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SMART STEPS TO SUSTAINABILITY

A Guide to Greening Your Small Business

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Small Business Programs and Asbestos Small Business Ombudsman

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EPA's Office of Small Business Programs congratulates you on picking up this guide. The fact that you are considering moving your business past environmental compliance and into sustainability says much about your core values and forward thinking. We hope this guide will help you build a successful sustainable business.

section 1

intro

introduction & overview

The Benefits of Greening Your Business

Environmentally-friendly business practices can yield enormous rewards, both for the environment and the business. Being green can:

- Save money from reduced waste and increased efficiency.
- Bring peace of mind from reduced concerns about health and safety liability.
- Improve public relations.
- Improve employee pride and morale.
- Attract green consumers.
- Attract motivated employees.
- Differentiate your business from competitors.
- Provide flexibility in uncertain times.
- Minimize risk, financial and otherwise, from the impacts of climate change.
- Demonstrate leadership and commitment.

A number of prominent corporations, driven by consumer awareness and environmental realities, are embracing the business value of going green. Canon U.S.A., Inc. and Anheuser-Busch have partnered with the EPA Wastewise Program and significantly reduced their waste. 3M, Caterpillar Inc. and Pfizer Inc. have all joined EPA's Climate Leaders Program and committed to reducing their greenhouse gas (GHG) emissions. These firms, and small companies like Pictura Graphics and HARBEC Plastics Inc., realize that business success today means not just a healthy bottom line, but a healthy triple bottom line that takes financial, social, and environ-mental performance into consideration—the essence of sustainability. Many businesses also believe that they have a responsibility to help their community and make a positive contribution to the world. The issues and opportunities motivating these corporations can also affect your business success.

Consider consumer demand. Consumers are increasingly concerned about environmental issues, and the marketplace for sustainable products and practices continues to grow. As consumers learn more about environmental and health threats from hazardous chemicals and climate change, they seek companies that reflect their concerns. An increasing segment of American consumers are highly motivated, well-informed, and concerned about environmental and health issues. Environmentally aware businesses that have reduced their environmental footprint are better positioned to meet this market demand.

environmental stats

73 percent of consumers consider it important that companies have good environmental records[1]

Greening your business can be a way to conserve both the environment and your financial resources.

Environmental realities are also driving corporate sustainability efforts. There is little doubt that environmental issues, particularly climate change, are going to alter the regulatory and market landscape in the near future. Energy-efficient companies will be better able to navigate these regulatory changes and be better positioned to weather negative events like energy price spikes.

Consumers are shying away from more toxic products, concerned by media reports of dangers like chemical compounds leaching from plastic baby bottles. Companies that have reduced their use of toxic chemicals will enjoy better public relations and be more likely to thrive over time as such issues continue to drive media reports and public concerns. These companies can also reduce their potential regulatory costs and liability as laws focused on hazardous material do not apply to non-hazardous substitutes.

Climate change and toxic chemicals are just two concerns that will affect businesses in the near future. Other issues, such as unpredictable energy costs, drought and depleted natural resources, may also significantly impact business success. However, these challenges offer small business leaders a historic opportunity to make a difference and turn a profit.

What Makes a Company Sustainable?

The characteristics of a greener, more sustainable business include:

- Incorporates "green thinking" into the company culture.
- Eliminates inefficiencies.
- Minimizes its impact on the environment.
- Streamlines its processes.
- Thinks long-term.
- Evolves and adapts to new information in a changing world.
- Seeks continual improvement.

Green Premium?

Greening has become mainstream. Historical barriers to becoming more sustainable, like higher costs and low consumer demand, have largely been removed or significantly diminished. Today, for example, the federal government offers incentives for renewable energy and hybrid vehicles; organic product sales continue to grow about 20 percent annually; and green product sales are expected to double over the next two years.

real success:
a profile of AJ's Auto Repair

Don't tell the folks at AJ's Auto Repair in Salem, Oregon that auto repair can't be green. For the past thirty years AJ's has worked to reduce the environmental impact of almost every aspect of their operations. Co-founder Robert Anderson is AJ's leading environmental voice. He believes in the importance of environmental protection because "we all have a dog in this fight."

Mr. Anderson knew that any green steps had to be profitable and feasible. In 1994, AJ's switched to burning used oil for heat instead of sending it out for disposal. This not only reduces waste, but saves the company up to $10,000 a year. To keep the solution from creating problems, the company incorporated the used oil tanks into workbenches to save valuable floor space and modified the shop floor for spill containment to prevent possible leaks from getting into the environment.

Looking out for the environment is part of AJ's corporate culture. New employees read AJ's environmental handbook and sign a statement confirming their agreement with AJ's environmental effort. According to Mr. Anderson, employees "green up" quickly and are key to finding new environmentally friendly approaches. For instance, an employee suggested charging the AC systems with industrial dry nitrogen, a safe gas, rather than releasing environmentally harmful and expensive freon during leak testing. This change saves AJ's hundreds of dollars a year and reduces the negative affect of releasing an ozone-depleting chemical. Employee buy-in also means that new greening ideas from management are welcomed and can be tested on the floor to ensure feasibility.

Although hazardous materials may seem synonymous with auto repair, AJ's has significantly reduced their use of toxic materials. AJ's employees use water-based parts washers and biodegradable detergent instead of the hazardous solvents commonly used in parts washers. This is better for the environment, healthier for employees, and does not generate a hazardous waste that requires special handling. A "bird bath" brake washer eliminated the use of chlorinated solvent brake spray cans and reduced employee exposure to asbestos. Other instances where alternatives replaced hazardous materials include innovative uses of common products like vegetable spray as a lubricant and Milk of Magnesia as an anti-seizing compound.

Another element of AJ's success is to work cooperatively with other organizations. As president of the Northwest Automotive Trade Association, Mr. Anderson helps green the automotive industry as a whole and is active with the Portland Pollution Prevention Outreach Team, a collaborative effort of non-profits, and state and local government, that certifies Eco-Logical Businesses. In conjunction with the Oregon Department of Environmental Quality (DEQ), AJ's piloted a free program to remove switches for trunk lights that contain mercury. Since the program began, AJ's has replaced over 2,500 mercury switches with a non-toxic ball bearing alternative. The program helps ensure proper disposal of the toxic mercury and is now a mandatory pollution prevention program statewide in Oregon and Idaho.

AJ's is careful to avoid greenwashing, making sure they don't overstate their environmental record. The company web site and marketing material focus instead on their core repair work. However, the free publicity from their numerous awards such as the DEQ Certificate of Excellence, the Governor's Award for Toxics Use Reduction, the Marion County Recycler of the Year Award, and the Small Business Environmental Stewardship Award broadens AJ's exposure and brings in additional customers.

So what's the benefit from all this greening? One benefit is money. An independent evaluation of AJ's environmental efforts found that over a ten-year period greening had saved the company over $200,000 from cost savings and increased business revenue. An intangible but important benefit is that a strong environmental record appeals to top employees, and the innovative and cooperative work atmosphere improves productivity. Being a greener company has also helped AJ's attract new customers. The first 90 people who came in for the new non-toxic switches went on to spend over $26,000 in repair services. Bob Anderson estimates that 18 to 20 percent of new customers choose AJ's because of the company's commitment to the environment. Greening works for AJ's and for AJ's customers. As one customer put it, "Over the years you guys have done a great job and we really appreciate it."

For more information on AJ's, visit www.ajsautorepair.com.

Disclaimer: EPA does not endorse any commercial company, their products or services in any way. By including specific companies, EPA is simply providing information.

Small business owners who have been implementing sustainable strategies for decades are seeing these changes firsthand. Roger Telschow of EcoPrint has noticed an increased awareness of environmental issues in his customers. Bob Bechtold of HARBEC Plastics Inc. finds that getting a loan for renewable energy projects is much easier now than it was years ago. Many companies are finding that when the payback from greening initiatives is taken into account, there is no "green premium."

While many of the businesses profiled in this guide are benefiting from the growing consumer demand for environmentally-friendly business practices, they are also experiencing intangible advantages, like free marketing and positive public perception. Fit 'n Furry's greening initiatives were highlighted on a San Francisco television news show, and AJ's Auto has been featured in numerous articles. The sustained success of these green small businesses and many others like them is evidence that greening can and does bring in dollars.

Guide Overview

Smart Steps to Sustainability provides small business owners and managers with practical advice and tools to implement sustainable and environmentally-preferable business practices that go beyond compliance. The guide offers a framework to strategically green your business and presents realistic opportunities to improve environmental performance.

To get your business on track to sustainability, *Smart Steps* will help you:

- Understand the impact your business has on the environment.
- Develop and implement a strategy to minimize this impact.
- Explore opportunities to become more sustainable.
- Share your sustainability efforts with your customers.
- Continually strive for improvement.

Section 2 presents a five step greening strategy. Optional Charts can help tailor your approach to fit your business.

Section 3 discusses opportunities for improving your environmental performance by area of environmental impact and offers guidance on communicating your greening efforts to the public.

Definitions of terms you may be unfamiliar with are in Appendix A.

Appendix B lists additional resources.

The journey to sustainability is unique for every business, but lessons can be learned from those who have already forged a greener profitable path. Throughout this guide, real world greening stories from small businesses in a variety of industries, including automotive, pet care, dental care and more, are highlighted.

Steps to Sustainability

Step 1

Get Ready

Assess Your Compliance

Engage Your Employees

Find Support

Build Your Knowledge

Plan Appropriately

Step 2

Get Started

Define Your Green Vision

Choose Your Approach

Assess Your Impact

Step 3

Set Goals

Select and Prioritize Goals

Plan Implementation

Step 4

Go Green

Turn Your Strategy into Action

Step 5

Ensure Continual Improvement

Measure Progress

Communication

Update Goals and Activities

Moving Forward

Creating a greener business means establishing an awareness of your company's impact on the environment and fostering a culture that minimizes this impact. A strategic approach to greening puts your business on the path to sustainability and provides the flexibility to thrive in the long term.

section 2

steps to sustainability

This section presents a five-step strategy to help you create a more environmentally-responsible company and lay the foundation for a sustainable future.

After completing the five step strategy to sustainability, how can you be sure you've achieved success and are a more sustainable business? When:

- "Green thinking" is part of your company culture.
- Minimization of environmental impact is just the way business is done.
- Green is routine.
- You are committed to seeking a better way.

Here's a quick overview of the five steps:

Step 1. Get Ready helps you lay the groundwork for success.

Step 2. Get Started helps you decide how green you want your business to be, select the best approach to get there, and assess the impact your business has on the environment. The Emerging Issues and Motivations Charts will help identify issues and motivators that influence these choices, and the Environmental Impact Assessment Chart captures your business' impacts on the environment.

Step 3. Set Goals helps you choose your greening goals and identify the actions to achieve them. Use the Goals Charts to help identify and prioritize goals.

Step 4. Go Green presents a discussion on what to keep in mind as you move forward.

Step 5. Ensure Continual Improvement discusses how to make sure your company continues to reduce its environmental impact and flourish at the same time. This final step includes ideas for measuring progress and updating goals.

Step 1. Get Ready

Step 1 will help you:

- Assess your compliance.
- Engage your employees.
- Find support.
- Build your environmental knowledge.
- Plan appropriately.

Assess Your Compliance

Your first step would be to identify and meet any regulatory requirements. How embarassing to say you are a green company and then be hit with an environmental violation. Knowing your regulatory requirements can also help you identify your environmental impact and set goals that reduce the impact and regulatory liability.

Engage Your Employees

Employee buy-in is critical for success. It is your employees who will be responsible for implementing more sustainable practices. Sustainability may require a cultural shift for your company and that can only happen with the support of your employees. Share your vision of what you want your business to become with your employees, involve them upfront, and ask for suggestions on how to green their activities.

Employees may have great ideas on how to reduce environmental impacts and implement your vision. They may recognize where waste and inefficiencies occur better than upper management. For instance, the employees responsible for trash are probably the best source for ideas on establishing a recycling program. You may find that some of your employees are already familiar with greening strategies and even practice them at home or have experience from a previous job.

There are many ways to encourage employee participation. Depending on the size of your business, consider creating a green team to head up sustainability initiatives. Provide rewards for good ideas and incentives for environmentally-friendly behavior. Perhaps most important, as the owner or manager, it is vital that you "walk the talk" and demonstrate green behavior as an example to your employees.

Find Support

There are many sustainable business organizations that can provide information on environmental practices, partner to strengthen lobbying efforts, and create a network of green product and service providers. If one does not exist in your area, consider partnering with other small businesses that are going green and support each other with discounts and advertising. Environmental committees and workgroups in trade associations and other business organizations can also be helpful, and many local and state regulatory agencies have initiatives to help small businesses go green.

Build Your Knowledge

Being familiar with environmental issues will help you understand the environmental impact of your businesses and make better decisions for the future. You can start with the resources in this guide and then build your knowledge by reading some of the many books, articles, and web sites on environmental issues. Your interests may range from environmental philosophy to technical information to finding out more about business and the environment. The more informed you are, the easier it is to develop a successful strategy and stay motivated.

Plan Appropriately

Like any business decision, careful planning can help you gain maximum success. If your employees don't share your vision or if you decide to roll out your greening plan during your busiest time of the year, it's going to be difficult to make progress. Be sure to allocate sufficient resources to ensure success and include greening initiatives in your budget planning.

Step 2. Get Started

Step 2 will help you:

- Create a long-term vision of your sustainable business.
- Choose your approach to greening.
- Identify the environmental impacts of your business.

This step includes several forms that will help you plan strategically. Check the EPA web site at www.epa.gov/osbp/greening.htm to download forms that can be filled out electronically. If you print charts from this guide, make sure that you don't print out the entire document by mistake.

Define Your Green Vision

A clearly defined vision of what you want your business to become will help you set goals, motivate employees, and gain support from customers. What does sustainability mean to you? What does an environmentally-friendly version of your business look like? You may not know the answers to these questions yet, but Step 2 will help your sustainable business vision become a little clearer.

You are not alone!
sustainable business support

The EPA offers a variety of voluntary programs to assist individuals, schools and businesses reduce their consumption of resources and environmental impacts. The Office of Small Business Programs provides a comprehensive list of EPA sustainability programs that can help save resources and reduce utility costs. For the list, click on the OSBP Greening Your Business, Partnership Programs site at **www.epa.gov/osbp/greening.htm**.

National Sustainability Groups
There are many national groups devoted to sustainable business; some are focused on small businesses and others on specific sectors. Conduct a web search for groups that fit your business and interests.

