



# Green Office Guide <sup>TM</sup>

2011

The Green Office Guide <sup>TM</sup> is a trademarked but publically available document which is designed to help people transform the places where they work, learn, volunteer, & worship into more environmentally friendly places. It is produced annually by Green Earth Corporate Kindness Organization (GECKO). Please feel free to distribute it widely.

**A roadmap  
to Business  
Green  
Change  
Planning**



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## FORWARD

**Welcome to the Green Office Guide™ for 2011!**

Thank you for reading this document. We trust that you will find it to be the definitive guide to being green at work. This year represents a milestone departure from being stuck in the nowhere land of the 'Environmental Process Implementation Cheat Sheet' to proffering you the Trademarked 'Green Office Guide'! Through the fantastic dedication of our staff & volunteers, you hold in your digital hands the sum of over 1000 hours of research, collaboration, vetting, business analysis, and true green soul searching. At over 100 pages, the Green Office Guide is about the size of a 'lite read' book and it is being distributed for free.

We have designed this guide to highlight money saving and money making 'green changes' that any business can make and should make. But, more than anything else, the Green Office Guide is a call to action. In these pages you will find implementable changes that you can make that will help stop global warming, desertification, deforestation, water pollution, air pollution, soil contamination, strip mining, and heat island effects.



**Please share it** with your coworkers, colleagues, friends, family members, the people you go to church with, etc... This world needs this document! As a planet we are undergoing one of the fastest mass extinctions in history, the Holocene Extinction Event. The research is in, the debate is over, the way we live wherein we put our own interests before everything else is unwinding the very web of life.

So there you are Mr. Businessman, Ms. Entrepreneur, Green Team Go Getter, Busy Worker Bee, maybe even Mr. or Ms. Friend of the Environment: What are you going to do?

With hope that you will read on and act accordingly for the sake of all life,

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## KEY RESOURCES:

The U.S. Environmental Protection Agency: <http://www.epa.gov> – This site was invaluable for our research

The U.S. Department of Energy: <http://www.eere.energy.gov/> - This site was invaluable for our research

The Dictionary of Sustainable Management: <http://www.sustainabilitydictionary.com/a/> - This site is listed here as a resource for our readers to help them understand terms which may be present in this Guide.

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"The ultimate test of  
man's conscience may  
be his willingness to  
sacrifice something  
today for future  
generations whose  
words of thanks will not  
be heard."

— **Gaylord Nelson**  
former governor of  
Wisconsin, co-founder of  
Earth Day



## INFRASTRUCTURE & CONSTRUCTION

### 1. Do you own the building or rent?

**Why is this question asked?** This is an essential question for determining just how much green change can be done.



**What is our general recommendation?** If you rent you are obviously in less of a position to make changes on your own with regard to what the building owner has control over; so generate a 'list of demands' for the renewal of your company lease that includes all the green changes you want to have made by management. Some suggestions are:

- Dyson Airblades instead of paper towels in bathrooms
- Better Insulation

 Money Saver!

- More natural light with Solartubes
- A greener cleaning company
- Recycled toilet paper in the bathrooms
- Recycling bins and recycling service

 Money Saver!

- New windows or periodic window caulking

**Why do we make that recommendation?** By using the company checkbook as your vote, you increase the chances of making positive green change happen and can improve the image of your business with your clients.

**What is the contact info to help implement?** N/A

## 2. Any construction projects planned?

**Why is this question asked?** Construction projects represent an opportunity to become greener.

**What is our general recommendation?** Depending on the work being performed - enlist the help of a LEED accredited contractor.

**Why do we make that recommendation?** The Leadership in Energy and Environmental Design (LEED) Green Building Rating System encourages global adoption of sustainable green building and development practices.



**What is the contact info to help implement?**

<http://www.usgbc.org/myUSGBC/Members/MembersDirectory.aspx?PageID=77&CMSPageID=140>

## 3. What Roofing materials have been used here? When will it need to be replaced?

**Why is this question asked?** Your roof presents an opportunity for energy creation, water runoff abatement, and carbon emission capture.

**What is our general recommendation?** Make use of your roof space wisely. Green improvements can include:

- Solar shingles or panels  Money Saver!
- Small scale wind turbines  Money Saver!
- Green native plant roofing technology

**Why do we make that recommendation?** In the case of solar and wind energy production: Why not? These systems have become so economically viable that even the smallest of businesses can make use of the technology somehow. Green roofs are advisable if your roof can support the extra weight because green roofs bring the following benefits:

- Grow fruits, vegetables, and flowers
- Reduce heating (by adding mass and thermal resistance value) and cooling (by evaporative cooling) loads on a building — especially if it is glassed in so as to act as a terrarium and passive solar heat reservoir
- Increase roof life span
- Reduce stormwater runoff
- Reduce the Heat Island Effect
- Filter pollutants and CO2 out of the air The soil and plants on green roofs help to insulate a building for sound; the soil helps to block lower frequencies and the plants block higher frequencies.
- Filter pollutants and heavy metals out of rainwater
- Increase wildlife habitat in built-up areas
- A green roof is often a key component of an autonomous building

#### **What is the contact info to help implement?**

##### **Solar:**

<http://www.kyocerasolar.com/>

<http://www.uni-solar.com/>

##### **Wind:**

<http://www.earthtronics.com>



<http://www.awea.org/>

##### **Green Roofs:**

[www.greenroofs.org](http://www.greenroofs.org)

## 4. Where does the buildings water runoff flow to?

**Why is this question asked?** Polluted runoff is a major problem throughout the United States and the rest of the world. Whenever it rains outside, a toxic soup of chemicals and bacteria flows out of our cities and fields and into our waterways. Eventually, these pollutants can lead to the poisoning of aquatic wildlife or the creation of vast dead zones where there isn't enough oxygen for marine life to survive. And, our beaches and rivers can be unsafe for swimming and other recreational activities due to high bacteria levels and other toxins.

### What is our general recommendation?

#### Capture and Reuse Stormwater For Irrigation:

- Install rain barrels or cisterns at the end of gutter downspouts
- Design some of your landscaping areas to function as rain gardens. Rain gardens are the same as regular gardens except for three things: they are slightly depressed so that they can store water, they employ plants that can tolerate wet conditions, and they sometimes have gravel placed underneath them to increase drainage. Stunning gardens can be created using water-tolerant plants and flowers. Find landscape architects in your area who can help with rain gardens.
- Install dry wells. Dry wells are pits filled with crushed stone that route runoff underground before it gets to the street or local stream. They are easy to build, and offer your plants a greater supply of underground water. Oftentimes, dry wells receive runoff from your gutter downspouts, or from a drain installed across your parking lot. Find a landscape architect in your area who can assist with dry wells and other stormwater projects.



#### Reduce paved surfaces:

Runoff comes from our rooftops, driveways and paved pathways. With slight changes, these areas can be made much more river-friendly.

- Find landscape architects or general contractors in your area who can help with runoff-reducing paving projects.
- Where possible, use paths and surfaces constructed out of pavers with spaces in between or other materials such as decomposed granite rather than solid concrete. This allows water to filter in rather than drain to the street and storm drains.
- Replace long entry roads with paved tire pathways, so that the area in between is natural and allows water to penetrate the ground. Use “permeable” paving options.

#### Plant trees that grow over paved surfaces or rooftops:

Trees stop water from hitting the ground by trapping it in the leaves and branches. It either evaporates there, or else runs to the edges of the tree's canopy and falls to the ground there (called the drip line). The strategic planting of trees over paved surfaces or roofs can not only reduce stormwater, but will also help your business be cooler and more energy-efficient (not to mention beautiful!).

**Practice good stewardship:**

You might not be able to eliminate all runoff, so make sure that which you can't eliminate is clean.

Reduce use of toxic pesticides and herbicides. Many herbicides and pesticides don't discriminate. They'll kill whether it's the weed in your lawn or the plant down next to the lake. Use natural alternatives where possible. If you need to bring out the heavy artillery then do so, but use only as directed and in as small of quantities as possible.

Use lower-strength organic fertilizers, and follow the application instructions. Excess fertilizer that makes its way into our rivers and oceans is the chief cause of the algae blooms that can sicken people and deprive fish and shellfish of the oxygen they need to survive. Most of us over-fertilize our businesses lawns and gardens, so read and follow the instructions carefully! And, use lower-strength organic fertilizers whenever possible.

**Why do we make that recommendation?** GECKO believes this represents a comprehensive plan for limiting runoff and its associated environmental impact.

**What is the contact info to help implement?**

Eco-friendly Landscape Design & Maintenance

<http://www.lowimpactliving.com/providers/category/26>

## 5. How many buildings does your business own or rent & are they all well insulated?

**Why is this question asked?** Insulation is a commonly used product in the building industry. The manufacture, use, and disposal of insulation is associated with a number of positive and negative environmental impacts.

**What is our general recommendation?** Insulate as well as possible.



Also -because aesthetic demands are minimal, insulation can be a good use for waste materials from other industrial processes or recycled solid waste. Some insulation materials are available with very high levels of recycled content.

Look for high recycled content in all insulation materials, meeting or exceeding the EPA's Comprehensive Procurement Guidelines' (CPG) standards for recycled and post-consumer content.

- Rock Wool – 75% recovered slag
- Fiberglass – 20-25% recovered glass cullet

- Cellulose Loose-Fill and Spray-On – 75% post-consumer paper
- Perlite Composite Board – 23% post-consumer paper
- Plastic Rigid Foam, Polyisocyanurate/Polyurethane:
- Rigid Foam – 9% recycled material
- Foam-in-Place – 5% recycled material
- Glass Fiber Reinforced – 6% recycled material
- Phenolic Rigid Foam – 5% recycled material
- Plastic, Non-Woven Batt – 100% recycled material

**Specific recommendation:** BioBased insulation

**Why do we make that recommendation?** All insulation materials reduce pollutant and greenhouse gas emissions by reducing heating and air-conditioning requirements of a building. This benefit almost always outweighs environmental problems associated with certain materials. By making sure the insulation used is being created from industrial waste and recycled materials - you further decrease your businesses negative impacts on the environment.

**Why do we make that specific recommendation?** Biological products are almost always the right environmental choice.

**What is the contact info to help implement?**

<http://www.biobased.net/index.php>

## 6. Any plans to repaint any rooms?

**Why is this question asked?** Paints are usually a toxic mix of chemicals.

**What is our general recommendation?** Use paints made from non-volatile organic ingredients.

**Why do we make that recommendation?** 2 reasons: Less damage to the environment and less damage to the humans near the paint.

**What is the contact info to help implement?**

<http://www.bioshieldpaint.com/>

## 7. What are your carpets made of? How old are they?

**Why is this question asked?** Waste disposal of old carpeting is also an issue. What happens to all that old carpet impacts us all.

**What is our general recommendation?** If you're going to get rid of old carpet it can and should be recycled

**Why do we make that recommendation?** You are either going to pay to have it removed or pay to have it recycled. The obvious right choice for the environment is to have it recycled.

**What is the contact info to help implement?**

<http://www.carpetrecovery.org/>

## 8. What sort of flooring do you have? Any plans to replace?

**Why is this question asked?** There are trillions of square feet of commercial flooring in the world. This area represents a massive ecological impact.

**What is our general recommendation?** Opt for one of the wide varieties of 'Green Flooring' options out there. This topic is business case specific.

**Why do we make that recommendation?**

In general:

### Green Flooring...

- Is recycled and reduces dependency on oil
- Meets government regulations for recycling
- Can last longer than conventional flooring
- Creates pride in ownership and contributes to a better world
- Is safe for you, your employees and the environment
- Is recyclable to prevent needlessly filling up our landfills
- Can save you time and money and makes you look and feel good
- Ensures a healthy environment for future generations

**What is the contact info to help implement?**

<http://www.greenfloors.com/>

## 9. How efficient are your windows? Any plans to replace? Are they caulked or taped at all?

**Why is this question asked?** Inefficient windows can be responsible for 50% of a business' energy loss.



**What is our general recommendation?** New 'Smart Window' technology.



**Why do we make that recommendation?** Old windows are almost always inefficient and 'Smart Windows' allow people to change the tint of the window to help cool things off in summer and warm things up in winter. They can also be used for privacy and for decreasing glare.

**What is the contact info to help implement?**

<http://www.refr-spd.com/>

## 10. Is your office furniture made of recycled materials? Any plans to replace, upgrade it? Add staff?

**Why is this question asked?** Three million tons of office furniture — most of which is not biodegradable — ends up in landfills each year.

**What is our general recommendation?** Buy reused at 30-50% less



or office furniture made of recycled materials for 30-50% more.

**Why do we make that recommendation?** Buying used furniture is an increasingly popular option for small and mid-sized firms for one main reason:

**It's good for a business's bottom line:**

Reused office furniture, which currently accounts for \$1.2 billion of the \$13.6 billion commercial office-furniture industry, typically costs 30 percent to 50 percent less than new furniture. Once you figure out how much money you can save, buying another company's discarded furniture begins to sound like a pretty good idea.

However, if the budget truly allows and the boss is agreeable - opt for buying furniture made from recycled materials. You help create a market that breaks the causal chain of disposable economies.

**What is the contact info to help implement?**

<http://www.resources.com/recycle/>

## 11. What is your building made of?

**Why is this question asked?** Let's face it; most of the construction materials used today are made from something damaging to the environment.

**What is our general recommendation?** Be Good. Try using:

### Rock

It's much easier to build with perfectly shaped bricks or slabs of concrete, but it's possible to build beautiful buildings with locally available rocks. The rocks can be mortared with earthen plasters such as sand and clay or lime. Rock walls have very good thermal mass, which means that they absorb the outside temperature, hold it in and then radiate it through the building. Rock structures are extremely durable but very labor-intensive.

Most earthen structures provide thermal mass, which is the ability to absorb, store and release heat energy. Insulation, on the other hand, stops heat from flowing in and out of the building. Thermal mass is best used in desert climates because of the difference in day and night temperatures, and the release of heat is cyclical. During a hot day, walls with thermal mass will absorb and store the sun's heat while the inside of the house remains cool. At night, when outside temperatures drop, the daytime heat stored in the walls radiates inward to warm the home. Thermal mass can be energy efficient since the house heats and cools itself, instead of relying on a furnace or air conditioner.

### Straw bales

Straw bales provide an extremely strong building block for buildings. They can act as the actual structural building block or as the fill for insulation in a traditional post-and-beam structure, where the frame supports the building, as opposed to the straw bale. After the bales are stacked, the walls are plastered.

### Bamboo

Bamboo is an extremely strong wood, so much so that it's being used for highway and bridge construction in Asia.

This strong wood is a renewable resource because it's one of the fastest growing plants. It has a shorter growing cycle than timber, and harvesting bamboo does not affect the roots of the plant. Bamboo does have to be treated with some chemicals in order to ensure that it's waterproof and insect-resistant, and it requires some different building methods, particularly in joining different pieces of bamboo. However, bamboo is an extremely flexible building device because it bends, and it's immensely durable.

### Cordwood – But be careful to find out how it is sourced...

If you like the look of log buildings, but are hesitant to go through that much lumber, cordwood building might be a good compromise. Cordwood building uses wood that is cut into short lengths, about the size of firewood, which might otherwise go to waste. You can check with local sawmills, furniture manufacturers and even log home builders to see if they have any scrap wood, or you can use dead trees.

The pieces of cordwood are laid into mortar so that the length of the log makes the wall. The ends of the log stick out of the mortar on either side. The mortars that are commonly used include mixes of cement, lime, clay, sand or sawdust. Cordwood is a natural building material that offers both good insulation and good thermal mass. The logs provide insulation that keeps heat in the building, while the mortar provides the ability to store and release heat into the building. The wood might expand or shrink over time and crack the mortar, but you can remedy this problem through caulking.

## Rammed Earth

For many people, wood is neither affordable nor available, so resourceful builders use what they have: the ground beneath their feet. To build a rammed earth building, a mixture of soils is packed down into a temporary wall form that shapes the mixture. The form is usually wooden, and it must be strong enough to withstand the compression of the ramming. Ramming can either be done by hand or by machine, and once it's completed, the forms can be removed, leaving an earthen wall about 18 inches to 24 inches (46 cm to 61 cm) thick.

Rammed earth walls require a cross-grade of soils, but too much clay will cause the walls to crack. Walls can be plastered with stucco or left bare; bare walls usually are internally stabilized with a small percentage of cement. When properly constructed, rammed earth walls are extremely durable, holding up in bad weather, as parts of the Great Wall of China can attest. They also provide energy savings because of their thermal mass.

## Challenges of Natural Building

One of the primary challenges of building a home with natural materials is getting it built in the first place. Natural materials are rarely, if ever, mentioned in building codes, and building officials may be unfamiliar with these methods of construction. Banks are hesitant to finance alternative methods, and it can be difficult to prove safety standards to insurers. While many of the materials lend themselves to do-it-yourself construction, it can be difficult to find contractors if backup or consultation is needed.

