The Purpose of this Book

Have you ever wondered where chocolate comes from, if antibacterial soap is good for your family, or how to recycle an old computer? If you've had these or other questions about the environmental and social impacts of the products you buy and use, *Good Stuff* is for you. It contains many of the tips, facts, and links you'll need to start making more informed purchases that benefit your health and the environment.

About Worldwatch Institute

The Worldwatch Institute (www.worldwatch.org) is a globally focused, independent research and publishing organization based in Washington, D.C. It works to build an environmentally sustainable and socially just world in which the needs of all people are met without threatening the health of the natural environment or the well-being of future generations. *Good Stuff* is a companion guide to the Institute's *State of the World 2004*, which focuses on the consumer society.

Using *Good Stuff*

- If you plan to print out or copy this guide, please use double-sided settings to conserve paper. If you plan to read only parts of *Good Stuff*, consider printing just the pages you will need.
- All web links in this guide are live and clickable.
- Please share *Good Stuff* with friends and colleagues.

Good stuff?

A Behind-the-Scenes Guide to the Things We Buy

Table of Contents

1 Introduction
1 Consumption Manifesto: Top 10 Principles of Good Consumption
2 Glossary of Consumption Terms

THE STUFF

3 Appliances
4 Baby Products
5 Beverages
6 Cars
7 CDs and DVDs
8 Cell Phones
9 Chocolate
10 Cleaning Products
11 Clothing
12 Coffee
13 Computers
14 Electricity
15 Fast Food
16 Furniture
17 Gold Jewelry
18 Health Care
19 Housing
20 Lighting
21 Meat
22 Paint & Varnishes
23 Paper
24 Personal Care
25 Plastic Bags
26 Shrimp
27 Soap

FINAL STUFF

28 Good Stuff Quiz
28 Good Stuff Challenge
29 Sources
30 Good Stuff Partners

FROM THE WORLDWATCH INSTITUTE

Introduction

Think of the "stuff" you buy and use in any given day. You might have a chicken sandwich and a soda for lunch. You fill your car with gasoline. You call a friend on your cell phone. At school or at the office, you print out dozens of e-mails and other documents.

Now multiply these everyday actions by all the days in the year, and by the billions of other consumers worldwide. From gas-guzzling cars to clothes made in crowded "sweatshops," the result is a significant impact on the planet and the world's people.

The good news is that consumer choices also represent daily opportunities to support alternatives that are better for our health and for the environment. Businesses, governments, and concerned citizens can harness their purchasing power to build markets for less-hazardous products, such as organic foods, chemical-free cleaning products, "green" electricity, and low-emission cars and trucks.

Around the world, the consumer class—people with access to products like televisions and the Internet, as well as the culture and ideas that these media transmit—is growing rapidly. Its expansion can be measured by vast global increases in purchases of vehicles, fast food, electronics, and other emblems of modern lifestyles. According to recent estimates, 1.7 billion people—more than a quarter of humanity—have now entered the consumer class. Of that group, roughly 270 million are in the United States and Canada, 350 million in Western Europe, and 120 million in Japan.

Surprisingly, nearly half of all global consumers now live in developing countries, including 240 million in China and 120 million in India—numbers that have surged dramatically in the past two decades as globalization has introduced millions of people to consumer goods, while also providing the technology and capital needed to build and disseminate them.

In many cases, soaring consumption burdens societies with bulging landfills, soaring debt levels, and rising obesity. Meanwhile, there are still another 2.8 billion people who consume too little and who suffer from hunger, homelessness, and poverty. The challenge for the twenty-first century will be to focus our consumption not on the indefinite accumulation of goods, but instead on a better quality of life for all, with minimal environmental harm.

We at the Worldwatch Institute feel that everyday consumer choices are so important in influencing our shared future that we devoted the entire 2004 edition of our annual *State of the World* report to the consumer society. In that book, we examine how we consume, why we consume, and what impact our consumption choices have on the planet and other human beings.

We produced *Good Stuff* as a stripped-down, action-oriented companion to *State of the World*. Our hope is that as you learn about the 25 different consumer items described in this guide and take the *Good Stuff* quiz and challenge, you'll take a fresh look at your own buying choices and gain a better understanding of the hidden costs behind many of the objects you use daily.

In *State of the World*, we ask whether a less-consumptive society is possible, and then argue that it is essential. In *Good Stuff*, our goal is to provide the information and motivation you need to redefine your own relationship with the "stuff" you buy and use.

—*The Worldwatch staff*

To learn more about *State of the World 2004* or the consumption topic, visit the Worldwatch website at www.worldwatch.org/topics/consumption/

A Consumption Manifesto

The Top Ten Principles of Good Consumption

Consumption is one of life's great pleasures. Buying things we crave, traveling to beautiful places, eating delectable food: icing on the cake of life. But too often the effects of our blissful consumption make for a sad story. Giant cars exhaling dangerous exhaust, hog farms pumping out noxious pollutants, toxic trash heaps nudging into poor neighborhoods—none of this if there weren't something to sell.

But there's no need to swap pleasure for guilt. With thoughtfulness and commitment, consumption can be a force for good. Too long have we consumers been a blushing bride overwhelmed by business suitors. It's time for the bride to assert herself. We've got the dowry; we have the purchasing power. We can require our suitors to comply with our vision of environmental stewardship—or we can close the door behind them on their way out. Through buying what we need, produced the way we want, we can create the world we'd like to live in.

To that end and for the future, a Consumption Manifesto:

Principle One. Reduce, Reuse, Recycle. This brilliant triad says it all. *Reduce*: Avoid buying what you don't need—and when you do get that dishwasher/lawnmower/toilet, spend the money up front for an efficient model. *Re-use*: Buy used stuff, and wring the last drop of usefulness out of most everything you own. *Recycle*: Do it, but know that it's the last and least effective leg of the triad. (Ultimately, recycling simply results in the manufacture of more things.)

Principle Two. Stay close to home. Work close to home to shorten your commute; eat food grown nearby; patronize local businesses; join local organizations. All of these will improve the look, shape, smell, and feel of your community.

Principle Three. Internal combustion engines are polluting, and their use should be minimized. Period.

Principle Four. Watch what you eat. Whenever possible, avoid food grown with pesticides, in feedlots, or by agribusiness. It's an easy way to use your dollars to vote against the spread of toxins in our bodies, land, and water.

Principle Five. Private industries have very little incentive to improve their environmental practices. Our consumption choices must encourage and support good behavior; our political choices must support government regulation.

Principle Six. Support thoughtful innovations in manufacturing and production. Hint: Drilling for oil is no longer an innovation.

Principle Seven. Prioritize. Think hardest when buying large objects; don't drive yourself mad fretting over the small ones. It's easy to be distracted by the paper bag puzzle, but an energy-sucking refrigerator is much more worthy of your attention. (Small electronics are an exception.)

Principle Eight. Vote. Political engagement enables the spread of environmentally conscious policies. Without public action, thoughtful individuals are swimming upstream.

Principle Nine. Don't feel guilty. It only makes you sad.

Principle Ten. Enjoy what you have—the things that are yours alone, and the things that belong to none of us. Both are nice, but the latter are precious. Those things that we cannot manufacture and should never own—water, air, birds, trees—are the foundation of life's pleasures. Without them, we're nothing. With us, there may be nothing left. It's our choice.

—*Umbra Fisk,* Grist Magazine

Glossary of Consumption Terms

Ecolabeling

How can you tell if a product is environmentally preferable? Increasingly, manufacturers are relying on seals or logos called ecolabels to indicate that a product has met a specified set of environmental or social standards. Although ecolabeling schemes vary widely, they typically reward a product for its environmental soundness during one or more stages of its life cycle including production, packaging, use, or disposal. Examples of common ecolabels include: *organic* and *fair trade* for foods, *zero-VOC* for paints and varnishes, *sweatshop-free* for clothing, *biodegradable* and *phosphate-free* for cleaners, and *low-emissions* for cars.

Extended Producer Responsibility

For most manufacturers, responsibility for a product ends when a person buys it and brings it home. A warranty might cover the cost of repairs and replacement, but even warranties end sometime. By the time the product is worn out and thrown away, the manufacturer has no connection to it whatsoever. This lack of responsibility is one reason manufacturers don't typically design products to be easily repaired, recycled, refurbished, upgraded, and reused.

Increasingly, however, many governments are adopting "extended producer responsibility" (EPR) laws that require companies to take back and assume responsibility for disposal of products they sell, from TVs to toaster ovens. The goal of EPR is to induce manufacturers to assess the full life cycle impacts of their products. Ideally, they will then eliminate unnecessary parts, forgo unneeded packaging, and design products that can easily be disassembled, recycled, remanufactured, or reused. EPR laws also typically ban the landfilling and incineration of products, establish minimum reuse and recycling requirements, specify whether producers are to be individually or collectively responsible for returned products, and stipulate whether producers may charge a fee when they take back products.

Fair Trade

Given the economics of global trade, the individuals who actually make the products we buy—from farmers in Colombia who grow coffee to seamstresses in Malaysia who sew t-shirts—often receive only a tiny share of the final price paid for that product. Consider a cup of coffee. Of the $3 that an American might pay for a grand latte at a local coffee shop, the farmer who grows that coffee may receive pennies for the beans that went into the coffee.

Enter the fair trade movement. Fair trade arrangements guarantee that the price producers ultimately receive for their commodities is a certain percentage higher than the price on the world market. This "fair" price not only covers their production costs and assures a decent living, but also carries a range of other social and environmental standards, from the right to organize in unions to certain basic safety requirements.

Green Procurement

When an organization "greens" its procurement, it shifts its purchasing dollars away from goods and services that cause environmental and social harm, and toward products that are more environmentally sound and socially just. These include products that conserve energy and resources, generate less waste and pollution, and are less toxic to human and environmental health.

Green procurement can play an important role in building markets for environmentally preferable goods and services. If consumers increasingly seek out products and services that are more beneficial to the environment, producers will have a greater incentive to design and produce them. As markets for these items grow, propelled by the forces of competition and innovation, the resulting economies of scale will eventually drive down prices, making greener purchases more affordable for everyone.

Product Life Cycle

Each day, we use hundreds of products, from paper and clothing to cell phones and compact discs. What are these products made of, and where do their parts come from? What happens to them when we're finished with them? By looking at a product's life cycle—from the extraction and processing of raw materials, to manufacturing and distribution, to the product's final use by consumers, recyclers, and disposers—we can better understand the connections between Earth's resources, energy use, waste, and wider environmental challenges like climate change. We can learn how to reduce the environmental impacts and natural resource use associated with everyday products, and learn to make better environmental choices.

Product Take-Back

Product take-back is a form of extended producer responsibility that requires companies to take back their products after the consumer is ready to replace them or throw them away. The approach started in Europe and quickly spread to the rest of the world and to a growing range of products and industries, including consumer electronics and electric appliances, office machinery, cars, tires, furniture, paper goods, batteries, and construction materials. Today, more than 30 countries—from Brazil and China, to Poland and South Korea—have laws requiring companies to take back the packaging materials associated with their products, and over 15 nations have similar laws requiring manufacturers to take back spent batteries.

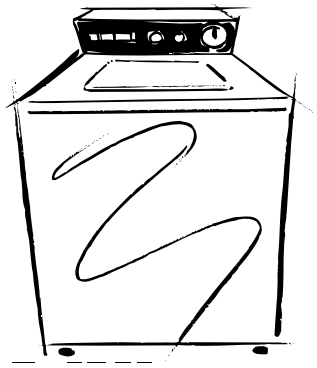
Zero Waste

Today, factories churn out most products in what you might call a "cradle-to-grave" fashion. Raw materials are extracted and processed, and the substances not directly useful to a factory become unwanted waste, polluting the air, rivers, and landscape. An alternative "cradle-to-cradle" system seeks to build integrated, closed-loop systems, in which the byproducts of one factory become the feedstock of another, instead of becoming environmental time bombs. Just as in the natural world, where one organism's "waste" cycles through an ecosystem to provide nourishment for other living things, the goal—and the result—is zero waste.

One of the better known "zero waste" success stories comes from Kalundborg, Denmark, where an increasingly dense web of symbiotic relationships among a number of local companies has been woven slowly over the past three decades, yielding both economic and environmental gains. Natural gas previously flared off by Denmark's largest refinery is being used as feedstock in a plasterboard factory; desulfurized fly-ash from a coal-fired power plant (also the country's largest) goes to a cement manufacturer; and sludge containing nitrogen and phosphorus from a pharmaceutical plant is used as fertilizer by nearby farms.

APPLIANCES
Brian Halweil, Worldwatch Institute

Boosting Efficiency, Saving Energy



Whether you're adding a second refrigerator and freezer or buying your first air conditioner, you're joining a global revolution in appliance ownership. Worldwide, sales of domestic electrical appliances grew by 5 percent in the late 1990s. And the potential for growth is enormous, particularly in developing countries, where appliance penetration rates have until recently been low.

Domestic appliances improve quality and convenience in our lives. But they also consume large amounts of resources. Home appliances are the world's fastest-growing consumers of energy after automobiles—accounting for 30 percent of electricity use in industrial countries and 12 percent of their greenhouse gas emissions. And in rapidly developing China, electricity demand surged more than 400 percent during the 1980s because of purchases of new refrigerators and other items.

The good news is that running these products doesn't have to require high inputs of energy and water. If more consumers demand it, manufacturers will develop new and better products that perform the same services but with less environmental impact: for instance, dishwashers that use less soap and water, or air conditioners that require less energy.

DID YOU KNOW...?

- The average size of refrigerators in U.S. households increased by 10 percent between 1972 and 2001, and the number per home rose as well.
- More than 65 percent of Chinese city-dwellers now own a refrigerator, and more than 90 percent own a clothes washer—both up from less than 5 percent only two decades ago.
- In India, sales of frost-free refrigerators are projected to grow nearly 14 percent annually.
- In 1978, 56 percent of American homes had cooling systems, most of which were small window units; 20 years later, three quarters of U.S. homes had air conditioners, and nearly half were large central systems.
- Standby power—the electricity consumed when appliances are turned "off" but not unplugged—could account for as much as 10 percent of total electricity use in industrial countries by 2020. This will require almost 400 additional 500-megawatt power plants that will emit more than 600 million tons of carbon dioxide annually.

TAKE ACTION!

SIMPLE THINGS YOU CAN DO:

- ✓ When buying new appliances, look for energy efficiency labels and consider models that use less water, detergent, and other resources.
- ✓ Keep your appliances clean and in good working order, to help them run more efficiently.
- ✓ Check the age and condition of your major appliances—especially the refrigerator. You may want to replace it with a more energy-efficient model before it dies.

SUCCESS STORIES

- Many countries have adopted mandatory national energy standards and efficiency labeling programs to save energy and other resources and to steer consumers towards appliances that won't dominate their electricity bills or damage the environment. The U.S. government's Energy Star label, for example, helps shoppers identify products that exceed federal efficiency standards and also result in lower energy costs.
- Since the establishment of national energy efficiency standards in the U.S. in 1987, manufacturers have achieved major savings in appliance energy use, nearly tripling the efficiency of new refrigerators between 1972 and 1999, while also saving consumers money.
- By 2000, 43 countries had household appliance efficiency programs in place—seven times as many as in 1980. Most of these were in Europe and Asia; North America lags relative to its share of appliance use.
- In the early 1990s, facing a 14-percent annual increase in electricity demand, the Thai government initiated a partnership with manufacturers to improve the efficiency of buildings, lighting, and cold appliances. Between 1996 and 1998 alone, the market share of efficient refrigerators in Thailand skyrocketed from 12 to 96 percent.
- Technologies available today could advance appliance efficiency by at least an additional 33 percent over the next decade, and further improvements in dryers, televisions, lighting, and standby power consumption could avoid more than half of projected growth in consumption in the industrial world by 2030.
- A study in the mid-1990s of 18 U.S. co-housing communities, where residents share common gardens, recreational spaces, or other areas, found that members owned 4 percent fewer cars once they moved in to the communities, while their ownership of washers and dryers dropped by 25 percent, and of lawnmowers by 75 percent.

CHALLENGE YOURSELF AND OTHERS:

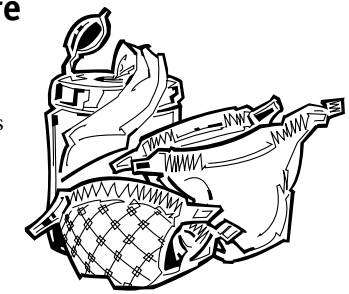
Turning appliances and electronics completely off after use saves a lot of power. Make an effort to turn your appliances off. Educate your work place, school, or house of worship about this by posting information in common areas like kitchens and computer centers.

FOR MORE INFORMATION

- **Collaborative Labeling and Appliance Standards Program** (CLASP) **(www.clasponline.org)** provides comprehensive information on energy efficiency standards and labels around the world.
- **Alliance to Save Energy (www.ase.org)** is a leader in the design and implementation of labeling and efficiency standards programs in the U.S. and worldwide.
- **American Council for an Energy Efficient Economy** (ACEEE) **(www.aceee.org)** is dedicated to advancing energy efficiency as a means of promoting both economic prosperity and environmental protection.
- **Energy Star (www.energystar.gov)** is a U.S. government program that helps businesses and individuals protect the environment through superior energy efficiency.

BABY PRODUCTS
Brian Halweil, Worldwatch Institute

Keeping Our Children Healthy and Safe



For many of us, having a child offers the first motivation to think more critically about the safety of the things we buy. Traditional concerns have been relatively simple: Don't buy toys that children can fit easily in their mouths and swallow. Keep paints, cleaners, and other toxic household supplies locked out of harm's way. Today, however, the list of concerns is lengthening. Parents worried about their babies' sensitive bodies might buy organic foods for the first time, or seek out non-toxic paint for the nursery. And naturally, any parents concerned about the welfare of their children would want to leave them a planet that is more inhabitable.