State and Local Groups
There are many state and local sustainability groups with small business members. There are also an increasing number of small business development centers and local Chambers of Commerce that provide free assistance on greening. Conduct a web search or contact your state business association for groups near you.

Look at the Environmental Performance Ruler that follows and think about where you want to position your business. Do you want to pollute less and use fewer resources than companies in the same sector? This will make you a greener than average company. Maybe you want to be truly sustainable and move towards using only renewable resources, producing zero waste, and advocating for greening your community. Use the Environmental Performance Ruler to help guide your vision.

Environmental Performance Ruler

Worse Than Average

- Higher energy costs
- Serious compliance and safety issues
- High environmental liabilities
- Poor public perception on environment and sustainability
- May be involved in litigation
- Big carbon footprint, non-sustainable natural resource use, high waste, and pollution releases

Average

- High energy costs
- Some compliance and safety issues
- Potential environmental liabilities
- Neutral to poor public perception on environment and sustainability
- Big carbon footprint, non-sustainable natural resource use, high waste, and pollution releases

Greener Than Average

- Low energy costs
- Few compliance and safety issues
- No or limited environmental liabilities
- High public perception on environment and sustainability
- Lower carbon footprint, sustainable natural resource use, low waste, low pollution releases

Sustainable

- Renewable energy
- Minimal compliance and safety issues
- No environmental liabilities
- Viewed as a sustainability leader
- Carbon neutral, primarily sustainable natural resource use, zero waste, no pollution releases

As you define your vision, consider how outside environmental issues, like regulatory changes, will affect your business. For instance, if you are a dry cleaner, is your state likely to follow California and phase-out perchloroethylene (PERC)? Is your local government getting serious about enforcing storm water rules? Also, think about marketplace trends. Are your customers interested in greener companies or your corporate clients looking to green their supply chain? Awareness of these issues will better inform your greening decisions. The Environmental and Regulatory Issues Chart that follows will help you identify relevant outside issues.

A dry cleaner may fill the chart out like this:

Example Environmental and Regulatory Issues Chart

Environmental and Regulatory Issues	Potential Impact on Your Company	Positive or Negative	Level of Concern/ Likelihood	Time Period
Climate change	*Not sure, depends on regulations*	*Don't know*	*Low/high*	*Short for regs; long term for env. changes*
High Energy Prices	*Higher costs*	*Neg.*	*Medium/medium*	*Not sure*
New regulations (including GHG regulations)	*PERC phase out would require new machines/ approaches*	*Neg. – high initial cost Positive – levels playing field, reduces env. liability, compliance & safety issues*	*High/not sure*	*Need to find out more about possible state or federal regulations and timing. Research alternatives*
Market pressures	*Greener consumers*	*Depends on our response*	*High/medium*	*Current? Need to research trends & look at response of competition*

Here is a chart for you to fill out:

Environmental and Regulatory Issues Chart

Environmental and Regulatory Issues	Potential Impact on Your Company	Positive or Negative	Level of Concern/ Likelihood	Time Period
Climate change				
High Energy Prices				
New regulations (including GHG regulations)				
Market pressures				

Now consider your motivations. What are the top reasons you want to go green? Knowing what is driving your efforts will help you select goals, set priorities and communicate your vision. Perhaps most importantly, understanding your underlying motivations will help you know when you have achieved your goals. Use the Motivations Chart on the next page to identify your most important motivators and the level of importance.

Motivations Chart

Motivators for Going Green	Importance (low, medium, high)
Personal convictions	
Increased profit	
Image	
Longevity of company	
Customer demand	
Employee satisfaction	
Add value to the community	
Desire to be a leader	
Expand customer base	
Keep up with the competition	
Inspire innovation	
Cost of Compliance	
Environmental Constraints—water shortage	
Energy costs	
Regulatory concerns	

After listing outside environmental issues and identifying motivators, go back to the Environmental Performance Ruler to see if you want to adjust your desired location on the bar. Then fill out the final Putting It All Together Chart that follows to summarize your objectives, outside environmental issues, and motivators. If you want to formalize your vision, use this chart to help write an environmental commitment statement or sustainability policy. You can refer back to this Chart when setting specific goals and actions.

Putting It All Together Chart

Vision (where you want to be on the Environmental Performance Ruler)	
Top Environmental and Regulatory Issues of Concern (in order of priority)	
Motivators with highest importance	
Write a sentence or two describing your vision of sustainability and long-term objectives for the business.	
Approach	Formal EMS (ISO 14001 style) Other formal approach _____ Greening Guide steps (this publication) Ad hoc Other _____

You should now have a good idea of where you want to see your company in the long term, the environmental issues that are likely to affect your company, and the internal values driving your effort.

Choose Your Approach

A successful approach to greening can be simple or complex. Larger organizations may benefit from a formal approach, while a smaller company can make major improvements with informal policies or an ad hoc style. There are many approaches in between. What is important is to select the approach that will help you reach your long-term objectives.

The Environmental Management System (EMS) is a widely used approach that provides a formalized structure for planning and implementing a comprehensive environmental management program. Many companies, particularly large multi-nationals, certify their EMS with the International Organization for Standardization (ISO). Certification provides credibility, and some companies require their suppliers to be ISO14001 certified. For more information on EMS and ISO14001 visit www.epa.gov/OW-OWM.html/iso14001/index.htm. An EMS, even an ISO-certified EMS, does not automatically make your company green or sustainable. It is just a tool to help you get there.

There are other formalized approaches to greening. For example, EPA Region 9 used elements of The Natural Step framework to help identify and rank the environmental impacts of their office. Greening can also be a part of another management approach such as Lean, a business methodology that streamlines manufacturing to eliminate wast and reduce cost (www.epa.gov/lean). You may prefer a less formal approach. The steps in this guide provide the same focus on strategic planning and continual improvement as an EMS, but are simpler and less formal. If you decide to go with a formal EMS, you can still use the steps presented here to help identify your impacts, objecties and targets.

Assess Your Impact

Once you know where you want to go, you need to understand the impact your business has on the environment so that you can identify the actions with the greatest benefit for the environment. Don't be intimidated by this exercise. Nobody knows your business as well as you, and you probably already have a good understanding of your largest impacts. Environmental permits or regulations that apply to your business usually indicate areas of environmental impact. For example, an air permit means that you are releasing air pollution. Use the Environmental Impact Assessment Chart below to identify the environmental impacts of your business, and evaluate the relative contribution of all your business activities to your overall environmental impact.

Environmental Impact Assessment Chart—Instructions

This Chart will help you identify the specific environmental impacts of your company. It already includes information on impacts for common business functions. You need to customize it to reflect your company's unique situation. The individual columns are described below.

1. Activity Area – The Chart is organized by functional area—transportation, office, warehouse, manufacturing, business processes, and building and grounds. Business process refers to non-manufacturing processes that are specific to your business like food preparation in a restaurant, the working area of an auto repair shop, or a retail store's sales operations. You will need to customize the rows under Business Process to fit your business.

The links under Sector-specific Resources can help identify impacts from your specific industry.

2. Environmental Impacts: This column captures how each activity area can impact the environment. Air and water pollution, waste, toxics, habitat loss, use of natural resources, and GHGs are typical environmental impacts. Impacts can be direct, such as emissions from the tailpipe of your delivery van or indirect, such as GHG emissions from the power plant that produces your electricity or toxics released during the manufacturing of the bleached white paper you purchase.

3. Impacts of Your Company: Describe, or if possible quantify, each activity's impact at your company. For example, under Paper use, list the main uses for paper in your company and how much you use. You might enter "printing reports and invoices, two reams a day." Alternatively, under Delivery services, you might record "two gas-powered company vans that drive about 100 miles a week with an average mileage of 20 miles per gallon (MPG)." Permits or other regulatory requirements will tell you about some of these impacts. If possible, include costs. This information will help you set and evaluate goals so be as detailed as possible.

4. Impact Contribution: What is the relative contribution of each activity area to the overall environmental impact of your company? You may want to have a short description for the contribution and then rate it as: very low, low, medium, high or very high. Consider factors such as:

Environmental Impact
quick reference

Air pollution—The release of harmful matter like particulates, and gases like sulfur dioxide, nitrogen oxides, carbon monoxide, and volatile organic compounds into the air. Ozone, a harmful air pollutant, is created by sunlight interacting with other air pollutants.

Erosion—The wearing away of soil. The increased flow of stormwater from impervious surfaces like rooftops and pavement erodes land, scours stream banks, adds silt that carries contaminants to water bodies and degrades habitat.

GHG emissions—The release of heat-trapping gases such as carbon dioxide, methane, and nitrous oxide into the air. Greenhouse gases keep the earth warm, but increased concentrations contribute to climate change.

Water pollution—Sewage, fertilizers, pesticides, oil, silt, and other pollutants that are discharged, spilled or washed into water, including contaminants from air pollution that settle onto land and are washed into water bodies.

Habitat loss Loss and degradation of the natural conditions that animals and plants need to survive. Caused by activities like development, deforestation, and contamination from stormwater runoff and other pollution. It can occur directly from activities like road building, or indirectly, for example contamina tion from vehicle exhaust.

Toxics—Chemicals which pose a severe health risk such as chlorine, formalde hyde, and dioxins. Toxics can be poisonous, cause cancer, and harm reproduc tive systems, and may be present in pollution, manufacturing by-products, and chemical products like cleaning solvents.

Resource use—Using, extracting or harvesting natural and manufactured resources can deplete ecosystems and destroy habitat. Associated activities like transportation and processing can cause air and water pollution. Excessive withdrawal of water from lakes and rivers, or aquifers can damage habitats by drying wetlands, creating low flow rivers, and stopping natural springs.

Hazardous waste—Waste that is considered toxic or flammable. Because it is strictly regulated, there are formal regulatory definitions of hazardous waste.

Waste disposal—Removing and eliminating discarded materials. Disposal of non-toxic waste material has environmental impacts from transportation, landfill space requirements and leaching, or incineration.

Energy use—The production and use of energy from fossil fuels like coal and petroleum creates air pollution (carbon monoxide, carbon dioxide, and toxics like mercury and benzene) and hazardous solid waste (from coal) and destroys habitat.

- Volume or size (e.g., amount of trash generated, or number of miles driven by company vehicles).
- Toxicity (a very hazardous chemical versus a non-hazardous chemical).
- Direct releases to the environment (e.g., delivery truck exhaust, releases of an ozone depleting substance, or discharge of industrial wastewater to the sewer).
- The potential for harm, either to employees or the environment (the high possibility of gasoline spills from refueling a lawn mower, or asthma from air pollution from diesel trucks).
- Indirect harm to the environment (air pollution from the generation of electricity or the loss of habitat from road building).
- Frequency of an activity (e.g., pesticide applications probably occur infrequently, business travel may occur frequently, and heating, ventilation, and air conditioning (HVAC) use occurs very frequently).

Environmental Impact Assessment Chart

1. Activity Area	2. Environmental Impacts	3. Impacts of your company	4. Impact Contribution
TRANSPORTATION			
Employee commuting	Air pollution Energy use GHG emissions Habitat loss Water pollution		
Business travel	Air pollution GHG emissions Energy use Habitat loss Water pollution		
Shipping/receiving	Air pollution GHG emissions Energy use Resource use Waste disposal Water pollution		

1. Activity Area	2. Environmental Impacts	3. Impacts of your company	4. Impact Contribution
Delivery services/fleets	Air pollution GHG emissions Energy use Habitat loss Water pollution		
OFFICE AREA			
Paper use	Air pollution GHG emissions Habitat loss Resource use Toxics Waste disposal Water pollution Water use		
Solid waste	Air pollution Energy use GHG emissions Waste disposal Water pollution		
Lighting	Air pollution Energy use GHG emissions Habitat loss Toxics		

1. Activity Area	2. Environmental Impacts	3. Impacts of your company	4. Impact Contribution
HVAC	Air pollution Energy use GHG emissions Toxics Water pollution Water use		
Other equipment (copiers, computers, etc.)	Air pollution Energy use GHG emissions Habitat loss Toxics Water pollution		
Water use	Habitat loss Resource use Water pollution		
Purchasing	Air pollution Resource use Toxics Waste disposal Water pollution		
Cleaning	Air pollution Resource use Toxics Waste disposal Water pollution Water use		

1. Activity Area	2. Environmental Impacts	3. Impacts of your company	4. Impact Contribution
MANUFACTURING			
Paper use	Air pollution GHG emissions Habitat loss Resource use Toxics Waste disposal Water pollution Water use		
Solid waste	Air pollution Energy use GHG emissions Waste disposal Water pollution		
Hazardous waste	Air pollution Toxics Waste disposal Water pollution		
Lighting	Air pollution Energy use GHG emissions Habitat loss Toxics		
HVAC	Air pollution Energy use GHG emissions Toxics Waste disposal Water use		

1. Activity Area	2. Environmental Impacts	3. Impacts of your company	4. Impact Contribution
Water use	Habitat loss Resource use Water pollution		
Raw material	Air pollution GHG emissions Resource use Waste disposal Toxics Water pollution		
Releases	Air pollution GHG emissions Habitat loss Water pollution		
BUSINESS PROCESS			
Meetings	Energy use GHG emissions Resource use Waste disposal		
Other			
BUILDING AND GROUNDS			
Water use	Habitat loss Resource use Water pollution		

1. Activity Area	2. Environmental Impacts	3. Impacts of your company	4. Impact Contribution
Mowing, leaf blowing, etc.	Air pollution Energy use GHG emissions		
Storm water run off – roof	Erosion Habitat loss Water pollution		
Storm water run off – paved areas	Erosion Habitat loss Water pollution		
Pest control	Habitat loss Water pollution Toxics		

Section 3, Opportunities, also gives an overview of common environmental impacts from business practices in the introduction of each topic area.

The government develops environmental regulations to ensure that the most significant environmental impacts are monitored, controlled and minimized. If any of your business activities require a permit, these activities most likely have a significant impact on the environment. Explore EPA's online compliance assistance resources for small businesses at www.epa.gov/compliance/incentives/smallbusiness/index.html to better understand the regulations that affect your industry, to make sure you are not violating any regulations, and to identify impacts from your business.

There are industry-specific resources that will help you identify impacts. The web-based Compliance Assistance Centers that EPA developed in partnership with third parties have information on specific sectors such as construction, healthcare, and transportation (www.epa.gov/compliance/assistance/centers/) and pollution prevention resources often include information on environmental impacts (www.epa.gov/p2/pubs/p2rx.html). You can also check with your local or state regulatory agency or trade association. Some voluntary environmental programs, like EPA's WasteWise, also provide tools and information to help identify environmental impacts.