If you decide to pursue natural building, it's important to present strong research to officials. Sit down with building officials early and often and show off the advantages of natural building. Know where these materials work best, and find data on structural safety. Have consultants and specialists evaluate your plans. While gaining acceptance for an alternative building method might be difficult, it will pave the way for increased natural building in the future.

## Earth-Sheltered

It turns out hobbits had the right idea. Earth-sheltered buildings, such as the underground dwelling of Bilbo Baggins in "The Hobbit," are energy efficient, soundproof and fire-resistant. They can also be built above ground, with the sides of the building or the roof covered with earth. Underground earth-shelters aren't completely dark; windows and openings provide heat and natural light.

Water drainage systems must be designed to channel the water away from the structure, and it's best to build earth-sheltered buildings in soils that are permeable, which allows the water to drain, as opposed to a cohesive soil like clay, which will expand with the water [source: U.S. Department of Energy]. Soils also should be tested for their load-bearing capabilities. The construction materials for building the inside can be natural, including earthbag, rock, local wood or straw. An earthship is a type of earth-sheltered building.

## Adobe

Adobe is one of the oldest forms of building with earth, with examples all over the American Southwest, the Middle East, South America and Africa. Adobe is made by pouring a mix of clay, sand, water and sometimes straw into a form, most commonly a brick. The forms are left to dry in the sun, and then the forms are removed. This curing process can take some time, and it requires a continuously dry climate so that the bricks can solidify without getting wet. As the bricks dry, they shrink, so they should be inspected for cracking. Adjusting the ratio of clay and straw can help to prevent cracking; because the levels of ingredients vary widely among adobe bricks, it's best to make some test bricks to determine if they'll crack.

Adobe bricks are stacked just like conventional masonry and typically connected with a mud mortar. However, adobe walls are vulnerable to moisture and usually need large roof overhangs and elevated foundations in wet climates. In addition, adobe buildings are not a good idea in earthquake-prone areas, although concrete can be added to bricks to stabilize them.

**Why do we make that recommendation?** These materials are case by case specific but they are tested, tried, and true. They endure and they greatly decrease the amount of environmental damage our buildings do.

**What is the contact info to help implement?**

N/A

## 12. Is your company responsible for the landscaping here?

**Why is this question asked?** From pesticides to invasive and poisonous plant species - this is a big environmental responsibility. Landscaping also effects building insulation & shading, global warming & heat island issues at the building and 'parking lot level'.

**What is our general recommendation?**

**Be careful:**

If you handle things yourself - select native plant species & opt for 'good local bugs' first when pest control is needed. If you hire out - opt for a local contractor that uses native plant species and eco-friendly methods of pest control and maintenance. Even the most environmentally conscious 'green' thumbs will find themselves making a boo-boo now and then. That's what happens when you tamper with nature.

**Deciduous Trees:**  **Money Saver!**

Deciduous trees provide shade in summer and lose their leaves in winter allowing more light in for warmth.

Plant native deciduous trees within relative proximity to your building but not too close. Visualize the tree at full height before planting.

We recommend native species to avoid invasive problems. We recommend planting deciduous trees to help as a carbon sink, assist building cooling, assist parking lot cooling, and to act as a wind break. Not too close though because you can ruin your roof and the roots can damage your buildings foundation and other underground infrastructure.

**Why do we make that recommendation?** There are literally countless scenarios wherein - even the most eco-conscious pros, can do real harm.

**What is the contact info to help implement?**

<http://www.epa.gov/greenkit/landscap.htm>

<http://www.arborday.org/index.cfm>

### 13. Are your break rooms or open spaces for employees green areas?

**Why is this question asked?** Usually the office break-room in most businesses is sort of industrial and lifeless - generally not a very nice place to take a 'break' at all.

**What is our general recommendation?** Align the space with its mission. Make the break room and other spaces green by including indoor plant species. Make sure the plant species will thrive indoors. Be careful to select plantbreeds that do not contain allergens.

**Here are some Suggestions for Plants:**

- Pothos adapts well to a variety of office conditions, from low light levels to brighter ones. This easy-care plant, with heart-shaped, white-splotted leaves, makes a lovely addition sitting on a desk, shelf, or table.
- Philodendrons, of which most are climbers, are great for adding height to small areas. Sit them on filing cabinets or in hanging baskets. These plants are easy to grow and suitable for a wide range of indoor conditions, including occasional neglect.
- Spider plant is not only one of the cool office plants with its small spiderettes hanging down, but it's also one of the easiest plants to grow indoors. Stick it up high for all to admire.
- Snake plant, or mother-in-law's tongue, makes a huge statement in the office. It has attractive sword-like leaves that grow somewhat tall, making it excellent for focal interest or screening.
- When all else fails, there's the trusty cactus. Just be sure to keep it located where no one is likely to be stuck. There are many types to choose from, all of which are certain to spark conversation.



**Best Office Plants for Reducing Pollutants:**

Some of the best plants for an office are those that reduce air pollution. Good ideas for office plants include the following:

- Rubber plants not only make an excellent addition to nearly any office decor, but they are well known for effectively removing indoor air pollutants.
- Dracaena, or corn plant, is another great choice for eliminating pollutants. It's easy to care for and makes a unique focal point or screening plant.
- Peace lily is also known for cleaning up the air. It's tolerant of low light and is a vigorous grower too. Peace lily works well for focal interest and screening.

#### Other Good Plants for the Office:

There are many other plants suitable for an office setting. Some more ideas for office plants include:

- English ivy is not only easy to grow but also helps eliminate mold. Thriving in nearly any light condition, it looks great climbing up a pole or in a hanging basket.
- The umbrella plant (tree) is perfect for providing privacy, as it grows quite tall. The amount of light generally dictates this one's care needs: low light, drier soil; bright light, more water.
- Boston ferns can provide a nice touch to the office as long as their basic needs are met. They require adequate lighting and moist soil.
- No space? Consider the African violet. It is one of the best office plants you can find. While these cute little plants require a little more upkeep, such as plenty of light and moisture, they're great for adding a splash of color to dreary office environments.

**Why do we make that recommendation?** A study noted that for those who work in a corporate environment a "forested" area (which was set up for the study) was highly sought after by employees. A behavioral assessment revealed increased peace of mind and cooperation within those who worked in this space. When the plants were removed, behavior was affected negatively: irritability and quarreling rose.



Living & natural break room and open space area elements have a proven effect of lowering employee stress levels: Thereby making your employees happier and more productive.

From an environmental standpoint - the greener the better when it comes to carbon sink and capturing particulate matter.

**What is the contact info to help implement?**

N/A

## 14. How old is your heating and air conditioning system? Is it highly efficient? Any plans to replace?

**Why is this question asked?** Heating and cooling causes air pollution & wasted energy costs a boat load of money.



**Here's how the environment is effected:**

Each day your local power plant will burn coal, oil, or natural gas to generate energy for your HVAC system, as well as for your other electrical needs. While burning, fossil fuels produce an instantaneous supply of electricity and...air pollutants.


Air pollutants cause global warming, acid rain, and smog

- CO<sub>2</sub> (Carbon Dioxide) - Causes global warming
- SO<sub>2</sub> (Sulfur Dioxide) - Causes acid rain
- NO<sub>x</sub> (Nitrogen Oxide) - Causes both acid rain and smog

**Here is how your business's checkbook is hurt:**

Wasted electricity and heat = wasted money.

**What is our general recommendation?** If your system needs replacing or upgrading soon, then please consider using an alternative energy (such as solar, wind, or geothermal) HVAC setup.

 **Money Saver!** Cogeneration (combined heat and power) systems are very commercially viable for larger hotels and hospitals because they have a constant need for hot water.

**Solar for Hot Water:**

Solar hot water is water that is heated by converting direct solar radiation energy into thermal energy and transferring that energy to raise the temperature of water (World Plumbing Council Working Group 2008).

**A rough comparison of solar hot water systems**

Comparison of SWH systems <sup>[18]</sup>					
Characteristic	ICS (Batch)	Thermosyphon	Active direct	Active indirect	Drainback
Low profile-unobtrusive			X	X	X
Lightweight			X	X	X
Freeze tolerant				X	X
Low maintenance	X	X	X		
Simple: no ancillary control	X	X			
Space saving	X	X			

**Solar for AC:**

Using solar power for AC just makes sense.

**Cogeneration (or Combined Heat and Power – CHP):**

Cogeneration (also combined heat and power, CHP) is the use of a heat engine or a power station to simultaneously generate both electricity and useful heat. It is one of the most common forms of energy recycling. This technology is only appropriate when considerable volumes of hot water are needed year round.

**Geothermal:**

Geothermal power (from the Greek roots geo, meaning earth, and thermos, meaning heat) is power extracted from heat stored in the earth. This geothermal energy originates from the original formation of the planet, from radioactive decay of minerals, and from solar energy absorbed at the surface. It has been used for bathing since Paleolithic times and for space heating since ancient Roman times, but is now better known for generating electricity. Worldwide, about 10,715 megawatts (MW) of geothermal power is online in 24 countries. An additional 28 gigawatts of direct geothermal heating capacity is installed for district heating, space heating, spas, industrial processes, desalination and agricultural applications.

**Why do we make that recommendation?** 3 reasons:

- They save your business money over time
- They decrease our nation's dependence on foreign resources
- Solar, cogeneration, & geothermal are far better for the environment

**What is the contact info to help implement?**


<http://www.americandg.com/Energy-Technology/Combined-Heat-and-Power>

<http://www.solarpanelsplus.com/>

<http://www.fujielectric.com/news/2010/10051001.html>

## 15. What kind of urinals and toilets do you have? Age, any plans to replace?

**Why is this question asked?** Fresh water is the lifeblood of our planet. We need to stop wasting it and polluting it.

**What is our general recommendation?**  **Money Saver!** If urinals need replacing then opt for Ultra Low Water urinals. If toilets need replacing then install 2 button flush toilets to help conserve water.

**Why do we make that recommendation?**

An ultra low water urinal can save 88% of the water used to flush. Completely water free urinals could be problematic. By opting for a 2 button flush system the end user is empowered to save water. Water costs money & sewage cost money!

SPECIAL NOTE - We are not recommending anything fancy like a composting toilet because that technology does not seem generally applicable to most businesses.

**What is the contact info to help implement?**

[http://www.mwdsaveabuck.com/devices\\_01.php?id\\_dvce=14](http://www.mwdsaveabuck.com/devices_01.php?id_dvce=14)

<http://www.caromausa.com/toilets>

## 16. Do you have a comprehensive 'Green Transport Plan'?



**Why is this question asked?** According the EPA - A gallon of gasoline is assumed to produce 8.8 kilograms (or 19.4 pounds) of CO<sub>2</sub>.

**What is our general recommendation?** Given that global warming from CO<sub>2</sub> emissions will be one of the greatest challenges to the human race EVER! – having a green transport plan in place is critical.

Some common elements of Green Transport Plans are:

- Preferred parking for **Carpoolers**  **Money Saver!** saves parking lot space so you don't have to buy more
- Bicycle racks for **Bikes**
- Encouraging employees to **Walk to Work** by offering per mile credits for their favorite charity
- **Greening the Vehicle Fleet** with fuel efficient vehicles
-  **Money Saver!**
- **Recycling Vehicle Fleet Oil**
- **Limiting travel by plane** by using videoconferencing  **Money Saver!**
- Purchasing carbon offsets when plan travel is a necessity
- Large campus **Monorail** for big business – powered by alternative energy
- Local travel by **Electric Moped** – powered by solar charger  **Money Saver!** because electrical travel wherein the electricity is generated by you, is more cost effective than fossil fuel charges



- Encourage **Public Transportation** with a reward  because the reward you offer can be far less expensive than the inner city parking spaces you might have to pay for
- Consider instituting '**Carbon Free Fridays**'
- **Hire Locally** if possible  because local employees are more likely to spend more time at work and be less drained from their commutes

An individual switching to public transit can reduce his or her daily carbon emissions by 20 pounds; that's more than 4,800 pounds in a year. This is far greater than the many actions people are being encouraged to take.

**Why do we make that recommendation?** 3 reasons:

- Cost savings on fuel
- Tax incentives
- Better for the environment

**What is the contact info to help implement?**

**Green Vehicles:**

<http://www.epa.gov/greenvehicles/Index.do;jsessionid=8230d473e1a4604b517e>

**Recycling Oil:**

<http://www.recycleoil.org/>

**Carbon Offsets:**

[http://innovation.edf.org/page.cfm?tagID=23994&s\\_src=ggad&s\\_subsrc=offsets&gclid=CKPmpdbZaICFQyPgwodMmY1xw](http://innovation.edf.org/page.cfm?tagID=23994&s_src=ggad&s_subsrc=offsets&gclid=CKPmpdbZaICFQyPgwodMmY1xw)

**Monorail:**

<http://www.bombardier.com/en/transportation/products-services/rail-vehicles>

**Green Transport Planning:**

<http://www.bestworkplaces.org/>

[www.publictransportation.org/reports/asp/pays\\_to Ride.asp](http://www.publictransportation.org/reports/asp/pays_to Ride.asp)

## 17. Do you have office plants?

**Why is this question asked?** Modern office buildings spew out hundreds of chemicals from the new carpets, paints, upholstery, computers and plastics

**What is our general recommendation?** Have 1 plant for every 100 square feet of floor space.

**Use:**

- Areca Palm
- Peace Lily
- Rubber Plant

**Why do we make that recommendation?**

A study carried out by Chichester College confirms the advantages of having house plants around because they make our environment a healthier place in which to live and work.

Researchers have found that one potted plant per 100 square feet of floor space can help clean the air.

The students rated the most effective plants and the ubiquitous Areca Palm came first for removing ammonia, and formaldehyde (found in many cleaning products) from the air and releasing moisture into the air. Next was the Peace Lily which removes acetone, then the Rubber Plant, then Ficus Benjamina (weeping fig) then the dracena. Number 6 is English Ivy that eliminates mould causing asthma, Boston Ferns are highly rated for improving air quality, then the spider plant and lastly the moth orchid (phalaenopsis)

**What is the contact info to help implement?**

<http://www.happynews.com/living/gardening/office-decor-guide.htm>

## 18. What brand of copiers and printers do you use? How old or new or new is it/are they?

**Why is this question asked?** Like all office peripherals, photocopiers and printers are undoubtedly guzzlers of electricity – and all that paper has to come from somewhere. However, the good news is that printers and copiers are becoming more environmentally friendly all the time, and energy efficiency is now one of the prime concerns of manufacturers and consumers alike.

**What is our general recommendation?**

- Purchase modern digital copy machines with “energy save” modes that cause the machine to power down if it

has not been used for a certain period of time



- Copy onto double-sided paper wherever possible
- Recycle used and scrap paper, rather than discarding it
- Always ensure that the machine is switched off at the end of the day
- Consider purchasing multiple use machines that perform several functions without taking up extra space or

electricity.



- Consider using soy based ink for your printers

**Why do we make that recommendation?** Energy savings, spending less money on paper, avoiding toxic ink - what's not to like?

Soy based ink for laser printers decreases the offices use of oil based laser powder.

**What is the contact info to help implement?**

Contact your office IT staff.

For soy based laser printer cartridges: <http://www.soyprint.net>

## 19. Is there an office refrigerator? What kind? How old?

**Why is this question asked?** Old refrigerators can suck up electricity like nobody's business.

**What is our general recommendation?**



When it comes time to replace the old fridge: Opt for refrigerators rated as 'excellent' on energy efficiency by [greenerchoices.org](http://greenerchoices.org). Also please make sure that the fridge is right-sized for your operation. Too much fridge = too much energy and cost.

**Why do we make that recommendation?** They are better for your electricity bill and better for the environment.

**What is the contact info to help implement?**

<http://www.greenerchoices.org/ratings.cfm?product=fridge>

## 20. Are there vending machines here? Do you own them?

**Why is this question asked?** They could be stealing your electricity! Their products are also generally made from genetically modified food strains. You can also help your machine contractor improve their service efficiency which will save them money.

**What is our general recommendation?**



In general – get rid of them. If they must stay for some reason: Then make sure they have “Vending Misers” installed to reduce electrical drain. If possible, start using Organic Food Vending Machines. If you can influence your vending machine contractor – please advise them of the following: Wireless technology also supports sustainability. For instance, a network of BT wireless devices in soft drink vending machines helps one customer identify when the machine is empty, signaling for a refill only when required. The number of refill journeys required has fallen by 10%.

**Why do we make that recommendation?** They cost your business electricity and they are usually filled with sugar filled junk anyway that was produced with genetically modified food strains. With regard to Vending Misers: If the



machine is yours - you want to save energy. If the machine belongs to someone else - you DEFINITELY want it to save energy. With regard to the recommendation that you make your vendor aware of wireless technology – less trips to your building means less interruptions to your business, less CO2 emissions, & less vending item outages.

