It’s Easy Being Green

The User-Friendly Eco-Handbook

By

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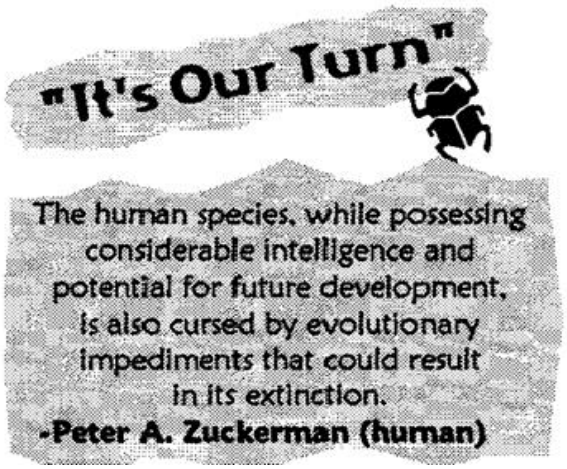
So our little book has been in your bathroom so long, you're reading the Preface? Wonderful!

We first wrote this book in 2003—originally intended as a compilation of the frequently asked questions we received at MatterofTrust.org about recycling. However, like most of our projects, it took on a life of its own. The author Jennifer Pratt devoted herself to the job with energy and commitment beyond our dreams. Of course, this was before the ecological movement had really taken off. Now for our second edition, Janet Jose and Joyce Joseph have added their enthusiasm and excellence!

For our shiny new version, continued thanks to The Raposo Foundation (Jim Henson - Title permission), Nell Newman, and so many more for their contributions and advice. New links to further resources and services have been added at the end of every section.

Our ecological public charity, Matter of Trust, was established in 1998 and concentrates on linking surplus with needs, naturally abundant renewable resources, eco-educational programs, and inspirational spaces. Our oldest program, ExcessAccess.org, is a free, online service that matches society's wish lists with donations of stuff throughout the U.S. and beyond. Check out the over 50 projects at MatterofTrust.org and visit our Eco-Industrial Hub and model Eco-Home if you're ever in San Francisco, CA. We hope you enjoy this book and get as much out of reading it as we did writing it!

LETTER FROM…



Hey! Ahem, humans?
That quote up there is from you guys, right?
We don't wanna seem pushy, but well, living under the fridge is getting *old.*
There's a long line for Planetary Domination, you know. And you've had your turn. Teasing us with messages like Mr. Zuckerman's just adds insult to injury when you don't follow through.

So *PLEASE,* if you're considering going extinct, could you just DO it?

...THE COCKROACHES

We know you're capable of it. Look how far you've come already! You just need to keep doing what you've been doing: polluting ecosystems, destroying habitats, and wasting resources. That's fine with us! We LOVE wasteland.

What upsets us is when you start trying to reverse trends and actually keep the world a healthier place for your own species. Like this book—a prime example of speciesist propaganda.

In fact, you should be embarrassed even to be reading this. You should stop RIGHT NOW! Put DOWN the book!

Or if you must keep reading, would you at least do us the favor of not letting it change any of your destructive habits?

After all, it really is Our Turn.

Sincerely,
The Cockroaches

Key to Icons

In this book, you'll find many tips for an eco-friendly lifestyle; look for the icon by each tip to see what kind of resource it conserves.

 **Reduce Waste: Reuse & Recycle**

 **Energy**

 **Water**

 **Chemicals**

 **Biodiversity**

 **Existing Ecosystems**

 **Food**

 **Paper**

 **Transportation**

 **Housing**

 **Political Action**

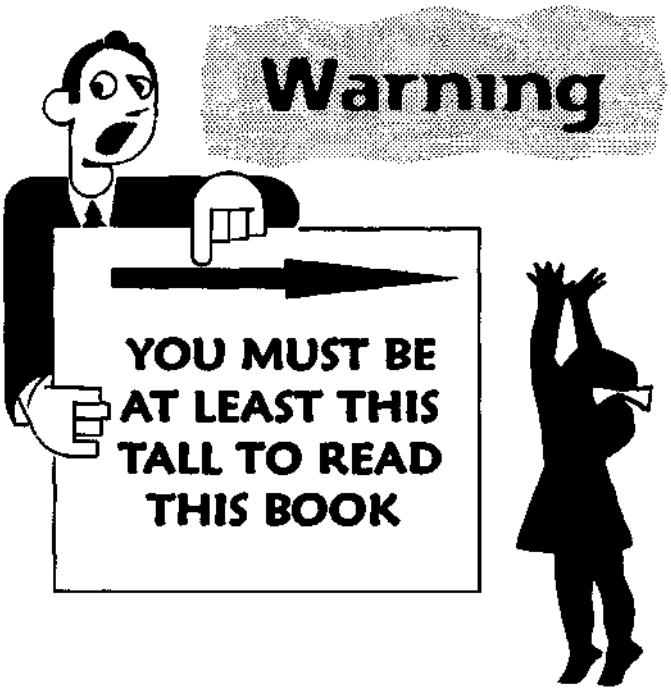
 **Green Finances**

 **Education**

 **Noteworthy**

 **Further Resources**

WARNING



Information about the state of the environment can be hazardous to your emotional health. Individuals who are fragile should read this book only in small doses.

If you find yourself becoming depressed by certain facts, the recommended antidote is to turn quickly to one of our sections Easy Tips that Add Up (pp.100–141), and use it!

Keep in mind, the world may not be ready to shift to a zero-waste lifestyle tomorrow. It's important to take it one step at a time, both at home and globally. Even if single actions seem small, together they will make that crucial difference.

SECTION 1
THE BASICS

Reduce, Reuse, Recycle

Of course, a lofty goal for this book—and perhaps for humanity—is *enlightenment.* Shrugging that off, we could all settle for a thriving lifestyle that we can continue for centuries and reverse the depletion of nonrenewable resources.

One obstacle to sustainability right now is the amount of material we waste. Out of the 254 million tons of trash Americans throw away, only 87 million tons is recycled. Improved education on sorting and ideal materials is needed for the process to be economically feasible. Not sorting our waste into resources will be more costly in the long run.

☞ scientificamerican.com/article/is-recycling-worth-it

So this first chapter offers ways to **Reduce** waste through **Recycling** and **Reuse.**

Problems & Solutions

After your trash is collected and compacted, it goes to dumps in remote (or not so remote) areas, known as landfills.

➡ Landfilling trash is a central example of a nonsustainable practice in our current system.

Waste Problems in Landfills

- ***Space:*** landfills occupy ever-increasing areas of land and water that could support human or natural ecosystems.
- ***Time:*** *even* biodegradable items in landfill can take *centuries* to decompose due to lack of air and water circulation.
- ***Chemical contamination:*** landfills emit toxic fumes and toxic fluid runoff, polluting local land, air, and water.
- ***Resources:*** many items in landfill could have been reused or recycled, thus reducing the rate at which we consume and

extract raw materials. (Landfill mining may even become necessary someday, but it will be a hard and dangerous job excavating dense, toxic trash.)

Always choose long lasting and reusable items when possible. Even though landfills and incinerators can generate energy, disposing of single use trash (straws, bottles, bags, batteries…) is an utterly inefficient cycle of resources.

The GOOD news is—this solution is more attainable than you might think!

➥ *Reducing our impact on the earth does NOT mean sacrificing our quality of life.*

Many current practices, which are both wasteful *and* not in the consumer's best interest, have easy alternatives!

So why do they persist?

HIDDEN REASONS BEHIND THE WASTE

- Manipulative advertising sells incredible amounts of truly unnecessary goods. Ads make us believe that our deepest problems can be solved only by buying their products. (This, in turn, has created a social malaise known as *affluenza,* where ever-increasing materialism takes the place of other healthy emotions.)
- Businesses boost profits with *planned*

PROBLEMS AND SOLUTIONS

obsolescence, a system where consumers must constantly replace items that could last years (e.g., computers and clothing).

- Corporate politics often cut funding for eco-friendly goods and services, in favor of personal, short-term profits.
- Importantly, consumers simply don't know what they can do to counteract these trends!

The **SOLUTION,** then, is *to learn, use, and pass on ideas and information for reducing waste and living sustainably.*

Let's get started!

Our Basic Motto: **"The 3R's"**
Reduce, **R**euse**, R**ecycle.

Reducing Waste In Disposal of Items: OPTIONS FROM BEST TO WORST
1. Avoid the item in the first place.
2. Reuse or donate item or material.
3. Repair an item, or reuse part of it.
4. Recycle or compost material.
5. Send item to landfill.
6. Use material to litter or pollute.

REDUCE, REUSE, RECYCLE	
Reducing Waste WHEN ACQUIRING NEW THINGS	
LOOK FOR:	**AVOID:**
Secondhand	New
Durable	Disposable
High Quality	Low Quality
Compostable	Synthetic
Recycled Content	Nonrecycled Content
Sustainably Produced Material	Material that is Not Sustainably Produced
Nontoxic	Toxic
Small	Large
Rechargeable	Single Use
Refillable	Nonrefillable
Single-Material Items	Composite Materials (e.g., plastic and metal)
Bulk	Single Serve
Items With Replaceable Parts	Items that Must be Completely Replaced
Unprocessed/Fresh	Processed
Less Packaging	More Packaging

RECYCLING

Most areas in the U.S. have services that will pick up certain materials from your curb.

☞ You can find out what services are available near you by searching local governments and disposal company websites. For example, sfrecycles.org/items

Local recycling centers may accept drop-offs that your curbside service does not accept.

Prepping Materials for Recycling

It is **not** necessary to remove labels from steel cans and bottles, tape from cardboard boxes, plastic windows from envelopes, staples, or paper clips from paper.

It *is* helpful to flatten trash (e.g., milk cartons), to let waste handlers collect material more efficiently and to cut down on transportation cost.

SORTING YOUR RECYCLING

DO keep your recycling items *well sorted***.** Mixing categories can occasionally make the whole batch unusable.

Commonly Used Categories

The following are good general guidelines, but check with your local service on questionable items.

WHITE PAPER: ***Generally Accepted:***
binder paper, printer paper, envelopes.
Sometimes Accepted With White Paper:
manila paper, junk mail, thin cardboard.

MIXED PAPER: ***Generally Accepted:***
old magazines, egg cartons, thin cardboard (cereal boxes, toilet paper rolls, coffee cups, cup jackets...), junk mail, fast-food paper bags, posters, file folders (without metal headers), overnight-envelopes, paper board, and manila paper.

Not Usually Accepted With Mixed Paper:
blueprints, waxed paper or cardboard, greasy paper, books, photos, paper with plastic in it such as paper ream wrappers, anything waterproof.

REDUCE, REUSE, RECYCLE

NEWSPRINT: Always! Newspapers originated the recycled paper system.

CARDBOARD: Yes! Shipping boxes, corrugated cardboard, pizza(less) boxes.

GLASS: Some programs want green, brown, and clear glass separated.

Not Usually Accepted With Glass:
broken glass, mirrors, lightbulbs, window panes. Ceramics are a contaminant in glass recycling but can be recycled with other inerts such as concrete.

➥ Wrap up potentially harmful trash such as broken glass to prevent injury to garbage collectors!

RUBBER: Natural rubber is uncommon. Most rubber is petroleum-based and not recyclable. (Some programs now reuse old tires in asphalt and sport blacktops.)

REDUCE, REUSE, RECYCLE

PLASTICS: Look at the bottom of the item for a triangle with a number in it (usually from 1 to 7) to determine where it can be recycled.

- **Plastics #1 or PET:** Products made from this plastic should be recycled but not reused.

- **Plastics #2 or HDPE:** Products made from this plastic are reusable and recyclable.

- **Plastic #3 or PVC:** Avoid when possible. It is toxic to produce and can leach toxins throughout its life (not good in water pipes!). Small amounts will ruin batches of other types of plastics that are being recycled. Common in: plastic pipes, outdoor furniture, shrink-wrap, and liquid detergent containers.

- **Plastic Bags:** Grocery bags, department store bags, bread bags, produce bags, dry cleaning bags, plastic wrap, and rainy day newspaper bags can be recycled together, but not in your curbside bin. The Safeway's, Albertson's, Kroger, and other grocery stores provide plastic bag recycling containers.

For more detailed descriptions of **Plastics 1–7,** see Appendix A.

REDUCE, REUSE, RECYCLE

ALUMINUM: Make sure aluminum foil and aluminum cans are clean; cut off plastic tops on simple composite items like Tom's of Maine toothpaste tubes.

TIN: Make sure cans and foil are clean.

SCRAP METAL: Anything that is all metal: bottle tops, lids, broken machinery (junk yards for old machinery may be at a different location from recycling center). Magnets are recycled with other iron.
Sometimes Accepted With Scrap Metal: Anything that is more than 50% metal.

COMPOSITE MATERIALS: The more materials that are stuck together to make a *composite material,* the more difficult it is to recycle. The best approach to items like juice boxes, aseptic packaging, and particleboard is to avoid them in the first place.

Further scrap recycling resource

(see MatterofTrust.org for updated links)

☞ recycle.net

☞ verichek.net/scrap-metal-recycling.html

☞ Epa.gov/recycle

HAZARDOUS WASTE

- **Try to minimize your use of toxic products**—when disposing of hazardous waste.

- DON'T pour it down the drain.

- DON'T mix different toxic products together. The results can be dangerous. For example, bleach and ammonia, when combined, can be deadly!

- DO follow any instructions for use and disposal as provided on the label.

- DO contact communities or businesses who will pick it up for special disposal.

- Even better than disposing of these toxic products is to ***donate*** **partially used substances** such as house paint or turpentine to appropriate organizations that can use them, or to redistribution centers, which includes recycling centers or services like Excess Access (see p.26).

HAZARDOUS WASTE

Hazardous Waste in the Household

Call your local recycling service for help in disposing of hazardous waste lurking under your sink, on laundry shelves, and in the garage. Even better, (see pp.102–103) for some nontoxic alternatives!

