-area utility sees them as a source of energy. The East Bay Municipal Utility District, which provides water and wastewater treatment in the eastern San Francisco Bay Area, is turning food scraps from 2,300 Bay Area restaurants and grocery stores into electricity to help it power its wastewater facility.

Every day, one or two 20-ton trucks pull up to the plant here and dump food waste into giant tanks. At the end of the process, the food scraps create methane gas. It helps power the plant's electricity-making generators. The project is the first of its kind in the nation for a wastewater treatment plant, the EPA says, and it's at the forefront of an almost untapped renewable energy resource. While a handful of utilities, companies and universities nationwide have attempted to recycle food scraps into energy, less than 3% of those scraps are diverted from landfills. Most often, food waste that doesn't go to landfills is composted for use in fertilizers. Every year, more than 30 million tons of food waste goes to landfills, accounting for about 20% of landfill waste.

The San Francisco-area utility district powers its wastewater plant, which serves about 650,000 Bay Area homes, by capturing methane gas by processing many kinds of waste, starting with wastewater. To take up excess capacity, the utility started collecting other waste in 2001, including that from wineries, dairies and chicken processors. Food scraps from restaurants and hotels were added in 2004. The plant now processes 100 to 200 tons of food scraps a week. The goal is to do 100 to 200 tons a day—enough to power the equivalent of 1,300 to 2,600 homes—and rapid expansion is now expected. By the end of next year, the district expects to create so much power from non-traditional waste that it'll be able to sell excess power to Pacific Gas & Electric.

Dinner plates to electricity: Waste haulers pay the utility district to take the waste after collecting the food scraps from restaurants and hotels. Some of the haulers weed out big items, such as cardboard boxes used for produce. Other haulers have restaurants and grocers do more of the separation so that the waste is cleaner. Upon arrival via truck at the plant, the food scraps look like mounds of wet dirt. They're dumped into 20,000-gallon underground tanks. There, grinders turn the scraps into a mud-like substance. Bigger items, such as rocks and utensils, fall out.

On a recent morning, it took just minutes for a 20-ton truck to unload. Pressure pulls most of the odors into the tank. Still, the smell of cheese was present. From the underground tanks, the waste is run through sieves that reject plastics, bottle caps and other small items. Then, the waste goes into anaerobic "digesters," 2 million-gallon tanks filled with bacteria. The bacteria break down the solids in the waste to 10% of their original volume. Methane gas is released in the process, which takes several weeks. Instead of being released into the atmosphere as a greenhouse gas, the gas is sent via overhead pipe to the plant's power room. The gas is consumed to make electricity; the leftover waste is composted for use as fertilizer.

Response has been favorable to the year-old program. Some restaurants have had to wait to be added. We ask restaurants to do their part to clean the environment. Since the program is still in its pilot phase, it's unclear whether costs for participating restaurants will go up, down or stay the same.

Educating busy busboys: The biggest challenge for the East Bay utility district is keeping plastics and other contaminants out of the food scraps and preventing them from clogging pipes should they get to the plant. To help with that, haulers educate restaurant and grocery store workers on the need to separate food scraps from other trash. Waste separation is about to become more the norm, at least in San Francisco. A city ordinance that took effect October 21 requires almost every residence and business to have three color-coded bins for waste: blue for recycling, green for compost and black for trash. The composting bins are supplied to residents at no extra cost.

On a voluntary basis, city businesses and residents have been able to have curbside collection for food scraps in a separate bin since 2001. By separating food scraps—most of which are then composted—the businesses may end up paying less than if they'd sent the scraps to a landfill. Even if the East Bay utility district fulfills its plans to process 200 tons of food waste a day, it'll tap less than 10% of the available supply. If it got it all—1,800 tons generated by commercial enterprises daily in the region—it could provide enough power for more than 25,000 homes.

Schmit, Julie, "Utility turns table scraps into electricity," USA Today, November 9, 2009

TALLOWMASTERS, LLC—The ULTIMATE and ORIGINAL Recycling Company

Tallowmasters, LLC, established in 1957, collects and recycles waste meat products and cooking oils. The recycled products eventually find their way back into feedstock in the poultry and swine industries as high-calorie and nutritious feed additives. This system of recycling has proven to be the most efficient and safe way to recover this waste stream. Rendering IS the best and most cost effective recycling business of its type. Rendering plays a big part in keeping our cities, sewers and waterways clean.