**What is the contact info to help implement?**

<http://www.vendingmiserstore.com/>

**End of section**



## 21. Who is your office supply company?

**What is our general recommendation?** Gradually phase out your existing office supply company and gradually phase in a 'green office supply' company. Some possible suggestions are: TheGreenOffice.com (of CA), Green Earth Office Supply (of CA), GreenLine Paper Company (of PA), Dolphin Blue (of TX) and TreeCycle (of OR).

**Why do we make that recommendation?**

These companies were selected against environmental impact criteria such as:

- Percentage of recycled materials in the products they offer
- Reduced chemically dependent processes
- Perhaps most importantly, they are unlike chain stores that sell enormous amounts of earth damaging products such as virgin paper without remorse.

**What is the contact info to help implement?**

<http://www.greenlinepaper.com/>

<http://www.thegreenoffice.com/>

<http://greenearthofficesupply.stores.yahoo.net/index.html>

<http://www.dolphinblue.com/>

<http://www.treecycle.com/>

## 22. What sort of paper do you use?

**Why is this question asked?**

Paper is the lifeblood of many businesses and given the fact that the process of creating it is one of the most ecologically harmful things in industry, it is easy to see why paper is so high up on our list. Few items in the standard office have the environmental impact of paper. The average U.S. office worker is responsible for an entire tree per year in paper use. Paper waste accounts for over 40% of the total waste currently being land-filled in the United States.

**What is our general recommendation?**

Purchasing 100% post consumer recycled fiber papers which are also chlorine free. There is an extremely large selection available so feel free to select at will based on price. We particularly like: Cascades Enviro100 Copy or ASPEN 100 Recycled Copy/Laser Paper.

**Why do we make that recommendation?**

Compared to using virgin wood, paper made with 100% recycled content uses 44% less energy, produces 38% less greenhouse gas emissions, 41% less particulate emissions, 50% less wastewater, 49% less solid waste and -- of course -- 100% less wood. Chlorine-free paper is an environmentally preferable alternative to paper bleached with chlorine. Chlorine and its derivatives (such as chlorine dioxide)—the most common bleaching agents used by the pulp and paper industry—are quite harmful to the environment, particularly the aquatic environment.

**Why specifically do we recommend:** Cascades Enviro100 Copy

- 100% Post Consumer Recycled Fibers (exceeding EPA



standards)

- 100% Processed Chlorine Free (PCF), certified by CFPA
- Made with biogas energy
- Excellent quality and performance
- Standard Paper Brightness (90 bright)
- We recommend this paper: performs as well as virgin (non-recycled) paper.

**What is the contact info to help implement?** The majority of office suppliers offer recycled paper of some type. Businesses need to be made aware of the gimmick of slapping a recycled label on the paper product when that could mean as little as 5% recycled content is used. Chlorine free adds yet another layer of complexity. The office suppliers we have found that offer 100% recycled chlorine free paper are:

<http://www.greenlinepaper.com/>

<http://www.thegreenoffice.com/>

<http://greenearthofficesupply.stores.yahoo.net/index.html>

<http://www.dolphinblue.com/>

<http://www.treecycle.com/>

## 23. What sort of pens and pencils do you use?

**Why is this question asked?** Americans buy more than 5.1 Billion pens every year, and most are the disposable type, thrown in the trash once the ink runs dry. That adds up to about 770 tons more of unnecessary plastic waste in landfills each year. Many pens are made from PVC plastic which releases dangerous dioxins (the active ingredient in Agent Orange) during production. Enough wood pencils are produced each year to circle the planet 62 times.

**What is our general recommendation?** For Note Taking: Use a SMARTPEN from LiveScribe. Every other type of Pen for note taking is OBSOLETE!

If a SMART PEN doesn't suite the need. Use only refillable low or non toxic ink pens and refillable mechanical pencils which are made from recycled materials or sustainable biodegradable materials. If absolutely necessary, at least purchase pens that are manufactured from recycled plastic and pencils from sustainably harvested timber or wood substitutes such as recycled paper, old plastic cups, wood offcuts, and reclaimed denim. 2 specific pens we recommend are 'Woody Pens' and the 'Triggerwood Pen'.

**Why do we make that recommendation?** If you do not have a SMARTPEN from LiveScribe, you are taking notes (and killing trees) needlessly. Why not let your pen capture all that is said as a MP4 audio file instead? Check out the informational video online at: <http://www.livescribe.com>

Refillable pens cut down on waste. Non toxic inks are recommended to reduce the amount of toxins ending up in the water table. Refillable mechanical pencils do not use trees and need to be replaced far less often. Pens and mechanical pencils made from recycled or sustainable biodegradable materials reduce energy & resource utilization and decrease landfill stress.

**Why specifically do we recommend:**  **Money Saver!** LiveScribe SMARTPENS

We use them here at GECKO. There is no end to the amount of paper that we have saved using this technology. Why take a note when you have a complete audio file of every business conversation over speakerphone or at a meeting? If you do take a note (a rarity), with a Pulse SMARTPEN from LiveScribe you can upload your notes to your computer and even search them! These devices greatly improve executive efficiency.

**What is the contact info to help implement?**

<http://www.livescribe.com>

<http://greenearthofficesupply.stores.yahoo.net/index.html>

<http://www.thegreenoffice.com/>

<http://www.treecycle.com/>

## 24. What sort of paper binders (or clips) do you use?

**Why is this question asked?** Countless paper binders and paper clips are used by businesses daily. Tremendous amounts of raw materials and energy are used in their creation.

**What is our general recommendation?** Use paper binders and paper clips made from 100% recycled materials.

**Why do we make that recommendation?** By selecting paper binders and clips made from 100% recycled materials you eliminate most of the need for mining raw materials, cut down on international shipping of raw or refined materials, and decrease chemical and energy usage during the production cycle of some of the most prevalent products on earth. Additionally you decrease landfill stress, and increase demand for recycled aluminum and plastic creating a causal loop wherein recycling at the ground level becomes more prized economically and socially.

**What is the contact info to help implement?**

<http://www.greenlinepaper.com/>

<http://www.thegreenoffice.com/>


<http://greenearthofficesupply.stores.yahoo.net/index.html>

<http://www.treecycle.com/>

## 25. What sort of calculators does the office use?

**Why is this question asked?** Virtually every employee in the United States has a calculator. The ecological impact of these devices from pre-cradle to grave is truly enormous.

**What is our general recommendation?** Solar calculators made from recycled office equipment - made by Canon. The product names are LS-154TG, HS-1000TG and TS-1200TG.

**Why do we make that recommendation?**  Solar calculators decrease the need for disposable batteries. By decreasing the need for disposable batteries you decrease the need for mining raw materials, cut down on international shipping of raw or refined materials, and decrease chemical and energy usage during the production cycle of calculator batteries. Additionally you decrease landfill stress and water table poisoning.

**Why specifically do we recommend:** Cannon LS-63TG, LS-154TG, HS-20TG, HS-1000TG and TS-1200TG

Discarded machines are recycled and the material is used to manufacture this new series of calculators hence avoiding utilization of new resources.

Even the packaging, labels and manuals for these series are derived from recycled paper, making this product a wholly recycled unit.

Solar cells offset the need to purchase disposable batteries.

**What is the contact info to help implement?**

[http://shop.usa.canon.com/webapp/wcs/stores/servlet/subCategory\\_10051\\_10051\\_-1\\_26252](http://shop.usa.canon.com/webapp/wcs/stores/servlet/subCategory_10051_10051_-1_26252)

## 26. What sort of envelopes do you use?

**Why is this question asked?** Envelopes are made of paper. The average U.S. office worker is responsible for an entire tree per year in paper use. Paper waste accounts for over 40% of the total waste currently being land-filled in the United States.

**What is our general recommendation?** Purchasing envelopes made of 100% post consumer recycled material and that are Certified Process Chlorine Free. There is an extremely large selection available so feel free to select at will based on price. If you are feeling extra green you may also want to evaluate:

<http://www.ecoenvelopes.com/>

<http://www.actionenvelope.com/ae/control/earthFriendly>

**Why do we make that recommendation?**

Compared to using virgin wood, envelope paper made with 100% recycled content uses 44% less energy, produces 38% less greenhouse gas emissions, 41% less particulate emissions, 50% less wastewater, 49% less solid waste and -- of course -- 100% less wood. Chlorine-free envelope paper is an environmentally preferable alternative to envelope paper bleached with chlorine. Chlorine and its derivatives (such as chlorine dioxide)—the most common bleaching agents used by the pulp and paper industry—are quite harmful to the environment, particularly the aquatic environment.



**What is the contact info to help implement?**

<http://www.greenlinepaper.com/>

<http://www.thegreenoffice.com/>

<http://greenearthofficesupply.stores.yahoo.net/index.html>

<http://www.dolphinblue.com/>

<http://www.treecycle.com/>

## 27. What sort of adhesives like glue do you use?

**Why is this question asked?** Originally all glue manufacturers obtained bones and tissues of animals from slaughterhouses, tanneries, and meat packing companies; it is no coincidence that the world's largest glue manufacturer is the dairy called Borden Company. Similarly, manufacturers of fish glue obtain remains from canneries and other processing plants. All that being said - animal based glues were probably still better for the environment than what came later. Animal derived glues need to be kept heated in order to be applied. Now white glue (Elmer's) and the similar yellow glue used in woodworking are made of polyvinyl acetate (or PVA). PVA is part of the vinyl family of plastics.

**What is our general recommendation?**

**For office use:** Please avoid or cut down on glue use at your business. When you need paper glue then use reusable glue pens with non-toxic PVA glue.

**For woodwork:** EcoGlue.

**For construction & industrial use:** Please make use of the wide variety of bioadhesives.

**Why do we make that recommendation?**

**For office use:** Glue in general is chemically and/or energy intensive to make. Refillable glue pens need to be replaced far less often. \*Unfortunately we were unable to find a commercially viable plant based glue alternative to PVA glue for standard 'white glue' uses. Because animal derived glues need to be kept heated in order to be applied, they are not viable for office use. The scientific research on bio alternatives is very exciting.

**For woodwork why specifically do we recommend:** Amazing EcoGlue™

- Water-based adhesive.
- Less than 1% VOCs (volatile organic compounds)
- Virtually no hazardous air pollutants (less than 0.165 by weight)
- 100% recyclable packaging

**For builders & industrial use why specifically do we recommend:** Builders & industrial operations have the amazing power to dictate change. From soy protein based adhesives to Caulobacter crescentus there is an amazing array of 'bioadhesives' and 'biocomponents for use in making adhesives'. Anytime you can replace harsh chemicals with plants, algae etc... you are almost certainly making a positive change.

**What is the contact info to help implement?**

Reusable Glue Pens with non-toxic PVA glue (<http://www.thegreenoffice.com>)

EcoGlue. <http://www.eclecticproducts.com/ecoglue/>

Bioadhesives <http://en.wikipedia.org/wiki/Bioadhesives>

Water-based bonding: [http://solutions.3m.com/wps/portal/3M/en\\_US/3M-GREENGUARD/Green-Adhesives/LEED/GreenGuard-Certified-Adhesives/](http://solutions.3m.com/wps/portal/3M/en_US/3M-GREENGUARD/Green-Adhesives/LEED/GreenGuard-Certified-Adhesives/)

## 28. What sort of correction fluids or tapes do you use?

**Why is this question asked?**

Whiteout correction fluids contain large quantities of straight and branched chain hydrocarbons. They contribute to ozone depletion, global warming, and sick office syndrome. Correction tapes are almost always made of some form of plastic, have plastic dispensers, and are usually excessively packaged. Further, the adhesives on correction tape bring up the environmental issues associated with adhesives.

**What is our general recommendation?** We recommend recyclable, non-toxic, and ozone friendly correction fluids. We specifically like Planet Pleaser correction fluid or as a close second Opti.

**Why do we make that recommendation?** Planning your product to be recycled by you before you even ship it is a sign of environmental stewardship. Products that are listed as non toxic are supposed to conform to strict health criteria. Ozone friendly designations lead us to believe that a company is at least mitigating the issues during their manufacturing process.

**Why specifically do we recommend:** Planet Pleaser correction fluid

- It is entirely recyclable when returned to the manufacturer. A pre-addressed envelope is included, so that you may return the empty bottles to the manufacturer, who will recycle the residual fluid and bottle. Although you will bear the cost of the postage, this fluid is usually priced well enough that it is still very economical.
- The fluid is non-toxic (complies with Proposition 65) and does not deplete the ozone layer.
- This product is not tested on animals, and does not contain any animal by-products.

**What is the contact info to help implement?**

<http://greenearthofficesupply.stores.yahoo.net/index.html>

## 29. What kinds of clipboards are used?

**Why is this question asked?** Most common, inexpensive clipboards are made of Masonite or particleboard.

Masonite is formed using the Mason method, using wooden chips and blasting them into long fibers with steam and then forming them into boards. Particle board, or particleboard, (called "chipboard" in some countries) is an engineered wood product manufactured from wood particles, such as wood chips, sawmill shavings, or even saw dust, and a synthetic resin or other suitable binder, which is pressed and extruded.

**What is our general recommendation?** Clipboards made of 100% recycled materials of which at least 60% is post consumer recycled material.

**Why do we make that recommendation?** Both Masonite and particleboard are generally created from 'pre-consumer recycled material'. 'Pre-consumer recycled material' is a bit of a misnomer. In the case of making Masonite and particleboard (and many other products) it is OK legally to label the use of sawmill shavings and other sawmill byproducts as 'recycled'. Post consumer recycled materials are the better metric because additional demand for cutting down new trees is not created. Therefore we ask you to be conscious of the distinction. Please select products with as much post consumer recycled material as possible.

**What is the contact info to help implement?**

<http://greenearthofficesupply.stores.yahoo.net>

## 30. What kinds of desk pads are used?

**Why is this question asked?** The most important environmental impact one can make with regard to office products is stopping the unnecessary use of them.

**What is our general recommendation?**



Desk pad calendars are virtually obsolete. Any employee with a computer should not need a desk pad calendar. If an employee does not have a computer then please be creative in alternatives. One nice trick is to ask the employee if they can use their cell phone to keep track of their schedule. If a desk pad is absolutely necessary please try to purchase ones made of 100% post consumer recycled materials.

**Why do we make that recommendation?** Unnecessary office supplies increase business administrative expenses and have an unnecessary negative impact on the environment.

**What is the contact info to help implement?**

<http://www.dolphinblue.com/>

<http://www.treecycle.com/>

<http://www.thegreenoffice.com/>

## 31. What kinds of filing supplies are you using?

**Why is this question asked?** Many businesses have enormous amounts of paper filed away. In order to store paper files you need costly space (which is usually lighted and air conditioned), filing cabinets, files, plastic tabs, & labels. All of these requirements cost money and have a negative impact on the environment.

**What is our general recommendation?****Money Saver!**

If at all possible, businesses should look to scan originals, store them electronically, and recycle the originals. For storing those documents that simply must be originals, please select recycled filing cabinets, files, tabs, & labels.

**Why do we make that recommendation?** ROI analysis is absolutely clear: A terabyte of disk storage is commercially available on a My BOOK storage drive at \$149 from Walmart. Ten Terabytes could hold the printed collection of the Library of Congress. Environmental analysis is also absolutely clear: Think in terms of the environmental impact of the space, filing infrastructure, catalog draws, etc... of the library of congress vs. under 30 lbs of electronic storage drives.

**What is the contact info to help implement?** Your best bet is to contact the people you usually rely on for computer assistance. If you are a small business & do not have a resource in that area, My Books which are available at Best Buy and Walmart are great storage devices & the scanner you select should be the type that can scan multiple pages at once.

For recycled office filing supplies:

<http://www.dolphinblue.com/>

<http://www.treecycle.com/>

## 32. What kinds of notebooks or pads are supplied?

**Why is this question asked?** These items are made of paper. The average U.S. office worker is responsible for an entire tree per year in paper use. Paper waste accounts for over 40% of the total waste currently being land-filled in the United States.

**What is our general recommendation?****Money Saver!**

It is official, only nobody seems to know about it: Normal Notepads are OBSOLETE! If you do not have SMARTPEN from LiveScribe you are taking notes needlessly. Why not have your pen capture all that is said as a MP4 audio file? Check out the informational video online at:

<http://www.livescribe.com/smartpen/videos.html>

Encourage employees to keep notes electronically & when necessary use notepads which are made of 100% recycled materials at least 50% of which should be post consumer recycled material. If possible please also select paper products that are processed chlorine free.