With a better understanding of the impacts of your business on the environment, you may wish to review the Charts from Step. 2 Get Started to see if you want to make any changes to your green vision.

Step 3. Set Goals

Step 3 will help you:

- Identify SMART goals.
- Select and prioritize goals that will help you reach your objectives.
- Define responsibilities.

A clear set of goals can turn the vision you developed in Step 2 into reality. The right goals will help determine the future direction of your company, and motivate your employees. So how do you choose the right goals? For starters, make sure your goals are SMART: specific, measurable, actionable, relevant, and time-bound.

Specific. Perhaps you envision a carbon neutral company. This is a specific long-term goal. To reach it, you will also need to set specific short-term goals. An initial short-term goal could be to measure your GHG emissions to determine a starting point, and a subsequent goal might be to reduce the company's carbon footprint by 10% a year.

Measurable. If you can't measure your goal, it is hard to know when it has been reached or how to evaluate your efforts. Consider the difference between a goal to be a green company and a goal to use 100% renewable energy. Without a precise definition, it is hard to measure "greenness," but the source of your energy is easy to measure.

Attainable. Your goals need to be ambitious enough to make a difference but not impossible to achieve. The right balance will motivate your employees without discouraging them. You may want to be a zero-emissions company within one year, but it is probably impractical. A more realistic goal is to cut emissions by 20 percent in the first year with zero-emissions as a long-term goal.

Relevant. Your goals need to relate to what you are trying to achieve. Make sure that your goals will meaningfully reduce your environmental impact and align with your vision.

Time-bound. Goals need to have a defined timeframe. A deadline provides incentive to take action and move forward. Choose realistic timelines for your goals, and include milestones and periodic assessments to measure your progress and stay motivated.

Select and Prioritize Goals

1. Review Your Long-term Business Objectives

Where do you want your business to be in five or ten years? Before deciding on your goals, identify long-term business objectives to ensure that your goals will help you achieve your vision. Review the Putting It All Together Chart from Step 2 and then write several long-term objectives in the space provided below. Be sure the objectives are specific and clear enough for others to understand.

Long-term Business Objectives

2. List Goals and Activities

Taking your long-term objectives into account, list all the sustainability goals you can think of on a separate piece of paper, you will prioritize the goals in the next step. You may want to first read through Section 3, Opportunities for ideas. Also discuss the goals with your employees and review them against the SMART list to make sure you have goals that will take you where you want to be.

Once you have identified goals, list the activities needed to reach the goal. The Environmental Impact Assessment Chart from Step 2 can help with this. For example, if your goal is to reduce electricity use by 25 percent, you can use the Chart to identify where you can get that savings—from lighting, changing a business process to use less energy, or replacing old inefficient appliances.

3. Prioritize

After listing sustainability goals and activities, focus on the ones that will help achieve your vision for the future, that are based on your most significant environmental impacts, and that will make the most sense for your business. Choose the goals that will address the greatest impacts (see impacts from the Environmental Impact Assessment Chart) and where you can make the biggest strides. For example,

- Do you run a retail store with piles of cardboard packing boxes leftover after a shipment arrives?

  Your goals may include working with vendors to find alternatives to cardboard packing boxes, such as reusable wooden crates, and asking vendors to minimize empty truck moves and transportation of empty crates.

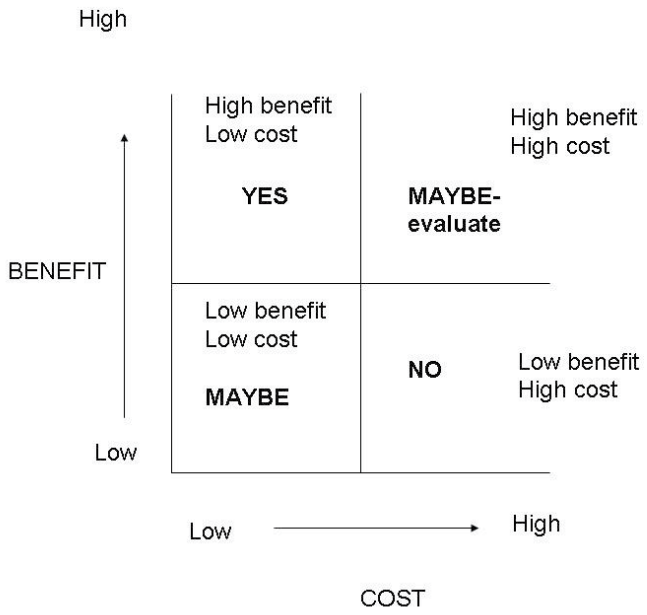
- Is your dry cleaning store using toxic chemicals?

  Your goals may include exploring options to become a green cleaner or minimize the amount used.

- Does your restaurant throw away large amounts of food waste daily?

  Your goals may include donating or composting food waste.

Like any business decision, you need to consider the costs and benefits of your goals – financial and environmental. Evaluate your goals based on feasibility, payback period, financial return on investment, and social return on investment. Think about how much money you are willing to invest in sustainability measures, what changes you can afford to make, and the effort that will be required from your employees. While it may not be easy to put an exact dollar value on environmental benefits, it might help to think about prioritizing goals in terms of the following grid:



You can use the benefit axis to consider benefits to your company or to the environment. Obviously, a project that is low cost and high benefit for your company or the environment is a good one to choose. But what about a project that is high cost and has a high benefit for the environment, but a lower benefit for the company? This project may take more thought before making a decision. Don't automatically dismiss a goal because of the initial cost and be sure to consider intangible benefits like customer perceptions and employee pride. Analyze the costs over time and factor in all the components, including the intangibles, before making a final decision.

When setting priorities, consider which of the possible goals:

- Will make you the most competitive.
- Includes low-hanging fruit, like reducing or recycling office paper, that is important and easy.
- Will have the biggest impact on the environment or on your bottom line, like installing an on-site wind turbine.

- Contributes to the growth or longevity of your business.
- Has other benefits, like toxics reduction that also improves worker safety and reduces compliance issues.
- Relate to your vision and long-term objectives.

Based on your priorities, select the goals that you want to focus on and enter them in the Environmental Goals chart below.

Environmental Goals Chart

Goal 1

Timeframe	Who	Metric

Activities for Goal 1	Timeframe	Who	Metric
1.			
2.			
3.			
4.			
5.			

Goal 2

Timeframe	Who	Metric

Activities for Goal 2	Timeframe	Who	Metric
1.			
2.			
3.			
4.			
5.			

Goal 3

Timeframe	Who	Metric

Activities for Goal 3	Timeframe	Who	Metric
1.			
2.			
3.			
4.			
5.			

Goal 4

Timeframe	Who	Metric

Activities for Goal 4	Timeframe	Who	Metric
1.			
2.			
3.			
4.			
5.			

Goal 5

Timeframe	Who	Metric

Activities for Goal 5	Timeframe	Who	Metric
1.			
2.			

3.			
4.			
5.			

Plan Implementation

Once you know your goals, think about the activities that are needed to achieve the goals. Then enter the activities in the Environmental Goal Chart. The chart also has space for the timeframe/milestones for each activity, who will be responsible for implementation, and how it will be measured. Clearly defining this information will help ensure that your goals are achieved. Identifying employee responsibilities for implementing the actions is particularly important. Consider including environmental performance in employee appraisals. Employees are more likely to make sustainability a priority if management makes it a priority and performance reviews communicate this clearly.

Step 4. Go Green

Step 4 will help you:

- Implement your greening strategy.

Turn Your Strategy into Action

At this point, you are ready to turn your greening strategy into action. It's your business, and you and your employees know best how to make a strategy work. Steps 2 and 3 helped you develop a vision and a plan, and now you just have to bring that plan to life.

Check to make sure your company goals are clearly translated into specific activities, that the activities are reasonable, and that each employee understands their responsibilities. Employees should also understand the company's vision for sustainability, be aware of the company's greening goals, and be assigned responsibility for specific goals.

Leadership and communication are key to success. If greening your business means major changes to the company culture, much of your success depends on managerial skill. As you know, managers have to communicate effectively, "walk the talk," and set a positive example.

It's important to reinforce responsibilities and green thinking on a regular basis. Educate your employees on why greening is important, e-mail relevant online articles, leave environmental magazines in the lunchroom, and talk about the underlying issues. Send out regular e-mails or post signs reminding your team of the company's green goals and vision for sustainability. It is important to communicate progress toward goals so everyone can see how their actions make a difference.

Motivate your employees. Remind them that the company's sustainability success relies on teamwork. Recognize good performance and thank employees for their efforts. Consider friendly competitions between offices or different employee groups. Maybe the group that reduces energy the most or uses the least paper wins a bagel breakfast or movie tickets.

As you move forward, remember to stay focused on the results. Step 5 will help you measure your progress and create a system for continual improvement.

Step 5. Ensure Continual Improvement

Step 5 will help you:

- Measure progress.
- Develop a strategy for updating your goals.
- Become more sustainable over time.

Sustainability is an on-going commitment to reduce environmental impacts for the benefit of future generations. The goal of Step 5 is to help your company continue to make progress towards sustainability. This step will give you strategies for keeping your commitment going and making your company greener every year.

Measure Progress

Step 4 helped put your greening strategy into place. Step 5 checks to see if the strategy is working. Good measures will tell you if you're moving along the Environmental Performance Ruler in the right direction and are on track to reach your goals. Measures will also help you evaluate your efforts so that you can keep doing what works and change what is not effective. Seeing results will also help motivate you and your employees.

There are different approaches to measurement. If you plan to participate in a program that requires reporting to an external organization, it is important to have detailed information and reliable metrics. If you don't plan on external reporting, you still will want to know how you are doing; you just don't need to be as rigorous.

In selecting measures, focus on the outcomes of your initiatives, not just your activities. If you have started a recycling program, measure the increase in materials recycled rather than number of recycling bins. If energy efficiency is your focus, track the change in kilowatt-hours rather than incandescent light bulbs replaced.

Stick to the milestones for activities you identified along with your goals in Step 3. By tracking progress along the way, you can make changes to correct your course early on. This is particularly important for more ambitious goals such as reducing GHG emissions. By breaking down a large goal into manageable pieces, you can periodically measure your progress, assess what's working and what's not, and make needed adjustments.

Communication

Communication, both top-down and bottom-up, is important for keeping momentum and ensuring continual improvement. It is useful to get feedback from your employees. Ask them about the impact of new environmental initiatives on their day-to-day work, whether new initiatives are burdensome and if "green thinking" is being integrated into their daily routine.

Asking for this information and providing employees with feedback on their environmental performance also communicates management's interest and commitment to sustainability. Communicating Your Efforts in Section 3 provides more ideas on communication.

Update Goals and Activities

Periodically reevaluate your goals and activities. If goals are being met or exceeded, consider setting more stringent goals (and don't forget to recognize your employees for getting you there). If your team is not meeting the stated goals, try to determine the root cause. It may be that your implementation strategy is not clear, staff responsibilities need to be redefined, or perhaps the goals themselves are not realistic.

Over time, greening activities should become part of every day work responsibilities. When this integration occurs, greening activities should be included in your Best Management Practices (BMPs) and standard operating procedures or work instructions. You can then move on to create new greening activities.

Moving Forward

Leadership and management support will remain crucial to the on-going success of your sustainability initiatives. Continue to educate yourself and your employees about environmental issues. Revisit your vision at least annually, and update your goals as your business grows or changes. Encourage and empower your employees to always look for environmentally-friendly ways to accomplish their jobs. Join voluntary programs to develop and strengthen your greening efforts. Celebrate your efforts; plan an Earth Day event at your business or get involved in local events.

Remember to include greening in all decisions and try to anticipate the environmental impact of any new activities or decisions. Continual improvement means being proactive, not reactive. Periodically refer back to Steps 1 and 2 and ask:

- Have we learned more?
- Has our vision changed?
- Are we satisfied with our progress along the Green Performance Ruler?
- Are we celebrating our greening successes?

As green thinking becomes part of your company culture, you and your employees will begin to recognize countless opportunities to improve your business' environmental performance. A good place to start taking advantage of these opportunities is to consider how your business manages waste, purchasing, water, energy, and transportation.

opportunities

section 3

This section describes opportunities for improving environmental performance by area of impact. Multiple options are presented, allowing you to determine how ambitious you want to be based on your resources and your unique business. Each topic area is arranged as follows:

- The Issue: an introduction to the impacts of business on the environment.
- Real Success: a profile of small business greening successes.
- Resources: select online resources.
- What You Can Do: a description of the options and opportunities to eliminate or reduce the environmental impacts of your business.

Waste
Prevention, Reduction, and Recycling

The Issue

There are many reasons to reduce waste. Business-wise, the main reason is to save money. Waste is a loss. It represents inefficiencies in the system and ineffective or unnecessary use of resources. While some waste may be unavoidable, streamlining your business to prevent waste will boost your bottom line. The Seydel Companies, a textile chemical manufacturer and member of EPA's WasteWise program, increased revenues by more than $518,000 through waste reduction. How much could you save?

From an environmental perspective, there are many reasons to reduce waste. Waste from virgin material extraction, industrial processes and manufacturing represent depleted natural resources, damaged wildlife habitat, and pollution. Improperly managed waste can lead to litter and toxins contaminating the environment, which can negatively affect water, soil, air, and wildlife, as well as human health. Landfills take up space, can release harmful gases including greenhouse gases, and can pollute water. Waste incineration uses energy and can release toxic air pollution. Toxic components in electronic wastes (e-wastes) have become environmental, human health, and human rights problems as these wastes are often shipped to developing countries with few regulations and poor working conditions.

resources

WasteWise
www.epa.gov/epawaste/partnerships/wastewise/index.htm
One of the best waste reduction resources is EPA's WasteWise program. WasteWise is a voluntary partnership program for businesses, local governments, non-profit organizations and all industry sectors. The program helps partners reduce municipal solid waste such as corrugated containers, office paper, yard trimmings, packaging, wood pallets, and select industrial waste. WasteWise provides partners with tools to design waste reduction programs and offers free technical assistance and opportunities for publicity.

Hazardous Waste
www.epa.gov/osw/hazard/index.htm
Hazardous wastes are divided into types: listed, characteristic, universal, and mixed. EPA provides specific guidance on waste identification to help determine if your waste is hazardous.

Pollution Prevention (P2)
www.epa.gov/p2
EPA supports an extensive P2 program to help reduce waste at the source. A P2 guide for small businesses is available from **www.epa.gov/p2/pubs/assist/sbg.htm**.