Toxic Cleaning Products:

- tub/tile/shower/drain cleaners
- wood/glass/metal polishes
- oven cleaners
- toilet cleaners
- bleach
- pool chemicals

Toxic Indoor Pesticides:

- houseplant insecticides
- rodent poison
- insect bait, repellent, shampoo, spray

Toxic Automotive Products:

- motor oil
- fuel additives
- air-conditioning refrigerants
- starter fluids
- carburetor and fuel injection cleaners
- car batteries
- transmission and brake fluid
- antifreeze

HAZARDOUS WASTE

Toxic Workshop/Painting Supplies:

- turpentine
- most glues (note: Elmer's is nontoxic)
- furniture strippers
- enamel, lead, or oil-based paint
- stains and finishes
- paint thinners, strippers, and removers
- photographic chemicals

Toxic Lawn and Garden Products:

- herbicides
- insecticides
- fungicides
- wood preservatives

Other Toxic:

- batteries
- mercury thermostats or thermometers
- fluorescent light bulbs
- driveway sealer

Containers

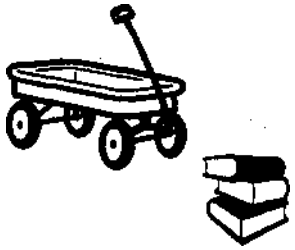
Some recycling programs accept *empty* containers from pesticides, motor oil, and other hazardous plastic bottles. Call ahead for specific instructions.

BIOHAZARDOUS WASTE: Call your local Hazardous Waste Disposal Center.

DONATIONS

It's even better to donate an item than to recycle it. Many community organizations will welcome your secondhand supplies:

SCHOOLS OFTEN TAKE:



- computers
- three-ring binders
- books
- posters
- magazines
- office supplies
- scratch paper
- art & painting supplies
- toys

Partly-used paint and workshop supplies make perfect donations, since they are difficult to recycle cleanly.

CHURCHES, HOSPICES, HOMELESS SHELTERS, AND OTHER NONPROFIT COMMUNITY ORGANIZATIONS OFTEN TAKE:

• medical supplies (walkers, wheelchairs, crutches, some unopened medicine with at least 6 months left before the expiration date)

DONATIONS

- quality appliances and electronics
- clothes
- furniture
- toys
- electronics

LOCAL BUILDING REUSE ORGANIZATIONS:

• old and leftover building supplies from construction projects.

Usually these groups can pick up the supplies from the worksite.

PAINTING CONTRACTORS OFTEN TAKE:

- 5-gallon buckets
- canvas sheets

USED CLOTHING OUTLETS AND OTHER SECONDHAND STORES (VINTAGE CLOTHING, CONSIGNMENT SHOPS) TAKE:

- clothes
- shoes
- jewelry
- other accessories
- paper bags for packing
- wire hangers

☞ Recycle at, sfenvironment.org/textiles

➥ *Don't donate old underwear or torn clothes. Ask local charities or used clothing stores what they do with their*

DONATIONS

unwearable donations. They may know a ***LOCAL TEXTILE RECYCLER****. Or you can use old clothes for rags—see p. 104.*

LOCAL SHIPPING STORES OFTEN TAKE:

- cardboard boxes
- bubble wrap
- other packaging materials

Or call the following toll-free number to find the nearest place that will use your

- styrofoam peanuts: (800) 828-2214.

FRYERS CLUBS OFTEN TAKE

• old eyeglasses (for reuse)
or ask your local eye care specialists if they know of a similar local program.
In 2011, Matter of Trust, along with local eye doctors brought 8,000 pairs of donated eyeglasses to small villages in Peru.

LIBRARIES, LAUNDROMATS, WAITING ROOMS, GYMS, NURSING & RETIREMENT HOMES, SCHOOLS, USED BOOKSTORES:

- books
- catalogs
- posters
- scratch paper

Alternative to donating items: have a garage sale. Make some money while you prevent waste!

DONATIONS: Excess Access

RECYCLING SUCCESS STORY

ExcessAccess.org *(THIS IS US!)*

It all started in 1997 when Lisa Craig Gautier was given a new living room rug. She wanted to donate her old one because it was still perfectly good and found an inner-city school in San Francisco, California, that could use the carpet in its library for a story-time area. While there, Lisa asked the kindergarten teacher if she needed anything else and was given her first "wish list." She was amazed by how many generous businesses and households wanted to donate surplus that was about to be dumped. Everyone prefers to pass on items to those who can use them; donors are just stumped about how to find recipients conveniently.

In 1998, Lisa founded the mother organization MatterofTrust.org with the help of her husband, Patrice Olivier Gautier (Apple, Inc. now VP of Engineering Internet Software and Services). Matter of Trust is an ecological 501(c) (3) public charity that concentrates on linking surplus with needs, promoting naturally abundant renewable resources, and providing eco-educational programs and inspirational spaces.

The charity's first project was ExcessAccess.org which developed this online matching database system for in-kind giving. The service is free, data is never sold or shared, and the donors and recipients arrange convenient pickups and drop-offs between themselves using secure messaging.

DONATIONS: Excess Access

Excess Access has ten departments: 1.Arts & Crafts 2.Industry & Research 3. Food & Compostables 4.Hair, Fur & Fiber 5.Home & Dorm 6.Disaster Relief & Medical 7.Movers & Repair 8.Office, Biz & Schools 9.Recycling & Scrap 10.Sports, Rec, & Auto.

Excess Access also supports other Matter of Trust programs like the Global Compost Project and The Hum Sum.org—where humanity is adding solutions. Plus, the charity's famous Clean Wave program which promotes large-scale waste fiber recycling uses the Excess Access system. Clippings of hair from salons and of fur from pet groomers are donated and felted into mats that soak up major oil spills. Mats are often inserted into storm drains to keep waterways clean of contaminants and debris. Read more at

☞ MatterofTrust.org/CleanWave

We have always been largely staffed by a loyal, dynamic group of part-timers, work-from-home moms, wise seniors, and student interns. Above all, we are thrilled to be able to spend our workweeks connecting with the public and providing a suite of sites that is vital to society and healthy for the environment. It doesn't get much better than this. Everybody wins!

Basic Resources

The following chapters outline the basic resources, needs, and commodities that are part of the modern lifestyle. Each chapter explains why it is important to conserve one particular resource and gives some sample tips for doing so.

See Section 3 for more tips on conserving all these resources. (Remember, the icon in front of each tip denotes what resource it conserves.)

MATERIAL GOODS

See the previous chapter for details on landfills, garbage, and recycling.

Also, look for tips with these icons throughout the book

Recycling tips:

Reducing solid-waste tips:

MATERIAL GOODS

Reduce, Reuse, and Recycle

Make recycling a habit, in your own home and elsewhere.

Buy lightly packaged merchandise.

Donate or sell your own surplus.

Buy paper and plastic with high-recycled content. Because . . .

The act of recycling is useless, unless people *buy* recycled products and . . .

The market for recycled material must be profitable for companies or industries to engage in recycling.

Buy things secondhand. Visit:

- thrift stores
- yard sales
- antiques' sales
- consignment stores
- classified ads in print and online
- estate sales
- auctions

MATERIAL GOODS

Reusing items reduces waste even more effectively than recycling.
Buying things new (from the original vendor) encourages further production, so be sure to buy sustainably. In contrast, the money you pay for secondhand items does *not* affect manufacturers' business plans. So “re-shop” until you drop!

➥ Helpful online reuse services include Craigslist, Excess Access, eBay, Freecycle…

Further solid-waste[1] resources

(see MatterofTrust.org for updated links)

☞ A government sponsored waste-reduction assistance program:

epa.gov/smm/wastewise

☞ For disposal and waste treatment services, visit: firstenvironmental.com

☞ National Center for Appropriate Technology works on many resource issues, especially relating to disadvantaged citizens: ncat.org

☞ The largest residual waste processing facility: ercofusa.com

ENERGY

Although solar power is clean and plentiful, most of our energy now comes from coal, oil, and gas—limited resources which are ecologically damaging to produce and use.

Oil drilling, in particular, wreaks environmental havoc. Transporting the oil is even more damaging. In Indonesia, new oil pipelines have uprooted villages and laid waste to the surrounding rainforests. In South America, many political regimes have gained instant wealth by selling local rainforest land to the very oil companies we buy gas from for our cars. Indigenous people who object are often suppressed with military force, including a long and widespread history of massacres.

Oil influences U.S. politics too. Oil and automobile companies make such **large** profits that 1) it is in their interest to encourage our present “driving culture,” and 2) they can afford to do so! Big money can buy: lawsuits,

lobbyists, and election campaigns about both candidates and propositions. This "purchased" political influence affects: public transportation bills, government energy policies, and which types of research gets funding (or not), such as alternative energy technologies.

Political Action (p.143) and Strategic Investing (p.151, 169) are two ways to counteract these effects.

Electricity accounts for the bulk of U.S. energy use. So conserving electricity by simply turning off lights is very helpful!

Basic electricity savers

Yep, we're repetitive, but hey...

- *Reduce, Reuse, Recycle.* Manufacturing processes use a lot of energy. So buying fewer new products saves energy.

- Use solar power! Solar panels are a smart investment; some cities will even buy back the surplus power you produce!

- Run your appliances in "off-times," usually after 8:00 p.m. (check with your

local provider). This reduces the extra production capability that must be kept ready for the highest peaks in total use.

- Keep your thermostat at 68 when at home, and turn it off when away. Turning down the thermostat 1 degree saves about 10% of your heating energy.

- Buy efficient appliances, and keep them well maintained (see pp.94, 106).

Further energy-saving resources
(see MatterofTrust.org for updated links)

☞ pge.com/en_US/residential/save-energy-money/resources/everyday-tips/energy-saving-tips/energy-saving-tips.page

☞ tesla.com/solarpanels?utm_expid=.36XSKMxWSxerIeL8zEtw6g.1&utm_referrer=https%3A%2F%2Fwww.tesla.com%2F

☞ Green energy worldwide: aceee.org

☞ Energy Saver: energy.gov/energysaver/energy-saver

☞ Solar & Renewable Energy, Green Living: realgoods.com

☞ sterlingplanet.com

WATER

Saving water is important even when it's pouring rain outside. This is partly because most cities' water sources come from distant reservoirs and snowpacks, not just local rainfall. Draining the local water supply can also be destructive. If the underground water table drops too low, local ecosystems suffer. And buildings and roads can be damaged by sinking or shifting ground.

Increased demand for water also makes it necessary to build new dams or to divert rivers. New reservoirs take the place of important valley ecosystems; diverting rivers can impoverish people and environments downstream that relied on that water.

Dams can cause additional damage by trapping fish, and by preventing natural flooding, which some areas need to keep the land fertile. Severe famines due to infertile farmland have overtaken Egypt since the damming of the Nile.

WATER

Sample water savers

- Keep faucets, hoses, sprinklers, and pipes free of leaks.

- Plant your yard with native/climate appropriate vegetation that doesn't need extra watering, since it's adapted to the local weather.

- Cover your pool when not using it. A large uncovered pool can lose more than 1,000 gallons in two weeks, versus 100 gallons from a covered pool! (You also save energy by not needing to heat new water.)

- Wash cars, windows, etc. out of a bucket instead of leaving the hose on. A running hose can spill 100 gallons of water per car wash.

- Leave land unpaved so rain and runoff water can percolate through to help maintain the water table level.

WATER

- *Again— reuse, reduce, & recycle. You save EVEN MORE water when you conserve OTHER RESOURCES.* Huge amounts of water are used in agriculture and in producing clothing, plastics, paper, and energy. Manufacturers use a lot of water just to cool down their machinery!

Keeping water clean is just as important as conserving it. Aquatic ecosystems such as oceans, bays, lakes, streams, and wetlands are crucial to a healthy environment and to healthy people (see p. 52 for more about wetlands). Hazardous waste that goes down the drain or street grates can end up in your water glass or in the fish on your dinner plate!

Tips for protecting water quality:

- Don't dump water with chlorine, soap, or other toxins in creeks or street drains. Check with your local wastewater treatment plant for instructions.

WATER

 Avoid shampoo and cleaners containing phosphates. Too many phosphates in lakes and bays cause explosive algal growths that choke out other life.

 Don't dump aquarium water into ponds or drains. Nonnative plants, fish, crabs, and other pets have a potential for—and a history of—invading and unbalancing local ecosystems.

 Use nontoxic substitutes for salt to melt snowbanks on streets and paths. Use sand, sawdust, or noncorrosive biodegradable products. (Amazon sells Bare Ground or it is available at bareground.com)

 *Gaia's Garden, A Guide to Home-Scale Permaculture*, by Toby Hemenway is an inspiring book of water solutions!

 Reduce Chemical Pollution: almost all chemical pollution ends up in bodies of water eventually, via seepage, rain, and snow runoff.

CHEMICALS

Not *all* chemicals are harmful, but when the wrong substances escape into sensitive environments, they can be extremely destructive.

A Few Examples of Chemical Damage Worldwide

- Increased atmospheric CO_2 levels are causing a "greenhouse effect": a gradual but steady rise in global temperatures. Future results are unknown, and could be globally catastrophic. Okay! Deep breaths.

- Acid rain all over the world leaves hundreds of thousands of lakes lifeless.

- The *Exxon Valdez* oil spill that occurred in Prince William Sound, Alaska—shows how excessive pollution can wipe out entire ecosystems. Chemical cleanup treatments for oil spills ironically are now found to cause even more damage than do the oil spills themselves.

CHEMICALS

• Toxins accumulate at the highest concentrations at the top of the food chain. Recent rate increases in sick whales and seals indicate heavily polluted seas.

• Chemical runoff from pesticides and fertilizers is destroying biodiversity among plants. Just one example: the beautiful English wildflowers lyricized by centuries of British poets are now disappearing. Weeping yet?

• Frogs have been around more than 200 million years. But their population has plummeted in the last 30 years and some species have even vanished. This is alarming, since (like canaries in coalmines) frogs are indicators of water and air purity.

Tips for reducing chemical pollution:

Reduce, Reuse, Recycle

Surprise—the same practices that reduce other types of waste also cut down on pollution. New goods, especially synthetics, are often toxic to produce.

CHEMICALS

"One word: plastics!"
-The Graduate, 1967

The flourishing plastic industry is a good example of limited resources being transformed into harmful products and byproducts. The industry uses five of the six chemicals listed by the EPA as Most Toxic to Produce. Reach out and do your part to stem the tide of shiny, useless baubles that are filling up our world!

Minimize your driving. Oil use and production contribute greatly to global pollution (see Energy, p.31 and Transportation, p.84).

Buy organically grown food and clothing fibers to discourage the use of pesticides and chemical fertilizers. These are a major source of pollutants all over the world (see Organic Food, p.64).

Use nontoxic substitutes for household chemical products (see p.102) and building supplies (pp.96–99).

CHEMICALS

Buy unbleached paper products. Bleach and bleaching processes are very toxic (see Paper, p.80).

Don't burn your garbage. Synthetic materials and treated wood release many toxins when burned.