**Why do we make that recommendation?** With SMARTPEN Notepads, you use next to no paper because you almost never have to take a note. This is because every business conversation over speakerphone or every meeting can be recorded in MP4 audio format. We cannot stress this enough, stop using normal notepads and pens!!!

For applications where old fashioned notepads are an absolute necessity, the following is our justification for using more eco friendly paper. Compared to using virgin wood, notepad paper made with 100% recycled content uses 44% less energy, produces 38% less greenhouse gas emissions, 41% less particulate emissions, 50% less wastewater, 49% less

solid waste and -- of course -- 100% less wood. Chlorine-free notepad paper is an environmentally preferable alternative to envelope paper bleached with chlorine. Chlorine and its derivatives (such as chlorine dioxide)—the most common bleaching agents used by the pulp and paper industry—are quite harmful to the environment, particularly the aquatic environment.

**What is the contact info to help implement?**

<http://www.livescribe.com>

<http://www.greenofficestore.com/>

<http://www.greenlinepaper.com/>

<http://www.thegreenoffice.com/>

<http://greenearthofficesupply.stores.yahoo.net/index.html>

<http://www.dolphinblue.com/>

<http://www.treecycle.com/>

### 33. What card stock do you use if any?

**Why is this question asked?** Cardstock is made of paper. The average U.S. office worker is responsible for an entire tree per year in paper use. Paper waste accounts for over 40% of the total waste currently being land-filled in the United States.

**What is our general recommendation?** Stand out from the crowd. Consider using cardstock made from novel sources like sugarcane etc.... If regular material is a must, go with cardstock made from 100% recycled materials of which at least 50% is post consumer recycled material.

**Why do we make that recommendation?** As the world's number one crop, sugar cane is one of the most readily available non-tree fibers. Bagasse is a by-product of the sugar-making process and would otherwise just be trashed.

**What is the contact info to help implement?** There are enough alternative fiber materials to suit any need.

For sugar cane based bagasse cardstock:

<http://www.greenlinepaper.com/>

For recycled cardstock:

<http://www.greenlinepaper.com/>

<http://www.thegreenoffice.com/>

<http://greenearthofficesupply.stores.yahoo.net/index.html>

<http://www.dolphinblue.com/>

<http://www.treecycle.com/>

### 34. Do you use desk caddies to reuse paper clips and such?

**Why is this question asked?** Desk caddies are usually made from plastic. Desk caddies can be useful in both organizing space and extending service use of items such as paper clips, rubber bands, pens, etc...

**What is our general recommendation?** Use them but buy ones made from post consumer recycled materials.

**Why do we make that recommendation?**



Money Saver!

Desk caddies generally make up for their environmental impact by encouraging reuse of items. By using recycled ones you further offset the initial environmental impact of the purchase.

**What is the contact info to help implement?**

<http://www.thegreenoffice.com/>



## 35. What kind of labels do you use?

**Why is this question asked?** Labels are made of paper. The average U.S. office worker is responsible for an entire tree per year in paper use. Paper waste accounts for over 40% of the total waste currently being land-filled in the United States

**What is our general recommendation?** Purchasing labels made of recycled material.

**Why do we make that recommendation?** Compared to using virgin wood, labels made with 100% recycled content uses 44% less energy, produces 38% less greenhouse gas emissions, 41% less particulate emissions, 50% less wastewater, 49% less solid waste and -- of course -- 100% less wood.

**What is the contact info to help implement?**

<http://greenearthofficesupply.stores.yahoo.net/index.html>

## 36. Do you issue award certificates or gift certificates to your employees, customers, or suppliers? If so what are they printed on?

**Why is this question asked?** Award certificates are made of paper. The average U.S. office worker is responsible for an entire tree per year in paper use. Paper waste accounts for over 40% of the total waste currently being land-filled in the United States

**What is our general recommendation?**

For awards to your employees: consider sending electronic versions of awards or posting electronic copies on the company intranet. At a minimum use award papers made of 100% recycled materials. Give customers the option of using gift certificates on printed receipts with a “we support using less paper to conserve trees” or something similar printed on the receipt. If your customer wants a paper certificate use smaller certificates printed on 100% recycled materials. For suppliers: A nicely worded letter to the effect of what is being awarded is often sufficient. Consider replacing the large expensive framed award certificate with a more reasonably priced framed letter.

**Why do we make that recommendation?**

From an ROI perspective, ‘doing more with less’ usually makes sense. From an environmental perspective doing more with less always makes sense.

**What is the contact info to help implement?**

Electronic templates for employees and others:

<http://office.microsoft.com/en-us/templates/CT101043001033.aspx>

## 37. Any chalkboards around? What sort of chalk?

**Why is this question asked?**

Chalkboards or blackboards have disadvantages: A) they are large items that eventually are landfilled & B) they produce dust, the amount depending on the quality of chalk used. Some people find this uncomfortable or may be allergic to it, and there has been speculation about links between chalk dust and respiratory problems. The dust also precludes the use of chalk in areas shared with dust-sensitive equipment such as computers.

**What is our general recommendation?**

If possible please purchase used chalkboards. Also, use non-toxic chalk that is classified as low dust or no dust.

**Why do we make that recommendation?**

We are pro-chalkboards because they often displace the use of paper posted announcements. Also the long product life expectancy of chalkboards ensures that they will not be disposed of quickly. By purchasing used chalkboards you completely replace the need for a new product lifecycle. Non-toxic + low dust or no dust chalk spares company employees from toxic allergens and company equipment from dust.

**What is the contact info to help implement?**

For chalk:

<http://greenearthofficesupply.stores.yahoo.net/index.html>

## 38. Any whiteboards around? What sort of markers?



**Why is this question asked?** Given the sheer number of whiteboards and markers used in office environments around the globe, the environmental impact of these products is staggering. In the educational field alone the potential exists for some 700 million whiteboard markers to be discarded each year, just in Canada and USA.

**What is our general recommendation?** Please select whiteboards where the trim is recyclable and made from recycled material & most importantly - select refillable whiteboard markers.

**Why do we make that recommendation?** We are pro-whiteboards because they often displace the use of paper posted announcements. Also the long product life expectancy of whiteboards ensures that they will not be disposed of quickly. We searched for fully recycled whiteboards and they did not seem to be available. We did find whiteboards where the trim is recyclable and made from recycled material. Refillable whiteboard markers are preferable to disposable ones in that they result in less waste.

**What is the contact info to help implement?**

For whiteboard:

[http://www.worthingtondirect.com/school\\_furniture/new\\_for\\_2008/flexi\\_color\\_trim\\_markerboards.htm](http://www.worthingtondirect.com/school_furniture/new_for_2008/flexi_color_trim_markerboards.htm)

For markers:

<http://www.ecostationery.com/>

## 39. Who supplies your drinking water? Do you know how your containers are disposed of- are they recycled by the company that takes them away?

**Why is this question asked?** The United States is the world's leading consumer of bottled water. In 2006, bottled water consumption in the US reached a record 8.3 billion gallons, 185 million gallons of which was imported. The total amount spent on bottled water was over \$11 billion. It costs more money to drink bottled water than to put gas in your car--up to five times more--due mainly to its packaging and transportation. 86 percent of plastic water bottles used in the United States become garbage or litter. Buried water bottles can take up to 1,000 years to biodegrade. Many businesses use large plastic water jugs thereby contributing significantly to the environmental issue.



Money Saver!

**What is our general recommendation?** Replace delivered water jugs with a water cooling filtration system that employs energy saving measures when idle.

**Why do we make that recommendation?** From an ROI perspective the issue is clear cut: A one-time purchase of a water-cooling filtration system & associated periodic filter changes more than offsets delivery of bottled water hands down. From a health & environmental perspective the issue is more than clear cut- it is remarkable.

In 1999, NRDC conducted 1,000 separate tests of more than 100 brands of bottled water and concluded that bottled water is not necessarily any purer or any safer than city tap water.

The FDA, who regulates bottled water, states that "Companies that market bottled water as being safer than tap water are defrauding the American public."

A city's tap water cannot have any E. coli or fecal coliform bacteria, while bottled water is allowed a certain amount of these bacteria. In addition, most cities' tap water must be tested for Cryptosporidium or Giardia, common water pathogens that can cause intestinal problems, including diarrhea. In contrast, bottled water companies are not required to conduct these tests.

In contrast to tap water, which is distributed through an energy-efficient infrastructure, transporting bottled water long distances involves burning massive quantities of fossil fuels.

Making bottles to meet Americans' demand for bottled water requires more than 1.5 million barrels of oil annually, enough to fuel some 100,000 U.S. cars for a year.

**What is the contact info to help implement?**

<http://www.aquamarklx.com/>

## 40. What sort of coffee does the office use?

**Why is this question asked?** Coffee is an important export commodity. In 2004, coffee was the top agricultural export for 12 countries, and in 2005, it was the world's seventh largest legal agricultural export by value. It is a massive industry and a cultural staple across the world. Its environmental impact is difficult to overestimate.

**What is our general recommendation?** Organic Forest shade-grown coffee

**Why do we make that recommendation?** Originally, coffee farming was done in the shade of trees, which provided habitat for many animals and insects. This method is commonly referred to as the traditional shaded method. Many farmers (but not all) have decided to modernize their production methods and switch to a method where farmers would now use sun cultivation, in which coffee is grown in rows under full sun with little or no forest canopy. This causes berries to ripen more rapidly and bushes to produce higher yields but requires the clearing of trees and increased use of fertilizer and pesticides. Traditional coffee production, on the other hand, caused berries to ripen more slowly and it produced lower yields compared to the modernized method but the quality of the coffee is allegedly superior. In addition, the traditional shaded method is environmentally friendly and serves as a habitat for many species. Opponents of sun cultivation say environmental problems such as deforestation, pesticide pollution, habitat destruction, and soil and water degradation are the side effects of these practices. The American Birding Association has led a campaign for "shade-grown" and organic coffees, which it says are sustainably harvested. However, while certain types of shaded coffee cultivation systems show greater biodiversity than full-sun systems, they still compare poorly to native forest in terms of habitat value.

**What is the contact info to help implement?**

[http://www.defenders.org/support\\_us/marketplace/java\\_forest/](http://www.defenders.org/support_us/marketplace/java_forest/)

<http://www.wholefoodsmarket.com/>

<http://www.traderjoes.com/>

## 41. Do you have milk & cream delivered? Who delivers it?

**Why is this question asked?** Milk & cream products have an unbelievably large environmental impact. Consider just these few points:

- The production of milk is a massive source of water pollution.
- A small farm of 200 cows will produce as much nitrogen as in the sewage from a community of 5,000 to 10,000 people, according to a U.S. Senate report on animal waste.
- The fossil fuel energy humans use simply to transport milk and cream is absolutely enormous.

**What is our general recommendation?** Please order your milk & cream from providers that market local organic milk, organic cream, & organic almond milk in reusable glass containers. Add organic almond milk to your orders and post a notice on the fridge that says “For our environmentally conscious & our lactose intolerant employees we have begun adding organic almond milk to our orders”.

**Why do we make that recommendation?** Purchasing locally derived dairy products lessens the environmental impact of transporting it. Organic milk & cream come from cows whose milk production was not prompted by artificial growth hormone, whose feed was not grown with pesticides and which had access to pasture. Organic almond milk is considered to be even more environmentally friendly than organic milk & it greatly helps the US economy because California produces 80% of the world’s supply of almonds. Reusable glass containers are far better for the environment than disposable plastic ones.

**What is the contact info to help implement?**

Contact local vendors. - If glass bottles are not practical - request that they carry:

<http://www.organicvalley.coop/products/>

<http://www.organicvalley.coop/store-locator/where-to-buy/>

<http://www.pacificfoods.com/our-foods/nut-grain-beverages>

## 42. What kinds of cups are provided?

**Why is this question asked?** Most businesses provide disposable cups for cold and hot drinks. The environmental impact is enormous. Consider these facts: If you drink coffee from a disposable cup every day of the week, you are contributing about 23 pounds to the waste stream over the course of a year. Currently, 25 BILLION Styrofoam cups alone are thrown away annually. Think about how high that number would climb if disposable paper and plastic cups were added. Styrofoam and plastic cups are produced from petroleum, are not biodegradable, and have the potential to contaminate water supplies and to cause negative health impacts. Paper cups, though biodegradable, use lots of energy and natural resources to produce.

**What is our general recommendation?** Provide each employee with one reusable coffee mug made from recycled material.



Make sure you give each employee a note with the cup that says something to the effect of 'Please keep this cup at the office. Disposable cups will no longer be provided due to the negative impact of disposable plastic and disposable Styrofoam cups on the environment'.

If you simply cannot make this change then please consider something along the lines of cups made from biodegradable plastic alternatives.

**Why do we make that recommendation?** From an ROI perspective the matter is clear cut: One reusable cup per employee per year along with associated cleaning liquid is far less expensive than providing that same employee 2 or 3 disposable cups per day. From an environmental perspective the impact of this change is significant even on its' smallest scale of one person. Complete lifecycle analysis shows that a reusable cup over its average life of 3000 uses is responsible for 30 times less solid waste and 60 times less air pollution than any disposable alternative.

**What is the contact info to help implement?**

<http://www.impression.ca/templates/Search.cfm?TeamID=149&TeamMainID=13>

<http://www.thegreenoffice.com/>

## 43. Are utensils or plates provided? If so what kind?

**Why is this question asked?** Most offices have paper plates and plastic utensils around for employee use. The environmental impact is tremendous.

**What is our general recommendation?** If your office has a means for employees to clean dishes then we suggest providing real plates and real utensils. If not, we suggest switching to Spudware for utensils and Bagasseware for plates etc...

**Why do we make that recommendation?** Spudware and Bagasseware are biodegradable and commercially viable. The fact that they are not plastic or Styrofoam based products means you offset much of the environmental impact.

**What is the contact info to help implement?**

<http://www.greenlinepaper.com/>

<http://www.thegreenoffice.com/>

<http://greenearthofficesupply.stores.yahoo.net/index.html>

<http://www.treecycle.com/>

## 44. What sort of napkins are you ordering?

**Why is this question asked?** Disposable napkins are almost always made of paper. The average U.S. office worker is responsible for an entire tree per year in paper use. Paper waste accounts for over 40% of the total waste currently being land-filled in the United States

**What is our general recommendation?** If possible please switch to providing reusable napkins. Given that reusable napkins may be difficult or impossible for many businesses to implement, as the alternative - purchase non-bleached napkins that are made from 100% recycled material of which at least 80% is post consumer recycled material.

**Why do we make that recommendation?** Reusable cloth napkins in general have a lifecycle that is far less environmentally damaging than constantly using and disposing of paper napkins that cannot be recycled. Alternatively, non-bleached napkins that are made from 100% recycled material of which at least 80% is post consumer recycled material are less chemically intensive than virgin paper disposable napkins and reduce both landfill stress and demand for new tree cutting.

**What is the contact info to help implement?**

<http://www.greenlinepaper.com/>

<http://www.thegreenoffice.com/>

<http://greenearthofficesupply.stores.yahoo.net/index.html>

<http://www.treecycle.com/>

## 45. Who handles janitorial duties for your business? What sort of cleaners are they using?

**Why is this question asked?** Cleaning products can be among the most hazardous and environmentally damaging chemicals in your office. These products create hazardous waste - threatening human health and the natural environment. There are many green products available that are just as effective as traditional ones.

**What is our general recommendation?** If janitorial duties are handled in-house, then switch to organic cleaners & eco-friendly supplies. If an outside contractor is used, then let them know that you require organic cleaners & eco-friendly supplies be used in your office. We are in favor of Wow Green & 7th Generation products.

**Why specifically do we recommend?** 7th Generation products & Wow Green products

These folks by all appearances 'get it'. The highest bar of criteria that we could think of was to select only a companies that offered a 100% plant based all purpose cleaner with recycled packaging (like 7th Generation) or better yet - reusable packaging (like Wow Green).

**Why do we make that recommendation?** Whenever you can replace harsh chemicals with plant based cleaners you are almost certainly helping to limit the damage to the natural world.

**What is the contact info to help implement?**

<http://www.thegreenoffice.com/>

<http://greenearthofficesupply.stores.yahoo.net/index.html>

<http://www.wowgreen.net/Default.aspx?ID=kline>

<http://www.seventhgeneration.com>

## 46. What kind of paper towels are you ordering for kitchen use?

**Why is this question asked?**

The U.S. has just 4% of its forests left.

**What is our general recommendation?**

To the greatest extent possible offices should cut down on their use of paper towels. Paper towels once used cannot be recycled.



Posting a sign near the paper towels that says: 'The use of paper towels increases demand to cut down trees – please use them sparingly' doubles as both an earth friendly measure and a clever way to cut costs.

We recommend using paper towels that are made from 100% post consumer recycled material & that are processed chlorine free. Also, make sure the perforations are on small sheets so that there is less wasted paper towel – this will reduce the cost of paper towels overall even if the recycled ones are more expensive.