A nationwide network of P2 Technical Assistance Programs provides help with source reduction and environmental management: **www.epa.gov/oppt/p2home/pubs/assist/index.htm**.

Some commercial waste, like manufacturing by-products, cleaning fluids, and pesticides, are legally considered hazardous wastes. In addition to being dangerous to human health and the environment, hazardous waste disposal is expensive and can lead to compliance issues with environmental regulations. There are also management costs associated with the storage and transportation of hazardous waste and potentially significant financial penalties for non-compliance with hazardous waste regulations. Reducing or eliminating hazardous waste can avoid the cost of hazardous waste management and reduce potential noncompliance liabilities.

The Pollution Prevention (P2) hierarchy of reduce, reuse, and recycle is more applicable today than ever. While not creating waste in the first place is the best approach, waste reduction through recycling or reuse is easy and can save money. Have you considered that your waste may be someone else's raw material? Whether you have an office-based business that generates mostly paper waste, a dry cleaner that generates hazardous waste, or a restaurant that generates food waste, your business will benefit from waste reduction. No matter what kind of waste, this guide will help you reduce it, reuse it, or recycle it.

What You Can Do

Get to Know Your Waste

Do you know what kind and how much waste your business generates? The first step, whether you want to implement a comprehensive program or make specific changes, is to look at the waste generated by your company. For example:

- How much waste is produced every week or month?
- How much does waste management and disposal cost you?
- Does your waste stream contain toxic components?

In addition to direct disposal costs, consider the cost of storage, regulatory compliance, and other related expenses. If possible, weigh the waste components – paper, food waste, plastics, etc. – to determine the composition. Once you know your waste, you can make changes to get the most bang for your buck, both in savings and in environmental protection. Understanding your waste generation will also help you measure improvements. Tracking waste reduction is necessary for communicating results, and when applying for awards and certifications.

The WasteWise program provides a waste assessment form at www.epa.gov/epawaste/partnerships/wastewise/measure-progress.htm to help you characterize your waste management practices and quantify waste generation.

real success:
a profile of Pictura Graphics

Pictura Graphics is a large-format digital graphics company in Minneapolis, Minnesota and the first "Sustainable Green Printer" certified by the Sustainable Green Printing Partnership (SGPP). Pictura produces custom finishing and digital imaging services for banners and signage, wall murals, trade show displays, building and vehicle wraps, window treatments, and floor graphic treatments. After 30 years in business, Pictura took its first steps towards sustainability in 2007 by introducing ecoIMAGES™, a product line created using environmentally-friendly components. Initially motivated by customer demand, environmental stewardship and sustainability are now an integral part of Pictura's business practices.

Company President Paul Lilienthal says that Pictura has taken a proactive approach to reducing the company's environmental footprint and it's paying off. Pictura's sustainability initiatives have expanded the company's client base to include more environmentally-aware customers, and have provided more revenue and increased cost savings. Waste management and recycling have proven particularly successful, saving the company an estimated $20,000 each year. By increasing the recycling of cardboard, aluminum, plastics, acrylics, styrene, general office paper, and manufacturing by-products, Pictura reduced their dumpster pick-ups by a factor of four – from eight to two pick-ups per week. The costs of recycling are more than covered by savings from waste reduction.

Pictura's waste reduction efforts extend through the life cycle of its products in the ecoIMAGES line. EcoIMAGES products are manufactured using recyclable, re-pulpable, or biodegradable components and printed with ultra-violet (UV) water-based inks that are low in volatile organic compounds (VOC). EcoIMAGES fabrics and textiles are manufactured from recycled yarns and natural cotton fibers. The line includes ecoFABRICS, ecoTEXTILES, ecoVINYLS and ecoBOARDS. Since these products are made from natural and recycled materials, and the products themselves can be recycled, waste is significantly reduced from their creation to the end of their lives.

Mr. Lilienthal believes that taking a good look at waste reduction improves the overall quality and efficiency of business. He points out that if employees are trying hard to avoid creating waste while producing products, they will make an extra effort to "do it right" the first time.

Pictura is striving for continual improvement, measuring progress along the way, and seeking new ways to become more sustainable. The company has partnered with suppliers who share the same environmental values, creating a network of companies in the graphics industry who seek sustainable options that extend to water and energy efficiency.

While Mr. Lilienthal encourages other small businesses to go green simply because it makes good business sense, he says, "You have to believe in what you're doing. Sustainability is a journey and you have to be in it for the long term."

For more information about Pictura Graphics, visit www.picturagraphics.com.

Disclaimer: EPA does not endorse any commercial company, their products or services in any way. By including specific companies, EPA is simply providing information.

environmental stats

101 tons of solid waste are produced by businesses every year in the United States.

12.5 percent of all Municipal Solid Waste consists of food scraps.

4.62 pounds of waste were generated per person per day in 2007.

2.62 pounds of waste were generated per person per day in 1960.[2]

Source Reduction

Source reduction is waste prevention. Source reduction starts before designing a product or process, using a material, or purchasing an item. It is the practice of identifying how changing processes, materials, or methodologies can reduce waste. The key is to include waste considerations in all aspects of your business. Upfront decisions that decrease materials that may end up as waste in all stages of a product's life cycle will reduce the total amount of waste. Reducing the toxicity of a specific product or the use of toxic products can decrease disposal costs, environmental impacts, and incidences of noncompliance.

To reduce waste at the source, ask:

- Is this material or product vital to the success of my business?
- Can I redesign this product, packaging, or process to use less material?
- Can I buy this product in bulk to avoid extra packaging?
- Have I asked my vendor to reduce packaging?
- Do I really need to print this document?

Reuse

Unfortunately, we commonly dispose of products after a single use and have come to expect disposable plates and utensils at business and social gatherings. What a waste! Reuse is a simple but effective and often overlooked waste reduction tool. Reuse also saves money. Once you've purchased a reusable product, you create less waste and spend less money on disposable products. Environmentally speaking, reuse is preferred over recycling because less energy and natural resources are used.

Any business can implement reuse policies as standard practice, no matter how big or small and no matter what type of business. In the office kitchen, consider providing ceramic mugs and plates in place of paper cups and plates. Instead of single serving sugar and salt packets, provide a refillable container and buy sugar and salt in bulk. In a restaurant, offer reusable cups, plates, and silverware. If your business sells drinks, provide incentives for clients to bring their own travel mugs or bottles. Many businesses reuse cardboard boxes and packing material for shipping, and used paper for note taking.

Some companies sell waste items. Waste exchanges are markets to sell or buy reusable materials. They can be managed by non-profits or state and local governments, and match your byproducts and wastes with potential users, often through Web page listings. Check with your local or state agency for waste exchanges in your area.

To reduce waste through reuse, question every disposable product you use and every product you put in the trash. Ask:

- Can this product be reused?
- Is there a good reason to use this disposable product?
- Is there another use for this product?
- Could this material be listed on a waste exchange?

Cradle to Cradle

Most production and waste management programs are based on a "cradle to grave" philosophy where waste is managed from the beginning of the product's life until disposal. This view is being replaced with a "cradle to cradle" approach that considers the entire life cycle of a product, including how a product can become a new product rather than waste at the end of its life. The focus is on using less materials, reducing toxics and recovering more of the materials at the end of the product's life. The U.S. Post Office focused on developing greener shipping packages and in 2007 received Cradle to Cradle certification for their Express Mail and Priority Mail packaging. The certification from MBDC (McDonough Braungart Design Chemistry) considers 39 criteria for human and environmental health, including toxicity, renewable energy, water stewardship, recyclability and other manufacturing attributes.

Did you know that paper and packaging make up almost one-third of the municipal solid waste in a landfill?

To reduce paper waste, take the following steps:

- **Avoid printing and printed materials** to the extent possible. In today's digital age, documents can be read and shared electronically.
- **Print double-sided**. Format your print options and printer for automatic double-sided printing.
- **Print multiple pages per sheet.** Format your print options so that documents are automatically printed with multiple pages per sheet.
- Optimize for fewer pages with **smaller margins and more effective use of white space**.
- **Reuse scrap paper** for note taking.
- **Don't keep multiple copies of a document**. Use a central file for required hard copies, or go electronic.
- Receive **pdfs or scanned copies** instead of paper.
- **Edit and review on-screen** rather than on a printed page.
- **Use electronic billing and invoicing** instead of hard copy.

Does your business produce waste that may be "up-cycled" to create another useful product? An innovator in California figured out how to turn an unwanted waste product – human hair – into cash. The organization weaves hair clippings from salons into mats that are used to absorb oil from oil spills. Another company in Florida creates mats from discarded hair to use as plant growth material.

Recycle

Recycling reduces energy use and saves natural resources. It also reduces landfill use and waste incineration. Recycling also saves money by reducing trash pickup costs. In many areas, it is the law to recycle certain materials. We are most familiar with the recycling of paper, aluminum, cardboard, plastics, and glass, but other materials such as cloth, rubber, leather, wood, yard trimmings, and steel can also be recycled.

Depending on your area, local government or private companies may provide weekly collections or drop off recycling centers. If you generate a lot of material, you might be able to contract with a recycling company for pickups. In some cases, they may pay you for the material. If your county or city does not have a strong recycling program, encourage them to start one. In this situation, membership in a local business group can make the push for a better recycling program more effective. Some small businesses have found success building recycling programs through partnerships with local schools, universities, and large businesses.

EPA's Business Guide to Recycling can be found at epa.gov/epawaste/nonhaz/municipal/pubs/bus-guid.htm.

To reduce waste through recycling, ask:

- Can this product be recycled?
- If not, can we purchase a similar product that can be recycled?
- Do we have a good recycling program?

Composting

Composting is a type of recycling that uses bacteria to break down organic waste into compost, which is then used to fertilize and improve soil. Composting waste saves room in landfills and, as a side benefit, helps decrease pests in dumpsters. Food scraps, coffee grounds, tea bags, wood chips, leaves, and other organics are easily composted. You can set up composting indoors or outdoors using a compost pile or bin. To manage compost, all you have to do is add moisture and turn the pile regularly. Your composted organic waste becomes a useful material in two to five weeks.

If you don't have the space to compost material, consider giving it to someone who does. A market can give scrap produce to farmers, and coffee shops can donate used grounds to customers. Keep in mind that plant-based plates, cups, and utensils made from materials like sugarcane and cornstarch can go right into your compost pile. The same is true for some types of packing peanuts.

EPA has information about composting at www.epa.gov/osw/conserve/rrr/composting/by_compost.htm.

To reduce waste through composting, ask:

- Is this an organic material that can be composted?
- If I must buy disposables, can I buy ones that are compostable?
- Can we compost on-site?
- Is there someone else who will take and compost the material?

Donate
Donating unwanted equipment and products reduces waste and also helps your community. In addition, you may be able to get a tax deduction. Surplus office and kitchen equipment, clothing, and furniture can be donated to charitable organizations. There are also home improvement thrift stores in many communities that accept used or surplus construction material. Community educational programs and county operations may accept excess paints. Many charities will pick-up the items so that you don't have to transport them.

Surplus food can be donated to food banks and scraps unfit for people can be donated to farms for animals. EPA offers guidance on surplus food at www.epa.gov/epawaste/conserve/materials/organics/pubs/food-guide.pdf.

To reduce waste through donation, ask:

- Could someone else use this?

Electronic Waste
Frequent upgrades of computers, cell phones, and other electronic equipment are causing a growing volume of e-waste. This waste poses a particular challenge because many electronic products contain carcinogens and other toxic substances, such as lead and cadmium. E-waste is also a global issue when exported to nations with questionable environmental and safety regulations. If possible, donate usable equipment for re-use or for educational programs. Otherwise, look for environmentally-friendly disposal options. Some state and local governments, electronics retailers, and manufacturers offer electronics take-back, reuse, and recycling programs.

environmental stats

75 percent of recently polled consumers said companies should provide information on their environmental impact.

66 percent of recently polled consumers said companies should offer green products.[3]

EPA has created an online tool to help you find a program in your area at www.epa.gov/epawaste/conserve/materials/ecycling/donate.htm.

For more information on electronic waste and recycling, visit EPA's eCycling web site at www.epa.gov/epawaste/conserve/materials/ecycling/index.htm.

Zero Waste

It is possible to be a zero waste business and to host zero or near-zero waste conferences and meetings. The Lowell Folk Festival in Lowell, Massachusetts hosts over 200,000 people for their annual event. Through operational changes (vendors and concessionaires are prohibited from dispensing nonrecyclable items like polystyrene food containers), recycling, and composting, the festival has achieved a waste diversion rate of 95 percent (www.epa.gov/waste/conserve/rrr/rogo/documents/lowell.pdf). Challenge your employees to bring your business as close to zero waste as possible.

To move toward zero waste:

- Design products and packaging for reuse or recycling.
- Create products and packaging using reclaimed or recycled materials.
- Use the least amount of raw materials or toxic materials possible.
- Do away with packaging entirely.
- Buy in bulk or buy products with reduced packaging.
- Buy products or materials that can be reused, reclaimed, or recycled.

Green purchasing is mindful purchasing.

Purchasing

Environmentally Preferable Choices and Products

The Issue

Green purchasing is mindful purchasing. By choosing environmentally-preferable products, you can save money, reduce environmental impacts, and create a healthier work environment. The manufacturing, use, and disposal of consumer and industrial products have a significant impact on the environment. Each stage of a product's life cycle can contribute to habitat loss, natural resource depletion, and pollution. Product processing, manufacturing, transportation, develop-

ment and disposal require energy and water, and cause air and water pollution, GHG emission, ozone depleting substances, and solid and hazardous waste. These impacts ultimately lead to environmental degradation and the loss of biodiversity. Additionally, some products are potentially harmful to employees, and difficult and expensive to handle and dispose of correctly. Other products even "off-gas" hazardous chemicals just sitting on the shelf. Green purchasing is the first step to minimizing these negative impacts.

Green purchasing means buying:

- Recycled-content products.
- Environmentally-preferable products and services.
- Biobased products.
- Energy- and water-efficient products.
- Fuel efficient vehicles and vehicles that operate with alternative fuels.
- Products manufactured using renewable energy.
- Alternatives to hazardous or toxic chemicals.