Although we can't protect our children from every possible harm, there are simple things we can do to help them develop healthier bodies and better prepare them for the road ahead. One important move is to reduce children's exposure to environmental toxins such as lead in old paint. Parents can also look for safer and more environmentally sound options for common child-rearing necessities like diapers, baby wipes, bottles, and baby clothes.

DID YOU KNOW...?

- The average baby will go through 5,000 diaper changes before he or she is toilet trained.
- Americans throw away 18 billion diapers each year, making them the third largest source of solid waste in the nation's landfills.
- Most people spend 90 percent of their time indoors. This figure can be as high as 95 percent for newborns—a group that is particularly sensitive to indoor air pollution because of their small, developing bodies.
- Although breast milk is the ideal food source for newborns and infants, it can contain high levels of contaminants from the mother's body, including traces of DDT and other pesticides that were banned decades ago in the U.S. and many other countries.
- Some baby bottles and nipples are made of plastics that contain chemicals that are known to disrupt the hormone system—include phthalates in polyvinylchloride (PVC) plastic, and bisphenol-A in polycarbonate plastics.

FOR MORE INFORMATION

☛ **Children's Health Environmental Coalition (www.checnet.org)** is a U.S. non-profit organization dedicated to educating parents and caregivers about environmental toxins that affect children's health.

☛ **The Baby-Friendly Hospital Initiative (www.unicef.org/programme/breastfeeding/baby.htm)** is a global effort to encourage hospitals around the world to support breast-feeding and other baby-friendly practices.

☛ **The Green Guide (www.thegreenguide.com)** offers tips on how to "green" your home and lifestyle to protect your family's health and the environment.

SUCCESS STORIES

❖ The European Union has banned the use of soft PVC plastic in pacifiers, bite rings, and other teething toys. Mattel Inc., a leading toy manufacturer, also recently pledged to remove PVC from its products and to switch to plant-based plastics.

❖ In 1991, UNICEF and the World Health Organization launched the Baby-Friendly Hospital Initiative (BFHI) to ensure that all maternities—whether free standing or in hospitals—become centers of breastfeeding support. A designated "baby-friendly" maternity facility doesn't accept free or low-cost breast milk substitutes, feeding bottles, or teats and implements specific steps to support successful breastfeeding.

❖ Since the BFHI began, more than 15,000 facilities in 134 countries have been awarded baby-friendly status. In Cuba, where 49 of the country's 56 hospitals and maternity facilities are baby-friendly, the rate of exclusive breastfeeding at four months almost tripled in six years—from 25 percent in 1990 to 72 percent in 1996.

❖ Organic baby food is one of the fastest growing segments of the organic food market, and the range of selections is expanding rapidly. U.S. supermarket sales of organic baby food increased nearly 2,200 percent between 1989 and 1995—from $1 million to $25 million—while overall baby food sales grew just 20 percent, to $1 billion.

❖ The British Soil Association reported in 2003 that 75 percent of British babies now eat organic baby food on a regular basis.

❖ In the late 1990s, the German baby food manufacturer Hipp converted all of its production lines to organic—making it one of the world's leading organic food processors.

SIMPLE THINGS YOU CAN DO:

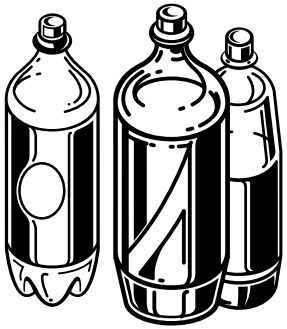
- ✓ If you're expecting a baby or planning on breastfeeding, minimize your exposure to pesticides, paints, heavy metals, and other toxins that may accumulate in body tissue.
- ✓ When changing a diaper, use soaps without strong fragrances, colorings, or detergents, which can be harsh on skin. Avoid commercial baby wipes that contain alcohol, fragrances, and other irritants.
- ✓ Try using biodegradable diapers or reusable cloth diapers to minimize the burden on landfills.
- ✓ When buying baby toys, look for items made without PVC and other plastics.
- ✓ If you're buying gifts for new or expecting parents, expose them to the wide array of alternatives to standard baby toys, clothing, and accessories—including sleepers made from organic cotton, toys made from non-dyed wood, or baby soaps made without synthetic ingredients.

CHALLENGE YOURSELF AND OTHERS:

Commit to making at least two environmental improvements in the baby products you purchase, such as switching to biodegradable diapers or organic baby food.

BEVERAGES
Jenny Gitlitz, Container Recycling Institute

The Price of Quenching Our Thirst



In 2002, thirsty Americans consumed 189 billion sodas, juice drinks, and other beverages packaged in plastic or glass bottles and aluminum cans. That's over 650 containers per person per year—or almost two containers a day for every person living in the United States. Sadly, fewer than half of these bottles and cans were recycled; the majority were trashed—landfilled, burned, or littered along roads, beaches, parks, and other scenic places.

This is a huge amount of wasted resources: a quarter of a million tons of aluminum metal, a million and a half tons of plastic bottles, and nearly 7 million tons of glass bottles—and just for one year in the United States! On a global scale, the quantity of wasted containers—and their contribution to the world's trash burden—is mounting steadily as sales of throwaway beverages outstrip recycling efforts.

Most of us agree that litter is unsightly and expensive to clean up. But how many of us think about how much energy and material is used—and how many pollutants are generated—to manufacture the billions of new cans and bottles to replace the ones we don't recycle? Often, the impacts of this production are felt elsewhere. In Brazil, which exported about half of the 1.3 million tons of primary aluminum it produced in 2002, rivers and indigenous people in the Amazon basin are increasingly threatened by the development of new aluminum smelters.

DID YOU KNOW...?

- People in the U.S. consume more packaged drinks per capita than in any other country—about 350 aluminum cans per person per year, compared to 103 in Sweden, 88 in the United Kingdom, and 14 in France.
- In 2001, 285 million Americans failed to recycle some 51 billion cans—enough to encircle the Earth 153 times if laid end-to-end. (That same year, 451 million residents of 18 European nations wasted only 8.9 billion cans.)
- Making 1 million tons of aluminum cans from virgin materials requires 5 million tons of bauxite ore and the energy equivalent of 32 million barrels of crude oil. Recycling the cans, in comparison, saves all of the bauxite and more than 75 percent of the energy, and avoids about 75 percent of the pollutants.
- Recycling just one aluminum can saves enough electricity to run a laptop computer for 4 hours.
- Making 1 million tons of plastic bottles from virgin materials (petroleum and other fossil fuels) generates an estimated 732,000 tons of climate-altering greenhouse gases.
- Plastic bottles made from PET (polyethylene terephthalate) can be recycled into many products, including beverage bottles, plastic strapping, fleece jackets, sleeping bags, and carpets. Yet in 2002, less than a fifth of all plastic beverage bottles in the U.S. were recycled.
- Recycling glass yields a 10 percent energy savings and preserves the life of the glass furnace. Yet currently, less than a third of glass bottles sold in the United States are recycled.

SUCCESS STORIES

❖ In 10 U.S. states, several Canadian provinces, and some countries in Europe and South America, consumers pay a deposit when they buy a beverage and are later refunded the full amount when they return the bottle or can for recycling. The state of Michigan achieves a 95 percent recycling rate with its 10¢ container deposit law, and Sweden achieves an 86 percent aluminum can recycling rate with its 50 öre deposit system. In India, high recycling rates are achieved by way of a deposit value equivalent to about 50 percent of the price of the beverage.

❖ At 87 percent, Brazil has one of the highest aluminum can recycling rates in the world. (The U.S. can recycling rate, in comparison, slipped from 65 percent in 1992 to 48 percent in 2002.) Aluminum can recycling in much of the developing world is not entirely cause for celebration, however, since low wages and poverty make collecting a necessity for thousands of people.

TAKE ACTION!

SIMPLE THINGS YOU CAN DO:

- ✓ Refill your water bottle at the tap rather than buying a new one.
- ✓ Buy large size containers (2 liters or 64 ounces) for juices, soda, and water, rather than single serving sizes.
- ✓ If you have a choice, buy beverages in refillable (rather than single use) recyclable bottles.
- ✓ Recycle! Use the deposit system, curbside recycling or drop-off programs, or recycling bins found in public places like malls or airports.
- ✓ If there's no recycling program in your workplace or apartment building, organize one!
- ✓ Advocate for legislation that favors refillable containers over single use ones.

CHALLENGE YOURSELF AND OTHERS:

Form a coalition to advocate for a container deposit-return system in your province or state, either through the legislature or through voter referendum. This is much more effective than a one-time recycling event or awareness day, which ultimately does little to change the infrastructure of recycling.

FOR MORE INFORMATION

☛ **Container Recycling Institute** (**www.bottlebill.org and www.container-recycling.org**) serves as a clearinghouse for bottle and can recycling information, and promotes deposit systems.

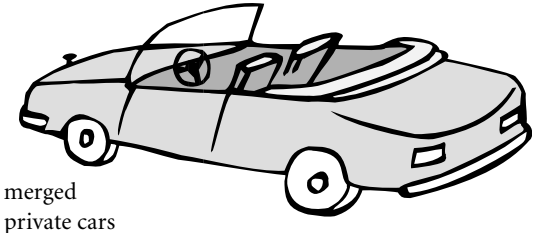
☛ **GrassRoots Recycling Network** (GRRN) (**www.grrn.org**) works to achieve the goal of "zero waste." GRRN and the Institute for Local Self Reliance co-produced a report on the history of and prospects for refillable bottles, at **www.grrn.org/beverage/refillables/index.html**.

☛ **Tomra** (**www.tomra.com**) is an international purveyor of "reverse vending machines" and other beverage container recycling systems

☛ **Raymond Communications** (**www.raymond.com**) offers a subscriber service for information about recycling laws and policies around the world.

CARS
Lisa Mastny, Worldwatch Institute

Barreling Across the Planet



In 2003, some 41 million new passenger vehicles rolled off the world's assembly lines, five times as many as in 1950. The global passenger car fleet now exceeds 539 million vehicles, and is growing by as many as 9 million vehicles annually. Every *day* in 2003, some 11,000 more cars merged onto Chinese roads alone—4 million new private cars during the year.

Many manufacturers now market "light trucks," once used primarily for hauling loads, as passenger vehicles. In 2002, demand for sport utility vehicles (SUVs) and other light trucks outran production by more than 1 million vehicles—almost 9 percent. Due to their large size and low gas mileage, these vehicles are significant polluters. In the United States, where light trucks now account for nearly half of all vehicle purchases, 2001 models emitted 2.4 times more smog-forming pollutants and 1.4 times more climate-altering carbon than passenger cars.

One eco-friendly alternative is the hybrid-electric car, in which electric power supplements the internal combustion engine. So far, hybrids and other alternative fuel vehicles account for only a tiny share of the total automobile fleet. But as consumer demand picks up, the market for "greener" driving options should continue to expand.

DID YOU KNOW...?

- Production of SUVs and other light trucks increased 6 percent in 2002, totaling a record 16 million vehicles. If current trends continue, half the world's passenger vehicles will be SUVs or other light trucks by 2030.
- The U.S. is home to a quarter of the world's cars. Most households own two or more vehicles, and there are now more private cars than people licensed to drive them.
- The average car in the U.S. travels 10 percent more per year than a car in the U.K., about 50 percent more than one in Germany, and almost 200 percent more than one in Japan. The total distance traveled by Americans exceeds that of all other industrial nations combined.
- Cars and light trucks account for 40 percent of U.S. oil use and contribute about as much to climate change as the entire Japanese economy—the world's fourth-largest carbon emitter.
- The average American adult now spends 72 minutes a day behind the wheel, often alone.
- Ford Motor Company's Model T got better gas mileage nearly a century ago than the average vehicle Ford puts on the roads today.
- Chinese auto sales increased by more than 80 percent in the first half of 2003. By 2015, if growth continues apace, industry analysts expect 150 million cars to jam China's streets—18 million more than were driven on U.S. streets and highways in 1999.
- People who drive gas-guzzling sport-utility vehicles rather than fuel-efficient cars not only consume about three times more gasoline per kilometer driven, but also indirectly use more water since it takes 18 liters of water to produce just one liter of gasoline.
- For every kilometer driven by private vehicle, people consume two to three times as much fuel as they would by public transit.

SUCCESS STORIES

- By January 2003, some 150,000 drivers around the world had bought a hybrid car.
- In Denmark, where rail and bike infrastructure are well developed and the tax on auto registrations exceeds a car's retail price, more than 30 percent of families don't own cars.
- In 1992, people in more than 30 Dutch municipalities voted to eliminate cars from their inner cities. All over the Netherlands, parking for bicycles far exceeds spaces for cars at railway stations.
- Bogotá, Colombia, began shifting roadways from cars to bicycles in the late 1980s, and plans to ban private car use during peak hours by 2015.
- Car sharing, a concept where members reserve and drive shared cars, has spread to more than 550 communities in eight European countries and to more than 40 U.S. cities.

SIMPLE THINGS YOU CAN DO:

- ✓ Walk, bike, or take public transportation whenever possible. Encourage your local community to be more bicycle-friendly by investing in bike lanes, stoplights that favor cyclists, and other infrastructure developments that would make cycling safe.
- ✓ If you have a car, combine trips to reduce total mileage, and keep it well maintained to reduce oil leaks and runoff.
- ✓ Consider joining a car-sharing club if there's one in your city, especially if you don't use your car frequently.
- ✓ If you're planning on buying a car, ask your dealer about the most fuel efficient models available. Consider buying a hybrid vehicle, if you have the option.

CHALLENGE YOURSELF AND OTHERS:

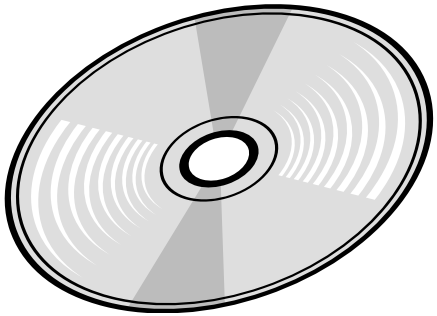
For one month, eliminate as many short car trips as you can. Keep a rough tally on the miles you don't drive. At the end of the month, calculate the emissions you saved, using a calculator like the Tailpipe Tally described below.

FOR MORE INFORMATION

- Environmental Defense's **Tailpipe Tally** (www.environmentaldefense.org/tool_pop.cfm?tool=tailpipe) allows you to calculate the fuel consumption, fuel cost, and vehicle emissions for any vehicle from model years 1978 to present.
- **EV World** (www.evworld.com) is a clearinghouse for information on a wide range of green transportation options.
- American Council for an Energy-Efficient Economy's **Green Book** (www.greenercars.com) and **Clean Car Campaign** (www.cleancarcampaign.org) give information on the development and purchase of environmentally friendly vehicles.
- **The Surface Transportation Policy Project** (www.transact.org) is a U.S. coalition working to ensure safer communities and smarter transportation choices.

CDs AND DVDs
Lisa Mastny, Worldwatch Institute

The Reality Behind the Spin



You listen to them on your stereo, play them in your computer, or watch movies on them. Compact discs (CDs) and their faster cousin, video discs (DVDs), are everywhere. Only a few millimeters thick, they provide hours of entertainment and hold huge volumes of information. But do you ever stop to think about how CDs and DVDs are made, what materials are used, or what happens to these discs when you don't want them anymore?

Making products like CDs and DVDs consumes natural resources, produces waste, and uses energy. CDs and DVDs are created from many different materials, including metals, plastics, and dyes. The discs are packaged in clear or colored plastic cases or cardboard boxes, wrapped in plastic, and sent to distribution centers and retail outlets around the world. If properly stored and handled, most CDs and DVDs will last for decades, and probably centuries. Depending on their condition, unwanted discs can be reused or recycled instead of thrown away, saving energy and valuable resources.

DID YOU KNOW...?

- The entire process of encoding music onto a CD takes only about 5-10 seconds. A high-pressure stamper embeds the digital information into tiny indentations on a polycarbonate plastic blank, which is later coated with metal.
- In 2000, more than 700 compact disc factories were operating worldwide.
- When CDs were first introduced in the United States in 1983, 800,000 discs were sold. By 1990, this number had grown to close to 1 billion.
- Between 1983 and 1996, the average price of a music CD in the U.S. fell by more than 40 percent.
- The European market for music CDs is expanding rapidly, with almost 2.9 billion compact discs produced in Western Europe in 1998.
- Each month, more than 45 tons of CDs become obsolete—outdated, useless, or unwanted.
- Each year, more than 55 million boxes of software go to landfills and incinerators, and people throw away millions of music CDs.

CHALLENGE YOURSELF AND OTHERS:

Organize a CD/DVD reuse event. Set up a disc swap day or create a library devoted to CD/DVD-sharing. For unwanted discs, organize a recycling collection at a local school or business for a community service or fundraising project.

SUCCESS STORIES

- Several companies in Europe, the U.S., and elsewhere now recycle old CDs and DVDs into a high-quality plastic for reuse in products ranging from automobile parts to office equipment.
- One recycling business in San Jose, California, processes a million CDs every month. In its second year of operation, the company recovered 20 million CDs, many from software companies disposing of excess inventory. The company also recycles nearly 11,000 tons of manuals and other paper that accompanies software boxes each year.
- A CD recycling company in Merseyside, United Kingdom, not only helps divert old discs from landfills, but also employs local prisoners in its plants—generating much-needed work in the region and giving them the chance to learn a skill.