Elect political representatives and supervisors who support laws regulating chemical waste. (Such propositions seldom make it to the popular vote.)

➥ **Note on Social Justice:** People who buy and use products are seldom the ones to pay the real price of the items' manufacture: living with pollution from chemical byproducts. This is because those who have money to buy things can also afford to live far away from the factories that expel toxic waste. Due to cheaper labor costs, manufacturing is often done in foreign countries.

HEALTH

Good private and public health benefits everyone. A healthy population requires less expensive medical care—which means cheaper insurance and social security for both the sick *and* for the well.

Chemical pollution is a major cause of health problems all over the world. We absorb toxins through water, air, food, and from products such as makeup, cleaning supplies, chemically treated fabrics, etc.

Examples of Chemical-Related Global Health Problems on the Rise

- birth defects
- infertility
- weakened immune systems
- increased rates of cancer
- increased rates of asthma
- sharply increased skin cancer rates (especially in Australia, near the infamous hole in the ozone)

HEALTH

Health tips:

 Reduce Chemical Pollution. (See the previous section.)

 Avoid products containing:

- Formaldehyde
- Aluminum Chlorohydrate
- Mineral or petrochemical-based oils
- Artificial bright dyes
- Artificial fragrance

 **Use antibiotics with care.**

Using antibacterial soaps prevents you and your children from building up strong immune systems against common germs.

On the other hand, if you do need to treat an illness with an antibiotic medicine, make sure you ***finish the entire course of the treatment,*** *as prescribed by your doctor.* Incomplete courses of antibiotics can cause the evolution of new, tougher versions of a disease. Because of this, some formerly effective medicines for lethal illnesses no longer work.

HEALTH

Use glass, ceramic, and Pyrex for cooking and storing food, instead of plastic. Many plastics (especially when heated) emit chemicals with a variety of ill effects, such as the interruption of hormone production.

Eat healthy! A diet that is low in saturated fat, high in fruits and vegetables protects against many diseases (see Eco-eating, p. 61).

Support biodiversity and endangered ecosystems (see next section). Scientists are now discovering that many renewable organic compounds in rainforest and coral reef ecosystems can be used to make effective medicines, similar to those used successfully by traditional cultures for millennia.

The controlled export of these traditional botanical medicines may provide local populations with a way of supporting themselves that doesn't involve the destruction of

their environment. Rainforests are disappearing—largely thanks to the "slash and burn" approach where land is cleared and used only for a few years of cattle raising before the soil gives out. But most of the rainforests' nutrients are in its plants, not in the soil.

Health-related resources:
(see MatterofTrust.org for updated links)

☞ American Lung Association has tips on indoor air quality at lung.org/our-initiatives/healthy-air/indoor

☞ An interactive program that simulates the real-life results of the choices you make that affect air pollution at

smogcity.com

☞ Environmental Protection Agency's Indoor Air Quality Info found at epa.gov/indoor-air-quality-iaq

☞ Subscribe to a health newsletter at pages.email.health.com/newsletters/?source=HA_CMS_Hamburger

☞ Diet and Nutrition: familydoctor.org

BIODIVERSITY

Life on our planet

BIODIVERSITY

consists of an interdependent web, where each organism depends on the continuing health of the whole. Humans depend not only on creatures we use directly—fish, cotton, apple trees, penicillin molds, etc.—but also on the organisms that *they* depend on.

A few examples—the plants we raise as crops depend on insects for pollination; worms and beetles to aerate and fertilize the soil; spiders, snakes, and birds to control harmful insect populations. Birds and snakes in turn depend on other plants for shelter and on larger predators to control overpopulation.

Ecologists estimate that *hundreds of thousands* of species have gone extinct in the past 50 years. **THROUGH THE RESEARCH FINDINGS AT WWF, EARTH HAS LOST HALF OF ITS WILDLIFE IN THE PAST 40 YEARS.**

theguardian.com/environment/2014/sep/29/earth-lost-50-wildlife-in-40-years-wwf

Okay! You're still with us, right?

BIODIVERSITY

Top Causes of Extinction Today are:

1. Alteration or loss of natural habitat
2. Commercial hunting and harvesting
3. Sport and subsistence hunting
4. Invasive species
5. Excessive or inadequate predator or prey populations

Commercial harvesting can threaten many populations at once. For example, for every 1 pound of shrimp netted, 10 pounds of other sea life is uselessly destroyed.

Biodiversity in Agriculture

Biodiversity is essential to sustainable farming. Traditionally, genetic variety in the fields has kept crops healthy and the soil fertile. Rotating crops from season to season maintains the soil's nutrients; ground cover between rows reduces erosion; and a variety of plant species is more resistant to disease, and encourages more natural pest-fighting creatures to hang around.

Small, independent, and organic farms rely on these techniques much more than huge commercial farms do,

where thousands of acres of genetically identical plants rely on chemical means to boost harvests in the short term. (See p.65 for more information on organic farming.)

Tips for supporting Biodiversity

 *Support independent farmers.*

Support small and independent farmers (who use a wider variety of *seeds)* by buying organic produce and by shopping at farmers' markets.

 *Buy heritage species.*

Heritage crops are naturally occurring breeds of plants and animals that have been saved over the centuries for their unique looks or taste. They are often available in health or organic stores and farmers' markets, and are less common in chain stores.

 *Help fight invasive species!*

Don't bring seeds or animals with you when traveling (either coming or going). Nonnative organisms can transform new ecosystems by killing or replacing multiple native species.

BIODIVERSITY

Never adopt tropical animals as pets unless you know they were bred in the U.S. Imported animals have often been stolen from their homeland. Many of them are mistreated and die in transit, since illegal traders don't follow regulations. Tropical fish are so popular in America that some foreign fish populations are threatened by poachers who sell them as pets.

 Only buy tropical woods or products made from tropical woods—for example, mahogany, teak, and rosewood—**if they were grown domestically.**
These trees are endangered species in their native environments.

 Buy domestic flowers: the black market for foreign flowers is roughly as destructive as is the black market for exotic animals and wood.

BIODIVERSITY

- NEVER buy products made from endangered animals. Your money funds black markets that thrive off illegal poaching.

- Avoid parts of threatened species such as ivory, tortoise-shell, furs, hides, and horns. Shark fin soup, a very popular dish, is commonly made from only the fin while wasting the rest of the body.

- Support programs that aid endangered environments, since they are also homes to the largest number of endangered plant and animal species. (See the next section.)

Further resources for Biodiversity:
(see MatterofTrust.org for updated links)

- Seeds of Change is a great project that preserves biodiversity by collecting and marketing heritage[2–3] seeds. Visit their website at, seedsofchange.com

- Experimenting with cover crops that enrich the soil of a field, matteroftrust.org/14005/ecological-intensification-swaps-pesticides-for-biodiversity

- wwf.panda.org/about_our_earth/biodiversity

EXISTING ECOSYSTEMS

Healthy ecosystems such as coral reefs, rainforests, deserts, free-flowing rivers, lakes, wetlands, and prairies are indispensable for biodiversity. Remember—loss of habitat is the Number One cause of extinction today.

Problems in local ecosystems can impact distant locales and vice versa. Migratory birds needing shelter and food, depend on forests and swamps along the paths they travel. This means birds outside your window could disappear because of the loss of habitat 5,000 miles away.

"Islands" of open space, such as parks, are better than nothing, but they

aren't perfect. Animal populations that need lots of space suffer when barriers such as roads or residential areas, cut their territories into separate pieces.

A partial solution to this problem is to connect islands with pathways of undeveloped (or at least safe) territory, to allow the animals to "commute."

Sample tips for protecting Local Ecosystems

NEVER use swamps or wetlands as dumps. When healthy, these delicate environments teem with life of all sorts and sizes. They provide essential food, breeding grounds, shelter, even cleaning/filtration systems for critters ranging from microscopic algae and shrimps, to newts and dragonflies, to large species like foxes and hawks. Moreover, such bodies of water are often closely connected with public water supplies.

See Water, p.36, for more tips on keeping water clean.

EXISTING ECOSYSTEMS

 Use public trash cans or recycling containers for your litter, or take it home with you. Litter can hurt plants and animals either chemically or by trapping or choking them.

 Leave marginal areas like roadsides and unused property alone: wild plants (also known as weeds) provide homes and shelter for small native wildlife.

 Pay attention to local politics that affect open space development or protection. Vote on relevant issues.

 Elect environmentally proactive politicians!

 Click on Internet links that help to adopt or sponsor preservation of endangered[4–6] habitats. For example:

Save the Rainforest:

- ☞ care2.com/click-to-donate/rainforest
- ☞ thenonprofits.com
- ☞ worldwildlife.org/species

EXISTING ECOSYSTEMS

 When donating money, consider organizations such as The Nature Conservancy, which buys and protects land in “hot spots”—areas all over the world that shelter especially high numbers of different species.

 See the Local Wildlife section, p.136, for more localized tips.

Further resources on protecting existing Ecosystems

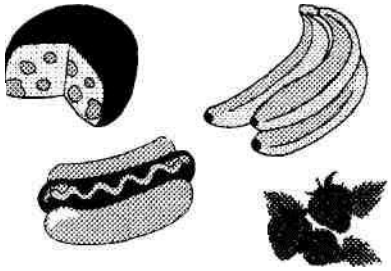
(see MatterofTrust.org for updated links)

☞ The Nature Conservancy’s web URL: nature.org

☞ Greenpeace works to preserve the environment worldwide. Visit, greenpeace.org/usa

☞ The National Parks Conservation Association encourages public activism and lobbies for political causes. See, npca.org

FOOD



Choices at the supermarket, at restaurants, and at home—the small choices we make add up to make our environment a better place. Many farming, fishing, and processing techniques are currently nonsustainable (see Biodiversity, p.47). It is helpful both to reduce the total demand on the food supply, and to support ecologically friendly agriculture and fishing.

- Reduce waste of perishables. Only buy, cook, and serve what is needed.

- Incorporate any leftovers into new dishes. Add meat drippings or vegetable broth to flavor nutritional soups; toast stale bread for croutons; include uneaten veggies in omelettes, stir-fries, and casseroles, etc.

- If you don't want bread, butter, or a particular side dish in a restaurant,

FOOD

tell your servers before they bring it. Restaurants can't reuse any food they've served you.

 Many restaurants use nonrecyclable styrofoam boxes for to-go food and doggy bags. Bring a box or bowl with a lid with you, wash, and reuse again and again.

 Ask servers to leave out silverware, chopsticks, napkins, or unwanted condiments. Or, remember you can reuse the items you do take.

 A philanthropic use of leftovers is to offer them to interested homeless people after you've left the restaurant.

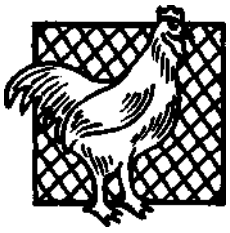
 Look for milk glass bottles which get reused, rather than plastic jugs or hard-to-recycle waxed cardboard.

FOOD

Avoid food packaged with nonrecyclable materials.

Eating a variety of foods is good for the environment as well as for you. It encourages biodiversity, and it is a natural alternative to vitamin pills as it provides many kinds of nutrients you need.

Buy brown eggs as well as white to encourage genetic diversity in commercial breeding.



Visit farmers' markets for a good source of heritage produce.

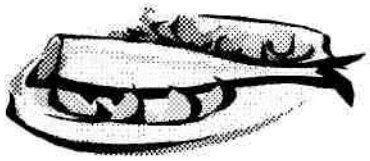
Try out new grains in your diet. The wheat commonly available today was developed for maximum yield rather than nutrition or taste. Some ancient species now available on the shelves are t'ef, amaranth, quinoa, anasazi, kamut, and appaloosa beans.

FOOD

Try other meats besides chicken and beef. Ostrich, emu, iguana, and buffalo are all lower-impact than cows, and tend to be raised more humanely than mass-produced meat.

☞ You can order vegetarian or vegan cookbooks at Amazon or for healthy eating and recipes at eatingwell.com

☞ Monterey Bay Aquarium Seafood Watch program: seafoodwatch.org provides continually updated info on fish populations worldwide to let you know which ones are in danger of being overfished, and which are okay to buy for dinner.



Genetic Engineering

Genetically Engineered (GE) food or Genetically Modified Organisms (GMOs) are plants or animals whose genes have been altered for various effects such as extra size or shorter maturation time.

In itself, genetic engineering is not necessarily wrong, but like all tools, it can be misused.

Objections to Genetic Engineering

1. Labeling *U.S. corporations are being obliged by law to label GE produce.* Customers can decide for themselves whether to buy GE products. It is important to know what fraction of today's food contains GE ingredients. In 2012, Greenpeace was one of the first to point out that it was hard to find GE-free food that didn't contain corn, soy, canola, or cottonseed derivatives. It has been estimated that more than 70% of processed foods on supermarket shelves (soda, soup, chips, condiments…) are now genetically altered.

U.S. was one of the last few countries to demand GMO labeling.

☞ gmo.news

The link below shows the nations with GMO prohibitions:

☞ gmo.geneticliteracyproject.org/FAQ/where-are-gmos-grown-and-banned

FOOD: Genetic Engineering

2. Political Economics

In the late 1990s, the U.S. Department of Agriculture developed a technology that makes plants' seeds infertile, called the Terminator. Genetic use restriction technology or suicide seeds, is the name given to proposed methods for restricting the use of GM plants by causing the seeds to be sterile. This makes money for large seed companies (*and* for the financially involved USDA) but can put smaller, more eco-friendly farms out of business by forcing them to buy new seeds each year instead of harvesting seeds at the end of the season for replanting.

3. Ecological Impact

The drifting pollen from Terminator crops can pollinate local wild plants, making *their* seeds infertile too—leading to the extinction of those wild species.

Voice your opinion at the TAKE ACTION NOW link at:
centerforfoodsafety.org/take-action

Or livingnongmo.org/learn/take-action

Eco-Eating

The next sections describe

ecologically conscious approaches to food and diet: **Vegetarianism, Organic Food, Composting,** and raising your own food in an **Eco-friendly Garden.**

Vegetarianism

You don't have to give up meat entirely to make a difference; just cutting back can be good for ecology as well as your own health. (If you're worried about protein, consider that the average U.S. citizen consumes almost twice his or her Recommended Dietary Allowance of protein.)

Why Eat Vegetarian?