The market for green products has expanded dramatically in recent years. In addition to meeting the growing demand for green products by the public, federal and state governments are using their enormous purchasing power to give a boost to the green marketplace. Federal agencies are implementing environmental purchasing programs to meet requirements like the federal Executive Order 13423 *Strengthening Federal Environmental, Energy, and Transportation Management*. This order requires that agencies purchase environmentally sustainable goods and services, including products that are environmentally-preferable, biobased, energy efficient, water efficient, and made of recycled-content materials. Many state and local governments have similar green purchasing rules. As a result, product quality and availability have increased, and many green purchasing resources are now available. Private organizations and government agencies like EPA and Department of Energy (DOE) have developed product evaluation criteria and guidance for purchasing environmentally friendly products.

resources

Buying Green: EPA guidance

EPA's Comprehensive Procurement Guideline program provides guidance on buying recycled-content products at **www.epa.gov/waste/conserve/tools/cpg/index.htm**.

EPA maintains a database on the environmental attributes of over 600 products and services at **yosemite1.epa.gov/oppt/eppstand2.nsf.**

There are EPA Energy Star qualified products in more than 60 categories that use less energy, save money, and help protect the environment. Look for products at **www.energystar.gov/index.cfm?fuseaction=find_a_product**.

The WaterSense program at EPA has information on water-efficient products at **www.epa.gov/watersense/pp/lists.htm**.

Since employees will be responsible for implementing the procedures that will make your green purchasing program a success, their buy-in is critical. Whether business purchases are made by a department or just one individual, it is important to provide support as they change old purchasing practices to green purchasing practices.

Buying green helps:

- Reduce waste at the source since green products are reusable, recyclable, and have less packaging.
- Reduce toxic pollution since green products are made from less toxic or non-toxic materials.
- Conserve energy and water since green products are made from recycled materials.
- Put companies in a stronger position to market to green consumers, as well as federal, state, and local governments.
- Improve employee health since green products are made with less toxic materials.
- Save money from increased energy and water efficiency, avoided tipping fees, buying in bulk, and reduced regulatory costs.
- Reduce greenhouse gas emissions since green products use less fuel and cleaner fuel.

What You Can Do

Seek Out Green Characteristics

Recycled Content: Choose products made from recycled, reclaimed or recovered materials. Look for the highest percentage of post-consumer recycled content. Common products are paper products like printer paper and cardboard, but you can also find recycled-content plastic and construction products. Find information on paper products at www.epa.gov/osw/conserve/materials/paper/resources/buy_recycled.htm.

Biobased: Biobased products are made from biological materials and are usually recyclable or biodegradable. The USDA lists biobased products at www.biopreferred.gov. Common products are compostable sugar cane products like tableware, biodegradable hydraulic fluids and other lubricants, corn-based plastic conference badge holders, and biodegradable natural absorbents.

Organic: Organic products are made from plants and animals produced without pesticides, fertilizers, growth hormones, genetic modification or antibiotics. Organic farming improves the health of the land and does not add toxic pesticides to the air and water. In addition to food and beverages, fabrics can also be organic.

Energy-efficient: Some products use significantly less energy than others in their class. EPA's Energy Star label indicates that the product has been evaluated by an energy performance rating system (www.energystar.gov).

Water-efficient: Look for products that use less water such as high efficiency urinals and dual-flush toilets. EPA's WaterSense program certifies products that are 20 percent more water-efficient than similar products (www.epa.gov/watersense/).

real success:
a profile of Transcendentist

Clients of Dr. Fred Pockrass and his wife Ina Pockrass may feel more like they're in a spa than a dentist when they visit Transcendentist in Berkeley, CA. The Pockrass' have rethought every aspect of general dentistry since opening their business in 2003 to make their practice reflect their values, and maximize patients' wellness and comfort while minimizing environmental impact. As founders of the EcoDentistry Association™ (EDA), the Pockrass' are green pioneers in an industry that still uses toxins such as mercury and many wasteful disposable products. Their commitment to environmentally friendly dentistry led them, by necessity, to a second business enterprise-- a line of greener dental products. Clearly the Pockrass' approach is working; Transcendentist gets 30 to 40 new clients every month with limited marketing.

From organic toothpaste to wallpaper made from reclaimed pulp, the Pockrass' have worked hard to ensure every product in their office is environmentally friendly. Frustrated by the waste generated in a traditional dentist office where paper infection control products are thrown away after one use, the Pockrass' created a line of reusable infection control products. They created 100% cotton cloth headrests to replace paper headrests and specialized fabrics to wrap sterilized instruments instead of paper or plastic. The cloth products are washed in an energy efficient washer with a sterilization cycle. A former OSHA inspector works with the Pockrass' to ensure that the highest health standards are maintained. According to Susan Beck, EDA director and chief operating officer for Transcendentist, the reusable products save thousands of dollars a year.

Transcendentist's environmentally friendly products extend to a line of oral care products. The Eco-toothbrush and Eco-tongue scraper are both made from recycled yogurt cups, and they have a line of consumer and professional tooth care products in development, such as organic polishing paste. Created out of necessity, the Pockrass' now sell their products to other dentists throughout the US who also want to be green.

Green purchasing even extends to high-tech equipment at Transcendentist: the digital imaging machine uses 75 to 90 percent less radiation and requires no toxic chemicals, compared to a traditional x-ray machine. And of course the practice's traditional office products are also green. Much of the office furniture is made from recycled wood and covered in natural materials. Staff clean with environmentally friendly cleaning products and sterilize instruments using steam, rather than chemicals. The flooring is made from natural materials and the carpeting is untreated wool.

Transcendentist has received numerous awards and garnered media attention for their greening and wellness initiatives. It is the first dental office to be certified as a green business by the Bay Area Green Business Program and is winner of the Acterra Environmental Award: The Suzanne G. Wilson Award for Pollution Prevention and Resource Conservation. The practice has been featured in popular magazines and Dr. Fred has been interviewed on television and radio. But perhaps most rewarding is the fact that 90 percent of the Pockrass' clients come from referrals, and in post-appointment surveys, nearly every patient responds that they would be likely refer the practice to family and friends

The Pockrass' continue to set the standard for green dentistry. They consult with other dentists and work with dental and hygiene schools through the EcoDentistry Association™. The EDA's "GREENdoc" program provides the only national standard of certification for green dental practices. They believe that their approach represents the next generation of dentistry because more and more clients recognize and desire whole-health, eco-friendly dentistry. Their experience shows that doing business according to their values brings rewards three-fold: happier clients, healthier environment, and higher profits.

For more information on Transcendentist, visit www.transcendentist.com.

Disclaimer: EPA does not endorse any commercial company, their products or services in any way. By including specific companies, EPA is simply providing information.

Fuel efficient and alternative fuel vehicles: Choose vehicles with high fuel efficiency or consider vehicles powered by alternative fuels. These non-petroleum fuels include biodiesel, which is made from vegetable oils, animal fats or recycled restaurant grease. Also included are hybrid electric and plug-in hybrid electric vehicles, which use gasoline and rechargeable electric power. The Transportation Section below has more details about these options.

Renewable energy: Purchase products manufactured using renewable energy such as solar, wind, biomass, and geothermal. Talk to your utility company about purchasing electricity from renewable sources, or consider creating your own renewable energy on-site. The energy section below has more information on renewable energy.

Alternatives to hazardous or toxic chemicals: Avoid products that have caution, warning or danger on the label, a tip off that the contents are harmful. Also check Material Safety Data Sheets (MSDS) to find out about hazards associated with a product or constituent. Avoid products that contain or release:

- Toxic chemicals such as EPA designated toxic air pollutants like benzene, perchloroethylene, and methylene chloride.
- Ozone depleting substances such as chlorofluorocarbons (CFCs), hydrochlorfluorocarbons (HCFCs), halons, and methyl bromide.

Produced Locally: Products manufactured locally with local raw materials are usually environmentally preferable to similar products produced far away because of transportation-related impacts like carbon emissions and fuel use.

Sustainable Companies: Purchase goods and services from companies that strive to be sustainable and conduct their business in an environmentally-friendly way.

For example:

- Look for a printing company that uses recycled paper, nontoxic inks, and renewable energy.
- Hold your next meeting in a green meeting facility or hotel.
- Seek out vendors that supply environmentally-preferable products.
- Conduct business lunches at a green restaurant.
- Use a delivery service with alternative fueled vehicles.

Less Packaging or better packaging: Purchase products with less packaging or with recycled-content or biobased packaging. Work with your vendors to reduce excess packaging.

Buy Certified

You don't have to analyze the impacts of every single product life cycle yourself to make informed green purchasing decisions. Look for products

that are certified as environmentally preferable by a reputable organization. By using certified products, you can avoid the appearance of greenwashing.

Consider Product Life Cycle

If certifications are not available and you want to make your own green determination, consider the four stages of a product's life cycle before making a purchase. The four stages are:

- Raw material acquisition.
- Manufacturing.
- Use, reuse, and maintenance.
- Disposal.

Energy and raw materials are inputs at each stage, while air emissions, solid and waterborne wastes, and other releases are outputs. You can use this list of questions to consider the environmental impacts at each life cycle stage:

- Is the product made from a natural, renewable, organic, or biobased resource?
- Does the product contain toxic chemicals?
- Are the product and its packaging made from recycled or reclaimed materials?
- Is it biodegradable or compostable?
- Is the product produced locally?

Before you make your purchase, also consider:

- Can the product be reused or recycled?
- Can we buy the product in bulk?
- Do we really need to purchase this product?

resources

EPA provides extensive information on water-related issues and resources including sustainability and efficiency.
www.epa.gov/water

Many water resources are local so check with your state or local environmental agencies or utilities. DOE has collected links to resources on water best management practices at **www.eere.energy.gov/**.

EPA offers water-efficient practices and tips specifically for businesses.
www.epa.gov/watersense/tips/

environmental stats

1 percent of the world's water supply is available for human consumption

3,000 gallons of water are wasted each year from a faucet leaking one drip per second

100 gallons of water are used by each American on average every day[4]

WATER
Protection, Conservation and Reuse

The Issue

Clean water is relatively cheap and available in many parts of the US. However, some areas have experienced droughts and water shortages in recent years, and the demand for water is rising as the population grows. This means that water-related issues are expected to increase in the future. In addition, water pollution problems persist, and the collection and treatment of water is a significant expense for local communities and uses energy.

There are many sources of water pollution, which can affect human health, and harm wildlife and ecosystems. Storm water runoff carries contaminates like pesticides, lead, arsenic, and other toxic chemicals from land into streams and lakes. This includes contaminates like mercury from air pollution that settle out onto the ground. Some companies discharge waste directly into water. Wastewater treatment plants are not designed to remove many of the chemicals put down drains, and as a result, hormones and pharmaceuticals are now found in rivers and lakes.

The best way to protect water is to reduce air and water pollution, and reduce the potential for contaminated run-off from facilities. In addition, storm water control can reduce compliance costs and negative impacts like erosion.

Businesses can implement water conservation in manufacturing processes, plumbing, and irrigation. This helps protect water quality and can also save money. The less water you use, the less you have to pay for. It's as simple as that. Less water consumption also lowers energy costs from reduced treating, pumping, and heating requirements.

What You Can Do

Install Water-efficient Products

Products with the WaterSense label will save water and you know they will perform. All WaterSense labeled products are third party tested to meet EPA's criteria for water efficiency and performance. Look for the WaterSense label on toilets, faucets, and other water-using products.

Stop Leaks

Conduct a water audit of your building and facilities to identify and repair leaking or older pipes. Reinforce seals to prevent leaks in the future.

Create Catchments, Rain Gardens, and Green Roofs

A catchment system, or rainwater harvesting, is the collection of rainwater that would otherwise runoff from the roof onto the ground. Collected rainwater can be used for irrigation, vehicle washing, and even for flushing toilets and other indoor non-potable uses. Rainwater use indoors may require a permit and, if you want to drink the water, a filtration system. Water harvesting is not legal in all areas because of water allocation regulations, so check with your local or state government. In addition to providing water for other uses, a catchment system helps slow the flow of storm water and prevent erosion.

A rain garden is a garden designed to catch runoff from impervious surfaces such as parking lots, driveways, and roofs. Rain gardens help to control flooding, reduce erosion, and minimize irrigation.

A green roof is a specialized roof that is planted with vegetation. Depending on the type of roof, this vegetation can range from grasses to actual trees. The green roof slows storm water runoff, helps cool the building which saves energy, and reduces the urban heat island effect. It also prolongs the life of the underlying conventional roof and turns the unused roof into an aesthetically pleasing amenity. A green roof can make your building distinctive and memorable, which differentiates you from the rest of the market.

Appropriate Landscaping

If your business has a landscaped area, consider planting regionally appropriate or native species that can thrive in local conditions with less watering or excessive maintenance. Replace lawns with plants that don't require frequent mowing or clipping. The benefits of appropriate landscaping include reduced water, pesticide, and fertilizer use, reduced maintenance, reduced air pollution from mowers and blowers, and reduced water pollution. If you have an irrigation system, have it audited by a WaterSense Irrigation Partner (www.epa.gov/watersense/pp/irrprof.htm) who can identify and repair leaks and ensure that the system is running efficiently.

Reduce the amount of pavement and other impervious surfaces. For example, if you have to create a parking lot or sidewalk consider using a pervious surface that allows storm water to pass through. This includes material like pervious concrete or asphalt, or permeable paver systems.

Protect your Drains

Don't put chemicals down the drain. Post signs above sinks and drains in your business to ensure that employees and patrons do not dump chemicals in the wastewater system.

To protect water quality and reduce water use, ask:

- ❍ Are we using water as efficiently as possible?
- ❍ Have we installed water-efficient products like WaterSense labeled products?
- ❍ Have we checked for and stopped all water leaks at our facilities?
- ❍ Have we explored ways to use storm water like irrigation?

environmental stats

Compact fluorescent light bulbs cost about **75** percent less to operate and last about 10 times longer than incandescent bulbs

Energy-efficient refrigerators and freezers can save over **45** percent of energy used by conventional models

Lighting accounts for 20 to **50** percent of electricity consumption.[5]

- Is a rain garden or green roof a possibility?
- What steps are we taking to reduce water use for landscaping?
- What steps have we taken to protect our drains?

ENERGY
Efficiency, Conservation, and Renewables

The Issue

Perhaps more than any other issue, energy has serious environmental consequences and financial impacts on your business. The vast majority of energy used in the United States comes from fossil fuels - petroleum, coal, and natural gas. Fossil fuel extraction, processing, and transportation damages ecosystems and depletes a non-renewable resource. Fossil fuel use releases greenhouse gases that are largely responsible for climate change, contributes to local toxic air pollution such as mercury and smog, and is a major cause of ecosystem damage around the world.

Energy costs are also expensive and unpredictable. Energy is the largest operating expense for commercial buildings and Energy Star estimates that up to one third of the energy in a typical office building is wasted. With increasing fuel prices and unreliable energy supplies, poor energy management is a liability for your company. Can you compete with more efficient businesses if you are wasting money on energy?