► Tallowmasters provides services to comply with state, local, and Federal regulations.
► Tallowmasters removes from the waste stream organic materials that could produce disease, odors and pathogens.
► Municipal sewer systems are not damaged or clogged because waste oils are collected and recycled.
► There is no biological negative impact.
► Tallowmasters produces products that keep food prices lower.
► Manufacturers can produce bio-fuels from rendered products.

In fact, the industry returns the majority of its finished products to the feed industry in the form of high-energy fats and high-quality protein ingredients that supplement the diet and enable efficient production of beef, veal, pork, poultry, fish, eggs and milk. Learn more at **tallowmasters.com** or by calling **305/887-7536** TODAY!

ULTRA GREEN PRESENTS TREESAVER™ PRODUCTS

ALLY MEMBER Ultra Green, offers paper products made from sugarcane fiber, not trees; and plastic products made from cornstarch, not petroleum. Their extensive line includes high-quality paper plates and bowls, napkins, facial tissue, toilet tissue, paper towels, food service containers, coffee cups, bioplastic cups and flatware. Their products are biodegradable, sustainable and compostable.

While petroleum-based plastics persist in landfills and pollute the environment for over 400 years, Ultra Green's cornstarch-based plastics break down in 90 days. Their paper products break down in 60 days. Neither the paper nor the plastics leave behind any toxic residue to contaminate soils and groundwater.

Every year more than 900 million trees are cut down for America's paper mills. Ultra Green's TreeSaver™ products are the next green-evolutionary step beyond tree pulp and recycling. These leading-edge sustainable products preserve forests and animal habitats. Their paper and plastic products eliminate the costly and time-consuming process of recycling.

Ultra Green products are food safe and non-toxic. They are perfect for all hot or cold foods, and microwave. They contain no harmful BPAs or phthalates. To learn more about Ultra Green's products, visit ultragreenhome.com, and contact Cal Krupa at **cal@ultragreenhome.com** or **612/518-2240.**

WELCOME STANDARD TEXTILE!

ALLY MEMBER Standard Textile is proud of its position as an industry environmental leader. Standard Textile's patented Centium Core Technology™ is part of its realGREEN™ program designed to reduce terry product weight and simultaneously reduce energy consumption during laundering. While enhancing performance, appearance, product hand and guest satisfaction, Centium Core Technology increases tensile strength by approximately 50% in terry products and by as much as 90% in sheeting products. This contributes to significantly enhanced service life and reduced environmental impact. The company is also introducing a line of Centium Core Technology hospitality sheeting made entirely from sustainable and post-consumer recycled materials.

Many of Standard Textile's sheets, towels and blankets are pre-laundered as part of the Room Ready for You® Laundered with Tide® program. This allows customers to receive products that are hygienically clean and ready to use right out of the box. The linen is laundered 58% more efficiently than in a typical hotel laundry cycle. Likewise, Room Ready For You® Laundered with Tide® products require less energy and are free of phosphates and harsh alkalines.

Most recently, Standard Textile launched E-Star, a collection of textiles engineered specifically to significantly reduce energy consumption and laundering process costs. We invite you to visit **standardtextile.com** for more information.

SIMPLIFIED PRACTICES

In the late 1920s, President Hoover created a Division of Simplified Practices, whose job it was to standardize and harmonize the distressingly fractious and unresponsive manufacturing and construction sectors. In those days roads were often still paved in brick, and brick was a typical example: 66 different sizes were being produced by manufacturers. He pulled the nation's paving-brick firms together and settled the matter; the range of sizes dropped to 11. When he looked into brick for homes, the number of sizes went from 44 to one. Then there were beds. Seventy-four different sizes were available, and that number was quickly reduced to four.

Hoover, a graduate mining engineer, deeply believed in the Efficiency Movement, which held that government and the economy were riddled with inefficiency and waste. The Efficiency Movement was a major dimension of the Progressive Era in the United States which flourished 1890-1932. Adherents argued that all aspects of the economy, society and government were riddled with waste and inefficiency. Everything would be better if experts identified the problems and fixed them. The result was strong support for building research universities and schools of business and engineering, municipal research agencies, as well as reform of hospitals and medical schools.

Shlaes, Amith, "The Forgotten Man," Harper Perennial, New York, NY, 2007, p.36-37

FINAL WORDS . . .

"Do not wait for extraordinary circumstances to do good action; try to use ordinary situations."

Jean Paul Richter, German novelist

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