1. Personal Health

<u>Fruits and vegetables:</u>

- lower cholesterol levels
- reduce the risk of cancer

FOOD: Eco-Eating

- boost the body's immune system
- provide a wider range of nutrients than can be obtained from any other source, including vitamin pills.
- contain lower toxin levels than animal products, being lower on the food chain. The chemicals and pesticides on all the food an animal eats in its lifetime accumulate in its body tissues and end up on our plates. For example, breastfeeding mothers who eat meat are twelve times likelier to have significant levels of DDT in their milk than vegetarian mothers!

2. Personal Values

Animals raised for food in the U.S. are excluded from the federal Animal Welfare Act. Nonfree range animals are raised in cages too small to turn around, no fresh air or sunlight, sometimes living on their own or other animals' excrement. Veal calves are force-fed and have their genitals removed.

FOOD: Eco-Eating

Pigs (intelligent by nature) go insane in their tiny pens. And ducks may be de-feathered in scalding water while still alive. Too ghastly? Respect life by not wasting food. Refuse to support cruelty, financially. Boycott products that aren't free-range and raised humanely! Become vegetarian or simply eat less meat.

3. Ecological *S*ustainability[7]

Energy: It takes 39 times more fossil fuel to produce a calorie of protein from beef than a calorie of protein from soybeans. The world's known oil reserves would last 260 years if humans stopped eating meat, versus 13 years on a universally meat-centered diet.

Water: More than *half* of all the water used in the U.S. goes to raise livestock. It takes more than 2,400[8–9] gallons of water to produce a pound of beef vs. 25 gallons for wheat.

Soil: In the U.S. alone, soil disappears ten times faster than it is naturally replenished. The U.S. has lost 75% of its original topsoil. A loss of 85% is directly related to raising livestock.

FOOD: Organic

Rainforest: Producing one pound of beef in South or Central America permanently destroys 200 square feet of rainforest. The U.S. imports 300 million pounds of this meat annually.

Organic Food

What is Organic Food?

To be labeled organic, food is legally required to meet certain standards.

- Broadly speaking, organic produce must come from farms that have not used synthetic pesticides, herbicides, or fertilizers for the last three years.
- Organic meat must come from free-range animals who were raised without hormones, antibiotics, or other drugs and whose feed was also organic.

☞ For more details about U.S. legal standards for organic food, visit: ams.usda.gov/rules-regulations/organic/labeling

☞ epa.gov/agriculture/agriculture-organic-farming

FOOD: Organic

Why Eat Organic?

Interview with Nell Newman, Newman's Own Organics

1. Personal Health

- Besides being free of toxins, organically grown produce usually contains more nutrients.

2. Human Rights

- Workers worldwide who look after chemically treated food are directly exposed to toxins; when you buy produce raised with pesticides, you are exploiting people who don't have a choice about their working conditions.

3. Long-term Sustainability

- Organic farming techniques nourish the soil so it doesn't "wear out." Soils worldwide (including in the U.S.) are being depleted of their nutrients; many formerly fertile lands have been transformed into barren deserts.
- If pesticides are avoided it prevents the evolution of "Superpests"—insects that survive ever-increasing strengths of chemicals with each buggy-generation.
- Clean water: *commercial agriculture in the U.S. is the largest single source polluter*

than any industry. Natural runoff carries pesticides and chemical fertilizers to lakes, bays, wetlands, and oceans.

4. Better Taste

- You don't have to trust the experts on this one—it's easy to conduct a taste test, in your own kitchen, of commercially raised vs. organic produce.

Why Does Organic Food Cost[10] More?

- *No subsidies:* The usual prices for mass-produced food in supermarkets are artificially low due to government subsidies, so organic food seems expensive in comparison.
- *More labor-intensive:* organic food production requires more workers to weed, harvest, and operate the more traditional machinery.
- *Produce is harvested riper:* softer fruits and veggies require extra care in transport and in stores.

➥ Eating sustainably now saves money in the *long run,* on both health care and soil maintenance.

Composting

Like other recycling systems, compost piles allow valuable nutrients to remain part of the living world instead of going to waste in a landfill.

- The easiest way to compost is to pile your vegetable waste in a heap outside and let time, pressure, and weather turn it into rich fertilizer. (Plants growing near such heaps will be record-breakers!)

- You can also use a garbage can or a container that is at least 3'x3'x3' to collect your vegetable garbage. (This is less messy looking, but you will still probably want it downwind of commonly used areas, for scent reasons.)

Locate your compost piles away from natural creeks or ponds. Surplus nutrients in water runoff cause problems for these environments.

FOOD: Composting

➥ Special recommendation: the ComposTumbler[11–12]. It doesn't smell, and acts faster than anything else we've found! Call 1-888-240-4765 or mantis.com/product/original-compostumbler

➥ An easy way to collect your compost without smelling up your kitchen is to keep it in a container in the freezer.

COMPOST INGREDIENTS	
YES	**NO**
vegetable peelings, rinds, salad, spoiled milk, coffee grounds, seeds, dirty paper napkins, toothpicks, organic materials (cotton, linen, wood, wood ash)	meat, salt cubes, charcoal, waxed paper, synthetic materials (plastic, nylon, polyester) garlic and onions (in worm farms)

EXTRA BONUS: You can use the resulting natural fertilizer for your. . .

GARDENS

Eco-Friendly Gardens

🍽 Enjoy those lovely organic fruits, veggies, herbs, and flowers you raise to the fullest! To avoid waste:

➥ Use your homegrown produce before buying comparable stuff from the store.

➥ Preserve or freeze surplus crops.

➥ Make presents of the extra harvest to friends, neighbors, and coworkers.

➥ Donate surplus produce to local food programs.

For decorative landscaping, consider local (native) species, which will thrive with minimal care. This saves water, chemical fertilizers, pesticides, and supports biodiversity.

GARDENS

Dead leaves and grass cuttings contain valuable organic nutrients—don't throw them away. Turn them into mulch (reduces erosion and water evaporation) or compost. Set up a community compost pile, give cuttings to farms or nurseries, or spread them around appropriate unused spaces in your neighborhood.

Plant heirloom or heritage seeds (see p.48, 50) to support biodiversity.

Organize a tool collective. A tool library works for portable tools. You might want to organize a workshop for larger ones—members gain access to tools after training classes.

GARDENS

Take extra undamaged pots to nurseries for reuse.

Water in the morning or evening. In the heat of midday, water evaporates from the soil much faster, without reaching plant roots.

Deep soaking your garden is the most water-efficient method—it's better to *soak* the soil less often than to water it shallowly more often.

Consider installing drip irrigation if you have extensive gardens. This system is more water efficient and saves time in the long run.

When reusing lumber in your garden or for planter boxes, don’t use wood that has been chemically treated or has lead paint on it—especially not for growing vegetables: they may absorb the toxins!

GARDENS

Minimize your use of pesticides and fertilizers:

- Pre-digging your soil so it's loose and crumbly makes it easier for plants to absorb water and minerals, and cuts the need for fertilizers.

- Use natural insect control instead of pesticides. Encourage birds, ladybugs (with feeders & flowers), spiders, spined soldier bugs, lacewings, and predatory wasps.

- Make your garden attractive to beneficial insects. Plants with large flower heads made of lots of little florets, such as broccoli, fennel, and mustard are especially popular. Also, make sure fresh flowing water is available (flow discourages mosquitos).

- Borrow a pet chicken or two; and before you plant your garden, let them run around the dirt. They will reduce the insect and weed population and help fertilize the soil.

GARDENS

➥ Use biodegradable pesticides such as Pyrethrum Dust and diatomaceous earth.

➥ Use netting, not chemicals, to protect your fruits and veggies from birds and animals. (But check regularly for captives!)

➥ Boiling water is a good chemical-free weed killer. This technique is a popular nontoxic solution for deep-rooted weeds that are hard to pull up.

➥ Planting your garden with mushrooms or legumes such as clover is a natural way to replenish the soil's nitrogen levels without fertilizers. (Traditionally farmers used such techniques to maintain soil for millennia.)

♻ Many household objects can be reused in the garden. See the chart on the next page for a few suggestions. . .

Reusing Household Items in the Garden	
Material	**Use in Garden**
Dry cleaning bags, slit in half	Greenhouses for beds of germinating seeds
Old tires	Warm beds for seedlings (the dark color absorbs heat)
Plastic milk containers with bottoms cut off	Individual cold frames for seedlings
Plastic berry baskets	Protect small seedlings from birds
Old CDs, metal scraps	Dangle to scare birds
Juice cans, berry baskets	Prop up young veggies such as squash, to keep off rot and bugs
Metal basins, old sinks, cake tins	Build your own birdbaths
Leftover or broken bricks or concrete	Garden bed borders, paths, walls, patios
Old stockings	Store bulbs in winter (hang in a dark, dry, cool place)
Broken pottery/china, styrofoam peanuts	Drainage material in pots & planting boxes
Scrap wood (no paint)	Planter boxes
Old sheets, curtains, carpets, bedding, towels, hairmats	Subdue weeds or mud or cover frost-sensitive plants in cold weather

Rooftop Gardens

For city gardeners with limited growing space, a bright idea that is gaining in popularity all over the world is to grow plants on the roof!

On top of being pretty and relaxing, rooftop gardens make sense practically. They can be installed on either a flat or a sloped surface and they benefit everyone!

- If installed correctly, gardens can double the service life of the roof's underlying waterproofing membrane.
- The extra layers conserve energy which helps to insulate the building.
- Rain that would otherwise run off to city drains goes to water plants.
- The plants help keep the city air clean and fresh.
- More plants encourage biodiversity by attracting and supporting birds, bees, and butterflies.

GARDENS: Rooftop

Information for installing your own rooftop garden:

(see MatterofTrust.org for updated links)

☞ greenroofs.com/Greenroofs101/index.html

☞ greensideup.ie/how-to-build-a-living-green-roof

☞ roofmeadow.com

☞ rooftopgarden.com

☞ Soprema is a Canadian engineering firm offering a detailed rooftop garden system called “Sopranature.” Call (800) 356-3521 or (330) 334-0066 or soprema.us/products/application-types/roofing/vegetated/waterproofing_roofing_overburden

☞ Or try this helpful book by George Adams: *Birdscaping Your Garden: A Practical Guide to Backyard Birds and the Plants that Attract Them.*

FOOD SUCCESS STORY
SONOMA Food Runners

sonomafoodrunners.org

SONOMA Food Runners' mission is to alleviate hunger, prevent food waste, and build community. They collect quality, donated perishable and prepared foods that would otherwise go to waste and use volunteers to distribute it throughout the community to those in need.

When you ask June Michaels why she founded SONOMA Food Runners, she'll tell you with passionate indignation that it just doesn't make sense for people to go hungry in a place where there is such an abundance of food.

SONOMA Food Runners is carrying the torch to Sonoma County and leading the way in sharing excess food with those in need.

Also, Matter of Trust is the fiscal sponsor of Heart of the City Farmers Market. Grants help to keep stall fees 50% lower than neighboring markets which in turn reduces food prices and makes it affordable for low-income customers. The farmers donate more than 1,000 pounds of produce a week for free distribution to the Tenderloin's most vulnerable residents.

PAPER

We could survive without paper. However, it is a fairly integral part of the modern world!

When you fly over the U.S., you may notice regularly shaped bare patches in forested areas. This is where the forest has been *clear-cut.* In other words, every tree in that space has been cut down. Most logging of trees for lumber and wood fiber follows this traditional practice.

This kind of logging is one of the major causes of habitat destruction. And when clearing *old growth forests*—forests that have never been logged and are hundreds of years old—we lose a resource that will take thousands of years to regenerate, if it ever does.

Tree farms are planted as a source of paper, but they are not a replacement for natural forests. A forest made of only one kind of tree does not provide shelter and food for a normal diversity of other life.

PAPER

WHEN PURCHASING PAPER...

The kind of paper you buy is important. Some materials are more sustainable to produce than others.

Choices of Paper Fiber, from Best to Worst
1. Non-wood material (agricultural surplus, hemp etc; see Appendix B)
2. 50% recycled wood pulp
3. 10% post-consumer products
4. Nonrecycled wood fiber or pulp
5. Wood fiber from clear-cut trees

To save trees, look for paper made of materials other than wood fiber. Cotton is one option; however, it is grown with high levels of pesticides. Better alternatives include kenaf, hemp, bamboo from controlled farms, esparto grass, flax, bagasse, and agricultural residue.

See Appendix B (p.167) for more info on nonwood fibers.

PAPER

 Buy paper made from wood that has been ***sustainably harvested.*** This means that the logging companies cut down a limited number of trees per acre. They must leave enough trees standing for the forest to continue growing, thus producing more harvestable trees in the future.

 Look for **unbleached paper**

Bleaching produces organochlorines, furans, chloroform, and other toxins including dioxin, a potent carcinogen. If you do buy bleached paper, choose hydrogen peroxide bleached over chlorine.

Of course, ideally we should use less fiber to begin with . . .

Tips for reducing paper use:

 Make sure there is an easy system for recycling paper products in your home and at the office.

PAPER

 Place a paper recycling tray on every desk. Establish a system for emptying the trays on a regular basis.

 Use both sides of blank paper.

 Set up a magazine pool with your friends or neighbors.

 Students can save tons of resources and money by organizing textbook and secondhand book co-ops.

 Use your library or used bookstore instead of buying new paperbacks.

 Switch to electronic banking and billing.

 Purchase a Kindle or Nook or other form of ebook reader.

 **Cut down on your junk mail!**

Cont'd... ➡

PAPER

AVOIDING JUNK MAIL

- **Write to Mail Preference Service.** Send your name (with all variations of spelling) and address to the address below, and state that you do not want to receive unsolicited mailings. This will take your name off many mailing lists for five years!

Data & Marketing Association
Corporate & Social Responsibility
(CSR) Dept.
225 Reinekers Lane, Suite 325,
Alexandria, VA 22314
Phone: 212-768-7277, ext. 1888
directmail.com/mail_preference

- **Credit Card Solicitations** Call the following toll-free number to request that your name be removed from the lists that credit reporting agencies provide to credit card issuers: 1-888-5-OPT-OUT (1-888-567-8688)
- **Mail Order Catalogs** Call the customer service number on the catalog or return the postage paid cards or envelopes with notes asking to be removed from their mailing list.
- **Warranty Cards** Consider not filling out warranty cards. They are used solely to gather names for

mailing lists, since the manufacturer's warranty covers you whether the card is returned or not.

- **Prevent Junk Mail Before it Starts**

When ordering from catalogs or the Internet, making charitable contributions, or subscribing to a magazine, request that your name be placed on an “in-house” listing only. This helps ensure only that company or organization will contact you, and that your name will not be sold or traded to anyone else.