While climate change and pollution are reason enough for good corporate citizens to reduce energy use, there is also a strong business case for efficiency. Energy-efficient businesses can save significant money and maintain steady operating costs when energy costs are increasing. Sealing and insulating a drafty building, for example, can shave up to 20% off heating and cooling bills. Energy-efficient businesses are also better prepared for possible GHG regulations and reduced emissions can reduce compliance issues.

A company with top energy performance can:

- Save money.
- Prepare for greenhouse gas regulation.
- Reduce compliance costs.
- Buffer increasing energy costs.

real success:
a profile of Fit 'n Furry

Fit 'n Furry is a state of the art pet care facility in Petaluma, California that offers boarding, grooming, and training in the city's first certified "All Green Commercial Building." Because Fit 'n Furry owners Grant and Marci Garl share "a passion for pets and planet," they integrated sustainability into their business plan from square one. By implementing more environmentally-friendly operations, including innovative ways to conserve water and choosing a sustainable design for their facility, the Garls are proving that green pet care equals business success.

With the support of the City of Petaluma and the Petaluma Chamber of Commerce, the Garls renovated a 17,000 square foot green indoor facility with 153 rooms and suites for dogs, 16 cat condos, and three play areas. To avoid the environmental impacts associated with new construction, the Garls retrofitted an existing building. They used salvaged materials as much as possible, including constructing play area floors from recycled tires. The lighting system and appliances are certified energy efficient and the walls contain double insulation. Low VOC paint means Fit 'n Furry's animal guests are not exposed to harmful off-gassed chemicals during their stay.

Pet care facilities typically use a lot of water to clean up after the animals go about their "business." However, wise water use is critical for a business located in a drought prone state, such as California. At Fit 'n Furry, floors are scrubbed using a unique wet and dry vacuum that "mops and scoops" simultaneously. This method uses ten times less water than traditional mopping. All faucets and sinks are fitted with low-flow devices. The use of biodegradable, environmentally-friendly cleaning solutions reduces the cleaning chemicals put down the drain. Even the dogs are bathed more efficiently at Fit 'n Furry. The dog tub is fitted with a spa pump that re-circulates water to keep it from continuously running down the drain.

The Garls estimate that the green design added about five percent to the cost of the retrofit but that the water and energy-efficiency measures will save money on an ongoing basis. Plus, recognition as a sustainable business attracts customers who are concerned about the environment. As a strategic business decision, going green is a way to differentiate Fit 'n Furry from competitors and fill a need in the local pet care market. Since Fit 'n Furry's doors opened two years ago, the steady stream of four-legged guests confirms that the Garls' choice to be a sustainable business was a wise one.

While greening is paying off financially, Mr. Garl believes that it is also the right thing to do ethically. Beyond the financial and market benefits, he is proud that Fit 'n Furry is a safe place for pets and people that provides goodwill in the community. "Long-term, we are all better off saving resources like water and fossil fuels. Would I encourage other business owners to go green? Sure!"

For a virtual tour and more information about Fit 'n Furry, visit www.fitnfurry.com.

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resources

Energy Star

Energy Star promotes energy-efficient products and practices, and provides information specifically for small businesses.
www.energystar.gov/smallbiz

Energy Star's guide, *Putting Energy into Profits: Energy Star Guide for Small Business,* helps small businesses find funding for energy-saving projects.
www.energystar.gov/smallbizguide

Energy Star also provides free online training on energy efficiency.
www.energystar.gov/training

Business.gov

Business.gov, the US Government's official web site for small businesses, offers guidance on energy efficiency with information on financing energy projects and resources to help calculate the rate of return from energy upgrades.
www.business.gov/expand/green-business/energy efficiency/get started/

Department of Energy

The Department of Energy (DOE) has financial opportunities for energy efficiency and renewable energy. **www1.eere.energy.gov/financing** DOE also has information on federal tax breaks for energy projects. **www.energy.gov/additionaltaxbreaks.htm**

Fortunately, there are many cost-effective ways to reduce energy use. Opportunities range from switching to energy-efficient light bulbs to complex alternative energy projects. The payback period for energy initiatives can range from months to years. Government and utility programs may help pay for energy improvements or provide tax incentives, which shortens the payback period. These opportunities change over time so check with your local government or utility.

What You Can Do

There are many actions you can take to reduce energy use, from simple behavioral changes like turning out lights, to major capital projects like installing alternative energy projects. An energy audit can help identify where to start and where to get the best return on investment. Some of the many alternatives are described below.

Conduct an Energy Audit

The best first step is to perform an energy audit on your facility. Utilities, state energy offices and private companies can help you find a trained professional to conduct an audit. However, comprehensive, affordable, competent energy audits are not available everywhere in the country for small businesses. If this is the case in your area, ENERGY STAR provides free online tools and information to achieve energy savings, basic guidance for self-assessments can be found at www.energystar.gov/index.cfm?c=assess_performance.conduct_assessments.

You can also use ENERGY STAR's Portfolio Manager software to benchmark and track energy use, costs, and greenhouse gas emissions. Portfolio Manager also has the option to track water use, solid waste reuse/recycling and renewable energy credits. Your small business can generate a Statement of Energy Performance which includes an energy use intensity calculation, associated greenhouse gas emissions and a national average for similar building types. For information on Portfolio Manager visit www.energystar.gov/index.cfm?c=evaluate_performance.bus_portfoliomanager.

To strategically manage your business' energy use, ask:

- Have I considered conducting an energy audit, or using a program like Portfolio Manager?
- Are there opportunities for improved energy efficiency that are not being realized?
- Are there incentive programs for improved energy efficiency?

real success:
a profile of HARBEC Plastics Inc.

HARBEC Plastics Inc., a custom-injection molder in New York, is an extraordinary example of how, with persistence and a commitment to overcoming challenges, any type of business can be sustainable. HARBEC manufactures highly-toleranced tooling, machined components, and quality injection-molded parts for the automotive, medical, aerospace, and communications industries. Since 1977, before "sustainability" became a household term, HARBEC's founder, Bob Bechtold, was committed to minimizing HARBEC's environmental footprint. According to Bechtold, innovative energy solutions and early adoption of new technologies have been important components of HARBEC's green success.

Injection molding is not an easy industry to green and HARBEC's energy needs are significant. The company's complex melting and freezing processes require approximately three million kWh of power per year. To meet this demand through green solutions, Bechtold combined renewable energy generation with an innovative energy management system. In 2002, he installed a 250 kW wind turbine at HARBEC that supplies approximately 25 percent of HARBEC's electricity. In line with the company goal of achieving carbon neutrality by 2016, Bechtold is considering installing an additional wind turbine to supply 1500 kW of clean, renewable wind power.

HARBEC is one of the first companies in the world to successfully use a co-generation or combined heat and power (CHP) system powered completely by micro-turbines. Heat energy that would otherwise be wasted is used for space heating and air conditioning. HARBEC's CHP system uses natural gas to power micro-turbine generators that create electricity. The hot exhaust from the electric generators goes to a heat exchanger that transfers the heat to water. The heated water then warms the building through a radiant in-floor heating system in winter. During summer, the hot water goes to an absorptive chiller to provide air-conditioning. This system saves two to three times more energy than a conventional system. HARBEC's energy use can be viewed in real time on the company web site.

HARBEC also uses more conventional approaches to saving energy such as high efficiency lighting fixtures, motion sensor activated lighting, natural lighting, and double insulation. The company's energy-efficiency measures extend to its vehicle fleet, which consists of electric, hybrid, and alternative fuel vehicles.

Driven by a strong belief that the wise use of resources makes for better business, Bechtold believes that inefficiency and pollution are wastes that negatively impact profitability. While intrigued by the potential for renewable energy, he realized that environmentally responsible investments still required positive returns. By positioning HARBEC to withstand unpredictable energy prices and be prepared for greenhouse gas regulations, this potential is being realized.

HARBEC's energy solutions have garnered numerous awards and public recognition for the company. Energy efficiency improvements continue to save money and put HARBEC ahead of its competitors. Bechtold's long-term thinking and triple bottom line philosophy have been in HARBEC's best economic interest, and have also created a better work environment for employees through improved air quality and reduced noise in the workplace. A better work environment leads to improved quality, service, and overall value for its customers.

Bob Bechtold believes perceived barriers to greening are a "cop out" in today's world and that "it's in your best economic interest….to do more with less." He concludes: "sustainability is absolutely critical to [any business'] future success."

For more information about HARBEC Plastics Inc., visit www.harbec.com.

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Control the Temperature of Your Building

Heating and cooling account for 40 to 60 percent of energy use in commercial buildings. Even minor changes, such as installing programmable thermostats and caulking drafty windows, can significantly improve energy efficiency. Don't waste energy heating or cooling an empty building, set the thermostat to 78°F in summer and 68°F in winter an hour before occupancy and 10-15 degrees cooler when the building is unoccupied.

Improve efficiency by sealing thermal leaks. Many leaks, such as those from drafty windows or poorly connected ducts, can be sealed at little cost. Other fixes, like repairing older windows or concealed ducts, may be costly upfront but can save money over the long term. Also, if it's time to replace old windows, be sure the replacement windows are highly efficient.

Routine maintenance on your HVAC system will ensure efficient functioning. Make sure your furnace, heat-pump, and air-conditioner filters are cleaned or replaced according to the manufacturer's schedule. Operating an HVAC system with a dirty filter is comparable to driving a car up a hill with the brakes on. If your HVAC system is ten years or older, does not maintain a comfortable temperature, or constantly cycles on and off, it may need to be serviced, or even replaced with a more efficient system.

To optimize energy conservation from building management, ask:

- Are programmable thermostats installed and set correctly?
- Are all leaks and drafts sealed?
- Have we taken all opportunities to minimize the use of the HVAC system?

Insulation

Properly installed insulation in walls, ceilings, and floors can significantly improve energy efficiency by preventing winter heat loss and summer heat gain. Common types of insulation include fiberglass, rigid foam board, spray foam, cellulose, and reflective insulation. The best insulation for your needs depends on multiple factors, including where the insulation will be placed, how much is needed, and the accessibility of the insulated space. Insulation should also extend to hot water pipes and ducts that run through unheated areas.

Look for insulation with a high "R-value," or thermal resistance. The higher the R-value, the better the insulation will withstand heat flow.

To increase efficiency from insulation, ask:

- Are buildings insulated properly?
- Are pipes and ducts insulated properly?
- Is there an opportunity to increase the amount of insulation?

Lighting

Lighting can account for 20 to 50 percent of your energy bill, and is one area where saving energy is easy and inexpensive. Start by replacing traditional incandescent bulbs with compact fluorescent lamps (CFLs) or light-emitting diodes (LEDs). CFLs may be more expensive than incandescent lamps up front, but they use 75 percent less energy than incandescent, last up to ten times longer, and can save about $30 over the life of the bulb, not including maintenance costs for bulb replacement. For existing tube fluorescent lamps, upgrading the tubes, installing reflectors, and changing diffusers all save energy. There are an increasing number of LED light options. LEDs use 50 percent less energy than fluorescent lights and last even longer, which also saves on maintenance costs.

There are also ways to reduce your artificial lighting requirements. Consider better use of free natural daylight, which has been shown to improve employee morale and productivity. Skylights and light tubes bring light but not heat into interior spaces. Motion sensors and timers are a good option for areas like restrooms and closets, and for security lighting.

Many buildings have more fixtures than necessary, meaning that some fluorescent tubes can be removed without affecting light quality. A light meter used during an audit can measure light intensity to show if delamping is an option.

To reduce energy use from lighting, ask:

- Are lights turned off consistently when not needed or are motion sensors or timers installed?
- Are incandescent bulbs replaced with more efficient CFLs or LEDs?
- Are energy savings optimized by using the lowest wattage bulbs necessary?
- Is natural daylight used when possible?

Unplug

Adapters, chargers, and appliances with digital displays draw energy even when "off." Make it company policy to unplug and switch off chargers and appliances when not in use. Power strips make it easy to turn off everything at once at the end of the day and some can sense when appliances are not in use and shut down automatically.

To save energy from appliances, ask:

- Is it necessary to leave this appliance turned on or plugged in?
- Would a smarter power strip make sense to turn off appliances when not in use?

Use Energy-efficient Appliances, Electronics, and Devices

The replacement of older appliances and electronics with certified energy-efficient appliances, such as Energy Star qualified products, can lead to significant savings. While efficient appliances may have higher upfront costs, the payback from energy savings may be short. Energy Star estimates that the payback for new commercial freezers is a little

over a year. In many areas, rebates or tax credits are available for the purchase of more efficient appliances or retrofit of existing ones.

Some products, such as computers and monitors, require enabling of their energy-saving features. Follow the instructions for enabling energy-savings features and ask your employees to do the same.

There are also special devices that can save energy. Low-flow showerheads and faucet aerators reduce hot water use and therefore the energy required to heat the water. Anti-sweat heater controls on glass-fronted refrigerators and "vendor misers" that power-down vending machines when no one is around can save significant energy.

Another energy-saving option is to turn down the temperature of your water heater to 120°F. For basic office and bathroom uses, your employees and clients have the same comfort but your business will be saving energy.

To save energy from appliances and electronics, ask:

- Are my business' appliances and electronics energy efficient?
- Are energy-saving features enabled?
- What is the savings from replacing old appliances with certified energy efficient ones?
- Can existing appliances be retrofitted with controls to be more efficient?

Switch to Renewables

Renewable energy, or green power, is energy created from resources other than fossil fuels and includes solar, wind, geothermal, and biomass. Opportunities for small businesses to adopt renewable energy technologies are more widely available and realistic than ever before. While there are up-front costs when installing renewable technologies, they can ensure your energy costs remain constant and predictable in volatile times. The National Renewable Energy Laboratory provides information on renewable energy for small businesses at www.nrel.gov/learning/small_business.html.

There are many ways to harness energy from the sun. Active solar technologies like photovoltaic cells convert sunlight into electricity and can put a useless space like your roof to work. In some areas, power utilities must buy back energy from customers so you may be able to get paid for your excess energy. Passive solar technologies include solar hot water heaters that use the sun to heat water as it passes through flat-plate collectors. Passive solar design is a building design strategy that optimizes exposure to the sun's warmth. Most of these technologies can be retrofitted into existing buildings.

A small wind system that uses turbines to convert wind energy to electricity may be an option for your business. The ability to power your business with an on-site wind turbine will depend on the wind potential at your location, available space to install the tower, and local zoning regulations.