SIMPLE THINGS YOU CAN DO:

- ✓ Find out if the information you're looking for on disc is available over the Internet. If so, you may not need to buy the disc at all.
- ✓ Prolong the life of your discs by keeping them out of direct sunlight and away from heat and water. To repair minor scratches, rub a mild abrasive (e.g. toothpaste) on the non-label side in a circular motion from the center out—or bring the disc to an inexpensive commercial refinisher.
- ✓ Buy used CDs and DVDs or borrow them from others to help reduce the environmental impact associated with manufacturing new products.
- ✓ Dispose of unwanted CDs or DVDs only when you have no other choice. Instead, sell them to used CD stores, share or trade them with friends, or donate them to schools, libraries, or other organizations.
- ✓ As a last resort, drop the discs off at an appropriate recycling center. Check your local phone book or search the Internet for a list of recyclers.

FOR MORE INFORMATION

- U.S. Environmental Protection Agency's **Make a Difference Campaign for Students (www.epa.gov/epaoswer/education/mad.htm)** offers a free poster for children on the life cycle of a CD.
- **The Silicon Valley Toxics Coalition (www.svtc.org/cleancc/recycle/cdrecycle.htm)** offers information on CD recycling companies in the United States.

Making Talk Less Toxic

Once limited to a prosperous few, cell phones have rocketed into ubiquity. In 1992, less than 1 percent of people worldwide had cell phones and only one third of all countries had cellular networks. Just 10 years later, 18 percent of people (1.14 billion) had cell phones—more than the number with conventional phone lines—and over 90 percent of countries had networks.

Like computers, cell phones are short-lived products that present the clearest threat to humans and the environment when they are being created or destroyed, as they contain toxics-rich semiconductor chips. The biggest hazards are the phone's chip-containing circuit board, liquid crystal display, and batteries—followed by the hard-to-recycle plastic casing. The research group INFORM estimates that by 2005, consumers will have stockpiled some 500 million used cell phones that are likely to end up in landfills, where they could leach as many as 142 tons of lead.

DID YOU KNOW...?

- In Africa, mobile phones outnumber fixed lines at a higher ratio than on any other continent. Entrepreneurs selling the use of their cell phones now bring service to villagers who previously had to walk hours to place a call.
- More Europeans now send and receive short text messages with their mobile phones than use the Internet from personal computers.
- The Philippines leads the world in text messaging via cell phone. "Txting" by protesters to organize rallies against former President Joseph Estrada was a factor in his recent ouster.
- In the United States, the world's second largest market for cell phones after China, handsets are cast off on average after 18 months. Competing standards for cellular networks are one reason mobile devices are discarded so quickly in the U.S.; Europe, in contrast, has had a single standard since the early 1980s.
- Cell phone handsets draw radio waves closer to people's heads than most other electronic gadgets do, causing potential health risks—though long-term data on the link between cell phone use and cancer are not yet available.

FOR MORE INFORMATION

☛ **INFORM, Inc. (www.informinc.org)** has published extensive research on the environmental impacts of cell phone disposal as well as trends in phone recycling.

☛ The **Silicon Valley Toxics Coalition (www.svtc.org)** offers information on the environmental impacts of cell phones and is campaigning for electronics take-back legislation in the U. S.

☛ **ReCellular (www.recellular.net)** buys and sells used phones in bulk in the United States, and provides location information for drop-off centers nationwide.

SUCCESS STORIES

❖ In Germany, the Blue Angel "eco-label" is given to phones that meet specific standards for reduced toxic content.

❖ Sweden's TCO Development certifies handsets according to their emissions contributions, as well as ergonomic and other environmental criteria—including whether they are easily recyclable.

❖ The Finnish phone manufacturer Nokia has been working with university scientists to develop biodegradable plastics and phones that disassemble for easy recycling when triggered by high temperature.

❖ Charitable groups in many countries have partnered with companies to refurbish used cell phones. Some of these phones are programmed to dial emergency services and given to victims of domestic violence or the elderly, while others are resold in developing countries.

❖ The Netherlands, Norway, Sweden, and Switzerland all have established "extended producer responsibility" programs that require consumers to pay advance disposal fees to fund cell phone recycling.

❖ Starting in 2005, the European Union's new Waste Electrical and Electronic Equipment directive will make manufacturers responsible for collecting and recycling new electronics products at the end of their useful lives and require all firms to be collectively responsible for taking back electronics marketed before that date.

❖ In the absence of U.S. national laws, the state of Massachusetts has banned electronic waste from landfills and created a fund to recycle electronics. California introduced a limited ban on e-waste and expects local governments to cover recycling costs, while New York recently required vendors to accept and recycle any cell phones they sell.

❖ In late 2002, the secretariat of the international Basel Convention on hazardous waste trade convened major electronics manufacturers to launch a new mobile phone working group to work with industry to tackle the waste problems associated with particular products.

CHALLENGE YOURSELF AND OTHERS:

Find out if there are any charities or businesses in your area that collect and recycle used cell phones. Organize a cell phone collection among your friends, family, and colleagues.

SIMPLE THINGS YOU CAN DO:

✓ Plug an earpiece into your phone when using it to avoid holding the handset too close to your head.

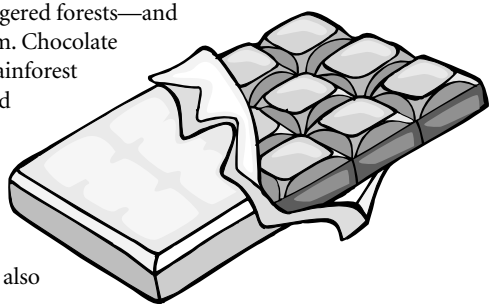
✓ Don't let your kids use cell phones. Due to potential health risks, a study group assembled by the British government has discouraged excessive cell phone use by children.

✓ Encourage companies to design less-toxic cell phones, and to "take back" or recycle the phones they sell.

✓ If you need to buy a cell phone, look for phones that carry labels indicating that the product meets certain standards for minimal toxic content, low emissions, or easy recyclability.

CHOCOLATE
Chris Bright, Worldwatch Institute

Saving the Rainforest, One Morsel At a Time



The next time you bite into a bar of chocolate, consider that taste as a link to some of the world's most endangered forests—and to the millions of farmers who live near them. Chocolate comes from the seeds of the cacao, a small rainforest tree native to the Americas. Produced around the world, it is grown mainly on lands that have lost their original forest cover, sometimes to the cocoa itself. Today, all of the world's major cocoa areas are "biodiversity hotspots"—regions that are unusually rich in biodiversity, but which are also highly threatened.

The world's retail chocolate business is worth an estimated $42–60 billion annually. Yet only about 6–8 percent of this revenue actually makes its way back to the cocoa farmers, many of whom are poorer smallholders. Labor abuse is said to be rife in some cocoa regions, and reports of farmers enslaving thousands of child workers in places like Côte d'Ivoire have sparked widespread criticism of the industry.

Fortunately, a number of manufacturers now offer chocolate bars and other products that are more environmentally friendly and socially responsible. These products contain cocoa that comes from farms that conserve forest, that don't use child labor, or are organic.

DID YOU KNOW...?

- Cocoa is grown commercially in nearly 60 countries, but production is concentrated in just a few. In 2002, Côte d'Ivoire, Ghana, Indonesia, Nigeria, and Brazil accounted for 79 percent of global production.
- The global area in cocoa production has expanded by nearly a quarter since 1990 and now totals more than 70,000 square kilometers, an area larger than Ireland.
- Cocoa accounts for more than 13 percent of the original forestlands of Côte d'Ivoire, and is still chewing up forest in parts of West Africa and Indonesia.
- Although cocoa is sometimes grown alongside other plants, in many cases it is grown as a monoculture in full sun, an arrangement that supports far less species diversity.
- One of the most common pesticides used on cocoa in West Africa is lindane, a toxic organochlorine cousin of DDT.

SUCCESS STORIES

- In some places, cocoa farming now represents a de facto conservation system where the farms in effect become the forests. In Bahia, Brazil, and in south central Cameroon, cocoa is cultivated under thinned native forest in areas where little other forest remains.
- Cocoa has important social and labor potential because of its high value and small-scale nature, with farms spanning just 1-3 hectares. Cacao trees respond well to extra care, so skilled smallholders can achieve higher productivity than bigger farms with too many trees to look after individually.
- In 2002, Côte d'Ivoire ratified a treaty against labor abuse of children, and the big chocolate companies launched an initiative to certify Ivoirian chocolate as "slavery-free" by 2005.
- In November 2003, British chocolate manufacturer Cadbury Schweppes announced that it would use a cornstarch polymer candy package that dissolves in water for its chocolates sold in Australia, to cut down on waste.

SIMPLE THINGS YOU CAN DO:

- ✓ When buying chocolate, look for a brand with high cocoa content (more cocoa means higher quality and—at least potentially—more farm income). Look also for chocolate that carries a "fair trade" label or the mark of a similar socially responsible producer, and that is organic.
- ✓ Encourage your favorite stores or supermarkets to carry chocolate brands that are certified as being fair trade, organic, or slavery-free.

CHALLENGE YOURSELF AND OTHERS:

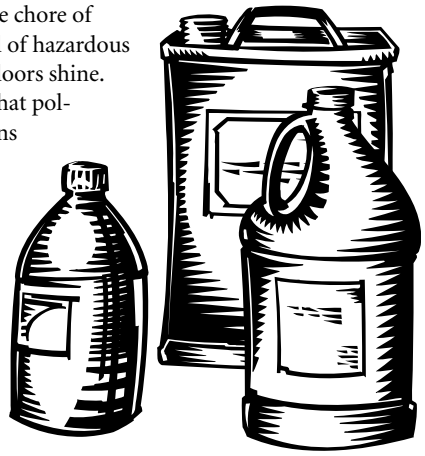
The next time you entertain, try to serve a dessert made with only chocolate that is fair trade, organic, or both. Explain to your guests why you chose this type of chocolate and encourage them to reevaluate their own chocolate choices.

FOR MORE INFORMATION

- **Anti-Slavery International** (www.antislavery.org) and the **Child Labor Coalition** (www.stopchildlabor.org/internationalchildlabor/chocolate.htm) both publish information on forced child labor issues on cocoa farms in Africa.
- **The Rainforest Alliance** (www.rainforest-alliance.org/programs/cap/index.html) has a sustainable agriculture certification program that includes cocoa farms.
- **The Fair Trade Federation** (www.fairtradefederation.com/memcof.html) is a resource for information on buying fair-trade certified cocoa products.
- **Equal Exchange** (www.equalexchange.org/products/products.html) is a distributor of fair-trade certified cocoa products in the U.S.

CLEANING PRODUCTS
Brian Halweil, Worldwatch Institute

What's Behind the Shine?



Everyone likes a clean home, but few of us like the chore of cleaning. Even worse, we often rely on a cocktail of hazardous substances to make our bathrooms sparkle or our floors shine. Dishwashing detergents often contain phosphates that pollute the groundwater; wood polish generally contains flammable toxins like nitrobenzene; and laundry detergent may contain bleach and other corrosives. We lock these compounds away in closets or under the sink to keep them from our children—but we often don't consider what they may be doing to our own bodies.

Even as they help us pick up dirt and dust, many modern cleaners irritate our skin, eyes, and lungs. They can also leave toxic residues or pollute the water when we rinse them down the drain. But keeping our homes clean and avoiding toxic cleaners don't have to be mutually exclusive. Several companies now produce "green" cleaners that avoid ingredients that are toxic or don't biodegrade. Green cleaners can also be made from a range of safer substances we might already have around the house.

DID YOU KNOW...?

- Cleaning products were responsible for nearly 10 percent of all toxic exposures reported to U.S. Poison Control Centers in 2000, accounting for 206,636 calls. Of these, nearly two-thirds involved children under six, who can swallow or spill cleaners stored or left open inside the home.
- According to the U.S. Environmental Protection Agency, the air inside the typical home is on average 2-5 times more polluted than the air just outside—and in extreme cases 100 times more contaminated—largely because of household cleaners and pesticides.
- The Janitorial Products Pollution Prevention Project reports that 6 out of every 100 janitors in Washington state have lost time from their jobs as a result of injuries linked to toxic cleaning products, particularly glass and toilet cleaners and degreasers.
- In a 2002 U.S. Geological Survey study of contaminants in U.S. stream water, 69 percent of streams sampled contained persistent detergent metabolites, and 66 percent contained disinfectants.

CHALLENGE YOURSELF AND OTHERS:

Get friends together for an Earth-friendly spring cleaning day. As part of this, replace your conventional cleaning products with items that are biodegradable and safe for children and pets. These products are available at natural foods stores, online, or through catalogues.

SUCCESS STORIES

❖ At least eleven U.S. states have banned phosphate from detergents sold within their borders, though the ingredient is still permitted in most of the country. Other states, cities, and counties have gone a step further by not just banning certain products, but also requiring the use of nonpolluting cleaners.

❖ In 1994, the city of Santa Monica, California, was able to replace traditional cleaners with less-toxic options in 15 of 17 product categories, saving 5 percent on annual costs and avoiding the purchase of 1.5 tons of hazardous materials per year.

❖ The U.S. market for natural household cleaning products has grown to $100 million annually, according to natural goods retailer Seventh Generation. This represents just one percent of the total household cleaners market, but it's been growing by 18–25 percent each year for the last five years.

SIMPLE THINGS YOU CAN DO:

- ✓ Stock up on a few safe, simple ingredients that can be used in most cleaning situations. Soap, water, baking soda, vinegar, lemon juice, borax, and a coarse scrubbing sponge can take care of most household cleaning needs.
- ✓ Instead of using a standard drain cleaner, which likely contains lye, hydrochloric acid, and sulfuric acid, try pouring a quarter cup of baking soda down the clogged drain, followed by a half cup of vinegar. Close the drain tightly until fizzing stops, then flush with boiling water.
- ✓ For an effective glass cleaner, use a mixture of half white vinegar and half water.
- ✓ Baking soda and cornstarch are both good carpet deodorizers.
- ✓ To clean up mildew and mold, use a mixture of lemon juice or white vinegar and salt.
- ✓ A paste of baking soda, salt, and hot water makes a great oven cleaner.
- ✓ In the rare instance you need to use a hazardous product, use as little as possible and dispose of it in a way that will cause minimum harm—for example, by bringing it to a hazardous waste recycling or treatment center.

FOR MORE INFORMATION

☛ **Environmental Home Center (www.environmentalhomecenter.com)** is an online source for green building supplies, including people-friendly cleaning supplies, non-toxic paint, natural carpets, sustainable wood products, and energy-efficient insulation.

☛ **Seventh Generation (www.seventhgeneration.com)**, the leading seller of green cleaning products in North America, offers tips on green cleaning.

☛ **The Green Guide (www.thegreenguide.com)** provides consumers with practical, everyday household- and market-level actions that can yield system-wide environmental, health, and social change.

☛ ***The Green Consumer***, by John Elkington, Julia Hailes, and Joel Makower (Penguin Books: 1988), contains useful advice on reducing the environmental impact of all aspects of home life and purchasing.

The High Price of Fashion

Everyone needs clothes. They shelter us from the elements and define our personal style. Unfortunately, the shirt on your back may be more expensive than you thought—both for the environment, and for the workers that made it. The conventional way of growing cotton, the most common fabric material, relies on heavy inputs of insecticides, herbicides, and chemical fertilizers, many of which are known or probable carcinogens. Dyes used in clothing can contain toxic chemicals, while permanent press treatment can release formaldehyde gas, also a likely carcinogen.

Most of the world's clothing is manufactured in sweatshops in poorer countries, where workers earn less than they need to live, face cramped or unsanitary conditions, and are often subjected to physical, sexual, and verbal abuse. First-hand accounts from factories producing for many designer companies report that people often work more than 100 hours a week, and unions are not permitted.

As global awareness of the real price of fashion grows, many consumers as well as some clothing manufacturers are leading the push for more eco- and worker-friendly apparel.

DID YOU KNOW...?

- The number of garments bought by U.S consumers increased 73 percent between 1996 and 2001, while apparel prices have fallen 10 percent over the past decade.
- By 2001, the average U.S. consumer bought 48 new pieces of clothing a year. Rates of consumer discard, meanwhile, rose by 10 percent a year throughout the 1990s, according to Goodwill.
- Sweatshop workers in Mexico earn 85 cents an hour for their labor, while in Indonesia the pay is only 15 cents an hour. Even in the United States, a worker may earn less than $5 for making a garment that will sell for $100.
- A cotton T-shirt blended with polyester can release approximately one quarter of its weight in air pollutants and 10 times its weight in carbon dioxide.
- Each 100-percent organic cotton T-shirt you buy eliminates the use of 150 grams of agricultural chemicals.
- Hemp, which has been used to make clothing and other products for 12,000 years, contains some of the strongest, longest soft fibers in existence and can stand up to most weeds and bugs.

SUCCESS STORIES

❖ Organic cotton growing accounts for only 0.03 percent of the world's cotton, but is expanding. At one Egyptian farm, organic cultivation has boosted cotton yields by more than 30 percent, and the fiber is processed into textiles without any synthetic chemicals.

❖ In 2001, the sportswear manufacturer Nike helped launch Organic Exchange, a network of 55 businesses that aims to expand the use of organic cotton in manufacturing over the next 10 years. More than a third of the cotton clothes Nike produced in 2001 contained at least 3 percent certified organic fiber.

❖ Though it's illegal in the United States, hemp farming is permitted in much of Europe and Asia and was legalized in Canada in 1998. Organic wool and linen are also popular natural fiber alternatives.