Further Paper Resources

(see MatterofTrust.org for updated links)

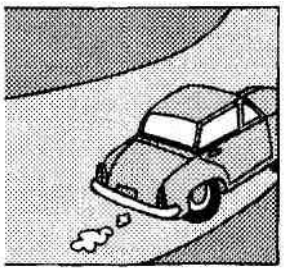
☞ For “cutting edge” info on printing and writing paper, check out: conservatree.org

☞ For info on the wood pulp industry, check out this link: us.pg.com/sustainability/environmental-sustainability/policies-practices/wood-pulp

☞ You can donate outdated letterhead paper through MatterofTrust.org

Transportation

Minimizing your driving is a *wonderful* way to be environmentally responsible.



Problems caused by automobile use:

- Manufacturing cars consume huge amounts of resources in the first place.
- Tires use petroleum products and are very difficult to recycle or dispose of. They most often end up in huge piles in rural areas. What's more, these piles can catch fire, and they are nearly impossible to extinguish. They can smolder for years, sending carcinogenic pollution into the air and eventually the water and soil.
- Runoff rainwater from roads is toxic, polluting local soil and water with chemicals from oil, tire rubber, and asphalt.
- Roads diminish wild animals' territories by dividing land into sections that they cannot cross safely.
- Burning nonrenewable resources adds

TRANSPORTATION

to smog, acid rain, and the greenhouse effect.

- Mining, drilling, and transporting fuel destroys pristine, priceless environments worldwide.
- The enormous economic demand for oil leads to political strife, wars, and terrorism, as power struggles continue to erupt over control of oil-rich lands and crucial transportation routes.

Transportation Suggestions:

Ride a bike or walk for short trips. Besides saving fuel, it's a good way to keep in shape.

Use public transportation! You can relax and catch up on your reading.

Buses, trains, subways, and light rails are simple if you just pick up a map and/or a schedule. Or go online and find what you need to know easily.

TRANSPORTATION

🚲 Telecommute to save time, fuel and avoid the rush hour altogether.

🚲 Do all your errands in one outing. Your car emits more pollution in the first few minutes of operation, before the emissions-controls warm up.

➥ More electric and hybrid cars are being produced daily. There are hybrid cars on the market now for less than $20,000 that can get 60 miles to the gallon! (Extra perk: in California, ultra-low emission vehicles can use the commuter lane, even if traveling solo.)

☞ Guide to hybrid cars: consumerreports.org/hybrids-evs/hybrids-101-guide-to-hybrid-cars

☞ nytimes.com/2018/01/04/business/energy-environment/norway-electric-hybrid-cars.html

☞ Read more on alternative fuels afdc.energy.gov/fuels

TRANSPORTATION

- Organize a carpool for commuting to work—even one or two days a week saves resources. Having company also makes long commutes more fun.

- Share rides to parties with friends.

- Organize a parent carpool in your neighborhood for rides to school. It will reduce everyone's driving—and traffic jams around the school.

- Avoid driving in the heat, especially early afternoon, when emissions turn into pollution more easily.

- Bring your lunch to work, or walk to a restaurant, to avoid sitting in smoggy lunchtime rush hour traffic.

TRANSPORTATION

- Refuel your vehicle after dark when temperatures are cooler and evaporating fumes won't react with sunlight to form ozone. (Although ozone is essential for blocking harmful radiation in the upper atmosphere, at our elevation it is poisonous to breathe.)

- Service your vehicle when recommended, for most efficient operation.

- Change your fuel filter and air filter once a year, or every 12,000 miles. Dirty filters restrict airflow and reduce engine efficiency.

- Make sure your tires are properly inflated, for more efficient fuel use and less wear and tear on the tires.

- If you change one tire, change the one across from it too so the two tires will be equally worn down.

TRANSPORTATION

If they are asymmetrical, they wear out more quickly and the car drives less efficiently and uses more fuel.

 Drive smoothly: at consistent and reasonable speeds, to get better mileage. The average car drives most efficiently at about 40 mph.

 When cleaning your engine, use steam cleaners rather than engine degreasers.

 Give your old oil[13] to a place like “Oil Changers” who will recycle it. **Don’t** pour it into the street, drains, or any natural bodies of water. Check this, thespruce.com/how-to-dispose-of-oil-1708977

 One car battery contains 21.4 pounds of lead and a gallon of sulfuric acid. When it is worn out, take yours to a garage that recycles car batteries. Currently, choosing rechargeable lithium-based batteries is recommended.

☞ yourmechanic.com/article/how-to-dispose-of-car-batteries

TRANSPORTATION

When replacing your brake pads, choose or request new ones with low copper content.

Reuse old carpets or shower curtains to catch oil when working on your car. Or check out oil spill Hair Mats on MatterofTrust.org

Try to prevent or contain spills of gasoline, oil, antifreeze, etc., when refueling or maintaining your car. For example, don't top off your tank when getting gas.

Vote in favor of propositions that will improve public transportation systems.

You might want to consider getting an electric bike. It uses far less energy than a car, it's easy to park—doesn't even require you to exercise! See bikeshare.com

HOUSING— BUILDING AND REMODELING

There are many choices you can make when building or remodeling your home that will automatically make your day-to-day life healthier and more eco-friendly as long as you live there.

When buying a house, consider how much driving its location will entail.

If you are remodeling, donate the extra lumber and supplies to a local building organization or through MatterofTrust.org

Sink garbage disposals use a lot of water, but help garbage biodegrade. They are better than nothing for reducing garbage, although a compost heap is the best since it keeps organic

matter circulating in the living part of the earth and out of landfills. Indoor compost bins at: amazon.com/Best-Sellers-Home-Kitchen-Indoor-Compost-Bins/zgbs/home-garden/3744051

- Include **solar panels** if you're building or remodeling. They come in all sizes; some are so small you can tile your roof with them. (Such fancier versions are expensive but very efficient.) Solar energy is one of the most environmentally friendly energy sources available today!

- Design your house to get as much natural lighting (sunlight) as possible, so you rely less on electric lighting. Natural lighting has also been shown to improve people's moods.

- Paint your roof white to delay overheating and to cut down on your air-conditioning needs.

- Three full-grown trees next to your house will reduce winter drafts and heating bills by one third. They also help keep the house cool all summer.

HOUSING

Install ceiling fans for hot weather; they cool rooms very efficiently.

Install storm windows or double panes for insulation. If you live in an apartment and cannot make exterior improvements, install an inner storm window. Simple kits are available from hardware stores.

Insulate hot-water pipes in unheated spaces such as attics and crawl spaces.

Caulk around pipes where they meet walls and floor to prevent heat loss.

Tapestries, wall hangings, and floor rugs work double-time both to furnish and to insulate your house.

Use thermal drapes over windows to reduce heat loss.

HOUSING

Choose efficient appliances:

- Horizontal chest type freezers[14] are more energy efficient than upright models.
- Use “front loader” models of washers and dryers. They save time, energy, water, soap, and money.
- Demand-type water heaters fired by oil or gas can be 40% more efficient than electric ones.
- Gas stoves are more than twice as efficient as electric.
- Instant hot-water faucets heat water to 190 degrees instantly. Many pluses: no water heater, low energy use, high convenience.
- Use low-wattage sodium and mercury-vapor lamps for outdoor lighting rather than incandescent bulbs. For clean renewable energy, use solar lighting. survivalrenewableenergy.com/10-best-outdoor-solar-lights

HOUSING

For an environmentally ideal insulation material, choose recycled styrofoam.

Remove old asbestos only with the help of a certified abatement contractor.

Instead of using wood preservatives, which are very toxic, use linseed oil and build with woods that are naturally resistant to decay such as bamboo, redwood, cypress, or cedar.

Avoid particleboard, which gives off formaldehyde and is not recyclable.

Buy only lumber that has been *sustainably harvested* (see Paper, p. 80).

Do not buy lumber harvested from old growth forests.

HOUSING

 Avoid wall-to-wall carpeting. New carpets emit noxious fumes and are hard to clean. Better choices include:

- hardwoods
- stone
- ceramic tile
- cork
- bamboo
- linoleum made from flax or linseed oil
- area rugs that can be beaten or washed and hung out to dry. Or use replaceable carpet square inserts

 Install low-flow showerheads.

Install an eco-friendly toilet

 **Low-flow toilets:** although they have a mixed reputation, these have improved since their introduction. Thanks to new technology, they no longer suffer from clogging, and are fully as sanitary and convenient as regular toilets.

☞ consumerreports.org/toilets/water-saving-toilets-for-250-or-less

HOUSING

Composting toilets are clean, self-regulating, disease-free, odor-free, and come with service contracts. They reduce sewage waste AND provide a very useful fertilizer. Highly recommended! Local regulations and availability vary. General info on composting toilets and a guide to best composting reviews at homeworthylist.com/best-composting-toilet-reviews/

Waterless urinals are as convenient as flush urinals, but save hundreds of gallons of water. It is recommended for locations with very high traffic.

Further Resources for Eco-Friendly Construction

(see MatterofTrust.org for updated links)

☞ Comprehensive, searchable database of information on sustainable design and building: sustainablesources.com/resources/green-building-databases-design-resources

☞ waterless.com

HOUSING (further references)

☞ Descriptions of the politics and possibilities for eco-friendly buildings and a survey to evaluate a building's environmental impact: new.usgbc.org

☞ Healthy building materials: swinter.com/party-walls/healthy-material-healthy-building

☞ Environmental Home Center offers natural building materials and info: environmentalhomecenter.com

☞ A magazine devoted to creating healthy dwellings: motherearthliving.com

☞ Sustainable design resources: Organizations: guides.lib.berkeley.edu/sustainabledesign/organizations

☞ Green building/design: thegreenspotlight.com/category/green-building

HOUSING (further references)

☞ Forest Stewardship Council verifies companies that manufacture wood products from environmentally responsible forests: us.fsc.org/en-us

☞ *Prescriptions for a Healthy House: A Practical Guide for Architects, Builders, & Homeowners,* by Paula Baker, Erica Elliott, and John Banta.

☞ *The Natural House: A Complete Guide to Healthy, Energy-Efficient, Environmental Homes,* by Daniel D. Chiras. This is an excellent resource published in 2000.

☞ A more recent reference book is *Natural Houses.* Published in 2010, by Chris Wise and Arthur Andersson.

☞ See p.109 for online suppliers of eco-friendly furnishings.

SECTION 2: EASY TIPS THAT ADD UP

This section offers more tips for daily life—little actions that add up. If some actions seem trivial, think about them like pennies—one a day seems to make no difference, yet 327 million (the U.S. population in 2018) makes for some serious daily change!

General

- Turn off the lights when you leave a room.

- Keep curtains open during the day but closed at night to prevent heat loss.

- When you go on vacation, turn off the heat; same for rooms you're

TIPS THAT ADD UP: General

not using when you're home (close their doors if you're heating the rest of the house).

Turn down your central heating one degree to save about 10% of your heating energy.


Leave windows ajar to let out the chemical fumes that accumulate inside all modern houses. (Chemical air fresheners don't clean the air—they work by numbing your nose with even more chemicals.)


Avoid aerosols: they're not healthy even without CFCs.


Instead of using a spray, fix your screens to keep insects out. (After all, bugs *outside* are vital creatures.)


Spider plants, aloe, ivy, ferns, poinsettias, and other houseplants help keep the air clean indoors. An interesting read at, matteroftrust.org/14767/how-to-improve-indoor-air-quality-with-plants

Eco-Friendly Substitutes in the Home

Use nontoxic substitutes for hazardous chemical products:

HOUSE-HOLD PRODUCT	*ECO-FRIENDLY SUBSTITUTE*
Drain Cleaner	Use a plunger or plumber's snake and baking soda.
Oven Cleaner	Clean spills immediately with steel wool and baking soda; for tough stains, add salt. (Not for self-cleaning ovens.)
Window Cleaner	1 tablespoon of vinegar or lemon juice in 1 quart of water; dry with newspaper.
Toilet Bowl Cleaner	Use a toilet brush and baking soda or vinegar. (Spray rubbing alcohol to disinfect.)
Furniture Polish	Wipe with 1 tsp lemon juice in 1 pint of vegetable oil.
Plant Spray	Wipe leaves with mild soap and water; rinse.
Fertilizers & Pesticides	See the Gardening section, especially pp. 72–74.
Rat Poison	Kind mechanical traps.
Stain Remover	Ammonia, club soda, white vinegar, and/or warm water.

Eco-Friendly Substitutes in the Home

Silver Polish	Boil silver for 2–3 minutes in a pan of 2–3 inches of water with 1 tsp of salt, 1 tsp of baking soda, and a sheet of aluminum foil. Wipe away tarnish. Repeat if needed. Alternative: nonabrasive toothpaste.
Copper Polish	Coat generously with ketchup. Wipe clean after 2–3 hours.
Disposable Batteries	Rechargeable batteries
Bug Spray	Citronella candles; screens; eucalyptus (for fleas).
Flypaper	Yellow paper strips coated with honey.
Mothballs	Cedar, lavender, rosemary, mint, or white peppercorns.
Rug Deodor-izer	Sprinkle baking soda on dry rug liberally. Wait at least 15 minutes and vacuum. Repeat if necessary.
Shampoo	1 cup liquid castile soap, 1/2 cup distilled water, 1/4 cup olive or avocado oil.
Bathtub Cleaner	Wipe tub with the paste of baking soda and oil-based soap.

➥ **Order more eco-friendly supplies at thegoodtrade.com/features/natural-eco-friendly-cleaning-products-for-the-conscious-home**

TIPS THAT ADD UP: General

➥ When saving items for reuse (packing materials, rags, scratch paper, buttons, etc.), keep them *well organized.* This will prevent mess, make it easier to find things, and make recycling more pleasant!

➥ Reuse old canisters for storage of small items like pens, screws, twist ties, coins, rubber bands, etc.

➥ Reuse wine and fruit crates for stackable storage.

➥ Use nonrecyclable plastic trays under indoor potted plants.

➥ Use old toothbrushes or paintbrushes as cleaning and polishing tools.

➥ It's much better to let your pet use the great outdoors than to send litter to landfill. Help large pets bury their efforts two feet deep for safe hygiene.

TIPS THAT ADD UP: General

Or train them at a compost spot you bury regularly. A clever draft free pet door is the Cat Mate®.