**Why do we make that recommendation?**

With regard to the reduction of use recommendation – it just makes good sense – if posting a sign decreases the use of paper towels by 25% then you have done both the environment and the company checking account some good. With regard to using paper towels that are made from post consumer recycled material that are processed chlorine free: Compared to using virgin wood, paper products made with 100% recycled content uses 44% less energy, produces 38% less greenhouse gas emissions, 41% less particulate emissions, 50% less wastewater, 49% less solid waste and -- of course -- 100% less wood. Chlorine-free paper towels are an environmentally preferable alternative to paper towels bleached with chlorine. Chlorine and its derivatives (such as chlorine dioxide)—the most common bleaching agents used by the pulp and paper industry—are quite harmful to the environment, particularly the aquatic environment.

**What is the contact info to help implement?**

[http://www.greenlinepaper.com/tissue-towel/paper-towels/cat\\_31.html](http://www.greenlinepaper.com/tissue-towel/paper-towels/cat_31.html)

<http://www.thegreenoffice.com>

<http://greenearthofficesupply.stores.yahoo.net/recpapraptow.html>

## 47. What sort of hand soap do you provide?

**Why is this question asked?**

The ingredient lists of most soaps these days read off like a chemistry lesson and unfortunately much of what goes down our drains ends up in the environment. Soaps contain fragrances and chemicals

that stress the already heavily damaged aquatic environment and have been proven to cause birth & liver defects in animals.

**What is our general recommendation?** Avoid antibacterial soap completely unless you work in the medical or related field. Replace chemical based soaps with equally effective plant based soaps packaged in recycled materials.

**Why do we make that recommendation?** In general soap & water is 90% effective in killing or removing bacteria from our hands if we wash for 15 seconds. Antibacterial soap is somewhat more effective at killing bad bacteria but it is also extremely good at killing the 'good' bacteria that we couldn't live without. The ingredients in most antibacterial soaps are environmentally damaging & often toxic with repeated use. They should be avoided in general. Whenever you can replace harsh chemicals with plant based alternatives you are almost certainly making a positive change for the environment.

**What is the contact info to help implement?**

[http://www.greenlinepaper.com/cleaning-products/cleaning-products/vermont-soap/prod\\_233.html](http://www.greenlinepaper.com/cleaning-products/cleaning-products/vermont-soap/prod_233.html)

<http://www.thegreenoffice.com>



## 48. Are air fresheners being ordered? If so, what kind?

**Why is this question asked?** Air fresheners are completely unregulated. There can be anything in them - When used indoors under certain conditions, many common household cleaners and air fresheners emit toxic pollutants at levels that may lead to health risks, according to a new study by researchers at the University of California, Berkeley, and Lawrence Berkeley National Laboratory.



**What is our general recommendation?** If possible, stop ordering them all together. Cite the study if there are any complaints. If you must continue to order air fresheners then please opt for some of the earth sensitive choices below.

**Why do we make that recommendation?** Our recommendations in this area are based on sound science & straight forward ROI consideration. When air freshener is an absolute must - then non toxic stuff is flat out better.

**What is the contact info to help implement?**

<http://www.sciencedaily.com/releases/2006/05/060524123900.htm>

<http://www.eccobella.com/index.php?cPath=25>



## 49. What kind of toilet paper does the office have?

**Why is this question asked?** Every day about 270,000 trees are effectively flushed down the toilet or end up as garbage.

**What is our general recommendation?** Purchase process chlorine free toilet paper that is 100% recycled of which at least 40% is post consumer waste. We specifically recommend 7th Generation bathroom tissue.

**Why do we make that recommendation?** Compared to using virgin wood, paper products made with 100% recycled content uses 44% less energy, produces 38% less greenhouse gas emissions, 41% less particulate emissions, 50% less wastewater, 49% less solid waste and -- of course -- 100% less wood.

Chlorine-free bathroom tissue is an environmentally preferable alternative to toilet paper bleached with chlorine. Chlorine and its derivatives (such as chlorine dioxide)—the most common bleaching agents used by the pulp and paper industry—are quite harmful to the environment, particularly the aquatic environment.

**Why do we specifically recommend:** 7th Generation bathroom tissue

- 100% recycled paper of which 80% is post consumer
- Hypoallergenic
- Whitened by an environmentally safe process
- Packaged with recycled material
- Quote from 7th Generation: "If every household were to replace just one roll of 500 sheet virgin fiber toilet paper with 7th Generation we would collectively save 448,000 trees over 1,000,000 cubic feet of landfill space, and 161,000,000 gallons of water."

Now imagine the positive impact that businesses could create by making the change.

**What is the contact info to help implement?**

<http://greenearthofficesupply.stores.yahoo.net/index.html>

<http://www.treecycle.com/>

<http://www.greenlinepaper.com/>

<http://www.seventhgeneration.com>

## 50. Is hand sanitizer provided by the company?

**Why is this question asked?** All of those plastic bottles of chemicals being handed around for what? Study after study is being generated showing that the net health impact of hand sanitizers in general circulation is negative.

**What is our general recommendation?** Don't offer hand sanitizer unless your profession specifically calls for it. Soap and water is sufficient for most applications. If you do need to use hand sanitizer then Clean Well seems to be the most environmentally friendly option.

**Why do we make that recommendation?** Good old soap with water is very effective at removing most forms of bacteria without the adverse health effects and additional environmental effects (if you buy hand sanitizer you are not going to stop buying soap right?).

**Why do we specifically recommend:** Clean Well hand sanitizer

- Clean Well claims on its website that its product is 100% poison free and 100% green. CleanWell points to results from ATS Labs in Egan, MN to support its claims for the germ-killing power of Ingenium. According to the results in the CleanWell press kits, the lab tests showed that Ingenium killed 99.99% of various nasty germs (staph, pneumonia, etc.) in 15 seconds.
- The safety aspect of CleanWell is certainly appealing. CleanWell's press materials state that the product has the EPA's lowest possible toxicity rating and therefore does not have to carry any warning labels. In fact, it is marketed as 'safe for kids'.

Please visit the Clean Well website listed below to evaluate its' efficacy for your application.

**What is the contact info to help implement?**

<http://www.cleanwelltoday.com/>

<http://www.target.com>

<http://www.wholefoodsmarket.com/>

<http://www.amazon.com>

## 51. What sort of trash bags do you use?

**Why is this question asked?** It takes a normal plastic bag over 1000 years to degrade in a landfill and less than 3% of plastic bags actually get recycled. Processing crude petroleum into virgin plastics creates many dangerous chemicals. The 436 plastic facilities in the U.S. emit over 37 million pounds of toxic air emissions & create over 2.5 billion pounds of production related waste each year.

**What is our general recommendation?** Use 100% biodegradable and compostable trash bags. Also see question 57 on Composting. BioBags® are an excellent and easily commercially available option.

**Why do we make that recommendation?** While recycled bags are better environmentally than normal trash bags, our take is that by purchasing biodegradable bags you are breaking the 'disposable plastic cycle'. The plastic that is being recycled is better utilized by making durable items instead of disposable ones. An example is plastic resin lumber being used to make park benches and decking.

**What is the contact info to help implement?**

<http://www.biobagusa.com/>

<http://www.greenofficestore.com/>

<http://www.greenlinepaper.com/>

<http://greenearthofficesupply.stores.yahoo.net/index.html>

<http://www.treecycle.com/>

## 52. Do sales people here have marketing materials? Printed on recycled materials?

**Why is this question asked?** Brochures, business presentation folders, handouts, corporate gifts for customers & leads, trade show materials... the never ending list of marketing materials goes on and on. The environmental impact of these countless items is limited only by the lack of creativity of our most creative gurus.

**What is our general recommendation?**



First and foremost: STOP THE PRESSES! Take stock of the materials you have now before ordering more.

Also, send an email that says if your sales people have any marketing materials hoarded in their cars – please return it to a central collection table. When you do need more marketing items then please opt for printing on recycled materials & become 'green creative'.

**Why do we make that recommendation?** No business owner is going to like these statistics: The collateral produced by marketing almost never gets used in the field ... 50% to 80% according to the American Marketing Association is wasted and the figure is up to 90% wasted according to Frost & Sullivan. When you really do need more marketing materials then there are a tremendous number of ways to limit your environmental impact: Printing on recycled paper, recycled mugs, organic cotton T-Shirts, & other ideas like Environmentally friendly corporate gifts - such as trees planted in someone's name, etc... Get creative & take credit for it!

**What is the contact info to help implement?**

<http://www.epromos.com/category/20403.html>

<http://www.greenlinepaper.com/>

<http://www.thegreenoffice.com/>

<http://greenearthofficesupply.stores.yahoo.net/index.html>

<http://www.dolphinblue.com/>

<http://www.treecycle.com/>

## 53. Do any of your people work outside? Sunscreens provided? Bug repellents? What kind?

**Why is this question asked?** Many businesses have workers that spend a good deal of time outdoors. Some are thoughtful enough to provide sunscreen and bug repellent. Unfortunately most sunscreens and bug repellents are generally full of environmentally damaging chemicals.

**What is our general recommendation?** Purchase all natural sunscreens and bug repellents.

**Why do we make that recommendation?** Man-made chemicals in general are harmful to the environment. DEET (found in most bug repellents) is particularly worrisome due to its rapid absorption through the skin to the bloodstream.

**What is the contact info to help implement?**

<http://www.thedailygreen.com/environmental-news/latest/natural-sunscreens-460608>

<http://www.thedailygreen.com/environmental-news/latest/natural-insect-repellents-460608>

**End of section**



## REDUCE + RE-USE + RECYCLE

### 54. Which Company handles your trash disposal?

**Why is this question asked?** Unfortunately all that garbage we throw away doesn't vanish when the trash men pick it up. We all know it is going somewhere. We'd like to hope that what can be recycled is being recycled but the truth is: Trash Disposal companies are not usually what jumps to mind when one thinks of green awareness.

**What is our general recommendation?** Select your waste disposal company based upon the strength of their recycling capabilities.

**Why do we make that recommendation?**

This action item has a direct and measurable impact on the environment and potentially the company coffers – some waste disposal companies compensate you for recyclable things like paper etc...

**What is the contact info to help implement?**

This is always a location by location issue. Here is the best advice we can offer, grill your prospective waste haulers hard. The waste hauling industry profits by the wastefulness of their clients. The more wasteful you are, the more money they make. So negotiate like they are the enemy, and judge them on their recycling capabilities.

## 55. Do you recycle paper?

**Why is this question asked?** Paper is one of the largest sources of business waste.

**What is our general recommendation?** This is one of our strongest areas of concern. If you are not recycling used paper at your business, then we implore you to start. Supply paper recycling bins at every location that there is a trash receptacle. Post a sign near every paper recycling bin that says 'It is company policy to recycle paper for our natural environment'.



By recycling paper you should lower your 'tipping fees' with your waste management company.

**Why do we make that recommendation?** Industrialized paper making has an effect on the environment both upstream (where raw materials are acquired and processed) and downstream (waste-disposal impacts).

- Energy consumption is reduced by recycling, although there is debate concerning the actual energy savings realized. The EIA claims a 40% reduction in energy when paper is recycled versus paper made with unrecycled pulp. While the Bureau of International Recycling, BIR, claims a 64% reduction.
- About 35% of municipal solid waste (before recycling) by weight is paper and paper products. Paper lets off methane as it decomposes in landfills. Methane is a greenhouse gas that is 20 times more damaging than CO<sub>2</sub>. Better that the paper never reaches the landfill.
- The US EPA has found that recycling causes 35% less water pollution and 74% less air pollution.



If you do not post signs then most people will consistently revert to simply throwing the paper in the normal trash bins.

**What is the contact info to help implement?**

Contact your waste hauler and insist on recycling paper.

## 56. Do you recycle plastic?

**Why is this question asked?** Plastic now makes up over 11% of landfill waste and this percentage has been growing steadily over time. Plastic containers and such are part of the 'disposable item consumer culture'.

### What is our general recommendation?



First and foremost – get creative in ways to use less plastic. Then recycle what you have to use. Make sure that a for-plastics recycling bin is available at every place where there is a trash receptacle. Make sure that signs are present near all plastic recycling bins that clearly show what your trash hauler will accept for plastic recyclables.



**Why do we make that recommendation?** Since many types of plastic are not recyclable and because plastic is one of the biggest bad guys out there in terms of sheer human waste – we have recommended that you go out of your way to cut down on the use of plastics at your business. However, since it is currently unrealistic to cut out plastics altogether – we have also recommended making recycling plastic an eco-priority. If you don't point out which items are recyclable then people will 'contaminate' the recyclable load and your hauler (or the processing plant) may discard the whole batch.

### What is the contact info to help implement?

<http://earth911.com/blog/2008/06/02/breaking-down-the-secret-code/> & Contact your waste hauler and insist on recycling plastics.

## 57. Do you supply compost bins?

**Why is this question asked?** Over 30% of waste going to landfills is compostable – but will take decades to biodegrade at a landfill because it is buried. When it finally does biodegrade it will release methane which is a greenhouse gas 20 times more powerful than CO<sub>2</sub>.



### What is our general recommendation?

This is in fact a lot easier than it may seem – By using a combination of some very innovative new products: Namely – BioBags®, a Morph Compost Bin™, and a browns material like Composters Companion™ – you can actually compost at work! Here is how this works: Post a sign that tells employees to separate food scraps into a BioBag® lined trash bin, then take that Biobag® out to your Morph Compost Bin™ outside (do this twice a week or when the bag is full *whichever comes first*). Always balance table scraps with a browns material such as Composter's Companion™ to absorb excess liquids, reduce odors and vector issues. Follow standard composting instructions to process your food appropriately. When starting with a fresh bin, add browns



material and either, a commercial compost accelerant, fresh compost or a handful of soil to inoculate material with the right composting microbes. Add materials and stir with Yard Butler™ compost stirrer every few days.



**Why do we make that recommendation?** Office composting represents a true sign of business eco-leadership. By composting you make something useful out of what would otherwise become more landfill mass. **You'll also lower your trash removal fees!**

**What is the contact info to help implement?**

For the bags: <http://www.biobagusa.com/>

For the composter and other composting necessities: <http://www.theartofecotope.com/>

## 58. Do you recycle cardboard or other packaging materials?

**Why is this question asked?** 90% of all items shipped within the U.S. are packaged. Packaging is a massive source of environmental harm.

**What is our general recommendation?** Select vendors with reduced packaging (Walmart is actually requiring its vendors to reduce packaging), if you can - reuse the packaging that you receive for something useful, & ultimately recycle the cardboard.



By requiring vendors to reduce their packaging you are freeing up more space on your shelves or warehouse for sellable product.

**Why do we make that recommendation?** When it comes to packaging – business consumers need to make a stand by demanding reduced packaging. The enormity of the excess packaging problem is creating tremendous landfill strain and environmental damage. Finally by recycling packaging you are saving energy, saving trees, and reducing waste at landfills.

- Recycling 1 Ton of Cardboard saves 682 Gallons of oil
- Recycling 1 Ton of Cardboard saves 7,000 Gallons of water

- Recycling 1 Ton of Cardboard saves 3.3 cubic yards of landfill space
- Recycling 1 Ton of Cardboard saves about 17 trees

**What is the contact info to help implement?**

For recycling: Contact your trash hauler.

How to on recycling cardboard with a baler: <http://www.wikihow.com/Recycle-Cardboard-with-a-Baler>

Sample reuse ideas for cardboard: <http://www.greenecoservices.com/reuse-cardboard-make-money/>

## 59. Is your business paper intensive? Are there ways that you can imagine making it less so? Are you shredding paper today?

**Why is this question asked?** The more paper intensive a business is today – the greater the opportunity to improve its environmental practices. This question gives GECKO staff members ‘baseline’ information and provides an opportunity to brainstorm. Shredding sounds good, but isn’t.

**What is our general recommendation?** Hold a brainstorming session on ways to reduce paper use. Use our report for ideas but challenge yourselves to come up with at least 3 things that we missed. Shred only what you need to, recycle the rest.

Shred only the portions of the document containing sensitive information. For example, your personal information may be on the bottom third of a document while the remaining two-thirds is just general information. The personal information can be torn off and shredded while the rest can be recycled.

Establish a company policy at your business on what needs to be shredded and what does not so everyone is on the same page.

**Why do we make that recommendation?** Paper is such a big area of concern and each business uses it differently. A brief 20 minute brainstorming effort could save your business money for years to come.