❖ The growing global movement to end worker abuse in clothing manufacture has forced many sweatshop users out of hiding. In the United States, student activists have demanded that their schools contract only with "sweat-free" producers, and new companies like American Apparel and SweatX are pioneering the fair trade apparel market.

TAKE ACTION!

SIMPLE THINGS YOU CAN DO:

- ✓ Avoid clothing brands that have been known to use sweatshops. In the United States, these include Wal-Mart, Gap (Old Navy, Banana Republic), and Target.
- ✓ Purchase at least some clothing items from up-and-coming fair trade brands and makers of organic cotton and natural fiber products.
- ✓ Donate your old clothes to thrift shops, or buy inexpensive "recycled" garments from these stores.
- ✓ Write to sweatshop-using companies to tell them you won't give them your business until they stop outsourcing to sweatshops.

CHALLENGE YOURSELF AND OTHERS:

Next time you shop for clothes, check labels before you buy. Educate yourself about how and where these items are manufactured. Buy fair trade and organic/natural fiber items, or shun the mall altogether and take your next shopping trip to a thrift store.

FOR MORE INFORMATION

☛ **Global Exchange (www.globalexchange.org)** is an international human rights organization dedicated to promoting environmental, political, and social justice, including in the global garment industry.

☛ **BehindtheLabel.org (www.behindthelabel.org)** provides information on labor abuses in the clothing industry and offers a range of consumer tips for buying sweatshop-free apparel.

☛ **Sustainable Cotton Project (www.sustainablecotton.org)** works with farmers, manufacturers, and consumers to pioneer markets for certified organically grown cotton.

☛ **North American Industrial Hemp Council (naihc.org)** offers information on the hemp industry, with the goal of reestablishing and expanding the use of industrial hemp in North America.

COFFEE
Brian Halweil, Worldwatch Institute

The Price of Your Daily Fix

Regular coffee drinkers know it's a magic concoction. That seductive aroma. A quickening heartbeat. The feeling of being energetic and alert. When you just want that first cup of coffee, it may be hard to muster interest in where your java or espresso actually comes from. Yet the origin of your coffee has surprising significance for the future of life on this planet.

Like cocoa and bananas, coffee is a tropical export that is produced almost exclusively in the developing world, but consumed mainly in wealthier nations. Beans brewed for connoisseurs in Geneva, Los Angeles, and Tokyo are grown in a thin band of rainforests that straddles the Equator. Until a few decades ago, most of the world's coffee was planted in the understory of these forests, with farmers looking after the trees as a natural outgrowth of managing their coffee. But today, more and more of the beans come from what was *once* biologically rich rainforest: clear-cut tracts of land, without shade, that give off the dry, burning scent of ammonia fertilizer.

Fortunately, more and more java drinkers are demanding that their favorite baristas serve coffee grown in a manner that protects, not destroys, the rainforest. The best choice is coffee that is shade-grown (maintains rain forest), organic (forbids chemical use), and fair-traded (assures a fair price to the farmer). Though the market for this "ethical" coffee is small, it's growing daily.

DID YOU KNOW...?

- Farmers harvested nearly 7.4 million tons of coffee beans in 2002—an all-time high and almost double the harvest in 1960.
- One out of every five cups of coffee worldwide is consumed in the United States.
- More than 40 percent of the coffee area in Colombia, Mexico, Central America, and the Caribbean has been converted to sun coffee, and an additional one-quarter is in conversion—a pattern emerging everywhere the beans are grown.
- Scientists have found that in full-sun coffee plantations, the number of bird species is reduced by half and the number of individual birds is down as much as two-thirds. Diversity of insects, plants, and other wild creatures is lower as well.
- Shade-grown coffee requires fewer pesticides and fertilizers than sun coffee; the forest canopy provides habitat for the birds and insects that devour coffee-plant pests, and many native plants add nutrients to the soil.

CHALLENGE YOURSELF AND OTHERS:

For one week, make an effort to drink only coffee that is shade-grown, organic, or fair-traded. For an added challenge, choose only options that carry all three labels. If you like what you taste, consider making a wholesale switch.

SUCCESS STORIES

- Global sales of fair trade coffee grew by 12 percent in 2001, compared with overall growth in coffee consumption of just 1.5 percent. But the fair trade label still only accounts for a small share of the market.
- The Max Havelaar brand of fair trade coffee is available in 90 percent of supermarkets in the Netherlands and holds over 3 percent of the domestic coffee market—just fifteen years after the first pack arrived in Rotterdam harbor!
- Several of the largest U.S. coffee retailers, including Starbucks and Dunkin' Donuts, have started offering coffee that is shade-grown, organic, and fair-traded.
- Coffee growers in the hills outside El Salvador's capital city, San Salvador, are being encouraged to reintroduce trees to their farms to help alleviate the city's water shortage. The trees' roots and vegetation retain water, reducing flooding and landslides and helping to recharge local aquifers.

TAKE ACTION!

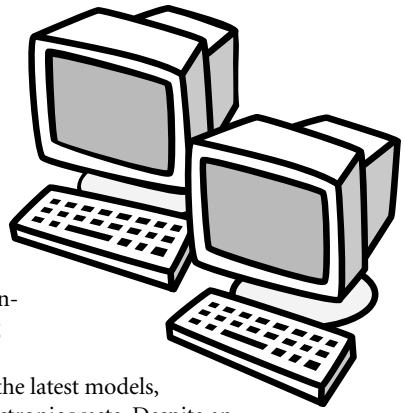
SIMPLE THINGS YOU CAN DO:

- ✓ Look for coffee that's organic, fairly traded, and/or shade grown the next time you go shopping.
- ✓ When meeting friends for coffee, suggest a place that serves organic, fairly traded, and/or shade grown products.
- ✓ Take a moment to educate friends and family about how coffee is grown, and suggest alternative choices.
- ✓ Ask your local coffee shop or supermarket to carry coffee that is shade-grown, organic, and fair-traded. If the store already offers this option, ask the manager to boost its share of these items.

FOR MORE INFORMATION

- **Smithsonian Migratory Bird Center** (nationalzoo.si.edu/conservationandscience/migratorybirds/coffee/default.cfm) conducts research on the connection between coffee production and bird migration and certifies coffee that is "bird-friendly."
- **International Fair Trade Association** (IFAT) (www.ifat.org) provides information about fair-trade co-operatives and associations worldwide and offers a catalog of sources of fair-trade products, including coffee.
- **Consumer's Choice Council** (www.consumerscouncil.org) is an association of environmental, consumer, and human rights organizations dedicated to protecting the environment and promoting human rights through ecolabeling.

When Your Computer Becomes Toxic Trash



With more and more people getting "wired" everyday, electronics has become the world's fastest-growing manufacturing industry. While computers enable us to access and retain more information than ever before, we may not realize that each of these machines is also a toxics trap. Tiny semiconductors require more material inputs than most traditional goods. Workers in the "clean rooms" where the chips are made are exposed to a host of chemicals that have been linked to cancers, miscarriages, and birth defects. And these facilities generate huge volumes of chemical waste, contaminating groundwater at many high-tech sites.

Moreover, as we replace our old computers with the latest models, we're contributing to a mounting global problem: electronic waste. Despite an international ban on trade in hazardous waste, many old computers from the United States and other industrial countries make their way to "recycling" facilities in Asia and elsewhere. Investigations reveal that these facilities expose workers and the environment to a slew of deadly toxins that can cause damage to the central nervous system, endocrine disruption, interference with brain development, and organ damage.

DID YOU KNOW...?

- In just over a decade, the number of personal computers worldwide increased five-fold—from 105 million machines in 1988 to more than half a billion in 2002.
- Prices of personal computers and peripheral equipment in the U.S. have fallen by 81 percent since 1997 as a result of more powerful chips, low wages, and the offloading of environmental costs.
- The total mass of secondary materials used to produce a 2-gram microchip is 630 times that of the final product. (For comparison, the resources needed to build a car weigh about twice as much as the final product.)
- Santa Clara County in California, the birthplace of the semiconductor industry, contains more toxic waste sites than any other county in the United States.
- A typical computer monitor with a cathode ray tube display contains 2-4 kilograms of lead, as well as phosphor, barium, and hexavalent chromium. Other toxic ingredients include cadmium in chip resistors and semiconductors, beryllium on motherboards and connectors, and brominated flame retardants in circuit boards and plastic casings.
- Government researchers estimate that three quarters of all computers ever sold in the U.S. are lying in basements and office closets, awaiting disposal. An estimated 63 million personal computers are expected to be retired in the U.S. in 2005 alone—that's one computer becoming obsolete for every new one put on the U.S. market!
- As much as 50–80 percent of U.S. electronic waste collected for recycling is sent to Asia (mainly China, India, and Pakistan) where workers are exposed to toxic fumes, lung and respiratory irritants, and other dangerous health threats.

SUCCESS STORIES

- In 1993, U.S. President Bill Clinton issued an executive order requiring federal agencies to buy only computer equipment that meets the efficiency requirements described under the government's Energy Star program. Today, largely as a result of this increased demand, 95 percent of all monitors, 80 percent of computers, and 99 percent of printers sold in North America meet Energy Star standards.
- In 2002, the European Union adopted two "extended producer responsibility" directives requiring electronics manufacturers to phase out the use of hazardous materials and to assume responsibility for the "take back" and recycling of e-waste.
- Computer manufacturer IBM began offering product take-back programs as early as 1989 in Europe, and then initiated a more-restricted program in the United States in 1997.

TAKE ACTION!

SIMPLE THINGS YOU CAN DO:

- ✓ When buying a computer, look for labels indicating that the machine is energy-efficient.
- ✓ Buy computers that can be easily upgraded to avoid having to purchase entire new systems as the technologies advance.
- ✓ Recycle old computers by donating them to charities or to other organizations that can refurbish or reuse the parts.
- ✓ Send a letter to electronics companies urging them to take full responsibility for the life cycle of their products. Learn more at www.computertakeback.com.

CHALLENGE YOURSELF AND OTHERS:

Don't just throw your old electronics in the trash! Several manufacturers now take back old electronics for a small fee. Find out where you can send your old computers, cell phones, batteries, and other parts. At the same time, urge manufacturers to dispose of these products responsibly and not ship them to countries where they harm workers and the environment.

FOR MORE INFORMATION

- **Silicon Valley Toxics Coalition (www.svtc.org)** engages in research, advocacy, and organizing around the environmental and health problems caused by rapid growth of the high-tech industry.
- **Grassroots Recycling Network (www.grrn.org)** advocates corporate, government, and individual responsibility for waste.
- **Computer TakeBack Campaign (www.computertakeback.com)** is working to make computer producers responsible for the safe design, manufacturing, and recycling of their equipment.
- **European Environment Bureau**'s "Waste from Electrical and Electronic Equipment" website **(www.eeb.org/activities/waste/weee.htm)** provides background on regional efforts to address the environmental impacts of computers and other electronics.
- **Basel Action Network (www.ban.org)** is an international network of activists that works to oppose the trade in toxic wastes and technologies from rich to poor countries.

ELECTRICITY
Carrie Harvilla, Center for Resource Solutions

Green Power: An Electrifying Choice

Every time you turn on your lights, watch TV, or use a computer, you rely on natural resources to create your electricity. Most electricity comes from coal, nuclear, or other fossil fuel power plants. These plants contribute to a variety of environmental and health problems, including air emissions, water consumption, solid waste, and noise. In turn, they can affect the environment by altering the global climate, threatening biodiversity, producing toxic waste, and causing human health risks such as cancer and respiratory disease.

Renewable energy, or "green power," is an alternative to traditional polluting electricity sources. Energy generated from wind, solar, geothermal, low-impact hydropower, and biomass has low or no air emissions. Because these resources are renewable, they will never run out. Many consumers now have the option of purchasing green power either from their utility or from a competitive renewable energy marketer. Making the switch is easy: you don't need to buy any new equipment, and the quality of the electricity delivered to your home isn't affected. Buying green power directs your electricity funds to support renewable power plants that help create a cleaner, healthier environment for everyone.

DID YOU KNOW...?

- World electricity demand is expected to double between 2000 and 2030, with the greatest increase occurring in the developing world and the most rapid growth in people's homes.
- Electricity production is the leading cause of industrial air pollution in the United States, and is responsible for 40 percent of the nation's carbon emissions that contribute to global climate change.
- At most, 35 percent of coal's energy in a power plant converts to electricity. The remaining two thirds is lost as waste heat, benefiting no one and often harming surrounding ecosystems.
- Buying green power for the average U.S. home for one year saves as much carbon dioxide as planting nearly two acres (.8 hectares) of trees, removing a car from the road, or not driving nearly 12,000 miles (20,000 kilometers).
- In 1999, Santa Monica, California, became the first U.S. city to buy 100 percent of its municipal power from renewable sources, including geothermal and wind energy.
- By 2020, solar power could provide energy to over a billion people globally and provide 2.3 million full-time jobs.

CHALLENGE YOURSELF AND OTHERS:

Find out if your green power is certified. Third party certification and verification ensures that this power meets widely accepted consumer and environmental standards, and that you get what you pay for—renewable electricity that contributes to cleaner air, soil, and water. Certifiers include Green-e in the United States, TerraChoice in Canada, and EUGENE in Europe. If your green power isn't certified, encourage your provider to gain certification so you can be sure you're receiving environmentally preferred electricity.

SUCCESS STORIES

❖ Wind power is now the world's fastest-growing energy source. Global wind generation capacity has quadrupled over the past five years, and wind plants now power the equivalent of 7.5 million average U.S. homes —or 16 million average European homes.

❖ Consumers from California to Kenya are installing photovoltaic (PV) systems on the rooftops of houses and businesses. In 2002, more than 40,000 Japanese homeowners added 140 megawatts of PV installations, thanks largely to supportive government policies.

❖ Green power choice is now available to electricity customers in Australia, Belgium, Canada, Finland, Germany, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Sweden, the United Kingdom, and the United States.

❖ More than 400,000 household and commercial customers in the United States now buy green power, including businesses like Kinko's, IBM, Johnson & Johnson, as well as the University of Pennsylvania. Some states have passed laws establishing mandatory green power programs for all state utilities.

❖ In 2001, the European Parliament voted to boost the share of renewable electricity production in the region to 22 percent of total electricity consumption by 2010. Germany produces about half the wind power generated in the European Union.

SIMPLE THINGS YOU CAN DO:

- ✓ To minimize your electricity use, buy the most energy-efficient appliances and light bulbs available and turn off all lights and appliances when not in use.
- ✓ Find out from your local utility where your electricity comes from. If they don't have a green power option, write a letter encouraging them to provide one.
- ✓ Switch your home to green power through your local utility or a green power marketer, or by buying Renewable Energy Credits, also known as Tradable Renewable Certificates or Green Tags.
- ✓ Start a campaign at your university, place of worship, or business to switch to green power. Large businesses use larger amounts of electricity and thus can have a greater overall impact on the environment.

FOR MORE INFORMATION

☛ **European Network for Green Electricity** (EUGENE) **(www.greenelectricitynetwork.org)** is an independent, international, and credible labeling scheme for green electricity products.

☛ **Green-e Renewable Energy Certification Program (www.green-e.org)** offers an easy way for U.S. consumers to quickly identify environmentally superior electricity products in their state.

☛ **GreenPrices (www.greenprices.com)** lists green power options in Europe and shows consumers where to buy it, how much it costs, and how it is produced.

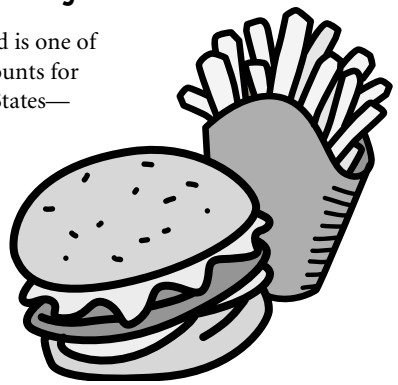
☛ **Green Power Network (www.eere.energy.gov/greenpower)** provides news on green power markets and utility green pricing programs worldwide.

☛ **TerraChoice (www.environmentalchoice.com)** certifies green power products for Environment Canada's Environmental Choice Program.

☛ **National Energy Efficiency Committee of Singapore (www.neec.gov.sg/ELS/sub_lscheme_world.shtm)** provides links to green labels and energy labels from around the world.

FAST FOOD
Brian Halweil, Worldwatch Institute

The Global Spread of Food Uniformity



From onion rings to double cheeseburgers, fast food is one of the world's fastest growing food types. It now accounts for roughly half of all restaurant revenues in the United States—triple its share in the early 1970s—and continues to expand there and in many other industrial countries. But some of the most rapid growth is occurring in the developing world, where it's radically changing the way people eat.

People buy fast food because it's cheap, quick, and heavily promoted. But its benefits can be deceptive. Meals devoured in the car or at our desks are replacing homecooked fare enjoyed with family and friends. Around the world, traditional diets and recipes are yielding to sodas, burgers, and other highly processed and standardized items that are high in fat, sugar, and salt—fuelling a global epidemic of obesity, diabetes, and other chronic illnesses. Meanwhile, fast food producers require farmers to raise uniform fields of crops and herds of livestock for easy processing, eliminating agricultural diversity.

Those in less of a hurry are finding alternatives. Fresh organic foods are increasingly popular in Europe, Japan, and the United States. And a "slow food" movement founded in Italy in 1986 to promote appreciation of food and the cultural experience of shared meals now claims 100,000 members in 80 countries worldwide.

DID YOU KNOW...?