 You can reuse old fabrics, towels, paper, rags, padding, or bedding for:

- animal bedding
- packing materials
- protecting floors during projects
- wrapping messy or dangerous trash like broken glass or light bulbs
- covering machinery stored outside
- lining muddy or icy paths

 Use your fireplace for a cozy atmosphere but not to actually heat your house. It's inefficient and adds to air pollution. An eco-friendly fire log combining dried coffee grounds that has reduced emissions is the Java-log: green.thefuntimesguide.com/java_log. But do check out air quality alert in your region.

 Burning sawdust logs or pellet fuel instead of wood conserves lumber because the pellets are made of sawmill waste, not fresh wood.

TIPS THAT ADD UP: Appliances

Plumbing & Appliances

- **Take care of your appliances and machinery.** Efficient functioning saves energy and prevents pollution.
- Keep your dryer's lint trap clean.
- Install a flue damper.
- Turn off pilot lights during the off-season.
- Insulate ducts, pipes, and heaters.
- Keep all coils clean.
- Gas flames should always burn blue; yellow indicates inefficiency.
- Oil your air-conditioner.
- Maintain fan belts.
- Keep all filters clean.
- Keep your chimney clean.

TIPS THAT ADD UP: Appliances

- Replace outdated appliances with new energy-efficient models.

- Replace your old barbecue with a propane gas-powered unit, which is cleaner and more efficient. Maybe one day using Brown's Gas. Maybe?

- Unplug TVs, VCRs, microwaves, etc. that are out of use: they draw power even when off.

- Take down window-mounted fans and air conditioners in the winter; they let in lots of cold air.

- Make sure your septic systems work properly, and that gray water (e.g., laundry or bathwater) does not go to creeks or storm drains.

Instead of a lighter fluid, use an electric starter or chimney briquette starter (available in hardware and garden stores) to light your fire.

TIPS THAT ADD UP: Appliances

Avoid devices with gasoline-powered internal combustion engines (ICEs) including lawn mowers, leaf blowers, chainsaws, motorized trail bikes, snowmobiles, and jet skis. ICEs are among the top causes of pollution by individuals!

Look for electric lawn and utility equipment rather than gas-powered items that often have no emissions control equipment.

Use dry-chemical fire extinguishers instead of halon.

Sign up for voice mail service—check with your local telephone company—to avoid answering machines which are difficult to recycle when they break or become obsolete.

Furnishings

The Internet makes it a snap to shop for eco-friendly furnishings! Here are just a few examples of online suppliers of organic and recycled household items:

☞ ecomall.com/biz/furn.htm

☞ ecocult.com/ultimate-guide-eco-friendly-ethical-furniture

☞ ecochoices.com

Further links to similar suppliers are available in online directories like these:

☞ ecobusinesslinks.com

You could also contact us with your inquiry at team@matteroftrust.org

TIPS THAT ADD UP: Furnishings

- Look for natural fibers in curtains, upholstery, clothing, towels, carpets, sheets, and blankets, so they will biodegrade when worn out. (Rags that decompose are especially useful in the garden, for covering weeds or mud.)

- Look for furniture made of recycled materials or at least solid wood, rather than particleboard, sawdust, glue, or resin. These give off formaldehyde, break easily, and are not recyclable.

Investing in an eco-friendly bed is a good move for your health. Plant fibers in bedding may contain herbicides, pesticides and defoliants, and mineral oil applied during the felting process. Conventional mattresses often contain irritants such as sulfur or boric acid. But organic mattresses and bedding are available at some health product stores, or online (see p.109).

TIPS THAT ADD UP: Furnishings

King and queen sized mattresses are not needed by shelters but can go to low-income families. Hotels dispose of these sizes. Some state health codes regulate resale of mattresses.

For example, in California, they must be sterilized.

Use slipcovers or reupholster instead of throwing chairs and sofas away. Replacing the fabric of an eyesore that seems destined for the dumpster can transform it into a lovely piece that ties the room together!

Padding, fabric, and polyurethane foam from upholstery can be removed and recycled or reused by certain recyclers and furniture outlets.

For additional resources, see:

☞ earth911.com/recycling-guide/how-to-recycle-furniture

TIPS THAT ADD UP: Furnishings

- Items that are all or at least 50% metal can be recycled in most scrap metal centers.

- A new trend in carpets is selling and leasing them in pieces—squares that can be replaced separately as they wear out. This avoids the waste of landfilling the parts of the carpet that are still in good condition.

- Sell your old furniture to a furniture liquidator or at a garage sale; or donate to a homeless shelter, church, or other charity.

➥ If you have furniture to donate or are a nonprofit looking for furniture, use Excess Access's online service to avoid searching and make donating quick and easy at ExcessAccess.org.

TIPS THAT ADD UP: Kitchen

Kitchen

- Turn off the stove or oven a few minutes before the end of the cooking time, to use the remaining heat.

- Don't leave the fridge door open for a long time—decide what you want before you open it.

- Run dishwasher on "energy save" mode.

- Running the dishwasher late at night or while out of the house gives the dishes time to dry by themselves.

- Your dishwasher uses about 25 gallons a cycle, so run it only when full.

TIPS THAT ADD UP: Kitchen

Soak crusty dishes first so they will clean more easily.

Wash dishes with a bowl or pan of hot soapy water, rather than running the faucet continuously for each dish.

Rinse dishes in a bowl or sink of clean water.

Catch unused water to pour outside or on houseplants.

Reuse personal water glasses a few times to save on unnecessary washings.

Use a natural fiber dishcloth, rather than a synthetic, nonrecyclable sponge, to cleanup spills. Clean the wet cloth by putting it in the microwave for 30–40 seconds, or wash it with the rest of the laundry.

Reuse metal foil and plastic bags

to wrap up leftovers or to transport snacks.

Use cloth bags for packing lunch, instead of using up hundreds of paper bags a year.

Use cloth napkins for meals; or if paper is preferred, avoid the heavier ply paper, which is more wasteful.

Store half-used paper napkins for wiping up spills.

Bathroom

Choices in the bathroom affect your health as well as the environment.

About 70% of indoor water use occurs in the bathroom! To begin with, be sure to keep your plumbing drip-free. The average drip from a faucet will fill an 8oz. glass of water in 15 minutes. This works out to 180 gallons each month and over 2,160 gallons a year of wasted water.

TIPS THAT ADD UP: Bathroom

 Turn off the shower or faucet while you soap, shave, and brush your teeth.

 Sink a filled half-gallon glass bottle in your toilet tank. This saves about half a gallon of water per flush.

 Take short showers—each minute in the shower uses about 3–7 gallons, depending on your showerhead. (Baths use 10–20 gallons.)

 Don’t flush the toilet for little things like dead bugs or Kleenex.

 Choose tampons with cardboard applicators. It’s perfectly hygienic and plastic applicators are just another source of nonbiodegradable trash.

TIPS THAT ADD UP: Bathroom

Look for tampons made of *unbleached* cotton. Bleached products are likely to contain a number of carcinogenic substances (see p. 80). Some tampons also contain rayon and additives. Organic cotton is ideal; you'll also avoid herbicide and pesticide residue.

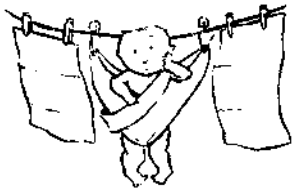
Keep soap bars dry when not in use to reduce waste by melting; or use a liquid soap dispenser.

When buying personal care products, look at the label for botanical ingredients (derived from plants) rather than mineral-based or synthetic contents.

$ Remember, as with organic food, the savings on more expensive but healthier products show up down the road with fewer hair, skin, and health problems for you and fewer environmental problems for the community.

TIPS THAT ADD UP: Laundry

Laundry



- Use outdoor clotheslines instead of dryers to save energy and freshen your clothes without chemicals.

- Run loads in the evening to reduce power use in the peak hours (p. 32).

- Use front-loading washers and dryers to save water and energy.

- Run hot loads only for clothes that require it.

- Use plain laundry soap instead of detergents for laundry (or dishes). Detergent is a petroleum product—harmful to produce and to dispose of.

- Measure your laundry soap or detergent to avoid using more than you need.

TIPS THAT ADD UP: Children


Dry cleaning uses perchloroethylene, a toxic solvent—buy clothes that don't need it. Or go to cleaners who use eco-friendly chemicals (and recycle their garment bags).

Children

Children are especially vulnerable to chemicals such as formaldehyde, fumes from new carpets, pesticides, etc.


Schools often use toxic cleaning products on buses and in classrooms. Ask your local administration to be eco- and kid-friendly.


Diapers—you'll need a lot of 'em if you've got a sprog (or a baby or toddler). So which is better: disposable or cloth? Recycling professionals generally agree that, overall, cloth is better than disposable, especially since so few disposables are currently composted.

TIPS THAT ADD UP: Children

If you choose disposable diapers, buy products made from recycled materials. (The extra expense may encourage you to potty train earlier!)

Buy secondhand cribs and clothes when possible

Sell or donate outgrown clothes and equipment with services like MatterofTrust.org

Raise your children to appreciate the beauty of the natural world. If you live in a city, take the time to visit parks and nature reserves. Early memories stay with us throughout our entire lives!

For more tips, see Education, p.154.

TIPS THAT ADD UP: Children

our kids are untapped wells of creativity! Instead of carting home loads of expensive packaged toys, help your children create their own original games out of stuff you have around.

- Turn beads and scraps of cloth into gypsy costumes, magic wands, talismans, or royal jewels.

- Broken cameras and obsolete computer supplies make great high-tech spy toys!

- Paper towel rolls, old socks, and coat hangers can turn into a cast of puppets or toy animals. (This is how Jim Henson got started!)

- Make your own confetti for parties or art projects, with a hole punch and old magazines, colorful junk mail, or unwanted photos.

TIPS THAT ADD UP: Art

From craft projects to professional pieces—your art can gain in significance, texture, *and* ecological integrity if you reuse household materials, even trash, instead of using new, mass-produced art store products.

Old clothes, cereal boxes, junk mail, broken tools, holiday decorations, cans, empty sewing spools, and other items with cultural context are great for Pop Art and other genres that show how ordinary objects are worthy of contemplation.

Avoid oil-based paints and varnishes, which contain a high percentage of toxic solvents such as turpentine that evaporate and pollute the air. Try to stick with water-based paints such as watercolors and acrylics.

Reuse old carpeting, newspapers,

TIPS THAT ADD UP: Art

cardboard, towels, bedding, rags, or shower curtains, to cover the floor of your workspace.

Use sides of large cardboard boxes as the “canvas” for acrylic paintings, collages, or other works that don’t need special surfaces.

Use old scrap wood for frames. Wood with old paint on it is often hard to recycle, but its age can be an asset if you want to make a piece look old.

Melt down old candles and stubs to make artistic new ones, or for projects such as batiks that need wax. Add old crayons to alter the color.

Salvage interestingly shaped parts of old machinery to use in sculptures.

TIPS THAT ADD UP: Holidays

- Broken mirrors, glass bits, and old CDs are not recyclable—but add a nice splash to mosaics, sculpture, etc.

- Donate your unwanted materials to local art programs, or through a redistribution service such as: MatterofTrust.org

Holidays

The amount of waste generated by Americans goes up 25–30% between Thanksgiving and New Year's—there's tons of room for garbage gouging here!

- For parties, pick a caterer that recycles, reuses, and avoids excessive waste.

- For outdoor entertaining and picnics, reuse one *set* of durable, attractive glasses and plates, instead of buying new disposables each time.

TIPS THAT ADD UP: Holidays

- Look for wrapping paper made from recycled content.

- Avoid wrapping paper with metallic paint, it's hard to recycle.

- Choose good quality holiday decorations (party trimmings, lights, tableware) that can be reused from year to year.

- After opening gifts, save undamaged boxes, gift bags, ribbons, bows, tissue paper, cards, etc., for next time or for art projects.

- Use ribbons, wallpaper, pretty fabric, or comic strips to wrap gifts artistically. A creative wrapping job can be as much fun as the present inside!

TIPS THAT ADD UP: Holidays

Don't burn wrapping paper. The bright colors contain toxins that add to pollution when released.

Being ecological does not mean sacrificing luxury. Cloth napkins, expensive refillable pens, carved chopsticks, gold coffee filters, monogrammed handkerchiefs, designer bags, etc., are all eco-friendly gifts because they get reused many times.

Greeting cards can be donated to: **The St. Jude's Ranch Recycled Card Program**

Over 30 years ago, wishing to show donors appreciation for making St. Jude's Ranch for Children possible, the idea was conceived for turning the previous year's Christmas cards into "new" cards for the coming season. The recipients were so delighted with their unique "thank you," they requested that the children sell them the special cards. Since then, the program expanded to include all occasion greeting cards…just about anything that starts with a used greeting card. The money goes to raising funds for the internationally renowned research and treatment center. Visit them at, stjudesranch.org/recycled-card-program.

You can also ask local nursery schools and kindergarten classes if they'd like cards for arts and crafts projects.

- Christmas trees add a lot of mass to landfills (one tree from every few houses adds up when disposed). Chop them up for mulch (see p.70 for uses) or buy a live tree for Christmas and plant it afterwards. You could also rent them at, rentxmastree.com/shop.

Packaging

- When sending brown paper packages tied up with recycled string, use biodegradable packaging materials, too: shredded paper, compostable (e.g., starch) packing, or actual popped corn! (You may feel you're wasting food, but it's still more eco-friendly than adding new styrofoam to the mass of nonbiodegradable trash.)

TIPS THAT ADD UP: Holidays

Use biodegradable air peanuts for packaging.

unleashedsoftware.com/blog/8-eco-friendly-packaging-alternatives-shipping-needs

Eco-friendly packing Materials

(see MatterofTrust.org for updated links)

☞ List of eco-friendly boxes and packaging: nashvillewraps.com

☞ Environmentally friendly insulation material:

ipcpack.com/products/eco-liner

☞ Biodegradable packing materials: ranpak.com/sustainability

TIPS THAT ADD UP

Outside the Home

Out and About

- ( ) Bring a cloth or sturdy paper bag with you rather than taking a new bag from every store you visit.
- ( ) Reuse grocery bag(s).
- ( ) Ask clerks not to bag small over-the-counter purchases.
- ( ) Bring your own mug or plastic water bottle with you for drinks.
- ( ) Pack your lunch sandwich and salads in reusable containers.
- ( ) Reuse your lunch bag(s).

TIPS THAT ADD UP: At Work

- Don't take extra ketchup packets.
- Use public recycling containers whenever appropriate.
- Use stairs instead of elevators.