Other renewable technology options include geothermal energy and biomass. Geothermal heat pumps utilize the constant temperature below the ground and are far more energy efficient than traditional heating systems. A heat

exchanger moves heat from the ground into the indoor air system during the winter and reverses this process in the summer. Biomass refers to plants or plant materials like wood, corn, or algae that can be used as an energy source, or "bio-fuel." Biomass can be used to create petroleum substitutes like biodiesel, or to power generators through gasification or anaerobic digestion.

You can support the growth of the renewable energy sector and offset your energy use with renewable energy certificates (RECs) or green tags. This is not the same as carbon offsets. An REC is created when renewable energy is generated. When you purchase an REC, you are, in effect, purchasing the green energy. EPA's *Guide to Purchasing Green Power* has information on RECs at www.epa.gov/greenpower/buygp/guide.htm.

To improve energy efficiency through use of renewable energy technologies, ask:

- How will unpredictable energy prices affect my business?
- Could my business benefit from renewable energy production?
- What is the potential for renewable energy production on-site?

Transportation
Alternative Options and Vehicles

The Issue

Vehicles impact the environment and our health throughout their life cycle. From production to disposal, cars and trucks release pollution that contributes to climate change and toxic air pollution. Most vehicle pollution occurs during driving. Vehicles burn fuel and release CO2, the most prevalent GHG, and pollutants such as nitrogen oxides (NOx), sulfur dioxide (SO2), carbon monoxide (CO), volatile organic compounds (VOCs), and fine airborne particles called particulate matter (PM). Vehicle emissions also contribute to smog (ground level ozone). These air pollutants can cause cancer and contribute to other health problems such as stroke, lung disease, and heart disease, in addition to negative environmental effects. Additionally, long driving commutes can have negative health impacts on employees, including sleep disorders, weight gain, and exposure to air pollution.

Automobile manufacturing requires raw materials such as steel, aluminum, copper, and plastic (which is derived from petroleum). Once manufactured, vehicles require gasoline and diesel fuel to operate. Manufacturing, and fuel production and distribution consume vast amounts of energy and release significant pollution into the environment.

Transportation includes business activities like deliveries, shipping, employee travel, and employee commuting. Increasing and fluctuating fuel costs makes budgeting difficult and can turn a profitable year red. Green solutions range from replacing current vehicles with more efficient or alternative fuel vehicles, to evaluating your transportation needs to make your business processes more efficient (e.g., shipping by train rather than truck or using electronic technology as an alternative to traveling and commuting).

resources

EPA and DOE have teamed up to provide consumers with information on fuel economy, transportation environmental impacts, fuel use calculations, and more. **www.fueleconomy.gov**

EPA's Green Vehicle Guide allows users to compare environmental performance across vehicle classes. **www.epa.gov/greenvehicles**

The Alternative Fuels and Advanced Vehicles Data Center is a clearinghouse sponsored by the DOE with information on fuels, vehicles, and transportation laws and incentives. **www.afdc.energy.gov/afdc/about.html**

Fuel savings can come from simple changes, like slowing down. EPA's Smartway program estimates a seven percent reduction in fuel use and GHG emissions for every five miles per hour reduction of highway speed. Stop idling. A report from the Argonne National Laboratory estimated that the 13 million light- and medium-duty trucks in the U.S. waste more than 600 million gallons of fuel per year when idling. Drive smart. Better driving can increase fuel economy by ten percent.

Do you have a good understanding of the transportation habits and needs of your business so that you can increase efficiency and reduce vehicle miles traveled (VMT)? Is every single pick-up, delivery, and business trip absolutely necessary? Can trips be avoided, combined, or eliminated? Small companies can rack up big savings with improved efficiency and a more efficient company is a more competitive company.

What You Can Do

Reduce Vehicle Miles Traveled (VMT)

Perhaps the cheapest way to reduce the environmental impact of transportation is to drive less. Fewer miles equals less pollution and lower costs for you. Good planning, optimization of trips, taking public transportation, and always asking "Is this trip necessary" can all reduce your VMT.

Reduce Employee Commuting

Every vehicle mile not traveled saves money, prevents vehicle wear and tear, reduces pollution, and improves employee health. Encourage your employees to use public transportation for commuting and business trips. Public transportation also reduces stress and allows for time to read, relax, or work. If possible, locate your business near public transportation or provide a shuttle to and from rail or bus stations.

To encourage public transportaton you may want to help cover employees' fares or have a monthly raffle where employees enter their ticket stubs into a prize drawing. Make it a contest – at the end of every month, tally the financial and GHG emissions savings from avoided miles driven. Some areas have before-tax accounts for commuting costs and other incentives to help employers encourage employees to use public transit.

Encourage employees to bike or walk to work. The exercise will improve health and make a more productive workforce. Provide bike racks, showers or changing facilities, or even bikes to encourage employees to avoid commuting by car.

Car and vanpooling are also good options. Sharing the commute reduces the number of vehicles on the road which saves energy and money, reduces air pollution, and reduces congestion. There are many resources for how to design incentives to encourage carpooling or your local government may provide incentives. Ride-sharing programs help commuters connect online to organize carpools. There are several national sites or search the web for a local site that covers your community.

Telecommuting

More and more companies are using telecommuting to reduce costs, improve morale, and provide a low-cost employee benefit that helps attract and retain employees. Telecommuting also prevents interruptions to work caused by winter weather or the need to stay home with sick children. And of course, telecommuting employees don't contribute to VMT. Obviously, some jobs, like auto mechanic, don't qualify for telecommuting, but employees in many jobs can successfully telecommute one or more days each week. Some companies have telecommuting employees share desks to reduce office space, which reduces energy and overhead costs.

To reduce environmental impacts from commuting, ask:

- Have I helped my employees reduce their commuting VMT?
- What are the public transportation options?
- How can I encourage employees to use public transportation?
- How can I promote walking or biking to work?
- What are the possibilities that staff can carpool together?
- Is telecommuting an option for my business?

Reduce Business Travel

Business travel, especially air travel, is costly to the environment and the bottom line. Make sure that business trips are necessary, take public transportation or car pool, don't send more staff than needed, and cluster trips when possible. Consider virtual meetings instead of face-to-face meetings. Everyone is familiar with conference calls, but now you can also use web conferencing or webinars to share information while you talk. Teleconferencing with video is also possible, although it requires an investment in video-conferencing equipment. Virtual meetings save energy and prevent harmful emissions, while saving time and money on transportation, accommodations, and food.

environmental stats

30 MPG vehicles can **save $513** a year over vehicles that get 20 MPG[6]

75 percent more carbon dioxide emissions are reduced with B100 biodiesel compared with petroleum diesel[7]

1/3 of energy-related greenhouse gas emissions in the US come from transportation[8]

To reduce environmental impacts from business travel, ask:

- Is this trip absolutely necessary?
- Can trips be combined?
- What are the options for holding virtual meetings?

Improve Transportation Efficiency and Reduce Petroleum Consumption

Right-size Your Vehicles

Do you really need that truck for visiting clients? Often businesses have larger or more powerful vehicles than are needed to accomplish their business purposes, which wastes fuel and money. In addition to higher fuel needs, larger vehicles often have greater upfront and insurance costs. Don't get a truck or an SUV if a car will work. Don't go for a vehicle with a six-cylinder engine when a four-cylinder is sufficient. Getting the right vehicle and the most fuel-efficient vehicle in the class you need can reduce environmental impact and save you money.

Switch to Alternative Fuel Vehicles

If you operate a vehicle fleet, consider alternative fuel vehicles (AFVs). AFVs can run on fuels other than petroleum such as biodiesel, compressed natural gas (CNG), liquid petroleum gas (LPG), and electricity.

Consider switching to hybrid electric vehicles (HEVs), which are powered by a conventional gasoline engine combined with a rechargeable battery-powered electric motor. Electric vehicles reduce fossil fuel consumption and are cleaner than traditional gasoline powered vehicles.

The federal government provides incentives to promote the purchase of greener vehicles. The DOE lists government incentives at www.afdc.energy.gov/afdc/incentives_laws.html. Some states and local governments also offer incentives, such as Illinois which offers rebates through their Green Fleets program.

Maintain Your Vehicles

Proper maintenance can prolong the life of your vehicles and reduce the release of pollutants. A properly tuned engine and appropriate tire pressure help a vehicle run more efficiently and save many gallons of fuel over time

Reduce Idling

Institute a no idling policy for your vehicle fleet and other delivery trucks at your facility. Many communities are passing no idling regulations so this may become a legal requirement in your area.

real success:
a profile of RainTube

RainTube of Jacksonville, Oregon started with a simple concept: preventing damage from gutters is good for homeowners and the environment. Every year non-working gutters overflow and flood, causing as much damage to houses as two or three big natural disasters. This costs homeowners millions of dollars in repairs. There is also an environmental cost incurred through the use of new materials and energy for making the replacement gutters. This problem led to the development of a simple product - RainTubes. Co-founders Steve Spratt and Bill Savage decided that a green product required a green company, so they designed RainTube from product design to transportation strategies around transparency and eco-friendliness.

The RainTube product starts with a simple material with a complicated name: High-Density PolyEthylene (HDPE). This familiar plastic, which is used to make milk jugs and detergent bottles, will last 3,000 years or more in a landfill. When recycled as the main component of a RainTube, however, waste HDPE is put to good use protecting houses. RainTube's Gold Tier Cradle-To-Cradle Certification from MBDC reflects the company's commitment to sustainability. This rigorous certification looks at production elements such as environmentally safe and healthy materials, design for reutilization (e.g., recycling or composting), renewable energy use, energy and water efficiency, plus company strategies for social responsibility. RainTube is one of fewer than 20 companies worldwide with a Gold certification level product.

RainTube has a positive impact on the environment by taking a material out of the waste stream and helping protect homes. The company also works to reduce its negative environmental impacts. To minimize pollution and energy use from transportation, RainTube located its main plant close to recycling centers, the source for the main component material of RainTubes, and runs company vehicles on biodiesel. This left the biggest transportation issue: shipping the products to installers and retail stores.

To avoid impacts from shipping large quantities of finished product, RainTube partnered with factories across the country. When RainTube has a large order, they ship the product molds rather than the product to a partner factory. The factory uses the molds to manufacture RainTubes with the same specifications as the main plant. By manufacturing and distributing RainTubes close to the end user, the environmental impact of transportation is greatly reduced and the company saves significant money in shipping costs.

Sustainability does not stop with manufacturing and transportation; it is part of every aspect of RainTube and is even documented in company policy. The company reduced storm water runoff at their office by eliminating pavement around the building, and catching rainwater to water the lawn (future plans are to use the rain water for flushing toilets). RainTube's success demonstrates how creativity, like the solution to implement product shipping, can reduce environmental impacts and benefit the company.

For more information on RainTube visit www.raintube.com.

Disclaimer: EPA does not endorse any commercial company, their products or services in any way. By including specific companies, EPA is simply providing information.

Choose Green Shippers

If possible, work with shipping companies that are greener than average, like members of EPA's SmartWay program (www.epa.gov/otaq/smartway). Companies that participate in SmartWay Transport programs save money, reduce fuel consumption and are recognized for their social responsibility and leadership. Ship by rail, as railroads can be three times more fuel efficient than trucks.

To reduce your business' environmental impact from transportation, ask:

- Do I really need to make this trip or can I optimize it?
- Have I chosen the most efficient vehicle?
- Have I chosen the most efficient route?
- What is the greenest vehicle that will meet my business needs?

Communicating
your efforts

The Issue

Communicating your environmental successes can yield multiple benefits, both externally and internally. External benefits to marketing the environmental performance of your business include establishing credibility, demonstrating leadership in the community and in your sector, and possibly motivating other companies (and individuals) to go green. Reporting externally also demonstrates transparency, an important element of corporate social responsibility.

Internally reporting your business' environmental performance can encourage continual improvement. It helps to ensure staff members understand the importance of greening and how they can personally contribute to improving greening efforts. Evaluating results and highlighting successes provides incentives to maintain momentum and keep up the good work. Regular communication about the company's environmental programs also demonstrates management's commitment to sustainability.

What You Can Do

Understand Your Environmental Performance

Good communication requires good data. You must measure your results in order to report on them. Many performance-based and certification programs require documentation, and quantitative data makes your reports more compelling and protects you from charges of greenwashing. If you don't measure, you can't evaluate your efforts to know what to continue doing, and what to change. You may already track Key Performance Indicators (KPIs), such as the number of new customers each month or product quality, to evaluate progress towards other financial or business goals. If you haven't done so already, include environmental metrics in your core KPIs. When selecting measures, focus on outcomes. You can count how many light bulbs you replace but the real measure is how much energy is saved.

Avoid Greenwashing

Greenwashing is a new term for an old issue - companies making claims that are exaggerated or untrue. Many consumers are skeptical from hearing extravagant claims, like companies proclaiming they have gone carbon negative (actually absorbing more carbon than their activities release). Don't over-state your progress. If you've increased the recycled content of your product from four to six percent, tell you customers it has increased by two percent rather than by a third. Measuring your results, not over-claiming the benefits, and opting for third party evaluations are all ways to avoid the greenwashing label. This is important so that you and your industry don't lose the trust of customers and the benefit of marketing to the environmentally aware.

Reporting

There are many ways to communicate your efforts. Formal reports, informal marketing material, articles, certifications, and membership in performance-based organizations are all ways to get the word out about your greening initiatives. The best approach depends on your size, goals, and industry, and will likely be a mix. Before making a decision on how to communicate your performance, look at what other companies are doing. Then ask:

- Who am I trying to reach (customers, employees, investors, or other stakeholders)?
- What do I want them to know about my company's greening efforts?
- What are my goals (promote the company, motivate performance, or attract a specific customer)?
- What approach will best help me reach my goals?

Informal Reporting

You can cost effectively communicate your greening efforts informally through brochures, newsletters, web sites, and other marketing materials. Informal materials are appealing to the public and retail customers who generally don't want to wade through long, detailed reports. Pictura Graphics provides information on the environmental benefits of the company's "eco" line of products on their web site. Informal summaries can complement more detailed formal reports. Informal material is also a good way to provide feedback and recognition for employees.

Formal Reporting

Many companies, mostly larger corporations, publish a formal environmental or sustainability report. There is no one reporting standard, although several organizations publish guidelines. A well-documented formal report provides strong evidence for your environmental claims and communicates that you are serious about your environmental performance. Formal reports are often targeted towards investors, corporate clients, and government agencies, and may be too detailed or technical to appeal to the public, community, or employees.