- At many fast-food restaurants, a single meal gives a disproportionate share—sometimes more than 100 percent—of the recommended daily intake of fat, cholesterol, salt, and sugar.
- In the United States, an estimated 65 percent of adults are overweight or obese, leading to an annual loss of 300,000 lives and to at least $117 billion in health care costs in 1999.
- A recent study showed that children who drink sodas and other sugar-sweetened drinks are more often obese and that this risk increases another 60 percent with each additional beverage consumed.
- McDonald's, which operates 30,000 restaurants in 119 countries and serves 46 million customers each day, earned $15.4 billion in revenues in 2002. On opening day in Kuwait City, the line for the McDonald's drive-thru was more than 10 kilometers long.
- India's fast-food industry is growing by 40 percent a year and is expected to generate over a billion dollars in sales by 2005. Meanwhile, a quarter of India's population remains under-nourished—a number virtually unchanged over the past decade.
- China is now home to 800 KFCs and 100 Pizza Huts.
- Coca-Cola and PepsiCo, the world's two largest soft drink companies, are the thirteenth and twentieth largest advertisers in the world; together, they spent $2.4 billion on ads in 2001.
- Coca-Cola sells more than 300 drink brands in over 200 countries and employs 60,000 people in Africa alone. Its net revenues reached $19.6 billion in 2002—with more than 70 percent of its income originating outside of the United States.

SUCCESS STORIES

❖ Governments and corporations are beginning to respond to widespread concerns about fast food. The U.S. state of California now taxes junk food, helping to reduce overall consumption while also generating potential additional revenues for health education. More recently, a new law phased out the sale of all junk food (including soda) in the state's public elementary schools by early 2004.

❖ Kraft, the world's largest food company, plans to cut advertising directed at children, to shrink its portion sizes, and to eliminate some of its most unhealthy products.

❖ In 2002, bowing to pressure from animal rights and public health groups, McDonald's announced that it would stop buying eggs from chickens confined in battery cages and forced to lay additional eggs through starvation—practices already banned in Europe. By 2004, McDonald's will require chicken suppliers to stop giving their birds antibiotics to promote growth and will choose indirect suppliers who don't use antibiotics over those who do.

SIMPLE THINGS YOU CAN DO:

- ✓ Avoid buying sodas and other junk foods that have low nutritional value and are high in fat, sugar, and salt.
- ✓ Keep healthy snacks in your car and home to defeat the urge to stop at fast food joints.
- ✓ Try to cook at least one big meal a week and save your leftovers so you're not compelled to buy takeout for the next few nights.
- ✓ Join the growing Slow Food movement by contacting the local chapter in your area or by attending one of their events.

CHALLENGE YOURSELF AND OTHERS:

Start a dinner club with friends in which you each take turns preparing and hosting a monthly dinner. Or get together with friends to cook a month's worth of dinners that can be frozen as an alternative to takeout.

FOR MORE INFORMATION

☛ **Slow Food (www.slowfood.com)** is a worldwide movement for the protection of the "right to taste" that organizes food and wine events and initiatives, raises the profile of products, and promotes local artisans and wine cellars.

☛ **Oldways Preservation and Exchange Trust (www.oldwayspt.org)** is a non-profit organization that promotes sound nutrition and translates complex food science into a consumer-friendly tool for consumers, health professionals, chefs, farmers, journalists, and the food industry.

☛ ***Fast Food Nation***, by Eric Schlosser (Houghton Mifflin: 2001), provides a fascinating—and alarming—glimpse into the fast food culture in the United States.

☛ **The Eat Well Guide (www.eatwellguide.org)** is a national online resource that lists sustainable farmers, restaurants, and stores in the United States.

FURNITURE
Diane di Costanzo, Green Guide Institute

Comfort Without Consequences

We may spend days considering the style of furnishings we want for our homes, yet we rarely give a thought to where these items originate, or what they're actually made from. The wood for a bookshelf or table, for instance, could come from a tree grown on a large farm or plantation. But it's equally likely—particularly if the item is made of an "exotic" wood like teak or mahogany—that it originated in an endangered old-growth forest in Brazil or Indonesia. The Earth's tropical forests are now disappearing at an alarming rate, yet they remain vital to our everyday lives—sheltering diverse plant and animal species, preventing soil erosion, and moderating global climate.

Much of the more inexpensive "wood" furniture (usually made from particleboard) isn't especially good for people or the planet either. These products often contain toxic substances that can off-gas into your home—including formaldehyde, a suspected carcinogen used in adhesives, paints, and varnishes. Furniture with foam-filled cushions poses another peril. Foam is commonly treated with fire-retardant chemicals called polybrominated diphenyl ethers, or PBDEs. Exposure to PBDEs, which are chemical cousins to the banned PCBs, is particularly harmful to fetuses and can cause brain and reproductive system disorders.

DID YOU KNOW...?

- The planet has lost nearly half of its forested area in the past 8,000 years, with the majority of this loss occurring in the 20th century. Between 1980 and 1995 alone, at least 2 million square kilometers of forests were destroyed, an area larger than Mexico.
- Poaching of trees is a common practice in "protected" forests. Stealth loggers illegally cut and pull endangered tree species out of forests to sell on the international market at high prices.
- Pressure-treated lumber, a material frequently used for playground equipment, often contains arsenic, a toxin that can rub off onto skin and leach into soil.
- A recent study revealed high levels of the chemical compounds PBDEs in the breast milk of North American women.

CHALLENGE YOURSELF AND OTHERS:

When you see teak or other endangered wood species being sold in the marketplace, find out if the retailers know where the wood was cut—and encourage them to seek more environmentally sound alternatives. For more information on endangered wood species, go to www.cites.org.

SUCCESS STORIES

❖ Consumers in many countries can now choose wood carrying the "FSC" label, guaranteeing it was cut from a sustainably managed forest. The independent Forest Stewardship Council (FSC) has certified more than 39 million hectares of such forest worldwide.

❖ Home Depot, the largest wood retailer in the United States, has vowed to buy wood only from sustainably managed forests. Furniture retailer IKEA has made a similar pledge, and avoids using flame-retardant PBDEs and many other toxins in its products.

❖ In 2001, the European Union recognized and banned the use of certain PBDEs in manufacturing. The U.S. is starting to follow suit: in 2003, California voted to ban the manufacture and use of two types of PBDEs starting in 2008.

TAKE ACTION!

SIMPLE THINGS YOU CAN DO:

- ✓ Opt for second-hand furniture whenever possible. This not only saves trees and other materials, but also prevents useful items from taking up space in landfills.
- ✓ Look for the FSC label on all wood products you buy. If you don't see it, ask your local retailers to carry items with it.
- ✓ If you're making your own furniture, use recycled or salvaged wood products. In the United States, SmartWood's Rediscovered Wood Program certifies wood that would otherwise be chipped up or carted to a landfill.
- ✓ When buying foam-filled furniture, including mattresses, ask whether flame-retardant chemicals were used in their manufacture. Safer substitutes include the wool batting used to encase mattresses—which is naturally flame-retardant.
- ✓ Get involved when your schools or communities make large wood-product purchases. For outdoor furniture, distribute information about recycled plastic picnic tables, lumber (for playgrounds, for instance), and other products.

FOR MORE INFORMATION

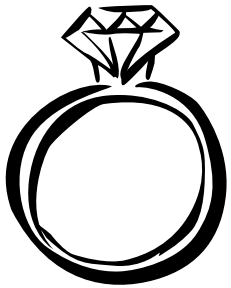
☛ Greenpeace's **Forest Campaign** (www.greenpeace.org) raises awareness and applies political pressure to save natural forests.

☛ **Forest Stewardship Council** (www.fscoax.org) trains, accredits, and monitors lumber certifiers and awards its stamp of approval to sustainably harvested wood.

☛ **The Green Guide** (www.thegreenguide.com) offers consumers advice about environmentally friendly wood and upholstered furniture purchases.

☛ **ForestEthics** (www.forestethics.org) campaigns to raise awareness about endangered forests.

From Open Pit to Wedding Band



Where did the gold in your ring come from? Most likely, it came directly from the Earth. Of all the gold in use or storage today, two-thirds is newly mined. About two-thirds of this was extracted from immense, open-pit mines in places as far apart as Canada and Papua New Guinea. Once it's extracted, the mine ore is crushed, piled into heaps, and sprayed with cyanide to separate out the gold. Years later, the abandoned waste piles can still release acid and toxic heavy metals into streams, rivers, and groundwater. This is no small matter: the gold produced for a single .33 ounce, 18 karat gold ring leaves in its wake at least 18 tons (20 short tons) of mine waste.

Most gold isn't used for essential services. While a small amount is bought by investors or used in electronics, more than 80 percent is made into jewelry—a lucrative pursuit. In the United States, a piece of gold typically sells for at least four times the value of gold. Yet few jewelers can tell you where the gold in their products originated. As a result, it's currently impossible to know if the gold we buy comes from a mine that dumps toxic waste in rivers, violates workers' rights, digs up wilderness areas, or evicts communities under the threat of violence.

DID YOU KNOW...?

- Between 1995 and 2015, approximately half of the gold produced worldwide has or will come from the traditional territories of indigenous peoples, whose land rights are often not clearly recognized. Even when indigenous groups hold legal title to surface lands, some governments sell off the subsurface rights to mining corporations.
- In 2001, the world's top 5 gold producers were South Africa, the United States, Australia, Indonesia, and China.
- Smelting—a process that removes gold's impurities once it's separated from the ore—uses large amounts of energy and releases significant air pollution. The world's smelters add 142 million tons of sulfur dioxide to the atmosphere every year—13 percent of global emissions.
- Metals mining is the number one toxic polluter in the United States, responsible for 96 percent of arsenic emissions and 76 percent of lead emissions.
- The U.S. Geological Survey reports that water tables have dropped by as much as 300 meters around some large open-pit gold mines in Nevada. The Betze-Post mine alone pumps out 380,000 cubic meters (100 million gallons) of groundwater per day.
- Bingham Canyon, the world's largest open pit mine, is visible from outer space. This Utah mine, which produces copper, gold, silver, and molybdenum, measures 1.5 kilometers (1 mile) deep and 4 kilometers (2.5 miles) across.
- A single gold mine in Papua New Guinea—Ok Tedi—daily generates 200,000 tons of waste per day, more than all of the cities in Japan, Canada, and Australia combined.
- Between 1990 and 1998, more than 30,000 people were displaced by gold mining operations in the district of Tarkwa in Ghana.
- 120,000 tons of toxic waste spilled from the Baia Mare gold mine in Romania in 2000, contaminating the drinking water of 2.5 million people and killing 1,200 tons of fish.
- In 1996, Pik Botha, then South Africa's Minister for Mineral and Energy Affairs, estimated that in his country, each ton of gold mined costs 1 life and 12 serious injuries.

SUCCESS STORIES

- In December 2003, Peru's mining ministry blocked a Canadian mining company's proposed open-pit gold mine in Tambogrande. This decision was a major victory for the local farming community, which had voted against the mine in June 2002.
- The International Finance Corporation, the private arm of the World Bank Group, decided in October 2002 not to back the controversial Rosia Montana gold mine project in Romania, which would displace local people and pose a high environmental risk.
- Costa Rica's president declared a moratorium on all open-pit mines in June 2002, noting that, "the true fuel and the true gold of the future will be water and oxygen." Similarly, Cotacachi county in Ecuador has banned all forms of mining in order to protect its cloudforest and people.
- The Baia Mare toxic spill in Romania in 2000 prompted both the Czech Senate and the German Parliament to ban gold mining using cyanide leaching methods.
- In 1998, a citizens' initiative in the U.S. state of Montana led to a ban on the use of cyanide leaching for new mines or expansions of existing mines in the state.

SIMPLE THINGS YOU CAN DO:

- ✓ Take the No Dirty Gold consumer pledge (www.nodirtygold.org) to demand an alternative to gold that wasn't produced at the expense of communities, workers, and the environment.
- ✓ Buy recycled or vintage gold. (About one third of the gold in use or storage today comes from scrap or recycled sources.)
- ✓ Ask your jeweler to tell you the source of the gold they sell, as a way to encourage them to offer more environmentally sound and socially just alternatives.

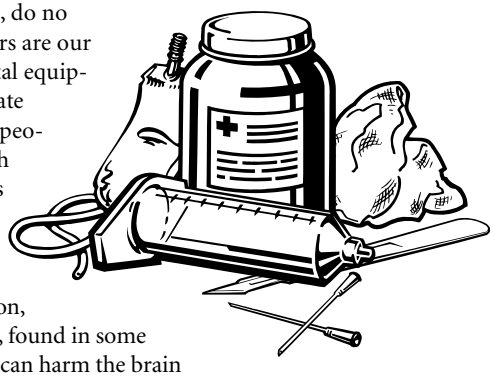
CHALLENGE YOURSELF AND OTHERS:

If you have investments such as mutual funds or a retirement account, find opportunities for shareholder activism, such as filing a shareholder resolution calling on mining companies to clean up their act. Learn more from the Northwest Corporate Accountability Project (www.scn.org/earth/wum) and the Social Investment Forum's Shareholder Action Network (www.shareholderaction.org).

FOR MORE INFORMATION

- **No Dirty Gold** (www.nodirtygold.org) is a consumer campaign seeking to change the way gold is mined, bought, and sold.
- **Earthworks** (www.earthworksaction.org) is a nonprofit organization dedicated to protecting communities and the environment from the destructive impacts of mining.
- **Mines and Communities** (www.minesandcommunities.org) provides links to mining activist sites and information about mining companies and affected communities.

When Health Care Does Harm



The Hippocratic Oath promises to "first, do no harm." So whether health care providers are our family doctor or a manufacturer of hospital equipment, they have a responsibility to eliminate practices that harm the environment and people's health. Yet unfortunately, some health care products and waste disposal practices can actually contribute to pollution and disease.

The incineration of health care waste is a leading source of hazardous air pollution, particularly mercury and dioxins. Mercury, found in some thermometers and blood pressure devices, can harm the brain and nervous system. And dioxin—created from the burning of waste that contains chlorine—is linked to reduced fertility, immune system disorders, and many forms of cancer.

DID YOU KNOW...?

- The amount of mercury in just one fever thermometer is enough to contaminate fish in a 20-acre lake.
- In the United States, as many as one in eight children are born at risk of learning disabilities because their mothers ate fish contaminated with mercury.
- The manufacturing and incineration of medical devices made of vinyl plastic (also known as PVC) creates dioxin. Health care products made of PVC also contain the phthalate DEHP, a chemical that may cause birth defects of the reproductive system.

FOR MORE INFORMATION

☛ **Health Care Without Harm** (www.noharm.org) is an international coalition of 427 organizations in 52 countries that works to transform the health care industry so that it's no longer a source of harm to people and the environment.

☛ **Hospitals for a Healthy Environment** (www.h2e-online.org) offers useful tools to help hospitals in the U.S. reduce their environmental impact and sponsors a listserv where health care professionals can share resources.

☛ **CleanMed** (www.cleanmed.org) is an annual health care conference on environmentally preferable products and green buildings.

SUCCESS STORIES

❖ Today, thousands of hospitals are learning how to reduce both the amount and the toxicity of what they throw out—in part by paying closer attention to their purchasing practices.

❖ In the United States, more than 1,400 medical institutions have pledged to be mercury-free by 2005. Major U.S. chain drug stores like CVS, Kmart, Safeway, Rite-Aid, and Wal-Mart no longer sell mercury fever thermometers.

❖ Government agencies in several countries—including the U.S., European Union, and Japan—have issued warnings that vinyl medical products containing the phthalate DEHP may harm some patients, particularly boys and pregnant women.

❖ Leading health care institutions around the world, including the Vienna Hospital Association and Kaiser Permanente, are taking steps to minimize their use of vinyl products.

❖ Medical waste incinerators are closing around the world due to health concerns. In the U.S., some 4,800 medical waste incinerators have closed since 1994. Ireland, the Philippines, and the Canadian province of Ontario have all switched to safer non-burn technologies for nearly all medical waste disposal.

CHALLENGE YOURSELF AND OTHERS:

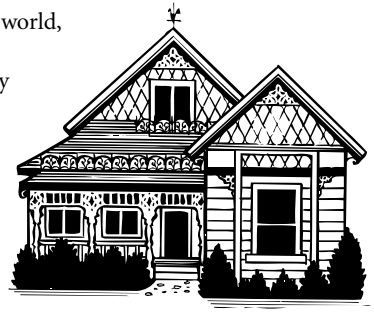
Spend a month checking out the type of plastic used in everything you buy, including the product's packaging. Don't buy any items labeled "3" (in the U.S.) or PVC, or that don't specify the type of plastic being used.

SIMPLE THINGS YOU CAN DO:

- ✓ Inventory your house for products containing mercury or vinyl. If your fever thermometer has a silver filling, carefully dispose of it as hazardous waste and buy a safer digital thermometer.
- ✓ Replace household products containing vinyl with safer alternatives, including food containers made of non-vinyl plastic or glass, canvas or nylon shower curtains, cloth car seats, and toys made of non-vinyl plastic or wood. (In the U.S., a "3" inside the recycling symbol indicates the presence of vinyl.)
- ✓ Don't burn your garbage and yard waste, and minimize your fireplace use—these activities add to the dioxin problem.
- ✓ Through careful purchasing and recycling, try to minimize the amount of garbage you throw away.
- ✓ Ask your local hospital to stop using mercury-containing thermometers or other products. In the U.S., encourage the facility to join Hospitals for a Healthy Environment, a national effort to reduce waste and eliminate mercury from health care waste.
- ✓ Inform hospital staff about government warnings about DEHP-containing medical devices. Recommend a speaker, present information to committee meetings, or share case studies of other hospitals that are going DEHP-free.
- ✓ Don't burn it! Find out if your hospital is minimizing, segregating, and recycling its waste. If the facility is burning waste on-site or sending it away to be burned, encourage safer alternative technologies.