In the age of identity theft, shredding confidential documents has become an important safeguard of privacy. But shredding paper isn't great for the environment and recycling for three reasons:

- When you shred paper, what you're actually doing is cutting the lengths of the individual paper fibers, thus cutting the future recycling potential of that fiber. The length of a paper fiber determines its value since a longer fiber can be used to make a higher-grade paper and can be recycled more times.
- At some recycling facilities, mixed paper from households and businesses goes over an automated screen that makes the paper product cleaner by shaking out non-fiber contaminants like bits of glass, etc. The only problem is that the shredded paper gets grabbed by the fingers on the screens and gets pulled into the reject bin, and off to the landfill.

- The paper mills that buy recycled paper must do a quality sort on the material before they put it into their multi-million dollar machines, and it's just plain impossible to do a good quality sort of shredded paper. Many contaminants can hide in the shred, such as plastic strips from a document cover that were accidentally shredded along with the paper. For this reason, paper markets don't like to buy shredded paper and don't like to see it in with the higher-grade junk mail and office paper.

**What is the contact info to help implement?**

N/A

## 60. Are there any documents or forms used internally that are paper based today?

**Why is this question asked?** Internal forms which are paper based are almost always wasteful uses of company resources.

**What is our general recommendation?** Replace paper based internal forms with electronic digitally signed ones. If someone really needs a paper copy they can print it.

**Why do we make that recommendation?** It's simple – why use up company paper if you don't have to. Using paper for internal forms can be widely replaced by technology which is more cost efficient and less environmentally damaging.

**What is the contact info to help implement?**

<http://livedocs.adobe.com/livecycle/8.2/programLC/programmer/help/wwhelp/wwhimpl/common/html/wwhelp.htm?context=sdkHelp&file=000580.html>

## 61. Does your business rely on batteries for anything? If so what kind are they? What are the disposal methods of those batteries?

**Why is this question asked?** 88 percent of the total mercury and half of the total cadmium in the municipal solid waste stream comes from discarded batteries.

**What is our general recommendation?**

To the greatest extent possible – stop using disposable batteries and use rechargeable ones instead. If possible, recharge batteries using solar powered rechargers. When you do need to discard your batteries - please use a certified recycling program.

**Why do we make that recommendation?** Rechargeable batteries need to be replaced far less often thereby decreasing heavy metal contamination. Recharging batteries using solar recharging units saves energy and decreases the need for greater mercury emissions from power plants.

**What is the contact info to help implement?**

<http://www.amazon.com/gp/product/B000SVNT7C?ie=UTF8&tag=ecogadget->

[20&link\\_code=wql&camp=212361&creative=380601](http://www.amazon.com/gp/product/B000SVNT7C?ie=UTF8&tag=ecogadget-20&link_code=wql&camp=212361&creative=380601)

<http://www.goldengadgets.com/catalogsearch/result/?q=solar+battery+charger> <http://www.batteryrecycling.com/>

## 62. Do your printers and copiers have the ability to work 2 sided? Do people here use that functionality?

**Why is this question asked?** Paper is one of the single biggest waste items in the standard office. This negatively impacts company coffers and the environment.

**What is our general recommendation?**



If you do not currently print double sided then you should definitely start. If you do not have a printer that prints using automatic duplexing then please upgrade when the time comes.

**Why do we make that recommendation?**

- Save money: Duplex printing helps you save money on printing supplies by cutting your paper use by up to 50%.
- Save time: Automatic duplex printing saves you time by allowing you to print double-sided without having to wait and reinsert the pages yourself. -
- It also automates the process allowing you to have more control over the 'forgot to' factor.
- Save space: Less paper takes up less room. It's that simple.
- Shrink your carbon footprint: Beyond the trees that go into making paper, there is also an environmental impact to transporting paper and producing it; imagine lessening that impact by half.

**What is the contact info to help implement?**

<http://h71036.www7.hp.com/hho/cache/548309-0-0-225-121.html>

[http://www.ehow.com/how\\_2253127\\_print-double-](http://www.ehow.com/how_2253127_print-double-)

[sided.html?ref=fuel&utm\\_source=yahoo&utm\\_medium=ssp&utm\\_campaign=yssp\\_art](http://www.ehow.com/how_2253127_print-double-sided.html?ref=fuel&utm_source=yahoo&utm_medium=ssp&utm_campaign=yssp_art)

## 63. What do you do with your old electronics like computers?

**Why is this question asked?** Only one out of five computers on average is being recycled today. This means the rest are going into landfills. The same type of statistics apply to cell phone, fax machines, etc...



**Money Maker!**

**What is our general recommendation?**

If it still works, look to see if any of your employees would like to purchase the equipment at a steep discount. If no one in your organization wants the working equipment then donate it to charity for a tax deduction. If on the other hand the equipment is not functioning, then recycle it.

**Why do we make that recommendation?**

Many of the office devices we are finished with end up in landfills where they will not be made use of, will not decompose, and will almost certainly release the heavy metals and chemicals they contain into the environment at some point. Why not sell them to employees or donate them to charity to receive some type of direct monetary or tax break reward? Recycling devices positively effects the entire environmental life-cycle of office equipment.

**What is the contact info to help implement?**

National electronics accepting charities and recycling resources: <http://www.usedcomputer.com/nonprof.html>

## 64. Do your computer people have your printing set up for narrow margins – by default – on every computer?

**Why is this question asked?** Save money, save trees – what's not to love?



**Money Saver!**

**What is our general recommendation?**

Set margins on every computer to .75 inches rather than the default 1.25 inches.

**Why do we make that recommendation:**

Just how much of a difference could such an adjustment make? A study by the Penn State Green Destiny Council estimates that reducing margin widths from 1.25 inches to 0.75 inch would result in average paper savings of 4.75 percent. Making a ton of non-recycled office printer paper requires 24 trees, according to the San Francisco-based nonprofit group Conservatree. So for each ton of paper used for printing, about 1.14 trees would be saved with the smaller margins -- a significant amount, given that Americans use 5.4 million tons of office paper each year. That's not to mention the energy needed for production that would be conserved -- and the associated carbon emissions that would be reduced.

**What is the contact info to help implement?**

For Microsoft Word 2003: <http://office.microsoft.com/en-gb/word-help/change-page-margins-HP005229275.aspx>

For Microsoft Word 2007: [http://www.ehow.com/how\\_4782275\\_set-margins-microsoft-word.html](http://www.ehow.com/how_4782275_set-margins-microsoft-word.html)

## 65. Do you recycle printer cartridges or laser toner cartridges or buy remanufactured print cartridges at this time?

**Why is this question asked?** In the U.S. an estimated 375 million ink cartridges are discarded each year. The total weight of these cartridges is equivalent to 67,612 Ford Explorers or 112,463 Volkswagen Beetles.

**What is our general recommendation?** Begin recycling printer and laser cartridges & begin purchasing remanufactured ones from a reputable dealer that insures the quality of the cartridges. If you are using HP systems for printing then we recommend SoyPrint Laser Printer Cartridges which employ powder based on soy beans rather than oil.

**Why do we make that recommendation?**  Money Saver! Remanufactured cartridges reduce landfill stress and they are cheaper – check out the savings calculator: <http://www.cartridgeworld.com/calculator.aspx>

SoyPrint Laser Printer Cartridges are available for most HP systems and they decrease the use of fossil fuels.

**What is the contact info to help implement?**

<http://www.soyprint.net>


<http://www.cartridgeworld.com/home.aspx>

## 66. Do you encourage employees to bring an organic lunch to work?

**Why is this question asked?** It may seem like a silly question, but when one considers that millions of workers drive out at lunch time every day - it becomes clear that massive amounts of CO2 emissions are being generated. Also, employees are often pumping themselves full of pesticide covered, genetically modified, fast food which leads to a number of health problems – which leads to sick days and lost productivity. So: Sick employees & a degraded environment, who would have thought that lunch was so important?

**What is our general recommendation?** Post a note in the break area that says: 'By bringing your organic lunch to work today you reduced your carbon footprint, reduced the use of pesticides, slowed the propagation of genetically modified organisms, and made yourself healthier – Thank You!'.

It also makes sense to post a list of organic restaurants that are within walking distance - if there are any.

**Why do we make that recommendation?** It reduces the environmental impact of work and keeps your valuable workers closer to their work areas.  Money Saver!

**What is the contact info to help implement?**

N/A

**End of section**





## CORPORATE KINDNESS

**67. Have you ever polled your employees on the following question: ‘Do you believe it is vital to our company’s interests to become more environmentally friendly?’**

**Why is this question asked?** It is a simple matter of learning what your employees think about the impact of your environmental practices as an organization.

**What is our general recommendation?** Ask the question just as it was stated: ‘Do you believe it is vital to our company’s interests to become more environmentally friendly?’



**Why do we make that recommendation?**

dollars with their green ideas for helping the bottom line.

Employees have literally saved companies millions of

A great example is Citizens Banks 'Green \$ense' program.

**What is the contact info to help implement?**

N/A

## 68. Does your company have plans to reduce its carbon footprint?

**Why is this question asked?** 15-37% of all plant and animal species will become extinct by 2050 if global warming is not addressed now.

**What is our general recommendation?** Reduce what you can and offset the rest. Institute a carbon offset program.

**Why do we make that recommendation?** Businesses need to take responsibility for their actions. Furthermore, by implementing a program you may be able to trade carbon offset credits as a commodity.

**What is the contact info to help implement?**

[www.chicagoclimatex.com/](http://www.chicagoclimatex.com/)

[http://www.climatetrust.org/content/calculators/Business\\_&\\_Org\\_Calculator.pdf](http://www.climatetrust.org/content/calculators/Business_&_Org_Calculator.pdf)

[www.350.org](http://www.350.org)

## 69. Donate to any environmental non-profits?

**Why is this question asked?** Without the need to redesign your entire product line - donating a portion of your proceeds is a relatively inexpensive and tax deductible way to help environmental causes.

**What is our general recommendation?** Begin realigning & branding your products as green and donate a portion of product proceeds to an environmental non-profit such as GECKO

**Why do we make that recommendation?** Reach out to green consumers and you will be rewarded. According to market researcher Mintel, about 12%



of the U.S. population can be identified as True Greens, consumers who seek out and regularly buy so-called green products. Another 68% can be classified as Light Greens, consumers who buy green sometimes.

Make sure that all product packaging and promotional materials include the language "A portion of the proceeds from this product are donated to \_\_\_\_\_ an environmental non-profit

**What is the contact info to help implement?**

<http://www.corporatesponsorships.org>

## 70. Does your company volunteer any man hours for environmental cleanups?

**Why is this question asked?** The ecologically sensitive areas near your business add value to your quality of life. Have a nice beach near the office? How about a public park that employees take breaks at?

**What is our general recommendation?** Organize an annual clean-up effort through a local environmental non-profit. Or just apply for a permit and organize it yourself.

**Why do we make that recommendation?** Demonstrating your commitment to the environment and your community assists local brand awareness efforts. It also improves the quality of life for your employees.

**What is the contact info to help implement?**

Find local volunteer opportunities through local environmental non-profits & contact your local Parks & Recreation Service.

## 71. Does your company have cash reserves that are invested? Is any of that money in sustainable funds?

**Why is this question asked?** We are not in the business of providing investment advice but this area looks like it is ripe with opportunity.



**What is our general recommendation?**

Evaluate placing a portion of your company's cash reserves in a sustainable investment fund.

**Why do we make that recommendation?** 'Green' businesses need our support and many have a remarkable opportunity for growth.

**What is the contact info to help implement?**

<http://www.socialinvest.org/>

## 72. Do you have a sustainable investing option in your 401K plan?

**Why is this question asked?** 401K providers will not start providing sustainable investment options unless their customers demand them.



**What is our general recommendation?**

Ask your 401K or SEP IRA provider if they offer a sustainable investment fund. If they don't have one, demand it.

**Why do we make that recommendation?** Sustainable investment funds seem to be one of the few bright spots in the current economy – they also steer your money toward good rather than evil.

**What is the contact info to help implement?**

Contact your current retirement plan provider – if they don't offer Sustainable Investment Options then you can choose <http://www.401k.com>

## 73. Does your company report on environmental and social profits as well as financial metrics when it reports?

**Why is this question asked?** This question is for 'public companies' & other 'annual reporting entities' to evaluate if they are engaged in 'triple bottom line reporting'



**What is our general recommendation?**

If you are not currently reporting on your sustainability efforts - hire a Chief Sustainability Officer. If you cannot find one, then GECKO can outsource one to you. Contact [director@corporatekindness.org](mailto:director@corporatekindness.org). Triple bottom line reporting may land your publically traded firm in a Socially Conscious Investment fund or two. In fact any annual reporting entity can benefit from reporting on Sustainability by improving stakeholder perception.

**Why do we make that recommendation?**

A good Chief Sustainability Officer:

- Maximizes resource benefits -increases cost efficiencies by decreasing energy and resource waste
- Increases internal & external stakeholder support
- Manages environmental regulatory risk
- Generates revenue & creates new funding potential

**What is the contact info to help implement?**

[director@corporatekindness.org](mailto:director@corporatekindness.org)

## 74. Do you ever hold company trips? If so do you fly or do you charter a bus?

**Why is this question asked?** A company trip can have negative environmental effects associated with travel and waste.

**What is our general recommendation?** Consider local eco-tourism for your company trips.

**Why do we make that recommendation?** Given that there will be a carbon footprint associated with your trip - some lite environmental education for the troops can help offset your impact.

**What is the contact info to help implement?**

<http://www.ecotourism.org/>

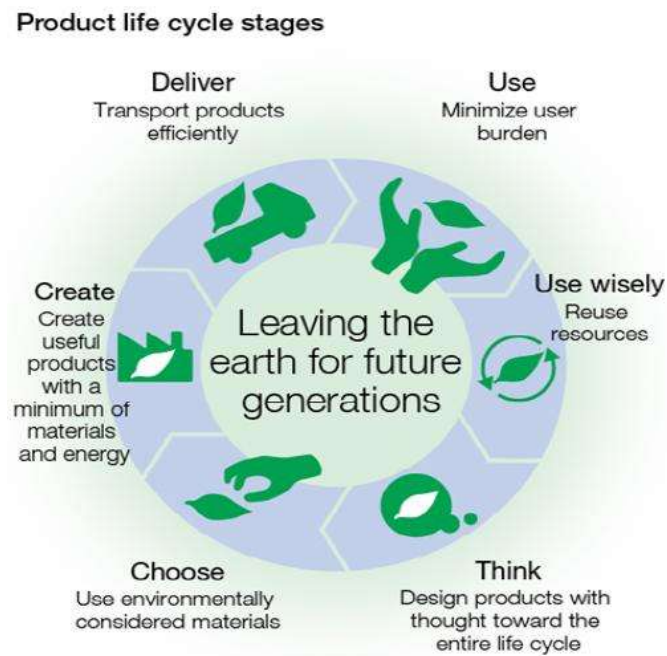
## 75. Do you currently offer any green products or services?

**Why is this question asked?** According to market researcher Mintel, about 12% of the U.S. population can be identified as True Greens, consumers who seek out and regularly buy so-called green products. Another 68% can be classified as Light Greens, consumers who buy green sometimes.



**What is our general recommendation?** Design all new products with sustainability principles in mind. Using cradle to grave eco-consciousness - new products should be created that reflect your values.

**Why do we make that recommendation?** You can be the change that you desire and make money to boot. What is better than that?

**What is the contact info to help implement?**

**End of section**



## VENDORS & BUSINESS PARTNERS

### 76. Who handles your pest control?

**Why is this question asked?** The presence of pesticides in stormwater runoff has a direct impact on the health of aquatic organisms and can present a threat to humans through contamination of drinking water supplies.

**What is our general recommendation?** Make sure your pest people understand your commitment to the environment. Demand that they use eco-safe products or find someone that will.

**Why do we make that recommendation?** The pest control industry is a service industry. The strongest influencer on their business practices is the consumer. Nobody wants nasty dangerous chemicals used around them anyway.

**What is the contact info to help implement?**

Share this link with your pest contractor:

<http://www.extremelygreen.com/pestcontrolguide.cfm>

## 77. Do you have events catered? Insist on organic foods?

**Why is this question asked?** Pesticide coated genetically modified food sound appetizing? It makes up the bulk of the U.S. food supply.

**What is our general recommendation?** Insist that your caterers use organic locally grown foods.

**Why do we make that recommendation?** Organic foods are generally better for you and the environment. Locally grown stuff doesn't have the carbon footprint associated with long distance transport.

**What is the contact info to help implement?**

N/A

## 78. Do you receive raw or component materials from anyone?

**Why is this question asked?** You should know how all this stuff really got here.

**What is our general recommendation?** Make your material suppliers demonstrate environmental commitment. Are they behaving in a sustainable way? Please ask them that question. Resource extraction (especially mining and logging), manufacturing processes, & excessive packaging are all key concerns.

**Why do we make that recommendation?** The strongest voice to effect raw and component material suppliers' environmental practices is you - their customer.