At Work

It only takes *one* concerned individual to start a successful recycling program in the office! Of course, recruiting help and delegating responsibility makes it easier to set up and maintain the system.

- Check with the manager or cleaning service to find out what recycling pickup services are available for your building.
- Make sure paper, metal cans, and glass bottles are being recycled.

TIPS THAT ADD UP: At Work

- Make sure there are recycling containers easily accessible everywhere in the office, especially next to garbage cans.

- Appoint someone to empty recycling bins and trays regularly if the cleaning service is not available for this job. (The position can rotate once a quarter or monthly.)

- It's a good idea to have a specific recycling coordinator to make sure the system keeps working.

- Have a donation bin at work! Stuff can go to your coworkers as well as to charities; reusing it either way reduces waste.

- Encourage your company to purchase refillable items—day planners, tape dispensers, pens, pencils, toner cartridges—rather than disposable.

TIPS THAT ADD UP: At Work

- Many companies offer refillable toner cartridges for computer printers. Simply send in your old one and have a refilled one sent back.

- Make sure that your office is buying in bulk, to reduce packaging.

- Find out what is going into your company's garbage, and explore the alternatives.

- Bring your own coffee mug to work. Coffee to go, while convenient, sends many tons of paper cups to landfill.

- At the end of the day, collect scattered pencils, pads, and blank forms for storage and reuse.

TIPS THAT ADD UP: At Work

Turn off or unplug monitors, copiers, printers, and faxes overnight and on weekends.

Encourage your company to use biodegradable and nontoxic cleaning products.

For example, chalkboards are less toxic than dry erase boards (white boards).

Ask your employer about a telecommuting arrangement, to cut down your time in the car.

Urge your company to sign up for a local transportation management or carpool program.

TIPS THAT ADD UP: At Work

➥ **Paper accounts for about 90% of the average office's generated waste;** here is a great opportunity for simple changes that make a big difference:

 Reuse paper printed on one side for hard copies of important email or other documents.

 Donate one-sided printouts or old letterheads to schools or libraries.

 Reuse inter-office envelopes.

 Reuse manila file folders by covering the tabs with new labels.

 Skip the envelopes for informal mass mailings. Instead, fold a sheet twice, staple, label, stamp, and send.

 Postcards are another good way to save paper and postage.

Read more on zero-waste office plan: dssmith.com/recycling/insights/blogs/2017/11/recycle-more-at-work-with-a-zero-waste-office-plan

TIPS THAT ADD UP: Electronics

Electronic devices

Electronic devices are made of tiny electronic components and these are made from different raw materials. Metals like copper, lead as well as arsenic, cadmium, and mercury are used. The usage of electronic devices is on the rise and the amount of e-waste is growing enormously across the globe. Disposing this waste into the landfill can cause environmental hazards. In 2014, approximately 41.8 million tons of e-waste was generated worldwide.

- Buy computers from places that will take your old ones. The new e-waste (New Jersey's) law places the responsibility of electronic manufacturers to bear the cost and obligation of recycling[15–16] e-waste: hcia.org/index.php/news-faq/hcia-blog/94-all-you-need-to-know-about-e-waste-recycling

- If you're upgrading from a machine that is still useful, donate it.

- Try scrap metal recyclers for truly outdated or broken equipment.

- Old toner cartridges often come with a return label.

- Use ExcessAccess.org for extra obsolete supplies.

TIPS THAT ADD UP: Local Wildlife

☞ A guide to organizations that use old electronics: eiae.org

☞ Searchable database of electronic products recyclers: sustainableelectronics.org/recyclers

Local Wildlife

Leave native vegetation where you find it, and don't plant nonnative trees or shrubs by creeks or in other natural areas.

Be especially careful with pesticides, fertilizers, toxic cleaners, etc., if you live near the ocean. Coastal and marine ecosystems are very rich, yet fragile. Toxins are distributed long distances more easily by water.

See p.36 for more tips on protecting the quality of your local water.

TIPS THAT ADD UP: Local Wildlife

 Take your fishing gear home with you. Lines and hooks can be fatal to all sorts of wildlife.

 Cut up all plastic six-pack rings so that wildlife (birds, animals, and fish) won't get trapped or strangled. These kill a large number of animals each year.

 Throw your gum in a trash can, not on the ground. Gum causes slow and painful deaths to small animals that swallow it!

 Avoid off-the-road vehicles, which do a lot of ecological damage.

 To control icy roads in winter, use sand, sawdust, or Bare Ground (p.37) rather than salt, which is quite toxic to organisms. Or simply shovel snowy paths before they freeze.

TIPS THAT ADD UP: Local Wildlife

Use snowshoes or skis instead of snowmobiles to travel over snow. These vehicles damage the ecology, even in seemingly lifeless winter.

Concerning recreational outings on gasoline or diesel-powered boats that emit high levels of pollution, an alternative is to use biodiesel as it is less toxic in water.

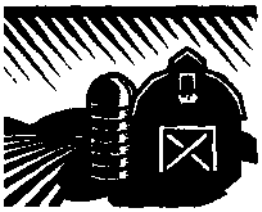
Don't feed birds in the winter unless you are sure you can continue to feed them until spring. They may change their migration plans, assuming that they can count on you for food all season.

Try to minimize the number of carnivorous pets you own. Studies have shown that domestic cats significantly affect local populations of birds and small animals.

TIPS THAT ADD UP: Local Wildlife

Leave old buildings standing as long as possible, especially in rural areas. Local wildlife uses such structures for homes and shelter.

Try repairing old



structures rather than **tearing them down** and rebuilding.

If you must tear down a building, wait until the end of a nesting season, so as not to kill the young before they leave the nest.

Don't kill snakes; simply leave them alone when you find them. Snake populations are often threatened by cultural prejudice. Remember, many snakes eat ground squirrels, gophers, and other garden pests.

TIPS THAT ADD UP: Local Wildlife

➡ If you want to restore an area that has been damaged or destroyed, a good first step is to plant trees (if they would be present in the local ecology naturally). Slow-growing parts of the new ecosystem need a head start! Trees will also make the area more habitable for species that need them for shelter, shade, food, and other symbiotic relations. (Remember to choose native species!)

*Tree Statistics**

(Why Trees Deserve Hugging)

- On average, one tree produces[17] nearly 260 pounds of oxygen each year—two mature trees can provide enough oxygen for a family of four.

- A small forest can shelter over 4,000 species of birds, insects, and plants.

worldwildlife.org/habitats/forest-habitat

- Trees prevent erosion and loss of nutrient-rich soil. Dead leaves and fallen trees also add nutrients to the soil.

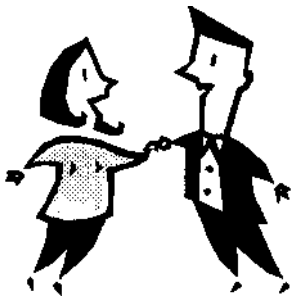
*courtesy Ronnie Sellers Productions

TIPS THAT ADD UP: Local Wildlife

Camping

- Bring a portable stove with you, instead of burning twigs and branches. Dead wood is important to a forest's ecosystem.
- If you do light a fire, make sure to extinguish it completely afterwards.
- Pack out what you pack in, including food scraps. Orange peels can take 15–20 years to biodegrade! And dropping seeds from your fruit might introduce invasive species into delicately balanced ecosystems.
- Don't walk or camp on vegetation. If you're on a trail, stay on the trail.
- Make your wilderness bathroom stops at least 100 feet from any water. Make a hole, and when you're done, disguise the spot well.

SECTION 3



OUTREACH

If you aren't satisfied with the impact of your *individual* actions, consider your options in influencing general public awareness and social trends.

Politics, green finances, and education are all good ways of multiplying your work by reaching others.

OUTREACH SUCCESS STORY

One individual who affected her whole society was Rachel Carson. Her 1962 book *Silent Spring* described the lethal effects of pollution on bird populations. Its vivid images shocked the public and not only led to the banning of DDT but also as the first widely heard warning about pending dangers to the environment, jumpstarted the popular environmental movement in America!

POLITICS

Political action lets you influence large numbers of people by reaching governments, corporations, consumers, and other powerful groups, both nationally and internationally.

Different factors determine political developments. Major influences include the officially defined world of laws and the nebulous yet powerful forces of public opinion.

Legal Action

Legal action is a powerful tool for monitoring the industrial sector. Lawsuits can discourage companies from dumping toxins or damaging open space. Some laws also provide for reparative work by guilty parties.

Recycling laws are also effective: fines on wasteful practices motivate businesses and individuals to take advantage of recycling services.

Popular Movements

We take for granted many standards of decency in our society. But laws that enforce these standards—regulations on child labor, union rights, minimum wage, and food-preparation hygiene—did not always exist. Many of them are the result of group activism in the early 1900s.

Group activism techniques used in the past are still effective today. A few of them include boycotts, protests, and strikes, petitions to businesses or government agencies, and even civil disobedience.

Personal Activism Options

 **Vote at every election.**
Important bills slip by unnoticed at nonpresidential elections, when fewer voters show up!

 Sign petitions you agree with. Some petitions are for putting bills or propositions on the ballot so they can be voted on. Others are written

simply to send messages to businesses or governmental agencies.

If you are passionate about a certain issue, start a petition yourself to get a proposition about it on the ballot in the next election! **Important:** Consult with lawyers and other experts to make sure your bill is both well worded to avoid loopholes and well thought out so it will actually be effective. A poorly crafted law can do more harm than good, even if it means well.

Write to your political representative with your point of view when environmental issues appear on the ballot. Individual letters have an extra impact since a small percentage of private citizens take the trouble to write. Letters from the public *really do make a difference* to politicians, even for statewide and national issues. You'll see this by their responses.

OUTREACH: Politics

 Volunteer for an organization with an environmental cause.

 Follow local issues. Participate in the planning or protesting of dam construction, housing developments, or other environmentally relevant legislation in your area.

 If there are no recycling programs in your neighborhood, start one!

 If you know someone who is making a career decision, suggest environmental work as a possibility.

 When sorting through or reading magazines, take a moment to send a postcard or email to the editors asking them to print their publications on paper with high-recycled content.

 To get an idea across mass media—TV, newspapers, radio, and social media—is the best tool for publicity.

OUTREACH: Politics

Let your local media know that you are interested in ecological issues and want to know what's going on. Write a letter about a story you liked, critique the coverage of an issue, or suggest further topics.

As anyone in advertising knows, "image" is a big factor in how people behave. So don't apologize for recycling or buying secondhand: let your friends follow your lead instead. You don't have to be self-righteous about it—just understand the reasons for what you're doing.

If you see harmful practices at a store you frequent, talk or write to the manager or owner that it disturbs you—and might discourage your business. Suggest alternatives, such as new biodegradable plastics made of starch, not polyurethane or an organic food section.

OUTREACH: Politics

 Likewise, let businesses know you appreciate when they're doing something right!

Further political activism Resources

(see MatterofTrust.org for updated links)

☞ actionnetwork.org

☞ wilderness.org

☞ care2.com/community/alerts

These three sites help you to easily send already written emails or faxes (most of which you can edit if you want) about current political decisions and legislation, directly to your political representatives.

☞ National Association of Counties focuses on current legislation before Congress. If you wish, it can even notify you when critical decisions that could go both ways are being voted on—times when your voice can really make a difference: naco.org

OUTREACH: Politics

☞

ICLEI–Local Governments for Sustainability is the leading global network committed to building a sustainable future. Visit the website at, iclei.org

POLITICAL ACTION SUCCESS STORY

Being eco-friendly and sustainable were not the priorities of most corporations. Campaigns by the global Rainforest Action Network that supports and networks to take action against companies and industries driving deforestation and climate change, led to the corporations taking initiatives in becoming green and eco-friendly. They just cannot afford to be complacent when the benefits of being eco-friendly are rewarding.

Their efforts include:

- complying with environmental law
- less wastage of paper
- working on improving their supply chains
- sustainability program for employees
- use of technology for their everyday business needs be it meetings, commute, etc.

OUTREACH: Politics

A few of the companies that are embracing green initiatives are:

- Apple powers all of their California stores and data centers with solar energy from First Solar.
- Seventh Generation is a cleaning product company with their eco-friendly cleaning products free of harmful toxins and chemicals.
- BMW, most sustainable company of 2016, for its efficient use of water, energy, and lack of waste.
- Patagonia, the outdoor clothing brand has set up a program to repair rather than replace their products.
- Toyota, the largest car manufacturing company, has come up with cars that reduce the overall carbon footprint.

☞ conserve-energy-future.com/top-companies-that-are-going-green.php

☞ blueandgreentomorrow.com/environment/businesses-becoming-eco-friendly

☞ Green success stories of how hotels across the country are working to lower energy consumption, reducing water usage, making operations more eco-friendly, and helping earn green certifications: ahla.com/resources/green-success-stories

GREEN FINANCES

Money is the ultimate motivator!
Educating yourself about your finances helps you use your money's power for causes you believe in.

- $ Vote with your pocketbook. The success of an eco-friendly business is determined by supply and demand in the market. For example, “buying recycled” raises the value of recycled materials and encourages people to recycle because it's profitable and efficient.

- $ Buying discolored or odd-shaped fruits and vegetables lets farmers know you don't require the artificially perfect appearance created by chemical and genetic treatment.

- $ Keep track of the companies you

invest in. Write to the directors and officers about practices you disagree with, and vote your proxies.

$ Use businesses that contribute profits (or a percentage) such as Newman's Own, Ben & Jerry's, Credo, Give Something Back, and others.

$ If you are running a business yourself, educate yourself on your eco-options. For example, energystar.gov gives rebates for efficient energy use (see p.33).

$ When making financial donations, consider programs whose work encourages sustainable living.