HOUSING
Lisa Mastny, Worldwatch Institute

Give Me a Home *and* Let the Buffalo Roam



Rates of home ownership are rising steadily around the world, yet the number of people per household continues to decline. This boom in ownership is spurred in large part by government policies and incentives that encourage it: in the United States, for instance, a full tax deduction on home mortgage interest enables people to buy houses of all sizes, encouraging larger homes in sprawling communities. In 2002, Americans alone erected 1.7 million new private homes, many in areas that were once forest or farmland. In the European Union, building construction accounts for more than 12 percent of economic activity, though more than half of this is for retrofitting existing buildings.

Houses—especially larger single-family homes—can be extremely land- and resource-intensive. Homeowners typically use large quantities of water for their sinks, showers, dishwashers, washing machines, and lawns. Homes also require high energy inputs—not just during construction, but over their lifetimes for heating, cooling, and lighting, and for powering refrigerators and other appliances.

DID YOU KNOW...?

- People can live in a typical house for 10 years before the energy they use in it exceeds what went into its components—steel beams, cement foundation, window glass and frames, tile floors and carpeting, drywall, wood paneling or stairs—and its construction.
- While the total number of households worldwide increased between 1970 and 2000, the number of people living under one roof fell from 5.1 to 4.4 in developing countries, and from 3.2 to 2.5 in industrial countries—mostly as a result of rising incomes, urbanization, and smaller families.
- Shrinking household size alone accounted for a 20-percent increase in energy use per person in industrial countries between 1973 and 1992.
- New houses in the U.S. were 38 percent bigger in 2002 than in 1975, averaging 210 square meters (2,265 square feet). This is twice the size of typical homes in Europe or Japan and 26 times the living space of the average person in Africa.
- People in the U.S. and Canada consume 2.4 times as much energy at home as those in Western Europe.
- People living in the United Kingdom use only about 70 percent as much water as the most water-thrifty Americans do.
- Indoor water use in U.S. homes is estimated to average 262 liters per capita a day. Several fixture manufacturers are promoting tower-like shower stalls with multi-headed nozzles that deliver over 300 liters of water per minute—more than most people in the world use in a day.
- The irrigation of U.S. lawns and landscapes daily claims an estimated 30 billion liters of water—a volume that would fill 14 billion six-packs of beer. The average irrigated lawn uses about 38,000 liters per summer.
- One resident of water-strapped Orange County, Florida, was billed for 15.9 million liters of water one year—a volume roughly equivalent to what 900 Kenyans use in a year.

SUCCESS STORIES

- The world's first green "high-rise," in the heart of New York City, will use 35 percent less energy and 65 percent less electricity than an average building during peak hours, with photovoltaic cells meeting at least 5 percent of the demand.
- Since 1997, all toilets, urinals, faucets, and showerheads installed in the U.S. have been required to meet federal water efficiency standards. By 2020, these efficiency standards are projected to save some 23–34 million cubic meters per day, enough water to supply four to six cities the size of New York City.
- Homeowners in many countries are realizing substantial water savings by planting native and drought-adaptive grasses, groundcovers, wildflowers, and plants. Planting rooftop gardens and painting roofs can reduce energy consumption by 10–50 percent as well.
- Home improvement retailer Home Depot announced in 1999 that it would phase out all purchases of old-growth wood by the end of 2002. As of January 2003, it had reduced its purchases of Indonesian lauan by 70 percent and shifted more than 90 percent of its cedar purchasing to second-and third-generation forests in the United States.
- People living in "ecovillages" in more than 40 countries are working to achieve sustainable lifestyles through ecological design and construction, renewable and passive energy use, community building spaces, and local, organic agriculture.

TAKE ACTION!

SIMPLE THINGS YOU CAN DO:

- ✓ If you're building a new home or making improvements or repairs, ask your supply store or contractor to seek out "green" building products, such as less-toxic paints or wood that has been reclaimed or sustainably harvested (look for the Forest Stewardship Council—FSC—label).
- ✓ Replace your aging washing machine, dishwasher, furnace, or other home appliances with more energy- and water- efficient models—you'll not only save resources, but cut your utility bills as well!

CHALLENGE YOURSELF AND OTHERS:

Create a community list serv or cooperative that makes it easier for you and your neighbors to share tools, lawnmowers, and other household items you may use less frequently.

FOR MORE INFORMATION

- **Environmental Construction Outfitters (www.environproducts.com)** is a source for information and materials on environmentally conscious construction.
- **Environmental Home Center (www.environmentalhomecenter.com)** provides information on green building supplies including non-toxic paint, natural carpets, and sustainable wood.
- **American Council for an Energy Efficient Economy** (ACEEE) **(www.aceee.org)** is dedicated to advancing energy efficiency as a means of promoting both economic prosperity and environmental protection.

LIGHTING
Marycel Tuazon, American Council for an Energy-Efficient Economy (ACEEE)

Make the Switch, Save the Planet

Lighting plays a fundamental role in our lives. We use lights to illuminate most of our daily activities and to create a safe, comfortable environment. Most households around the world use incandescent bulbs for lighting. They are readily available and inexpensive to buy. However, incandescent bulbs are inefficient light sources, converting 90 percent of electricity directly to heat and only about 10 percent to visible light.

In a typical American household, lighting sources consume a lot of electricity—nearly 2,000 kilowatt-hours per year, or 15 percent of the household's electricity consumption. If electricity is produced by burning coal (as is half of the electricity in the United States), each kilowatt-hour releases over two pounds (nearly 1 kilo) of carbon dioxide (CO_2). The buildup of CO_2 and other "greenhouse gases" in the atmosphere is contributing to global climate change, which is predicted to result in more frequent and severe storms and droughts, the rapid spread of infectious diseases, rising sea levels, and other adverse effects that could harm humans and other life on Earth.

DID YOU KNOW...?

- Lighting consumes up to 34 percent of U.S. electricity.
- Compact fluorescent light bulbs (CFLs) are an energy-saving alternative to incandescent bulbs—they produce the same amount of light, use one third of the electricity, and last up to ten times as long.
- Where electricity is produced from coal, each CFL used prevents 1,300 pounds (nearly 600 kilograms) of CO_2 emissions and 20 pounds of sulfur dioxide from being pumped into the atmosphere.
- If every household replaced its most often-used incandescent light bulbs with CFLs, electricity use for lighting could be cut in half.
- While fluorescent lamps save energy, they need to be disposed of properly because they also contain mercury, a highly persistent and toxic chemical that builds up in the tissue of fish, wildlife, and people.

CHALLENGE YOURSELF AND OTHERS:

Ask your local power provider how the electricity that lights up your neighborhood or town is produced. How does the electricity production affect the air you breathe, the water you drink, people's livelihoods, and the animals that live near your surroundings? Present your findings to your family, friends, and work or school colleagues, and encourage them to reduce their own lighting energy needs.

SUCCESS STORIES

- Global sales of CFLs surged nearly 13-fold between 1990 and 2001, to some 606 million units.
- In 1996, the Chinese government started a Green Lights Program to promote the use of energy-efficient lighting products. By 1999, a survey of households in several Chinese provinces found that 60 percent of homes had at least one CFL installed—a significant increase from 10 percent just two years earlier.
- Consumers in Brazil have purchased more than 48 million efficient lighting products since the government started an energy conservation program in 1985. As a result, Brazil avoided a 12 percent increase in its lighting electricity use.
- In the western United States, consumer programs developed through business and utility partnerships have pushed sales of CFLs. Between 2000 and 2001, CFL sales grew 4 percent in California and 10 percent in the Northwest.

TAKE ACTION!

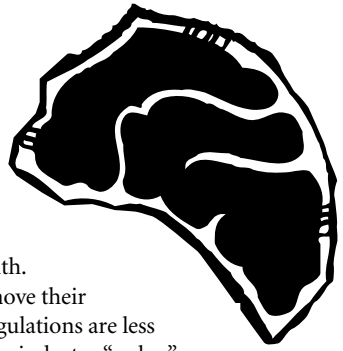
SIMPLE THINGS YOU CAN DO:

- ✓ Turn off all lights when you're not using them.
- ✓ The next time one of your often-used light bulbs goes out, replace it with a compact fluorescent, preferably one with low mercury content.
- ✓ Replace all of your often-used incandescent bulbs with compact fluorescents.
- ✓ Consider reducing your lighting energy use in areas of your home that receive plenty of natural light.
- ✓ For tasks where you need more concentrated light, such as reading in the living room or working at your desk, rely on localized lamps rather than general room lighting.
- ✓ Encourage your friends and family to do the same.

FOR MORE INFORMATION

- **ENERGY STAR®** (www.energystar.gov), a joint project of the U.S. Environmental Protection Agency and the Department of Energy, works to promote energy-efficient lighting and appliances.
- Germany's **Blue Angel** (www.blauer-engel.de) provides consumers in Europe with information on environmentally preferable products, including lighting.
- **American Council for an Energy-Efficient Economy** (ACEEE) (www.aceee.org), a group dedicated to advancing energy efficiency in the United States and other countries, offers consumer resources on energy-efficient lighting.
- **INFORM, Inc**'s fact sheet on mercury-containing lamps (www.informinc.org/fact_P3mercury_lamps.php) offers useful tips on choosing lighting with the lowest mercury content.
- U.S. Department of Energy's **Office of Energy Efficiency and Renewable Energy** (www.eere.energy.gov/consumerinfo) provides good energy-saving tips for lighting.
- **Consumer Federation of America** (www.buyenergyefficient.org) provides useful information on what you can do in your community to increase awareness about energy efficiency.

This Little Piggy Went to the Global Market



Meat production has increased by 500 percent since 1950. Today, most animals are raised on industrial "factory farms" that are displacing sustainable family farms. Thousands of animals are crowded in unsanitary conditions, spending their entire lives indoors without sunlight or pasture. To prevent disease from these inhumane practices, antibiotics are added to feed, contributing to the worldwide growth of antibiotic resistant bacteria. Vast amounts of manure pollute rivers and streams, causing toxic pollution of air and water and endangering human health.

Community opposition has prompted corporations to move their mega-farms to developing countries where environmental regulations are less strict. Because the time to ship from farm to store takes longer, industry "nukes" our meat with irradiation—prolonging "shelf-life"—despite evidence that irradiation is unsafe and dangerous. One day soon, you may find that your hamburger was raised half way around the world, irradiated, and flown thousands of miles before landing on your dinner plate.

DID YOU KNOW...?

- Global meat consumption is expected to grow 2 percent each year until 2015, especially in developing countries where eating meat is seen as a sign of wealth and prosperity. Half of the world's pork is now eaten in China, while Brazil is the second largest consumer of beef, after the United States.
- Forty-three percent of the world's beef is raised on factory feedlots, and more than half of the world's pork and poultry is raised on factory farms.
- Animals raised in feedlots accumulate Omega 6 fatty acids (the bad fats), which have been linked with cancer, diabetes, obesity, and immune disorders.
- Belching, flatulent livestock emit 16 percent of the world's annual production of methane, a powerful greenhouse gas.
- In 1995, 25 million gallons of hog waste spilled from an 8-acre lagoon into a river in the United States, killing 10 million fish.
- An estimated 70 percent of all antibiotics in the U.S. are fed to pigs, poultry, and cattle merely to promote growth and compensate for the unsanitary and confined conditions on factory farms. By volume, livestock in the country consume eight times more antibiotics than humans do.
- With its high meat content, the average U.S. diet requires twice as much water per person per day as an equally nutritious vegetarian diet. A meat-rich meal made with imported ingredients also emits nine times as much carbon as a vegetarian meal made with domestic ingredients that don't have to be hauled long distances.
- A diet high in grain-fed meat can require two to four times more land than a vegetarian diet.
- A study in 2002 found that 37 percent of the broiler chickens found in major grocery stores are contaminated with antibiotic-resistant pathogens.
- Since it was first reported in the United Kingdom in 1986, BSE (mad cow disease) has been detected in 33 countries, and health officials estimate that 139 people worldwide have succumbed to variant Creutzfeldt-Jakob disease, a related illness in humans.

SUCCESS STORIES

- Sustainable farming, a method of farming that is good for animals, people and the environment, has grown into a $15.6 billion business worldwide.
- Local communities are organizing to oppose factory farms—and winning! Manitowoc County, in the U.S. state of Wisconsin, prevented a 5,000 head feedlot from locating in a residential area; residents of Saskatchewan, Canada, kept out six hog confinement buildings; and Klamath County in Oregon successfully prevented the construction of an 11,000-head hog factory.
- Sow gestation stalls/crates on factory farms, which are so narrow that pregnant pigs cannot turn around, are now banned in the United Kingdom and Sweden, and will be illegal in the European Union in 2013.
- More and more people—including some 150 million people in Europe alone—are either becoming vegetarians or reducing their consumption of meat.

SIMPLE THINGS YOU CAN DO:

- ✓ Get to know local farmers who raise sustainable meat in your area.
- ✓ Buy sustainable meat at your local health food store or farmer's market. (When you add in environmental and health costs, "inexpensive" factory farmed meat is actually more expensive than sustainable meat.)
- ✓ If necessary, cut back on your meat consumption.
- ✓ Read *Fast Food Nation* by Eric Schlosser (Houghton Mifflin: 2001), to give yourself more background on the factory farm issue.

CHALLENGE YOURSELF AND OTHERS:

Invite friends over for a locally grown, sustainable meal. All ingredients must be raised or grown within a certain radius, e.g., 30 miles of your home. (Even residents of New York City can do this!) Discussion at the meal will revolve around the food—what you learned about locally grown food, how easy or difficult it was to find everything, etc. To make it more fun, ask your friends to provide some of the local food.

FOR MORE INFORMATION

- **GRACE Factory Farm Project (www.factoryfarm.org)** has information on the environmental, economic, health, well-being and social aspects of factory farming, as well as sustainable meat.
- **The Eat Well Guide (www.eatwellguide.org)** is a national online resource that lists sustainable farmers, restaurants, and stores in the United States.
- **Public Citizen (www.citizen.org/cmep/foodsafety)** has information on the hazards of irradiated food and the use of irradiation as a tool for globalization.

The Freshest, Greenest Finish

Nothing brightens up a space like a fresh coat of paint. All too often, however, the "clean" smell of new paint is actually vapor released from the toxic ingredients used as solvents in conventional paints. Known as volatile organic compounds (VOCs), these include benzene, formaldehyde, kerosene, ammonia, toluene, and xylene, all of which are known carcinogens and neurotoxins. The more VOCs the paint contains, the stronger the odor. Exposure to VOCs can worsen asthma symptoms and cause nose, skin, and eye irritation; headaches, nausea, convulsions, and dizziness; respiratory problems; nerve damage; and, in some cases, liver and kidney disease.

The VOCs emitted by paint solvents also contribute to indoor air pollution and the formation of ground level ozone. A study conducted by the U.S. Environmental Protection Agency showed that VOC levels indoors can be 1,000 times higher than outdoor levels when an indoor paint is drying. Another study found that the application and drying of paint releases VOCs at a higher rate than any other product used indoors. In sunlight, some organic solvents used in paint react with nitrous oxides in the atmosphere to form smog.

DID YOU KNOW...?

* Paint made its earliest appearance about 30,000 years ago, when cave dwellers used crude paints to sketch images of their lives on ancient rock walls.
* Today, virtually every product created on an assembly line—from wood furniture to the latest big-screen television—uses paints and coatings to beautify, protect, and extend the lives of goods.
* Americans spend roughly $17 billion on paint each year, equivalent to about 1.3 billion gallons (5,100 billion liters) annually, according to the National Paint and Coatings Association.
* Latex paints produce fewer VOCs than oil-based paints, but because they are used in such large volume—accounting for up to 87 percent of all indoor paint sold in the United States—they remain a major source of indoor air pollution.
* Milk paints, once common in households before commercial paints were available, are an environmentally sound alternative to conventional paints and are made from old curdled milk or cottage cheese, lime, and earth pigments.

CHALLENGE YOURSELF AND OTHERS:

Educate yourself about low-VOC paints by visiting websites like Chicago's "Clean Air Counts" (www.cleanaircounts.org), which offers a free fact sheet on this topic. Use your findings to make smart purchases the next you have a painting project. Share the information you gather with your school, work, or place of worship.

SUCCESS STORIES

❖ Many concerned consumers are switching from conventional "low-VOC" paints to paints labeled "VOC-free," "no-VOC," or "zero-VOC," which are virtually free of a wide range of chemical solvents, preservatives, and biocides (though some do contain synthetic ingredients like acrylic and vinyl). Options include natural paints made from citrus and other plant ingredients, milk protein, or clay, as well as simple whitewashes made from lime paste, water, and salt.

❖ In 1978, the U.S. Consumer Product Safety Commission banned the use of lead in all household paints. (In homes built before 1978, however, lead from paint chips and dust still poses serious health hazards if not taken care of properly.)

❖ California 's South Coast Air Quality Management District has developed legislation limiting the amount of solvents used in paint, as a way to address the role of VOCs in smog formation. Clean Air Counts, an initiative to reduce ozone-causing emissions in Chicago, also recommends using paint that meets the California VOC limits.

SIMPLE THINGS YOU CAN DO:

✓ When renovating or doing home maintenance, avoid exposing your family, neighbors, or pets to lead-based paint hazards. Test for lead residues, keep surfaces clean of dust and chips, and if necessary hire a person skilled in correcting lead problems.

✓ For your home painting jobs, choose VOC-free, no-VOC, or zero-VOC paints. Ask your office or building manager to use these paints as well.