**What is the contact info to help implement?**

Case by case

## 79. Does your company issue uniforms or have promotional items like T-Shirts printed? Insist on Organic materials? Do you use a dry cleaning service?

**Why is this question asked?** Each step of the clothing production process carries the potential for an environmental impact. For example, conventionally grown cotton, one of the most popular clothing fibers, is also one of the most water- and pesticide-dependent crops. At the factory stage, effluent may contain a number of toxins. Shipped clothes



from China have a large carbon footprint associated with long distance shipping. If your company uses a dry cleaning service, then beware. 95% of dry cleaners use PERC. The National Institute of Environmental Health Sciences states that: "Short-term exposure to PERC can cause adverse health effects on the nervous system that include dizziness, fatigue, headaches, sweating, in-coordination, and unconsciousness. Long-term exposure can cause liver and kidney damage." The International Association for Research on Cancer classifies PERC as a probable carcinogen.

**What is our general recommendation?** Every business is different & every uniform or piece of promotional clothing has its purpose. When you're redesigning uniforms and promo clothing items - think green. Will organic or recycled materials work for your uniforms application? If so - please ask your vendors to produce a green option. On dry cleaning - opt for one of the new 'green dry cleaning services' that are popping up everywhere.

**Why do we make that recommendation?** If Wynham Resorts can pull off a green uniform then almost anybody can. On dry cleaning - perc is a toxic soup, plain and simple.

**What is the contact info to help implement?**

<http://www.organicconsumers.org/clothes/leaders.cfm>

## 80. Do you have a 'Green Business Partners Network' of suppliers, potential customers, and businesses to share lead information with?

**Why is this question asked?** If you are going to go green - why not work with others that share your values and make some money to boot?



**What is our general recommendation?**

Work with a business development person that understands green network markets & join:

Balle:

The Business Alliance for Local Living Economies (BALLE) is North America's fastest growing network of socially responsible businesses, comprised of over 80 community networks in 30 U.S. states and Canadian provinces representing over 22,000 independent business members across the U.S. and Canada.

**Why do we make that recommendation?** It will increase your revenue production potential.

**What is the contact info to help implement?**

<http://www.livingeconomies.org/>

## End of section



LED Light Bulb

## ENERGY CONSUMPTION & PRODUCTION

### 81. Who supplies your electric power?

#### Why is this question asked?

This is a brand level issue. When a company can say that its products or services are created or powered by wind, solar, hydro, or geothermal energy they can loudly proclaim their environmental commitment to the marketplace. Making the right call for the environment in this area is one of the strongest ways to put a green foot forward to life conscious consumers.

**What is our general recommendation?** If feasible - go into the power business. Make your business as energy independent as possible by installing solar, wind, etc... Many utilities will actually pay you back for excess energy fed into their grid. There are numerous state by state and even federal incentives. If getting gear installed is out of reach – then contact your local utility to sign up for one of the many green energy options that are being offered. Most states now require power utilities to offer something in the way of a green alternative. Don't expect your utility to promote it though – you'll have to ask.

**Why do we make that recommendation?** The advent of fossil fuel burning technologies has been a tremendous boon to mankind and a tremendous force of destruction for everything else around us. Imagine a world where we can get the benefits of the technology without the majority of the adverse environmental impacts. Then, please do your part. By becoming energy independent your business gains a lasting strategic edge over your competition. At a minimum most businesses will realize a competitive marketing advantage through promoting the fact that they are green powered.

**What is the contact info to help implement?**

Small inexpensive wind system: <http://www.earthtronics.com/honeywell.aspx>

Producer Energy Alternative: <http://www.newwindenergy.com/>

Nonprofit Alternatives: In RI [www.ripower.org/greenstart\\_dir/GS\\_index.htm](http://www.ripower.org/greenstart_dir/GS_index.htm)

In MA [www.massenergy.org/renewable-energy/negs/join](http://www.massenergy.org/renewable-energy/negs/join)

Wind Energy Association: <http://www.awea.org/>

Solar:

<http://www.thesolarguide.com/>

Hydro:

<http://www.altestore.com/howto/HydroPower/Micro-Hydro-Power-Systems-Overview/a27/p1/>

## 82. Do your computers all enter a power save mode after a period of inactivity?

**Why is this question asked?** Almost every computer and monitor made has power save functionality but only a very small fraction of computer users know about it or use it.



**What is our general recommendation?** Enable power save on every user's computer and monitor after 15 minutes. Make sure that the policy is enforced by blocking end user ability to alter the setting without permission.

**Why do we make that recommendation?** Given that almost all computers and monitors have this capability, why not use it to save your business a boat load of money & cut CO2 emissions to boot?

**What is the contact info to help implement?**

If a company has a 'computer person' then they should be able to set this up without difficulty.

[http://www.energystar.gov/index.cfm?c=power\\_mgt.pr\\_power\\_management](http://www.energystar.gov/index.cfm?c=power_mgt.pr_power_management)

### 83. What temperature do you set the thermostats at? Can employees change these themselves?

**Why is this question asked?** Consider this fact published by the US Dept of Energy: Households whose main space-heating fuel was natural gas would have consumed 5 percent less natural gas for space heating if they had set their thermostat 1° F lower.

**What is our general recommendation?**



In winter, set office thermostats between 65 and 68 during the day/business hours, and 60 degrees during unoccupied times. In summer, set thermostats between 78 and 80 degrees during the day/business hours and above 80 degrees during unoccupied hours. Make sure that employees are made aware of the office temperature guidelines. Adjust thermostats higher when cooling and lower when heating an occupied building or unoccupied areas within a building, e.g., during weekends and non-working hours, rooms filled with filing cabinets not people etc.... During summer months, adjusting your thermostat setting up one degree typically can save 2-3% on cooling costs. Consider installing locking devices on thermostats to maintain desired temperature settings.

**Why do we make that recommendation?** Adopting a common sense energy use policy for office temperature will save your business a great deal of money and the environment a great deal of unnecessary abuse. Locking the thermostat helps ensure that personal employee preferences don't override sound policy.

**What is the contact info to help implement?**

NA

### 84. Do you have signs posted to turn off lights in unused rooms?

**Why is this question asked?** The amount of energy wasted on rooms with no one in them is enormous.

**What is our general recommendation?**



Sometimes a simple solution is best for small businesses: Post a sign next to all exits that reminds people to turn off lights and unused equipment.

**Why do we make that recommendation?** It is easy to forget to turn the lights off. A simple reminder posted in an easily seen place makes it more likely that your company won't be throwing money away.

**What is the contact info to help implement?**

NA

## 85. Do you have signs posted to close doors of unused rooms?

**Why is this question asked?** Open doors mean wasted energy. If your heating and air conditioning systems are cycling to regulate the temperature in a empty meeting room - your company is losing money.

**What is our general recommendation?**



Sometimes a simple solution is best for small businesses: Post a sign next to all exits that reminds people to save energy by closing the doors to unused rooms. On the outside of the door a two sided sign should be posted that says 'Room in Use' on one side and 'Room Available' on the second side.

**Why do we make that recommendation?** Corporate culture tends to suggest that unused rooms should be left with the doors open to indicate that a room is free for others to use. Unfortunately that line of thinking runs exactly opposite to sound environmental & energy efficiency practices.

**What is the contact info to help implement?**

NA

## 86. Do you have signs posted to lower thermostats in unused rooms?

**Why is this question asked?** Most of us don't even consider the room thermostat when we leave a meeting or exit the filing room etc...

**What is our general recommendation?**



Sometimes a simple solution is best for small businesses: Post a sign next to all exits that reminds people to save energy by turning off the AC or lowering the heat to 60 in unused rooms.

**Why do we make that recommendation?** Providing temperature control to unused rooms is generally an utter waste of company money and environmental resources. Sometimes people just need a kindly worded sign to spare the world some unnecessary abuse.

**What is the contact info to help implement?**

NA

## 87. What sort of lights do you use?

**Why is this question asked?** This question carries tremendous ecological consequences. Lighting makes up approximately 20% of all electricity use.

**What is our general recommendation?**



If you own your own building or are planning to build out new space – use SolaTubes as much as possible & start buying LED bulbs. CFL is 'last years' green.

**Why do we make that recommendation?** For buildings or space to be built out – SolaTubes eliminate much of the need for daytime lighting electricity use. LED technology is far more efficient than even Compact Fluorescent Light Bulbs and LEDs contain no mercury. For most general applications – Switching to Energy Star compliant Compact Fluorescent Light Bulbs will result in a 75% improvement in energy efficiency and actually decrease the amount of mercury released into the environment (even though CFL's contain mercury) by reducing mercury emissions from coal fired power plants.

### Specific Considerations:

#### CFL Disposal

Recycling is a cinch now that all Home Depot and Ikea stores offer free take-back programs. If you don't live near one of these retailers, search Earth 911's database for nearby recyclers.

#### CFL Clean Up

No need to panic if a bulb breaks. Just follow these strategies from the Environmental Protection Agency and a study conducted by Maine's Department of Environmental Protection.

- Air out the room. Open the windows and have everyone leave for 15 minutes. Be careful not to walk through the breakage on your way out. Close the door behind you. Turn off central air-conditioning/heating system if you have one.
- Carefully gather glass pieces and powder with cardboard or other stiff paper such as index or playing cards. Use duct tape, or other sticky tape, to pick up remaining small glass and powder. Place everything in a glass jar with a metal lid or a sealed plastic bag. You might want to use disposable rubber gloves if you have them.
- If you're cleaning up a floor or other hard surface, use damp paper towels or disposable wet wipes to wipe the area. Never vacuum or sweep with a broom because you run the risk of increasing mercury exposure.
- The federal EPA says, if you're dealing with a carpet or rug and have to vacuum the area where the bulb broke, you should remove the bag when you're done and place it in a sealed plastic bag. Maine's EPA suggests throwing out area rugs or removing parts of carpet as an added precaution. If you keep rugs, then good ventilation is essential the next several times you vacuum. Open windows and turn off you're your central air-conditioning/heating system before and after vacuuming.
- Throw away any clothing or bedding that came into direct contact with broken glass or powder. Washing may contaminate your machine and pollute sewage. You can wash clothing that was in the room, but not in direct



contact with the broken bulb. Wipe down shoes with damp towels or wet wipes and put them in a sealed jar or bag.

- Immediately place all your clean-up materials outside. Wash your hands and face thoroughly. Check with your local government to see how to dispose of broken bulbs. In some cases you can dispose of it with your normal trash pick-up, but recycling is preferable.

**What is the contact info to help implement?**

<http://www.solatube.com/>

<http://www.greenlightingled.com>

## 88. What sort of hand towels or dryer do you have for bathroom use?

**Why is this question asked?** Bathroom paper towels have an immense environmental impact. From the trees cut down to create them to the countless plastic trash bags full of them - we're talking a huge impact.

**What is our general recommendation?** Eliminate paper towels from your bathroom and use an AirBlade instead.

**Why do we make that recommendation?** Dyson's AirBlades are far more energy efficient than most dryers, you don't have to touch a gross button, and there is no solid waste issue like paper towels. They are also far cheaper to operate than constantly ordering paper towels for the bathroom.

**What is the contact info to help implement?**

<http://www.dysonairblade.com//homepage.asp?sinavtype=menu>



## 89. Do your doors shut automatically?

**Why is this question asked?** There is significant energy waste from doors being left open in offices and other work environments.

**What is our general recommendation?**



For most small and medium sized businesses:

Simply installing 'door closers' is sufficient. A 2 sided sign should be posted outside conference room doors that says 'meeting in progress' on one side and 'conference room available' on the other.



**Why do we make that recommendation?** Whether it is air conditioning on warm days or heating on cold ones, you are wasting energy if the door is open. In combination with turning off unneeded heating and cooling systems in empty rooms: A simple door closer is a cost effective way to make sure your business isn't wasting money keeping empty rooms at a comfortable temperature.

**What is the contact info to help implement?**

<http://www.popularhardware.com/lcn-closers/>

## 90. Is non-essential electrical equipment switched off at night or when not in use?

**Why is this question asked?** Copiers, monitors, computers, VCRs, etc... All gobbling up energy and company cash while not in use. At the scale of one small business it is costly – at the scale of the global business community it is an economic and ecological disaster.

**What is our general recommendation?**



Small to medium sized business: First things first, do a machine audit. Find out what you have, note whether it can be turned off at night, and then make sure someone is responsible for pulling the plug or powering stuff down at closing time. Large businesses should evaluate "Energy Command and Control Systems". These software + hardware + infrastructure combination systems can do things like automatically power down non-essential systems when they are not in use.

**Why do we make that recommendation?** The machine audit makes sure you are not missing anything and making someone responsible helps ensure accountability. Large businesses may have difficulty administering such a program without automated assistance.

**What is the contact info to help implement?**

Small and Medium sized businesses: Someone should be assigned internally to handle this.

Large businesses: <http://www.eaton.com/>

## 91. Do you have programmable thermostats?

**Why is this question asked?** Nobody remembers to turn the thermostats down all the time. Energy waste by businesses is too widespread to calculate effectively.

**What is our general recommendation?**



If you do not have programmable thermostats, get

Energy Star qualified ones. They pay for themselves.

**Why do we make that recommendation?** This recommendation comes direct from the Energy Star program. Lifecycle analysis proves the case that programmable Energy Star qualified thermostats save energy vs. manual thermostats. Energy Star qualified programmable thermostats come preprogrammed!

**What is the contact info to help implement?**

[http://www.energystar.gov/index.cfm?c=thermostats.pr\\_thermostats](http://www.energystar.gov/index.cfm?c=thermostats.pr_thermostats)

[http://www.eartheasy.com/shop/energy\\_efficiency.html](http://www.eartheasy.com/shop/energy_efficiency.html)

## 92. Do you have motion sensors for lighting? What about timers?

**Why is this question asked?** Lighting accounts for about 20% of all electricity use in the U.S. and more than 40% of electricity use in offices, stores, and other commercial buildings. In a typical commercial building with 50,000 square feet, about \$45,000 is spent on lighting energy each year. Much of this energy is wasted, resulting in higher energy bills and needless air pollution. When one looks at energy waste, few things compare to lighting being used unnecessarily.

**What is our general recommendation?** Put signs up to remind people to turn off lights as they leave the room – moreover - Install light sensors and timers in rooms that people visit and spend relatively limited time in. Bathrooms are a given – but conference rooms and other rooms can also use motion sensors when combined with timers set for longer periods.

**Why do we make that recommendation?** People forget to turn the lights off all the time. Sometimes even forgetting when there is a sign present to turn the lights off when we leave. Motion sensors make sure that if the sign doesn't do its job then technology will do it.

**What is the contact info to help implement?**

[http://www.eartheasy.com/shop/energy\\_efficiency.html](http://www.eartheasy.com/shop/energy_efficiency.html)

## 93. Do you have any single function machines that can be replaced by energy efficient multifunction machines?

**Why is this question asked?** Why have 3 machines when 1 will do?

**What is our general recommendation?** Replace multiple energy gobbling machines with one extremely energy efficient one. Sell the old stuff on Craigslist or EBay or ask your leasing supplier to swap the old stuff out.

**What is the contact info to help implement?**

N/A

## 94. Are you currently using Awnings, Blinds, Draperies, High-reflectivity films, Insulated panels, Mesh window screens, Overhangs, Shades, Shutters, or Storm panels?

**Why is this question asked?** We are seeking to find out if you use these items today to defend against heat loss in winter and heat gain in summer.

**What is our general recommendation?**



It is complicated. The lengthy information to follow should be used to evaluate the best solutions for your particular business.

### Window Awnings

- Window awnings can reduce solar heat gain in the summer by up to 65% on south-facing windows and 77% on west-facing windows. You can use an awning to shade one window or have an awning custom-made to shade the entire side of your business.
- In the past, most awnings were made of metal or canvas, which need to be re-covered every five to seven years. Today, awnings are made from synthetic fabrics—such as acrylic and polyvinyl laminates—that are water-repellent and treated to resist mildew and fading. Whatever the fabric, you should choose one that is opaque and tightly woven. A light-colored awning will reflect more sunlight.
- Awnings require ventilation to keep hot air from becoming trapped around the window. Grommets (eyelets) or other openings along the tops and sides of an awning can provide ventilation. The awning may also open to the sides or top to vent hot air.
- A small, horizontal awning will completely shade a south-facing window during the summer. An east- or west-facing window needs an awning that extends down to cover a large percentage of the window. Sideless awnings, called Venetian awnings, can be adjusted as the angle of the sun changes. Venetian awnings, however, are usually not effective at blocking direct sunlight on south-facing windows. Hood awnings with sides added to block out additional sun are more effective. Hip awnings project out and down to accommodate casement windows that open outward.

You can roll up adjustable or retractable awnings in the winter to let the sun warm the building. New hardware, such as lateral arms, makes the rolling up process quite easy.