Further financial resources
(see MatterofTrust.org for updated links)

☞ *Investing With Your Values*—Hal and Jack Brill, Cliff Feigenbaum

☞ *Investing From the Heart*—
Jack Brill, Alan Reder

OUTREACH: Finances

☞ Businesses: resources for small businesses: epa.gov/smallbusiness

☞ A "network of financial advisors specializing in socially and environmentally responsible investing:" firstaffirmative.com and greenmoneyjournal.com

☞ greeninvestmentgroup.com/what-we-do

☞ To set up a stress free family trust or foundation for eco-giving, see pfs-llc.net

☞ Global Exchange works to "Democratize the Global Economy," it ran a Fair Trade campaign which resulted in Starbucks introducing a line of Fair Trade Coffee: globalexchange.org/campaigns/legacy-campaigns/fair-trade

☞ The Institute for Local Self-Reliance

citizens and government groups on environmentally sound development strategies: ilsr.org

EDUCATION

- Ask teachers to emphasize environmental concerns at school.
- Even better, encourage your school board to include these issues in the general curriculum.
- Discover a new perspective on humanity's relationship with the natural world, through creative fiction! Richard Adams' *Watership Down,* Harlan Ellison's *The Deathbird*, Felix Salten's *Bambi* (the basis for the Disney movie), and Philip K. Dick's *Do Androids Dream of Electric Sheep?* are just a few examples.
- There are also many engaging true stories of human-animal relationships

OUTREACH: Education

in books such as Gavin Maxwell's *Ring of Bright Water,* Gerald Durrell's *My Family and Other Animals,* and Joy Adamson's *Born Free.*

- Take a field trip to see firsthand what is difficult to imagine. Most landfills, transfer stations, composting facilities, and recycling industries give guided tours to the public, particularly school children.

- Farms make good field trips (at last, the name will match the scenery!) Many city kids have no idea pork comes from pigs or that potato chips originated underground.

- Tune in to nature shows and documentaries on conservation.

- Subscribe to magazines like *Science, Discover, Nature,* and *Science News;* if you have kids: *Ranger Rick* and

OUTREACH: Education

Your Big Backyard. They offer interesting scientific facts as well as new and cutting edge discoveries, in bite-sized pieces.

- Sign up for an evening class on an environmental topic that interests you.

- Ask people about the environmental aspects of their jobs. For example, ask a waiter or a chef whether he or she *sees* a lot of food waste or not. You might learn something new about health regulations, food donation centers, or even sociopolitics, for example, some restaurants won't give away their leftovers because it attracts homeless people.

- Raise your children to be aware of environmental issues.

OUTREACH: Education

Further educational resources
(see MatterofTrust.org for updated links)

☞ Green schools initiative: greenschools.net/article.php-list=type&type=26.html

☞ Amazing Environmental Organization Web directory! Earth's Biggest Environmental Search Engine: webdirectory.com

☞ A Midwest-based center for issues about health, environment, and justice: chej.org

☞ Order books on Amazon: amazon.com/Best-Sellers-Books-Environment-Nature/zgbs/books/14459

☞ Environmental educational resources: theaste.org/resources/environmental-education-resources

Rocky Mountain Institute is a Colorado lab devoted to environmental research and education: rmi.org

OUTREACH: Education

EDUCATION SUCCESS STORY

"Let Nature be your teacher." —William Wordsworth.

Do you want to encourage your kids to love nature as much as you do?
Start making a positive impact on the future by engaging with kids who are still discovering the benefits of ecology. Shut your laptop, take your family on field trips, start a vegetable patch in your yard, enjoy farmers' markets, practice climate-friendly menu cooking, and promote mastery in craftsmanship like felting and green building, etc.

Whether you end up investigating puddle water under a microscope or exploring nature on a hiking trail, nothing will set little imaginations on fire like visiting the great outdoors. Here are a few ideas:

- **Climate-friendly menu cooking**

The foods we eat have a huge environmental impact and contribute to pollution. Livestock production and animal waste produce heat-trapping gases. Become a climatarian: someone who eats with clean air in mind. Animal consumption is reduced and instead fruits and vegetables are enjoyed which also provide health benefits.

OUTREACH: Education

- **Take on recycling projects**

Turn recycling into a game. Give ownership to the kids; get started at home. Reward behaviors that turn waste into resources.

- **Maker Faire**

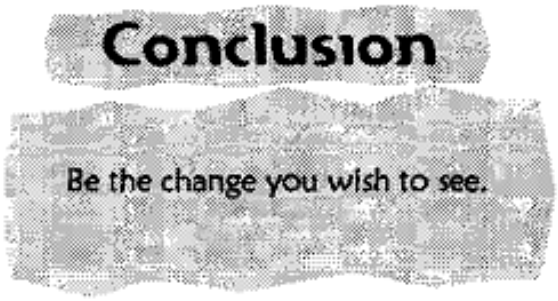
A family-friendly event that helps those aspiring to participate in hands-on activities. The event features innovation across the fields of science, engineering, arts, crafts, and performance.

- **Matter of Trust**

Our charity provides online/fieldwork presence for delivering programs on renewable resources, surplus and needs, naturally abundant materials, and eco-education. Kids can help support the Clean Wave program: an after-school job by being a partner, explain the program to hairdressers or email a flyer, use bikes to collect a box full of “debris-free” clippings to drop-off or use the Excess Access Hair and Fur department to coordinate the exchange, or do a presentation/classroom demo of an oil spill cleanup with hair or fur.

☞ Download the Clean Wave flyer.

CONCLUSION



This book may have been written just for you. Life is inevitably about change, and your actions matter. Of course, as tired commuters, snappy dressers, soccer moms, devout techies, and constant snackers, we all really want eco-tips that can be plunked right into our everyday routines. With the right choices, our modern lifestyle *can be more than* sustained. It should be improved and truly thrive!

This book was intended not only to stir you but also to provide you with immediate resources for your eco-impulses. Don't commit more than you feel comfortable with. Start simple! Save on bills and flip off the lights when you leave a room. Quiet your kids with a snack from the organic bin at your grocery store. You'll soon find yourself relying on the

CONCLUSION

stack of recycled scratch paper you keep by your office desk or biking to work for fun instead of squeezing in a jog at lunchtime. Discover new ways to live and *buy* ecologically! Remember there is strength in numbers, (especially when there is a **$** in front of the numbers!)

All success ever needs is getting the right information to the right person at the right time and ideally connecting with other great ideas. When this happens, we see reversals in harmful patterns and the implementation of beneficial systems.

We are so lucky that we live in a time when so much is possible immediately and efficiently. Daily at Matter of Trust and Excess Access, we see simple, yet, breathtaking solutions to the challenges our species creates for itself. This is exciting because it affirms that humans can both evolve and coexist with nature, if we're clever enough to advance symbiotically.

Note: Websites are bound to change and the links can be broken, please connect us on MatterofTrust.org website.

If you'd like to email us any tips or comments, we'd love to hear from you!

-by Jennifer Pratt and Lisa Gautier

team@matteroftrust.org

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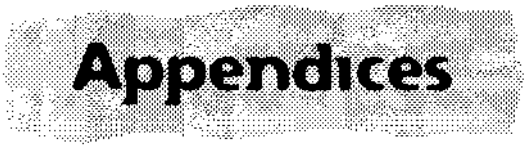

Appendix A
Plastic Types

#1 Polyethylene Terephthalate (PET): it exhibits clear, tough barrier properties and resists permeation of carbon dioxide. Examples include beverage bottles, cooking oil bottles, and condiment containers.

#2 High-density Polyethylene (HDPE): stiff, easily formed, and resistant to breakage. Examples include detergent bottles and milk jugs.

#3 Polyvinyl Chloride (PVC): good blending capability and common in plastic pipes, outdoor furniture, shrink-wrap, and liquid detergent containers. It can leach toxins throughout its life. Small amounts will contaminate batches of other types of plastics that are being recycled.

APPENDIX A: Plastic Types

#4 Low-density Polyethylene (LDPE): used for its clarity, inertness, processing ease, and moisture barrier. Examples include dry cleaning bags, produce bags, and trash can liners.

#5 Polypropylene (PP): resistant to chemicals and fatigue with low specific gravity. Examples include aerosol caps and drinking straws.

#6 Polystyrene (PS): versatile resin with a range of physical properties including higher clarity, ability to foam, and ease of processing. Examples include packaging peanuts, plastic tableware, and meat trays.

#7 Other (other & commingled plastics): mixed plastics. Examples include ketchup bottles and some Tupperware.

The plastic film in various bags and plastic wrap is either LDPE or HDPE.

APPENDIX A: Plastic Types

PET and HDPE bottles continue to comprise 97% of the U.S. plastic bottle market with PP at 1.8% of plastic bottles produced and with LDPE at 0.8% and PVC at 0.3% of plastic bottles. About 27% of Plastics #3–7 is currently recycled. Bottles made from plastics #3–#7 make up just 3% of the plastic bottle market.

Almost all plastics *can* be recycled, but current markets, economics (plastics are made from oil), and technology make it difficult. Rigid, nonbottle #1 and #2 plastics are rarely recycled due to insufficient demand for the materials, and inadequate technical and training facilities (primarily for sorting). For a detailed report, refer to: plastics.americanchemistry.com/2015-United-States-National-Postconsumer-Plastic-Bottle-Recycling-Report.pdf

Appendix B

Alternative Paper Fibers

Industrial Hemp: Hemp is often called the “Miracle crop.” Potentially, a great replacement for wood. Though hemp and marijuana are from the Cannabis family, they are completely different in their function, cultivation, and application. Industrial hemp is nonpsychoactive that is cultivated for its fiber, hurd, and seeds. It is used in different products across many industries: textiles to food products, building materials, home and office, health, beauty and skin to name a few.

Fibers make strong and easily workable textiles and paper. The plant is also useful for fuel and biodegradable plastic and metal replacement materials. Seeds are highly nutritious and adaptable. And the crop requires low levels of pesticides and chemical fertilizers.

Refer to the following sites for updated information on hemp.

☞ ministryofhemp.com/hemp

☞ Bill to legalize hemp:

forbes.com/sites/tomangell/2018/03/26/sen-mitch-mcconnell-pushes-bill-to-legalize-hemp/#7296e083581a

☞ Hot consumer products made from hemp:

hempbizjournal.com/hot-consumer-products-made-from-hemp

APPENDIX B: Alternative Fibers

Bamboo: Makes a bright white paper. (Make sure your bamboo is farm-raised, and *not* taken from the fragile, threatened, wild bamboo forest ecosystems.)

Esparto Grass: Highest fiber density of any paper pulp makes good quality paper; grows well in hot areas.

Flax: A traditional papermaking material. Long-fibered flax is widely used now in linens; short fibers make a high-quality paper and the seeds are nutritious.

Potato Starch Polymers: turning wheat and potatoes into plastics. Bio-plastics[18] harness the natural structures from organic biomass rather than petroleum. Used in a variety of consumer products.

Agricultural Surplus: Crops of wheat, sugarcane, rice, straw, corn, bananas, coffee beans, and tobacco generate unusable plant parts that can be made into high-quality paper at low cost. The many million tons of this kind of material in the U.S. are also available immediately, as opposed to fiber crops that can take years to raise.

☞ For further information on various nonwood fibers, see: sustainable-future.org/futurefibers

Appendix C
Socially Responsible Investing

Our thanks for this interview with Lincoln Pain, CFP

Investments that are both profitable *and* ecologically sound do exist. But some preliminary research and thought are necessary!

Shades of Soundness

It's hard to find a purely responsible company to invest in. You can make more money with environmentally neutral companies than with proactive ones. The very purest investments are not traded publicly. They involve direct investing and high risk, so you must start out with a considerable amount of money to invest successfully there.

Where You're Starting From

When deciding where to invest your money, consider your personal financial situation. Can you afford RISK? It is *not* a socially responsible move to invest everything you have and end up on

welfare as a burden to the government. Socially conscious purchasing can be done with a single dollar, but statistics show that conscientious investing tends to be more successful when investors start with at least $400,000. If an investor can afford to leave money in the market over the long term and to diversify investments, then risk factors such as market volatility and individual company failures are less serious.

Before you invest your money, you should talk to your money manager and make sure you both know what your answers are to some basic questions:

What are my goals?

- What do I wish to accomplish with my money?
- What do I want as a profit?
- What type of return am I looking for?
- How long am I prepared to wait?

What are the best ways to achieve these goals?

- What is an appropriate strategy?
- What investment specifics will satisfy this strategy?

APPENDIX C: Responsible Investing

- Is my analyst or money manager capable and competent in bad as well as good times, and in the long run?
- How **economically** sound are the companies I want to invest in?

How *ECOLOGICALLY sound* is the specific company I want to invest in?

- Has the company developed new technology to improve its own eco-status?
- Does it share the technology with other users?
- Is a company merely conducting PR campaigns to "greenwash" its image? Or are they really doing something to improve their effect on society?
- Does the company have a Socially Responsible Portfolio? If not, that's a big red flag.
- Has the company gone as far as it possibly can to keep the environment it uses in good condition?

If you do not feel comfortable with the answers your money manager gives you, move on to another manager. For example, if you ask the basic question, "What services and mechanisms can you

provide to make me more socially responsible?" and your manager offers you only a family of mutual funds, this is not adequate help for you.

Types of Socially Responsible[19] Investment Options

—from most to least effective:

1. Community Development
This is the most effective use of money because the causes are immediate and local money is not wasted on bureaucracy and red tape. You also get to watch your money go to work, and even benefit yourself from the results.

The down side is that there is usually a low rate of financial return.

2. Direct Investing in Established Socially Responsible Companies
This is potentially lucrative and socially effective. Plus, you know exactly what you're getting into. You can look at the company's track record, both financially and socially.

3. Secondary Market Mechanisms

Being an investor in a company gives you a certain influence. You can affect the company's policies and behavior by:

- writing letters
- voting your shares and proxies
- *shareholder advocacy:* joining with other shareholders to sue the company for broken promises or policy violations.

These techniques make it possible to work for a cause by investing in companies whose practices you *disagree* with: you can influence their behavior more effectively by being on the inside.

4. Proactive Investing

This means investing in smaller companies with low profitability, to encourage socially responsible entrepreneurs who want to make a difference. You *may* lose money, but on the other hand, your company could take root and grow, making you a big winner both financially and morally!

Another type of proactive investing is through mutual funds with philosophies you agree with.

5. Avoidance Investing

This means boycotting or purposefully *not* investing in companies with objectionable policies.

This type of action is more effective when made by organized groups.

Final Note:

Remember, *no matter what you do with it, your money affects the world.* Every dollar that is invested or spent anywhere capitalizes some organization, corporation, or individual.

What is up to you—*how* you affect the world. You can help fund projects you don't know or care about, *or* you can lend your financial power to causes that you really want to succeed—and your presence will be felt. A case in point: Nelson Mandela, in his victory speech, thanked the Socially Responsible Investing movement for helping his cause.

So determine your options, choose a direction you want to follow, and match your actions to your goal.

NOTES

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The bleach-free paper for this book is made from 25% hemp fiber and 75% Post-Consumer Waste. No new trees were used, so the Rainforest Alliance certifies this as Tree Free. Our sincere thanks to the socially responsible Greg Barber Company, founded on Earth Day, 1990, for being our suppliers again for this second edition.

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