✓ Avoid alkyd- or oil-based paints, even if they are labeled low-VOC, and seek latex paints instead.

✓ Ask your local hardware store or paint store to carry low-toxicity paints. Many leading paint companies now offer full lines of these paints.

FOR MORE INFORMATION

☛ **Environmental Construction Outfitters (www.environproducts.com)** is a source for information and materials on environmentally conscious construction.

☛ **Environmental Home Center (www.environmentalhomecenter.com)** provides information on green building supplies including non-toxic paint, natural carpets, sustainable wood products, energy-efficient insulation, and people-friendly cleaning supplies.

☛ **U.S. Environmental Protection Agency (www.epa.gov/lead/)** offers information on the hazards of lead-based paints as well as tips on avoiding these dangers.

Painless Paper Cuts

For most of its history, paper existed as a precious and rare commodity. Today, it covers the planet. From the contents of our in-boxes to the currency in our wallets to the containers for our frozen dinners, paper is never far from reach. Global paper use increased more than six-fold over the latter half of the 20th century, and has doubled since the mid-1970s.

About 93 percent of today's paper comes from trees, and paper production is responsible for about a fifth of the total wood harvest worldwide. A sheet of writing paper might contain fibers from hundreds of different trees that have collectively traveled thousands of kilometers from forest to consumer. Though invented as a tool to communicate, about half the paper in today's consumer society serves another purpose—packaging. This and other rapidly discarded paper now represents a big chunk of the modern waste stream, accounting for roughly 40 percent of the municipal solid waste burden in many industrial countries.

DID YOU KNOW...?

- The United States produces and uses a third of the world's paper. Forests in the southeastern U.S. now supply a quarter of the global total.
- The average U.S. citizen uses more than 300 kilograms of paper annually, and the average Japanese uses 250 kilograms. People in developing countries, in contrast, use only 18 kilograms of paper a year on average—in India, the figure is 4 kilos, while in 20 countries in Africa, it's less than 1 kilo. (The United Nations estimates that 30–40 kilos is the minimum needed to meet basic literacy and communication needs.)
- Producing one ton of paper requires 2-3 times its weight in trees. Newly cut trees account for 55 percent of the global paper supply, while 38 percent is from recycled wood-based paper, and the remaining 7 percent comes from non-tree sources.
- The pulp and paper industry is the world's fifth largest industrial consumer of energy and uses more water to produce a ton of product than any other industry.
- Making paper from recycled content rather than virgin fiber creates 74 percent less air pollution and 35 percent less water pollution. Yet the share of total paper fiber coming from recycled material has grown only modestly from 20 percent in 1921 to 38 percent today.
- The group Environmental Defense estimates that if the entire U.S. catalog industry switched its publications to just 10-percent recycled content paper, the savings in wood alone would be enough to stretch a 1.8-meter-high fence across the United States seven times.
- The Gutenberg Bible, the first and second drafts of the U.S. Declaration of Independence, and the original works of Mark Twain were all printed on hemp-based papers.

CHALLENGE YOURSELF AND OTHERS:

See if you can go a week without printing out any new e-mails. Try instead to archive your e-mails and other information electronically, using a computer-based filing system.

SUCCESS STORIES

❖ In 1991, Germany passed a law requiring packaging producers and distributors to take back certain packaging materials for reuse or recycling—including paper. Within three years, wastepaper recycling shot up to 54 percent, after stagnating at 45 percent for nearly 20 years.

❖ The European Union Parliament recently adopted a law requiring member governments to set waste paper recycling goals of 60 percent by 2008.

❖ A pulp and paper mill on the Androscoggin River in Maine dramatically reduced its hazardous waste generation from 6 million pounds in 1990 to 300,000 pounds in 1998, and slashed the amount of solid waste going to landfills by 91 percent, largely through pollution prevention measures.

❖ In November 2002, more than 50 environmental groups across North America agreed on a set of common environmental criteria for environmentally preferable paper, and released detailed guidance to advise paper buyers about their choices.

❖ On a limited scale, paper is returning to its nonwood roots. Alternative fibers now on the market include hemp, kenaf (a leafy member of the hibiscus family), agricultural residues (cereal straws, cotton linters, banana peels, coconut shells), and even denim scraps.

SIMPLE THINGS YOU CAN DO:

- ✓ Buy paper with at least 30 percent post-consumer recycled content, and encourage your school or workplace to do the same.
- ✓ Seek out nonwood paper alternatives made from kenaf, cotton, or other fibers. Many "agrifibers" yield more pulp-per-acre than forests or tree farms, and they require fewer pesticides and herbicides.
- ✓ Recycle your junk mail, and tell vendors to stop sending it. For an overview of how to get off junk mail (as well as e-mail and telephone) lists in the U.S., go to www.newdream.org/junkmail
- ✓ Encourage your local or national government officials to introduce legislation requiring manufacturers to take back the packaging waste from their products.

FOR MORE INFORMATION

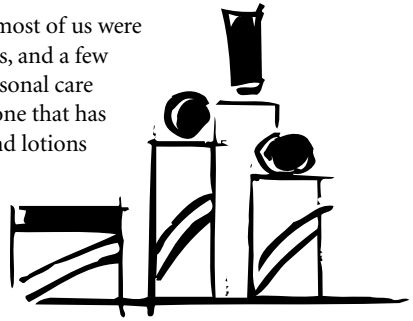
☛ **Conservatree** (www.conservatree.org), an organization dedicated to building markets for environmentally sound papers, offers useful tips on buying recycled, tree-free, and chlorine-free papers.

☛ The U.S. government's **Web-Based Paper Calculator** (www.ofee.gov/gp/papercal.html) allows users to compare the environmental impacts of papers made with different levels of recycled content, from virgin paper to 100% recycled.

☛ **Rethink Paper** (www.rethinkpaper.org) is an organization dedicated to rethinking and replacing current paper consumption and production practices with environmentally preferable alternatives, including nonwood papers.

☛ **ForestEthics' Paper Campaign** (www.forestethics.org/paper/) is a U.S. campaign that aims for systemic change in the paper industry by targeting the largest retail paper sellers via pressure, protests, and other grassroots efforts.

Are Your Cleansers Really "Clean"?



Not long ago, the only beauty products available to most of us were ordinary soaps for our hair and bodies, toothpastes, and a few simple cosmetics. Today, in the United States alone, personal care products represent a $20 billion a year industry—and one that has changed dramatically in recent decades. The potions and lotions lining our shelves have morphed into chemical powerhouses pumped with dyes, preservatives, detergents, and antimicrobials, to name just a few of the agents promising cleaner, brighter, and disease-free living.

Contrary to their billing, however, many of these products have damaging effects on our health, as well as to our water and wildlife. Some of these impacts can occur during use, particularly to young children or to those of us with more sensitive bodies. Other consequences are felt far away, occurring only after the products are flushed down the drain. And almost all of these products come with extensive packaging that is quickly discarded, contributing to mountains of plastic and paper waste.

DID YOU KNOW...?

- Phthalates, chemicals commonly used in nail polishes and to fragrance personal care products, have been shown to cause birth defects in animals. Tests in the United States indicate that phthalates are being retained in human tissue at much higher levels than was previously believed.
- Toxic preservatives—including compounds that release formaldehyde, a probable carcinogen—are used to prolong the shelf lives of many personal care products. Dermatologists rank preservatives as the second most likely category of ingredients to cause skin reactions.
- Certain coloring agents and dyes used in cosmetics are common allergens and irritants, while others contain lead acetate, a heavy metal that is toxic to the nervous system.
- Because our skin is permeable, chemicals applied to the outside of our bodies eventually make their way inside and are circulated by the bloodstream—one reason to be wary of the chemicals we put onto our skin.
- As many as two-thirds of all hand cleansers on U.S. store shelves are labeled "antibacterial," designed to fight germs on contact. But scientists are increasingly concerned about the link between these products and the spread of drug-resistant "super-germs."

CHALLENGE YOURSELF AND OTHERS:

Spend an hour going through your home to identify any personal care products that may be hazardous to your health or your family's health—particularly products containing a wide range of potential toxins. The next time you go shopping, try to replace these items with safer alternatives that are free of these compounds. If they aren't available, encourage your retailer to carry them.

SUCCESS STORIES

- Some manufacturers have started using organically grown botanical ingredients in their personal care products, a move that supports organic farmers who are drastically reducing the use of toxins on their farms.
- Some manufacturers have voluntarily stopped testing their products on laboratory animals, a process that subjects rabbits and other mammals to irritants and sometimes lethal doses of chemicals.
- Scientists are pressuring manufacturers to stop using antibacterial agents in their products, except in items targeted at hospitals and other facilities where the presence of germs can be life threatening.
- Responding to strong activist and consumer pressure, the European Parliament adopted a resolution in January 2003 that prohibits the use of certain phthalates in cosmetics.

SIMPLE THINGS YOU CAN DO:

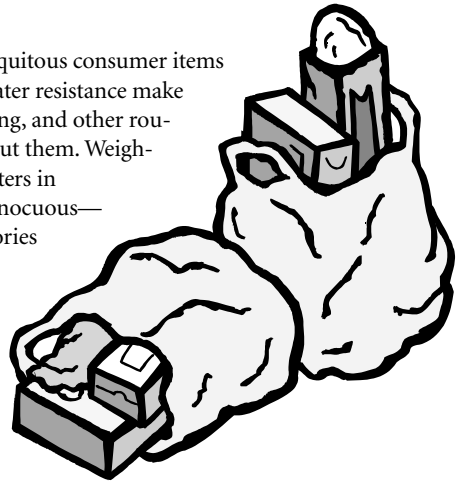
- ✓ Look for product labels that indicate the presence of organic ingredients, or that note that the product was not tested on animals. Avoid using products labeled "antibacterial."
- ✓ Choose products with the smallest numbers of listed ingredients, avoiding entirely products that contain phthalates, detergents, and antimicrobial agents.
- ✓ Consider the size of an item's packaging in relation to the size of the item. Opt for the paper-wrapped bar of soap, for instance, over a liquid cleanser packaged in a bottle that must be tossed out or recycled when the product is used up.
- ✓ Ask your favorite stores to stock organic lines of personal care products.
- ✓ Ask your local schools, workplace, and other institutions to think more critically about the cleansers and other products they buy. Large-scale purchasing can have large-scale benefits!
- ✓ If the labels on your favorite products aren't clear about what's in the products and how they are tested, contact the company and express your concerns.

FOR MORE INFORMATION

- **Environmental Working Group** (EWG) has launched a campaign to raise awareness about the hazards posed by phthalates in cosmetics, at **www.nottoopretty.org**.
- **OurStolenFuture.org (www.ourstolenfuture.org)** is a source for a wide range of scientific research about the effects of endocrine disrupting chemicals, including phthalates, on humans and wildlife.
- **People for the Ethical Treatment of Animals** (PETA) **(www.peta.org)** offers information about how animals are used for testing, alternatives to animal testing, and lists of companies and their testing policies.
- **The Alliance for the Prudent Use of Antibiotics (www.apua.org)** provides information about the overuse of antibiotics and other antimicrobial agents, including in ordinary household products.

PLASTIC BAGS
Brian Halweil, Worldwatch Institute

A Necessary Eyesore?



Plastic shopping bags are among the most ubiquitous consumer items on Earth. Their light weight, low cost, and water resistance make them so convenient for carrying groceries, clothing, and other routine purchases that it's hard to imagine life without them. Weighing just a few grams and averaging a few millimeters in thickness, plastic bags might seem thoroughly innocuous—were it not for the sheer number produced. Factories around the world churned out a whopping 4–5 trillion of them in 2002, ranging from large trash bags to thick shopping totes to flimsy grocery sacks.

Compared with paper bags, producing plastic ones uses less energy and water and generates less air pollution and solid waste. Plastic bags also take up less space in a landfill. But many of these bags never make it to landfills; instead, they go airborne after they are discarded—getting caught in fences, trees, even the throats of birds, and clogging gutters, sewers, and waterways. To avoid these impacts, the best alternative is to carry and re-use your own durable cloth bags.

DID YOU KNOW...?

- Plastic bags start as crude oil, natural gas, or other petrochemical derivatives, which are transformed into chains of hydrogen and carbon molecules known as polymers or polymer resin. After being heated, shaped, and cooled, the plastic is ready to be flattened, sealed, punched, or printed on.
- The first plastic "baggies" for bread, sandwiches, fruits, and vegetables were introduced in the United States in 1957. Plastic trash bags started appearing in homes and along curbsides around the world by the late 1960s.
- North America and Western Europe account for nearly 80 percent of plastic bag use—though the bags are increasingly common in developing countries as well.
- A quarter of the plastic bags used in wealthy nations are now produced in Asia.
- Each year, Americans throw away some 100 billion polyethylene plastic bags. (Only 0.6 percent of plastic bags are recycled.)
- The Irish have been known to call the ever-present bags their "national flag"; South Africans have dubbed them the "national flower."

CHALLENGE YOURSELF AND OTHERS:

Try to go at least one week without accumulating any new plastic bags. If every shopper took just one less bag each month, this could eliminate the waste of hundreds of millions of bags each year.

SUCCESS STORIES

- In January 2002, the South African government required manufacturers to make plastic bags more durable and more expensive to discourage their disposal—prompting a 90-percent reduction in use.
- Ireland instituted a 15¢-per-bag tax in March 2002, which led to a 95-percent reduction in use.
- In the early 1990s, the Ladakh Women's Alliance and other citizens groups led a successful campaign to ban plastic bags in that Indian province, where the first of May is now celebrated as "Plastic Ban Day." Australia, Canada, New Zealand, the Philippines, Taiwan, and the United Kingdom also have plans to ban or tax plastic bags.
- Supermarkets around the world are voluntarily encouraging shoppers to forgo plastic bags—or to bring their own bags—by offering a small per-bag refund or charging extra for plastic.
- Some manufacturers have introduced biodegradable or compostable plastic bags made from starches, polymers or poly-lactic acid, and no polyethylene—though these remain prohibitively expensive and account for less than 1 percent of the market.
- The organizers of the 2000 Olympic Games in Sydney, Australia, were able to collect 76 percent of the food waste generated at the sports venues and athletes' village by using biodegradable utensils and plastic bags that composted as easily as the food and eliminated the need to separate the garbage.

SIMPLE THINGS YOU CAN DO:

- ✓ Think twice about taking a plastic bag if your purchase is small and easy to carry.
- ✓ Keep canvas bags in your home, office, and car so you always have them available when you go to the supermarket or other stores.
- ✓ Ask your favorite stores to stop providing bags for free, or to offer a discount for not using the bags.
- ✓ Encourage your local politicians to introduce legislation taxing or banning plastic bags.

FOR MORE INFORMATION

- **International Biodegradable Products Initiative (www.bpiworld.org)** is an association that promotes the use of biodegradable polymeric materials, including bags.
- **Grassroots Recycling Network (www.grrn.org)** works to eliminate the waste of natural and human resources—with the goal of achieving zero waste.
- **Film and Bag Federation (www.plasticbag.com)** is an industry group that serves as the "voice" of the plastic film and bag industry.

A Jumbo-sized Impact in Every Bite

Shrimp has long been on the menu of coast-dwelling humans. But today's multibillion-dollar industry bears little resemblance to shrimp harvests of old. Today, huge quantities of shrimp are produced in developing countries for consumption in Japan, the United States, and Western Europe. In 2001 alone, more than four million tons swam into the global marketplace.

Roughly three quarters of the shrimp on the market is "wild captured"—mostly by fishing boats dragging huge conical nets (trawls) over estuaries, bays, and continental shelves. Trawlers scour the seabed in a manner likened to forest clearcutting, destroying habitat and scooping up whatever lies in the paths of the trawls. Any turtles, fish, and other marine species swept up in the nets are considered unprofitable "bycatch" and are generally deposited—dead—back into the ocean.

Shrimp aquaculture has been no more ecologically benign. A typical shrimp farm produces large amounts of waste, some of it highly toxic. Chemicals and fertilizers used in the farms seep into local water sources and estuaries, while farmers dump much of the waste directly into the ocean.

DID YOU KNOW...?

- China produces more shrimp than any other country, hauling in over 1.2 million tons in 2000, more than double its total from a decade before and over three times as much as each of its nearest competitors—India, Thailand, and Indonesia.
- By 2001, shrimp had displaced canned tuna as the top seafood choice on U.S. dinner plates. But Japan is still first in per capita shrimp consumption.
- In tropical areas, the bycatch-to-shrimp ratio is roughly 10:1, and it can run even higher in some fisheries. All told, shrimping accounts for one third of the world's discarded catch, while producing less than 2 percent of global seafood.
- Nearly one quarter of the world's remaining tropical mangrove forests were destroyed over the past two decades, in major part to make way for shrimp farms.
- Indian physicist and environmental advocate Vandana Shiva has estimated that the average shrimp farm provided perhaps 15 jobs on the farm and 50 security jobs around the farm, while displacing 50,000 people through loss of land and traditional fishing and agriculture.

SUCCESS STORIES

❖ Grassroots environmental groups in farmed areas are teaming up with international activists to promote more ecologically sound shrimp farming. In Asia, the Small Fishers Federation of Sri Lanka and the Mangrove Action Project bring fishing communities together to promote conservation and work with shrimp farmers to curb mangrove destruction and protect fish habitat.

❖ The California-based Sea Turtle Restoration Project is among several groups working with the shrimp industry to develop and promote devices that drastically reduce bycatch.

❖ A consortium involving the World Bank, the UN Food and Agriculture Organization, and the World Wide Fund for Nature is exploring environmental certification standards for aquaculture.

TAKE ACTION!

SIMPLE THINGS YOU CAN DO:

✓ Avoid buying shrimp to ease the burden on both ecosystems and people.