On the downside, comprehensive reports can be expensive to produce and can hurt your credibility if you don't meet your environmental goals, or don't have much to report. Some companies avoid these issues by producing an environmental report every other year. It is also important to report on real results and not cover weak data with flowery language or confusing data.

Environmental reports focus on environmental impacts while sustainability reports include the triple bottom line elements: people, economy, and the environment. The goal of sustainability reporting is to provide the same transparency for sustainability metrics as in financial statements. There is no required standard for sustainability reports, but organizations like the Global Reporting Initiative (GRI) have developed widely used reporting frameworks (www.epa.gov/p2/pubs/resources/p2meas_gri.htm). Using an accepted framework gives your report credibility.

If you are considering an environmental or sustainability report:

- Have you looked at reports from other companies? (A report that you like from a similar type and size of company can be a template for your report.)
- Do you know your target audience for the report? (This will drive the content and complexity of the report.)
- What are your goals for the report?
- Do you collect the data required for the report?

Certification Programs

A certification is an independent third-party assessment that a product, service, or business meets a set of criteria. Certifications range significantly in scope and rigorousness. Some have different levels, like silver, gold, and platinum. Certifying organizations vary widely in the cost, credibility, and visibility of their certification process. Some purchasers, like the federal government, require certification to support claims of environmentally-preferable products. Companies looking to "green their supply chain" may also require their suppliers to obtain certifications.

The decision to obtain certifications and the type of certification depends on your goals and your clients' needs. Generally, the more rigorous the certification, and the better known and respected the organization, the more valuable the certification. A credible certification can prevent the perception of greenwashing. However, if your goal is to market to the public and help promote sustainability, certification as a green business from a local non-profit may be the right choice. Fit 'n Furry chose to stay local and is certified as a green building by the city of Petaluma, California, rather than by the U.S. Green Building Council. If you are considering certifications, you should:

- Determine your goals (required by clients, marketing to the public).
- Ask your clients what certifications they require or respect.
- Research certifying organizations.

real success:
a profile of A World of Green

As sister-in-laws, Jan Byrnes and Colleen Byrnes share more than family, they both care deeply about the environment and they both wanted to make a difference. So in 2007, Jan and Colleen founded A World Of Green LLC™ a Florida certified Minority Women Owned Business that is a member of GreenAmerica. The company began as a supplier of green cleaning products. However, Jan and Colleen soon found that customers really wanted a supply of green information. As a result, they restructured the business into a consulting company that helps organizations integrate environmental stewardship into their operations.

To overcome the common perception that going green is expensive, A World Of Green's signature seminar, "Save Money by Going Green," focuses on low and no cost ways to green an organization and save money. For example, a company with 20 employees can save $1,400 a year from a small behavior change: turning off computers every night. The seminar covers a wide range of topics like energy, purchasing, and waste. Jan and Colleen offer customized seminars for different industries like food service or bowling (and yes—you can recycle bowling balls!).

A World Of Green also works with local governments to help them implement sustainability strategies and get recognition for their environmental leadership. In South Daytona, the city fleet manager, partnering with A World Of Green, found a low-cost solution to truck idling during maintenance stops. To operate flashing safety lights, staff routinely left trucks running. The fleet manager and A World Of Green found inexpensive strobe lights with rechargeable batteries, that fit in traffic cones. The crews still have safety lights, they don't have to breathe diesel exhaust, and the city saves thousands of dollars annually.

Implementing sustainable solutions can bring recognition. Cities and counties in Florida that practice environmental stewardship can apply for The Florida Green Building Coalition Green Local Government certification. To qualify, the government must document a comprehensive list of criteria. A World Of Green helps with this process by evaluating departments, making recommendations, and conducting the certification assessment. A World Of Green helps governments get greener faster and more comprehensively, which translates into more efficient operations and, is increasingly, a condition of local government grants.

Jan and Colleen are currently designing a webinar on green jobs for women. Talk of green jobs has centered on tool belt jobs like construction. The A World Of Green webinar will explore how green jobs are broader and encompass areas like green purchasing. They believe that training in greening can provide women with the job skills to take advantage of this new marketplace.

Where does this drive to make a difference come from? Jan Byrnes and Colleen Byrnes both credit their parents for their appreciation of the environment. Every summer, Colleen's family traveled around the country, camping along the way. Jan's family also camped and enjoyed nature; she was six months old on her first fishing trip. She recalls her father stopping at every roadside geological and historical marker. These experiences gave both women an understanding of the environment and the desire to protect it. A mission that is evident in A World of Green. For more information about A World of Green, visit www.aworldofgreen.com.

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performance programs

Check with your state environmental regulatory agency for performance programs in your area.

Government programs can be sector specific, like Vermont's Green Hotel Program (**www.vtgreenhotels.org**). Member hotels adopt a set of core environmental standards and to qualify for the top level the hotel must meet additional standards and create an environmental management plan.

certification resources

There are certification organizations for specific sectors and products such as the U.S. Green Building Council with a focus on buildings, the Forest Stewardship Council for wood products, and Green Seal which sets standards for a wide variety of products. For more information and links, visit **www.business.gov/expand/green-business/green-marketing/green-certification.html**.

Performance-based Membership Organizations

There are membership programs offered by government (federal, state, or local) and private organizations to recognize superior environmental performance. Membership requirements typically include a set of criteria and often require ongoing performance evaluations. For example, EPA Climate Leaders members must commit to measuring, tracking, and reducing their GHG emissions and reporting annually on their progress. Programs sponsored by regulatory agencies typically stress compliance with environmental laws. Like certifications, the programs vary widely so you need to consider your goals and the credibility of the organization.

Most programs provide free publicity. They list participants on their web site, send out press releases, and supply plaques and certificates to post at your business. Some membership organizations include members in green directories or web sites. Government programs may also provide regulatory benefits such as reduced cost permits.

If you are thinking of a performance-based program, have you:

- ❍ Determined your goals (regulatory issues, marketing to the public)?
- ❍ Asked your clients what programs they require or respect?
- ❍ Researched organizations and programs?

Be a Leader

One of the best ways to promote your environmental performance is to take a leadership role in promoting green businesses. Bob Anderson from AJ's Auto Repair benefited from free publicity after participating in pilot programs with the regulatory agency. Bob Bechtold and his company HARBEC Plastics are regularly profiled in industry publications and Bob is frequently invited to speak at conferences. Being a leader is often rewarded with awards, articles, and press releases. While being a leader is good for business, the best reward is promoting ideals that you believe in.

We hope that this guide will help you achieve your vision and turn your business green. The process of becoming sustainable may not always be easy or the decisions clear, but your efforts are important. You will give consumers a greener option and lead other businesses toward sustainability. As the case studies in this guide show, sustainability can also make your business more profitable and secure.

Don't forget to:

- *Include sustainability in all of your decisions and actions.*
- *Communicate your efforts.*
- *Be a leader in your industry and community.*
- *Always strive for improvement.*

Good luck on your efforts to make your business more sustainable.

appendix A

Definitions

Alternative fuels – Non-petroleum fuels, defined by the Energy Policy Act of 1992 to include biodiesel, electricity, ethanol, hydrogen, methanol, natural gas, and propane. They may or may not be considered renewable (see Renewable energy below). For example, biodiesel and ethanol are renewable fuels, while propane and natural gas are non-renewable.

Beyond compliance – Achieving above the minimum results required by environmental law.

Biodiesel – Renewable fuel made from agricultural resources such as vegetable oils, including soybean oil, canola oil, and sunflower oil. Biodiesel is also made from recycled cooking oils and animal fats.

Carbon footprint – The sum total of an entity's greenhouse gas emissions, usually given in carbon dioxide equivalents (CO_2e). Usually calculated from a greenhouse gas inventory, which is a quantitative estimate of an organization's greenhouse gas emissions and sinks.

Climate change – The significant change from one climatic condition, such as temperature or precipitation, to another that lasts for an extended period of time (decades or longer). Climate change can result from natural factors, such as changes in the sun's intensity and ocean circulation, or human activities, such as burning fossil fuels and deforestation.

Environmental footprint – The total environmental impact of an organization's or individual's activities.

Environmental Management Systems (EMS) – A structured set of processes used by an organization to systematically improve environmental performance.

Environmentally-preferable purchasing (EPP) – Purchasing decisions that include environmental considerations, also known as green purchasing.

Global warming – An average increase in temperature near the Earth's surface, possibly leading to changes in global climate patterns. Global warming is commonly attributed to emissions of greenhouse gases from human activities.

Green purchasing – Purchasing decisions that include environmental considerations, also known as environmentally-preferable purchasing.

Greenhouse gas (GHG) – A gas with heat-trapping ability that can contribute to climate change. The six main greenhouse gases are carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons, and perfluorocarbons.

Greenwashing – Misrepresenting or making unsubstantiated or irrelevant claims about the environmental attributes of a product, service or organization.

Life cycle analysis – Analysis of the environmental impacts of all stages of a product's existence including resource extraction, production, transportation, marketing, use, and disposal.

Particulate matter (PM) – A regulated air pollutant composed of tiny particles from a variety of sources.

Post-consumer content – The amount of material that was diverted from the waste stream after use as a consumer product.

Recycled-content – The amount of material in a product that was diverted from the waste stream.

Renewable energy – Energy resources such as wind energy, solar energy, biomass, hydropower, and geothermal energy that renew or replenish naturally in a relatively short period of time.

Sustainability – Balancing environmental protection, economic growth, and social responsibility to ensure an improved quality of life in the present and in the future.

Triple bottom line – A measure of business success that considers environmental and social performance in addition to financial performance.

appendix B

Resources

Regulatory Compliance

The Small Business Environmental Home Page
www.smallbiz-enviroweb.org/
Resource funded by EPA Small Business Ombudsman with information on a wide range of environmental topics for small businesses and assistance providers.

EPA Small Business Compliance and Enforcement
www.epa.gov/compliance/incentives/smallbusiness/
Resources and links to promote environmental compliance among small businesses.

Energy

US Department of Energy (DOE)
www.energy.gov
DOE has information on renewable energy, energy efficiency, emissions reductions, environmental impacts from energy use, long-term energy trends and data, and more.

Energy Star
www.energystar.gov
EPA and DOE's Energy Star program provides information and guidance on energy-efficient products and practices.

General Business

Environmental Management Systems (EMS)
www.epa.gov/OW-OWM.html/iso14001/index.htm
EPA's guidance on environmental management systems.

EPA for Businesses and Non-profits
www.epa.gov/epahome/business.htm
EPA resources and links for businesses and non-profit organizations.

Good Jobs, Safe Jobs, Green Jobs
www.dol.gov/dol/green
Department of Labor website with information about green jobs.

Go Green: GSA Environmental Initiatives
www.gsa.gov/Portal/gsa/ep/contentView.do?contentType=GSA_OVERVIEW&contentId=28460
U.S. General Services Administration (GSA) website with information on areas such as buying green with GSA and green facilities.

Green Purchasing

Environmentally Preferable Purchasing Database
yosemite1.epa.gov/oppt/eppstand2.nsf
EPA maintains a database on the environmental attributes of over 600 products and services.

Environmentally Preferable Purchasing Tools
www.epa.gov/epp/
EPA's EPP page has information on general and product-specific purchasing tools, guidance for federal purchasers, information for vendors, and information on finding and evaluating green products.

Product Certifications

BioPreferred
www.biopreferred.gov
USDA catalog of biobased products that are made in whole or in part from biological products, forestry materials, or renewable domestic agricultural materials, including plant, animal, or marine materials.

Design for the Environment (DfE)
www.epa.gov/opptintr/dfe/pubs/projects/formulat/formpart.htm
DfE is an EPA program that recognizes business partners that demonstrate leadership in designing products that are safe and environmentally friendly.

EcoLogo
www.energystar.gov/products
EcoLogo is a certification program for environmentally-preferable products developed by the Canadian government for 120 categories of products.

business.gov
www.business.gov/expand/green-business/green-marketing/green-certification.html
Provides information and links on green certification and ecolabeling.

EPA - Environmentally Preferable Purchasing (EPP)
www.epa.gov/epp/pubs/otherepp.htm
Links to national and international organizations committed to developing environmentally preferable purchasing standards and products, and/or promoting environmentally preferable purchasing practices.

USDA Organic
www.usda.gov
The US Department of Agriculture certifies organic goods made from plants and animals produced without using traditional pesticides, fertilizers, growth hormones, genetic modification, or antibiotics.

Sector-specific

EPA National Clean Diesel Campaign's Clean Construction USA
www.epa.gov/otaq/diesel/construction/index.htm
Clean Construction USA, part of the National Clean Diesel Campaign (NCDC), is an innovative program designed to promote the reduction of diesel emissions from construction equipment and vehicles.

Protect the Environment: At Work
www.epa.gov/epahome/workplac.htm
EPA's guide offers environmentally-friendly practices for the office workplace.

Retail Industry Portal
www.epa.gov/retailindustry
EPA's online source for information on environmental compliance and sustainability for retailers.

Lean
www.epa.gov/lean/
Guidance on methods for reducing waste for the manufacturing sector.

Transportation

Fueleconomy.Gov
www.fueleconomy.gov
EPA and DOE provides information on fuel economy, fuel saving tips, transportation environmental impacts, fuel use calculations, and more.

Green Vehicle Guide
www.epa.gov/greenvehicles
Interactive online tool to compare environmental performance across vehicle classes.

Alternative Fuels and Advanced Vehicles Data Center
www.afdc.energy.gov/afdc/about.html
Clearinghouse of transportation publications, tools, data, and related information sponsored by the DOE.

SmartWay Transport Partnership
www.epa.gov/smartway/index.htm
EPA's SmartWay brand identifies products and services that reduce transportation-related emissions.

Waste

Waste
epa.gov/epawaste/
EPA's comprehensive source for information on waste reduction and recycling.

WasteWise
www.epa.gov/epawaste/partnerships/wastewise/index.htm
EPA's voluntary municipal solid waste reduction partnership program for businesses, local governments, and non-profit organizations.

Pollution Prevention (P2)
www.epa.gov/p2
EPA's P2 program helps reduce waste at the source; information on pollution prevention strategies such as modifying production processes, conservation, non-toxic chemicals, and re-use.

Water

Water
www.epa.gov/water
EPA provides information on water-related issues and resources including sustainability and efficiency.

WaterSense
www.epa.gov/watersense
EPA's WaterSense Program promotes water-efficient products through the WaterSense label and partners with businesses and non-profit organizations to bring water-efficient products to market.

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EPA United States Environmental Protection Agency