### Window Blinds

Window blinds—vertical or horizontal slat-type—are more effective at reducing summer heat gain than winter heat loss.

### Interior Blinds

Because of the numerous openings between the slats, it's difficult to control heat loss through interior window blinds, but the slats offer flexibility in the summer. Unlike shades, you can adjust the slats to control light and ventilation. For

example, when completely closed and lowered on a sunny window, highly reflective blinds can reduce heat gain by around 45%. They can also be adjusted to block and reflect direct sunlight onto a light-colored ceiling. A light-colored ceiling will diffuse the light without much heat or glare.

#### Exterior Blinds



Exterior roller blinds are usually made of wood, steel, aluminum, or vinyl. They're mounted above the window. Side channels guide them as they're lowered and raised. When you lower these blinds completely, their slats meet and provide shade. If partially raised, the blinds allow some air and daylight to enter through windows.

#### Window Draperies

- A drapery's ability to reduce heat loss and gain depends on several factors, including fabric type (closed or open weave) and color. With such a wide variety of draperies available, it's difficult to generalize about their energy performance.

- In the summer during the day, you should close draperies on windows receiving direct sunlight to prevent heat gain. According to the University of Florida, medium-colored draperies with white-plastic backings have been found to reduce heat gains by 33%. Draperies also stay cooler in the summer than some other window treatments because their pleats and folds lose heat through convection.

- When drawn during cold weather, most conventional draperies can reduce heat loss from a warm room up to 10%. Therefore, in winter, you should close all draperies at night, as well as draperies that don't receive sunlight during the day.
- To reduce heat exchange or convection, draperies should be hung as close to windows as possible. Also let them fall onto a windowsill or floor. For maximum effectiveness, you should install a cornice at the top of a drapery or place the drapery against the ceiling. Then seal the drapery at both sides and overlap it in the center. You can use Velcro or magnetic tape to attach drapes to the wall at the sides and bottom. If you do these things, you may reduce heat loss up to 25%.
- Two draperies hung together will create a tighter air space than just one drapery. One advantage is that the room-side drapery will maintain around the same temperature as the interior space, adding to a room's comfort.

#### High-Reflectivity Window Films

High-reflectivity window films help block summer heat gain. They are best used in climates with long cooling seasons because they also block the sun's heat in the winter.

The effectiveness of these reflective films depends on many factors:

- Size of window glazing area
- Window orientation

- Climate
- Building orientation
- Whether the window has interior insulation

Silver, mirror-like films typically are more effective than the colored, more transparent ones. East- and west-facing windows, because of their greater potential for heat gain, can benefit more from these films. North-facing windows won't really benefit from them at all, and south-facing windows may benefit somewhat, but the benefit could be offset by the reduction of heat from the winter sun.

These films have some overall disadvantages:

- Loss of interior light or visible transmittance
- Impaired outside visibility
- Extra care required for cleaning
- Reflections

These reflective films are available to apply yourself over existing windows. Some window manufacturers also make reflective glazing or glass.

### Insulating Window Panels

An insulating window panel or pop-in shutter typically consists of a core of rigid foam insulation. You can push or clip it into the interior of a window. The panels are made so that their edges seal tightly against the window frame. Seals can be made from magnetic tape or Velcro. No hardware, such as hinges or latches, is required.

Insulating window panels have R-values between 3.8 and 7. They are also fairly inexpensive, whether you buy a kit or make your own, but you will need space to store them when they're not in use.

### Mesh Window Screens

Mesh window screens can diffuse solar radiation, reducing heat gain in the summer. Screens should be mounted in an exterior frame and should cover entire windows. They are particularly effective on east- and west-facing windows.

### Window Overhangs

Properly sized and installed roof overhangs can most effectively shade south-facing windows from the summer heat. If oriented properly, overhangs will allow the sunlight in through the windows during the winter, providing more warmth to a building.

Construction and orientation of an overhang can be tricky since it involves many passive solar design factors:

- Latitude
- Climate
- Solar radiation transmittance
- Illuminance levels
- Window size and type

It's easy to incorporate overhangs into a building design before or while it's under construction. Adding an overhang to an existing structure, however, can be quite difficult and sometimes impossible. Window awnings, louvered patio covers, or lattice-type panels can be considered as alternatives for existing buildings.

### Window Shades

When properly installed, window shades can be one of the simplest and most effective window treatments for saving energy.

- Shades should be mounted as close to the glass as possible with the sides of the shade held close to the wall to establish a sealed air space. You should lower shades on sunlit windows in the summer. Shades on the south side of a building should be raised in the winter during the day, and then lowered during the night.
- For greater efficiency, use dual shades—highly reflective (white) on one side and heat absorbing (dark) on the other side—that can be reversed with the seasons. The reflective side should always face the warmest side: outward during the cooling season and inward during the heating season. They need to be drawn all day to be effective.
- Quilted roller shades, and some types of Roman shades, feature several layers of fiber batting and sealed edges. These shades act as both insulation and air barrier. They control air infiltration more effectively than other soft window treatments.

### Pleated or Cellular Shades

Several manufacturers have designed two- or three-cell pleated or cellular shades with dead air spaces, which increase their insulating value. These shades, however, provide only slight control of air infiltration.

### Window Shutters

Window shutters—both interior and exterior—can help reduce heat gain and loss in your business.

Interior shutters need a clear space to the side of the window when they're opened. They also require hardware that is fastened to the window jams or trim. Properly designed exterior shutters may provide the best possible window insulation system. They offer several advantages:

- Weather protection
- Added security
- No use of interior space
- No thermal shock to windows if left closed

Exterior shutters must be integrated into your structure's architecture. Their mounting, drainage, and hinging will require special consideration; it's easier to address these design issues in new construction.

- Most exterior shutter systems include a mechanical crank, rod, or motor to allow operation from indoors. This can help encourage daily use of the shutters, and may be required by local fire codes.

- Roll-down metal exterior shutters are often used as protection against storms and/or vandalism. While metal shutters provide protection against these hazards, they don't provide much of a barrier against air infiltration and heat.
- Like window blinds, louvered shutters work best for summer shading. Movable or fixed louvers allow ventilation and natural daylight to enter a room while blocking some direct radiation. However, they won't provide much insulation against heat loss in the winter.
- Solid shutters will decrease both heat loss and summer heat gain. These insulating shutters consist of wood panels, a vapor barrier, and sometimes a decorative covering. If you fit them tightly against a window frame, they'll provide an insulating air space between the shutter and the window.
- You can combine shutters with other window treatments, such as draperies, for greater insulating ability.

### Storm Window Panels

A storm panel added to a single-pane window can reduce winter heat loss by as much as 50%. They are also less expensive than double-glazed windows. You can add them to the exterior or interior side of windows.

### Exterior Panels

There are two types of exterior storm window panels: single and combination. Single storm panels are made of glass, rigid plastic, or plastic sheeting. You typically put them up in the fall and take them down in the spring. A combination panel consists of two window panes and a permanent screen over the window. In the summer, you can slide one of the panes up and the screen down for ventilation.

Exterior storm window panels need to be custom-made.

### Interior Panels

Interior storm window panels consist of flexible (like polyethylene) or rigid plastic. Rigid plastic panels are typically mounted using Velcro, magnetic, or snap-in seals. You can easily install the flexible type in window frames using snap-in retainer seals or double-faced tape. Despite their ease of installation, interior panels are usually not as clear as their rigid counterparts. Flexible panels may also wrinkle or sag after installation.

- Heat-shrink film, however, doesn't wrinkle. This type of flexible film adheres tightly against the seal as it is heated using a hair dryer.
- Interior storm window panels should go up before the heating season and come down before the cooling season. They are more useful for windows with awnings or for those that crank-out, where it's difficult to use an exterior storm window panel.
- Unlike exterior storm window panels, interior panels don't have to be custom-made to fit windows, though custom-made ones are available from some window suppliers. Therefore, interior panels usually cost less. You can purchase interior panel kits from building suppliers or hardware stores.

**Why do we make that recommendation?** Our recommendation is based on the comprehensive work performed by the U.S. Department of Energy



**What is the contact info to help implement?**

Case by case

## 95. How old are your exit signs?

**Why is this question asked?** Many exit signs contain a radioactive material known as Tritium which is harmful to the environment.

**What is our general recommendation?** We are not experts on this technology. We suggest that you evaluate Photoluminescent Exit Signs and Exit Path Markings instead of LED and Tritium based exit signs for your building or replacement application.

**If you must handle a Tritium based exit sign the EPA recommendations are:**

- Never tamper with a tritium exit sign.
- A tritium exit sign should be clearly labeled with a statement that it contains tritium.
- Return outdated tritium exit signs to the manufacturer. The address of the manufacturer usually can be found on the back of the tritium exit sign. The manufacturer can provide instructions on how to ship the tritium exit sign safely.

Disposal of a broken sign should be arranged through the manufacturer or a health physics consultant. When an exit sign containing tritium is damaged and the sealed tube within the sign is broken, you should:

- Leave the sign alone; do not touch it.
- Evacuate the area immediately.
- Isolate the area; do not allow entry.
- Ventilate the area to the outside.
- Identify all individuals possibly exposed.
- If you think you have been contaminated, you should:
  - Shower with soap and water (or at least wash face and hands).
  - Change clothing and put the potentially contaminated clothes in a plastic Bag for testing to confirm exposure.
  - Drink plenty of fluids to help the tritium leave the body more quickly.
  - Collect a urine sample for testing to confirm or rule out internal exposure.
  - Call your local fire or police departments.
  - Call your state's radiation control program.
  - Call the manufacturer for technical information.

**Why do we make that recommendation?** Our recommendation to evaluate Photoluminescent Exit Signs and Exit Path Markings instead of LED and Tritium based exit signs is based upon the following website (we cannot speak to this site's accuracy or validity): <http://www.activesafety.com/news2.htm>

**What is the contact info to help implement?**

<http://www.activesafety.com/>

## 96. Does your company offer telecommuting?

**Why is this question asked?** Billions of workers commute to their jobs every day. The ecological toll from greenhouse gas emissions alone is staggering.

**What is our general recommendation?** Offer telecommuting to autonomously productive workers with appropriate job responsibilities. However, telecommuting is not for every individual or job task. The critical issues in implementing effective telecommuting programs are top management support, careful selection of the telecommuting candidates, employee training, and formal policies and procedures detailing performance standards and measures.

**Why do we make that recommendation?** There are strong environmental positives from reducing worker commutes. Moreover: 96% of IT staff would like telecommuting to be offered and 36% of them would be willing to accept reduced wages to get it.

- Telecommuting leads to a significant reduction in carbon emissions even when increased home-based carbon emissions are taken into account.
- That's according to a survey commissioned by the US Consumer Electronics Association (CEA). The survey, The Energy and Greenhouse Gas Emissions Impact of Telecommuting, found that telecommuting in the U.S. caused increased emissions of carbon from home-based offices. This is due to extra lighting, heating and power for electronic devices. However this was more than compensated for by the savings in petrol consumption.
- Telecommuting reduces energy consumption associated with transportation to and from the office and, in some cases, a portion of the energy associated with commercial office space.
- The report states that there are 3.9 million people in the U.S. who work from home at least one day a week. By avoiding an average 22-mile commute to the place of work, and taking into account the increased power use in the home, this practice saves about 840 million (U.S.) gallons of petrol, equivalent to taking two million cars off the road for a year.

**What is the contact info to help implement?**

<http://www.csupomona.edu/~jis/1999/preiser-houy.pdf>

## 97. Do you have water saving measures in place?

**Why is this question asked?** A leaky faucet drips (on average) 15 gallons of water per day. Today, one of the largest concerns around the world is the lack of freshwater for drinking and cooking. It is estimated that over one billion

people, or about one-sixth of the world's population, does not have access to fresh water; of these one billion, the vast majority are living in developing nations. Although water is one of the most common resources on the planet, only 2.5% of it can actually be consumed, and the rest is salt water. Of that 2.5%, two-thirds is confined to glaciers and permanent snow cover. Only a fraction of the world's water is liquid freshwater, and it is increasingly the subject of conflict and strife as it becomes less available.



**What is our general recommendation?** Implement a water saving strategy. Check out the case studies from different industries here: <http://www.swfwmd.state.fl.us/conservation/waterwork/>

**Why do we make that recommendation?** Much of the life on Earth is dependent on fresh water. Furthermore: Given that such a large section of humanity can't even get fresh drinking water and that local governments are often strained to provide it to their burgeoning populations – we recommend being conscious of water waste. If you need 2 more reasons – water for commercial businesses costs money & the amount of energy being used to get fresh water delivered to your business's doorstep is much greater than most people expect. It takes a lot of energy to process water; from treating the water to make it potable, to pumping it to our homes and businesses, pumping the waste back to our wastewater treatment plants, treating the wastewater, and pumping the treated wastewater. In some states, it's estimated that processing and moving water accounts for up to 25% of all the electricity consumption.

**What is the contact info to help implement?**

Steve Mecca

Ecowise Systems

[steve@ecowisesystems.com](mailto:steve@ecowisesystems.com)

## 98. Do you use videoconferencing or face to face meetings?

**Why is this question asked?** On the main, meetings that require travel of participants are unproductive from a time stand point and are ecologically damaging.



**What is our general recommendation?** To the greatest extent possible- replace face to face meetings where even 1 participant must travel with one of the following 3 types of video conferencing systems:

- **Group (sometimes called room) videoconferencing endpoints:** These are high-quality systems designed to be used in shared environments such as meeting rooms, boardrooms, and auditoriums.
- **Desktop or personal videoconferencing systems:** With cameras and microphones designed for personal or single-person use, this product segment includes videophones, executive systems, and PC-based solutions optimized for the office and cubicle work environment.
- **Video infrastructure:** Includes multipoint control units (MCUs), also known as bridges, that enable more than two participants to be in a single videoconference; gateways that connect users on different networks (typically IP and ISDN as well as PSTN), gatekeepers that provide sophisticated user and bandwidth management functions

as well as directory services; and NAT-firewall traversal solutions that enable audio and video calls to connect across different networks and user domains.

Many of these infrastructure products are available to end users on a “pay-as-you-go” basis by conferencing service providers.

**Why do we make that recommendation?** Overall these systems will save participants time, money, and spare our environment the unnecessary wear and tear from all that travel.

**What is the contact info to help implement?**

<http://www.tandberg.com/>

## 99. Do your purchasing mandates currently require Energy Star when available?

**Why is this question asked?** Let’s face it, most of the time we are using lowest cost procurement. This leads to us spending the lowest possible amount on a piece of office equipment or appliance up front, and then being brutalized by the monthly recurring energy costs of the item for years and years.

Case Study Example



Let’s do the math: If installing a lighting retrofit will reduce the utility bill by \$5,000 a month, and the cost of a 48 month financing is \$3,500 a month, then installing the lighting will generate \$18,000 a year of positive cash flow (\$1,500 for 12 months)! To really highlight the cash impact of this installation, one could say that, based on current load and cost per kWh, our hypothetical project will generate \$72,000 of available cash savings within the first four years, after which it will generate \$60,000 per year; all with other people’s money and without using your capital budget or exceeding your operating budget!

Energy efficiency projects tend to have long sales cycles, in part because a sense of urgency (the “cost of delay”) has not been effectively communicated. And delayed projects often turn into cancelled projects. This may be further complicated because many organizations do not have established buying processes for energy efficiency projects. They may find it easier to lease an airplane or buy office furniture than to install energy efficiency lighting or an energy management system.

**What is our general recommendation?** Fortunately, ENERGY STAR has created a number of tools and resources that, when properly used, can help sell energy efficiency projects. These tools support the value proposition that energy projects are great investments, and include the Portfolio Manager, Target Finder, the Financial Value Calculator, the Building Upgrade Value Calculator, and the Cash Flow Opportunity Calculator. All of these resources are in the public domain and available at <http://www.energystar.gov>

**Why do we make that recommendation?** Save money and help the environment, what's not to love?

**What is the contact info to help implement?**

[http://www.energystar.gov/ia/partners/spp\\_res/NEMA%20Article%20Feb%202009.pdf](http://www.energystar.gov/ia/partners/spp_res/NEMA%20Article%20Feb%202009.pdf)

## 100. Do your hot water pipes have a 'Water Heating Jacket' on them?

**Why is this question asked?** Simple, this is without a doubt one of the best energy saving things out there.

**What is our general recommendation?**



Cover all your hot water pipes from your heaters with 'water heating jackets'.



**Why do we make that recommendation?** Because in a standard house size property, a \$20 insulating water heater jacket can reduce costs by 9%!

**What is the contact info to help implement?**

Check out the 'store finders' at

[www.homedepot.com](http://www.homedepot.com)

[www.lowes.com](http://www.lowes.com)

Or go to:

<http://www.energyefficientsolutions.com/rbhwhj.asp>