✓ Ask your local restaurants and food stores to stop supplying shrimp, or encourage them to seek out trap-caught shrimp.

CHALLENGE YOURSELF AND OTHERS:

Pledge to avoid eating shrimp. View an online tally of the cumulative positive effect of doing so by joining the Center for a New American Dream's Turn the Tide program (www.newdream.org/tttoffline). For every 1,000 people who stop eating shrimp, this can save more than 5.4 tons of sea life per year.

FOR MORE INFORMATION

☛ **Industrial Shrimp Action Network** (ISA Net) (www.shrimpaction.com) works with communities worldwide to address the impacts of large-scale shrimp aquaculture and supports and encourages sustainable, responsible shrimp farming.

☛ **Mangrove Action Project** (www.mangroveactionproject.org) is dedicated to reversing the degradation of mangrove forest ecosystems, including from shrimp farming and aquaculture.

☛ **Shrimp Sentinel** (www.earthsummitwatch.org/shrimp) is an online forum for discussion and dialogue on the environmental and social impacts of growing global shrimp production.

☛ **Monterey Bay Aquarium's Seafood Watch** (www.mbayaq.org/cr/cr_seafoodwatch) offers information on sustainable shrimp choices.

Antibacterials? Here's the Rub

For most of human history, soap got rid of germs by making surface dirt and oils slippery enough to be rubbed and rinsed off. Since World War II, however, human-made chemicals have altered the traditional recipe. Manufacturers increasingly fortify liquid soaps, shower gels, and body washes with a wide range of fragrances and other inputs—including germ-fighting "antibacterial" properties—and tout the benefits of doing so.

But studies show that antibacterial soaps are not significantly more effective at combating germs than regular soaps. Even worse, their popularity is contributing to the growing problem of drug-resistance—creating greater opportunities for the emergence of deadly "super-bugs" that are immune to germ-fighting agents. As a consequence, many antibiotics and other compounds used to fight life-threatening infections like malaria and tuberculosis are no longer as effective as they once were. When it comes to germ prevention, there's really no substitute for plain old soap and water.

DID YOU KNOW...?

* Although labeled antibacterial, most germ-fighting soaps are actually antimicrobial, attacking viruses as well as bacteria.
* The global market for soap is projected to reach $6 billion by 2008. Growth is fastest in Asia, where demand for enhanced soap products—including antimicrobials—is rising rapidly.
* Triclosan, the leading germ-fighting compound in antimicrobial soaps, acts by destroying enzymes in bacteria cell walls so they cannot replicate; it targets the same enzyme as the antibiotic isoniazid, used to treat tuberculosis.
* In the United States, 75 percent of liquid soaps and nearly 30 percent of bar soaps now contain triclosan and other germ-fighting compounds, whose prevalence can foster the growth of bacterial resistance.
* A 2002 study by the U.S. Geological Survey found that triclosan and phthalates from antibacterial soaps and other detergents were polluting water bodies across the U.S. in low concentrations through wastewater.

SUCCESS STORIES

❖ To fight growing drug resistance, groups like the World Health Organization and the Alliance for the Prudent Use of Antibiotics have launched global campaigns against the misuse of antimicrobials, with the aim of informing individuals, health care workers, and manufacturers about this growing problem.

CHALLENGE YOURSELF AND OTHERS:

Spend an hour going through your home to identify any products that may have antibacterial properties, in particular hand and dish soaps and bathroom cleansers. The next time you go shopping, replace these items with plain soaps and cleansers that are free of these compounds. If you don't find them in a store, let your retailer know what choices you want them to carry.

TAKE ACTION!

SIMPLE THINGS YOU CAN DO:

✓ Stop buying soaps and other home products that contain triclosan and other antimicrobial agents—including toothpaste, cosmetics, carpets, plastic kitchenware, sponges, and even toys. Urge your family, friends, and workplace not to buy them either.

✓ Wash your hands by rubbing thoroughly with ordinary soap and warm water before preparing food and after using the toilet, as this is still the best way to prevent colds and food-borne disease.

✓ Encourage your doctor and other health care professionals to use alcohol-based hand-rub gels to stop the spread of germs, rather than antimicrobial products.

✓ Ask your supermarkets and drug stores to stop carrying antibacterial products and to educate shoppers about the risks involved.

FOR MORE INFORMATION

☛ Alliance for the Prudent Use of Antibiotics **(www.tufts.edu/med/apua)** is an international organization that helps educate consumers and doctors about the risks associated with antibiotic resistance.

☛ World Health Organization **(www.who.int/health_topics/drug_resistance/en)** provides links to worldwide activities, reports, news, and events related to the topic of drug resistance.

☛ U.S. Centers for Disease Control and Prevention **(www.cdc.gov/drugresistance)** offers a wide range of information on the risks of antimicrobial resistance.

THE GOOD STUFF QUIZ!

Do you know your good stuff from your bad stuff? Take this quiz to test your eco-IQ when it comes to buying and using environmentally friendly products. Good Luck!

1. What makes the air in U.S. homes an average of 2-5 times more polluted than the air outside?
2. A cotton T-shirt blended with polyester can release about 10 times its weight of what pollutant?
3. What plant has been used to make clothing for 12,000 years but is illegal to farm in the U.S.?
4. To get the most eco- and socially-responsible cup of coffee possible, your brew should have what three qualities?
5. What is the world's fastest growing energy source?
6. How much mercury is enough to contaminate fish in a 20-acre lake?
7. Name two ways to cut down on household water use.
8. Name one of the simplest ways to save energy.
9. What kind of light bulb lasts up to 10 times longer than a regular incandescent?
10. Sixteen percent of the world's production of methane, a powerful greenhouse gas, comes from what?
11. Washing your hands with antibacterial soap can contribute to what unhealthy side effect?
12. Known for being small, what popular seafood is creating BIG problems for the health of ocean habitats and wildlife?
13. Eating less meat will save big on what resource?
14. What kind of furniture can save trees AND space in landfills?
15. Name two things you can do to make your computer use more eco-friendly.

How did you do!?

- **1-5 questions right:** Looks like you may need a little more help recognizing your good stuff. Don't worry, this guide will boost your eco-IQ in no time!
- **6-10 questions right:** Not bad! You are on your way to living right by planet Earth!
- **11-15 questions right:** Excellent! You're the *Good Stuff* teacher's pet. Now it's up to you to keep spreading knowledge about the hidden costs behind the things we buy, and to support the alternative choices now available.

Answers **1.** Household cleaners and pesticides (see Cleaning Products, page 10). **2.** Carbon dioxide (see Clothing, page 11). **3.** Hemp (see Clothing, page 11). **4.** It's shade-grown, organic, and fairly traded (see Coffee, page 12). 5. Wind power (see Electricity, page 14). **6.** The amount in one fever thermometer (see Health Care, page 18). **7.** Two answers from *Good Stuff*: replace aging dishwashers and washing machines with newer models; landscape your home with plants that are native to your area (see Housing, page 19). **8.** Turn off the lights when you're not using them (see Lighting, page 20). **9.** Compact fluorescent (see Lighting, page 20). **10.** Belching, flatulent livestock (see Meat, page 21). **11.** Resistance to antibiotics (see Soap, page 27). **12.** Shrimp (see Shrimp, page 26). **13.** Water (see Meat, page 21). **14.** Second-hand (see Furniture, page 16). **15.** Two answers from *Good Stuff*: buy an energy-efficient model; donate your old computer (see Computers, page 13).

THE GOOD STUFF CHALLENGE

Congratulations! You've reached the end of *Good Stuff*. We hope you've learned two important things as you've read through this guide: First, every product we use, from a CD to a plastic bag, has a lifecycle—it's produced, used, and eventually disposed of. Because of this, our purchases can have real impacts on the health of our planet and its people, even when we can't directly see or feel them. Second, each of us has an opportunity to improve the health of the environment through our own buying habits. *Good Stuff* contains many examples of ways we can "green" our purchases.

Before you put *Good Stuff* down, we've got a challenge for you. Try to take three actions that change the way you buy, use, or dispose of your "stuff," or that encourage society at large to be more environmentally responsible. Changes could include buying more eco-friendly cleaning products, eating less or no meat, urging a company to support environmentally friendly practices, organizing an event in your community, or donating to an organization that promotes environmental causes. Flip back through the pages of *Good Stuff* for more ideas, and then decide on three actions that are right for you!

OK! I'm going to take the *Good Stuff* Challenge by taking the following three steps:

1. _____

_____

2. _____

_____

3. _____

_____

SIGNED: DATE:

Good Luck!

Keep in Touch

The staff here at Worldwatch wants to learn how your challenge goes. We'd love to hear stories and see photos of you taking action for a healthier planet. You can fax us this page or send us an e-mail describing the *Good Stuff* challenges you're taking on. Please e-mail us at **worldwatch@worldwatch.org** or fax us at 202.296.7365.

We'll send out reports over our e-mail listserv describing the different, exciting ways *Good Stuff* readers are doing their part to build a more sustainable world. To receive these updates, go to **www.worldwatch.org** and sign up for our listserv by entering your e-mail in the box on the blue menu bar to the left of your screen.

Sources

Much of the data in *Good Stuff* is found in Worldwatch Institute, *State of the World 2004* (New York: W.W. Norton & Co., 2004) and Worldwatch Institute, *Vital Signs* (New York: W.W. Norton & Co., various editions). Additional sources include the following:

Baby Products

The Green Guide, "Product Report: Baby Bottles" and "Product Report: Diapers," available at www.thegreenguide.com/reports.

Beverage Containers

Estimate of 189 billion excludes milk and beverages packaged in aseptic drink boxes, foil pouches, and gable-top cartons, per the Container Recycling Institute (CRI), "Internal Market Data Analysis" (Arlington, VA: January 2004); sales and recycling rates for aluminum cans, PET and HDPE plastic bottles, and glass bottles compiled using data from the Aluminum Association, the U.S. Department of Commerce (DOC), the American Plastics Council, the National Association of PET Container Resources, the U.S. EPA Office of Solid Waste, the Beverage Marketing Corporation, and *Beverage World* magazine; "Brazil Is the World Champion in Recycling of Aluminum Used Beverage Cans for the Second Time," Brazil Aluminum Association, www.abal.org.br/wingles/noticias_abal/index.cfm?frame=notic_1jul2003, viewed 6 October 2002; Glenn Switkes, "Aluminum Companies Press for Dams on Amazon," *World Rivers Review,* October 2001; per capita consumption derived by CRI using data from the Aluminum Association, DOC, and European Aluminum Association; Jennifer Gitlitz, "Trashed Cans: The Global Environmental Impacts of Aluminum Wasting in America," (Arlington, VA: CRI, June 2002); U.S. EPA, *Greenhouse Gas Emissions from Management of Selected Materials in Municipal Solid Waste* (Washington, DC: September 1998); R.W. Beck, *2002 National Post Consumer Plastics Recycling Report*, prepared for the American Plastics Council, at www.plasticsresource.com/s_plasticsresource/docs/1200/1131.pdf; A. Choate, S. Brown, H. Ferland, and E. Lee, *Waste Management and Energy Savings: Benefits by the Numbers* (Washington, DC: U.S. EPA, 2001); U.S. EPA, Office of Solid Waste and Emergency Response, *Municipal Solid Waste in the United States: 2000 Facts and Figures (Washington, DC:* June 2002); Mark Murray, State Treasurer, Michigan, "Report to the Legislature," submitted 26 June 2000; Hans Funke, Returpak, Sweden, personal communication, 6 June 2003; Ravi Rebbapragada, Mines, Minerals & People, Hyderabad, India, personal communication, 30 October 2003.

Cars

U.S. Department of Energy, Office of Transportation Technologies, "Fact #230: August 19, 2002, Hybrid Electric Vehicles in the United States," at www.eere.energy.gov/vehiclesandfuels/facts/favorites/fcvt_fotw230.shtml and "Fact #251: January 20, 2003, Hybrid Vehicle Sales," at www.eere.energy.gov/vehiclesandfuels/facts/2003/fcvt_fotw251.shtml.

CDs and DVDs

U.S. EPA, Office of Solid Waste, "The Life Cycle of a CD or DVD," poster available at www.epa.gov/epaoswer/education/mad.htm; "Recycling 101: Compact Discs," *Green Star E-News*, 21 October 2002, at www.greenstarinc.org/enews/enewsv3n10.htm; Polymer Reprocessors Limited, "The Benefits," at www.polymer-reprocessors.co.uk/benefits.html; Recording Industry Association of America, "Cost of a CD," at www.riaa.com/news/marketingdata/cost.asp.

Cleaning Products

The Green Guide, "Product Report: Household Cleaning Supplies," available at www.thegreenguide.com/reports; American Association of Poison Control Centers, *Toxic Exposure Surveillance System Annual Report 2001*, at www.aapcc.org/annual.htm; U.S. EPA, Office of Air and Radiation, Indoor Environments Division, "Why Study Indoor Air Quality???" www.epa.gov/NE/eco/iaq/whyiaq.html; Dana W. Kolpin et al., "Pharmaceuticals, Hormones, and Other Organic Wastewater Contaminants in U.S. Streams, 1999–2000: A National Reconnaissance," *Environmental Science and Technology*, 15 March 2002, pp. 1202–11; John Elkington, Julia Hailes, and Joel Makower, *The Green Consumer* (New York: Penguin Books, 1988), p. 117.

Clothing

The Green Guide, "Product Report: Clothing," available at www.thegreenguide.com/reports

Electricity

PACE Law School Energy Project, Power Scorecard Website, www.powerscorecard.org/elec_env.cfm; U.S. EPA, Power Profiler Website: www.epa.gov/cleanenergy/powerprofiler.htm; U.S. EPA, Green Power Partnership Website: www.epa.gov/greenpower/details.htm#santa monica; European Photovoltaic Industry Association and Greenpeace, "Solar Generation: Electricity For Over 1 Billion People and 2 Million Jobs by 2020," at archive.greenpeace.org/climate/climatecountdown/solargeneration/solargenback.pdf; U.S. Department of Energy (DOE), Energy Information Administration, *International Energy Outlook 2003* (Washington, DC: May 2003); American Wind Energy Association, *Global Wind Energy Market Report* (Washington, DC: February 2003); Green-e , "Green-e Renewable Energy Certification Program," www.green-e.org/pdf/switch.pdf, Database of Renewable Energy Incentives website, www.dsireusa.org; German Federal Minister for the Environment, Nature Conservation and Nuclear Safety, *German Environmental Report 2002* (Berlin: March 2002).

Furniture

The Green Guide, "Product Report: Wood Furniture," available at www.thegreenguide.com/reports.

Gold Jewelry

Earthworks/Mineral Policy Center, *Dirty Metals: Mining, Communities and the Environment* (Washington, DC: 2004).

Housing

Green Guide Product Report

Lighting

American Council for an Energy Efficient Economy; DOE, Energy Information Administration; US EPA; Michael Aucott et al., "Release of Mercury from Broken Fluorescent Bulbs," *Journal of the Air & Waste Management Association*, February 2003; H. Geller et al., *Update on Brazil's National Electricity Conservation Program (PROCEL)*, 1999*;* V. Fulbright, A. Jacob, and C. Calwell, *Compact Fluorescent Light Programs Shine Through the West Coast Power Crisis,* E Source Report ER-03-11 (Boulder, CO, Platts Research & Consulting, 2003).

Paint and Varnishes

P.W. McRandle and Andreea Matei, "Paint," *Green Guide* 96, May/June 2003, at ssl.thegreenguide.com/docprem.mhtml?i=96&s=paint; The Green Guide, "Product Report: Paint" and "Product Report: Wood Finishes," available at www.thegreenguide.com/reports; National Paint and Coatings Association Website, at www.paint.org/ind_info/facts.cfm.

Personal Care Items

The Green Guide, "Product Report: Lip and Eye Makeup," "Product Report: Nail Products," "Product Report: Shampoo," "Product Report: Sunscreen," and "Product Report: Deodorants and Anti-Perspirants," available at www.thegreenguide.com/reports.

Good Stuff Partners

American Council for an Energy-Efficient Economy
1001 Connecticut Avenue, NW, Suite 801
Washington, DC 20036
Phone: (202) 429-8873
Fax: (202) 429-2248
www.aceee.org

Center for a New American Dream
6930 Carroll Avenue, Suite 900
Takoma Park, MD 20912
Phone: (301) 891-3683 or (877) 68-DREAM
www.newdream.org

Center for Resource Solutions
Presidio Building 97
P.O. Box 29512
San Francisco, CA 94129
Phone: (415) 561-2100
Fax: (415) 561-2105
www.resource-solutions.org

Container Recycling Institute
1911 North Fort Myer Drive, Suite 702
Arlington, Virginia 22209-1603
Phone: (703) 276-9800
www.container-recycling.org

Earthworks
1612 K Street NW, Suite 808
Washington, DC 20006
Phone: (202) 887-1872
www.earthworksaction.org

Global Resource Action Center for the Environment (GRACE)
215 Lexington Avenue, Suite 1001
New York, NY 10016
Phone: (212) 726-9161
Fax: (212) 726-9160
www.factoryfarm.org

The Green Guide Institute
Prince Street Station
P.O. Box 567
New York, NY 10012
Phone: (212) 598-4910
Fax: (212) 410-0184
www.thegreenguide.com

Grist Magazine
811 First Avenue, Suite 466
Seattle, WA 98104
Phone: (206) 876-2020
Fax: (253) 423-6487
www.gristmagazine.com

Health Care Without Harm
1755 S Street, NW, Suite 6B
Washington DC 20009
Phone: (202) 234-0091
Fax: (202) 234-9121
www.noharm.org