

# **Volunteer Leaders TraininG Guide**

## **Go Green**

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### **Introduction**

In today's world, no individual operates in a vacuum. Our choices and behaviors have a ripple effect that reaches across the world and on to future generations. What we buy, what we do or do not recycle and what we "throw away" has an impact on an ever more interconnected planet. If we want future generations to continue to have this great wealth of natural resources, it will take an all-hands effort to preserve clean air, water and soil. Through simple, responsible behavior shifts, we can be good stewards of the environment.

### **Target Audience**

- EHC leaders
- Adult audiences

### **Objectives**

Participants will gain knowledge about:

- Reducing home energy use.
- Practices to conserve water.
- Reducing waste.
- What, how and where to recycle.

### **Handouts**

- Quiz
- Handout 1 – Energy and Water Conservation
- Handout 2 – Reduce, Recycle, Reuse

### **Suggestions for Teaching**

- Review the lesson.
- Assemble sample items of reducing product packaging (optional).
- Make copies of handouts.

## Ice Breaker

### Have You Ever?

- This is an active, fun way to explore and celebrate the rich diversity of experiences that different people bring to any group.
- The instructor explains that he/she will call out different things that may or may not apply to each person. Participants will respond if the statement applies to them. For example: If the item does apply to you, then stand up and high-five anyone else who is standing.
- List of possible “Have You Ever?” items:
  1. Have you ever climbed to the highest point in the county?
  2. Have you ever lived overseas for more than one year?
  3. Have you ever sung karaoke?
  4. Have you ever ridden a horse?
  5. Have you ever eaten frogs’ legs?
  6. Have you done volunteer work some time in the last month?
  7. Have you ever had a close relative who lived to over 100?
  8. Have you ever seen a polar bear?
  9. Have you ever participated in Earth Day?
  10. Have you every recycled anything?

Thanks for participating. It’s always fun to get to know each other a little better. You may have noticed that two of the questions related to the environment: “Have you ever participated in Earth Day?” and “Have you ever recycled anything?” Both of these questions relate to our topic today.

In this lesson, we will talk about ways you can be more environmentally friendly or “go green.” The main topic areas we will cover in this lesson include first – Energy and Water Efficiency – and second – Reduce, Recycle, Reuse.

## Energy and Water Efficiency

(Distribute **Handout 1, *Go Green – Home Energy and Water Efficiency.***)

Reducing the amount of fossil fuel energy you use improves the environment and saves utility costs. Fossil-fueled power plants generate pollution. The electricity generated for the average single-family home puts more carbon dioxide into the air than two average cars.

In some areas of the country, surface water and ground water are being pumped faster than they are being replaced by rain and snow. Demand for water continues to grow. We often waste water without thinking about it. We can protect clean water by using it efficiently.

We’ll cover four main areas where small changes can make big differences in the amount of energy and/or water consumed.

### Energy and Water Efficiency

- Lighting
- Heating and cooling
- Equipment
- Water

## Lighting

- **Fluorescent Lights** – Replace standard incandescent bulbs with fluorescent tubes or compact bulbs. Fluorescent lights use 50 to 75 percent less electricity and last about 4 to 10 times longer than regular bulbs.
- **Daylight** – Take advantage of daylight. When using natural light, you may be able to turn off some of your electric lights. Open the curtains or use sheer or light curtains. Decorate with light colors that help reflect daylight in the room. On hot summer days, you'll conserve more energy by drawing the shades to help keep heat out.
- **Turn Off Lights** – Turn off lights when not in use. If you leave a room, turn the lights off behind you. You may have heard that you should leave lights on if you're only gone a short while because turning them back on uses a lot of energy. That's not true. Always turn them off when they're not being used. If you have several lights in a room, you may not need all of them. Experiment to find the best lighting for the room and for the task you are doing.

## Heating and Cooling

- **Check Filters and Replace as Needed** – usually once a month. Have a professional check and clean equipment every year.
- **Set Your Thermostat** – Set your thermostat comfortably low in the winter and comfortably high in the summer. Dress appropriately.
  - **Summer** – Set the thermostat to 76 degrees F or above. Close the curtains – especially on east- and west-facing windows that get more direct sunlight.
  - **Winter** – Set the thermostat to 68 degrees or lower. Open the curtains. In winter, sunshine helps warm a room so that the central heating runs less.
- **While You're Away** – Turn your thermostat back 10 to 15 degrees while you are away. If you turn the thermostat back for at least eight hours a day, you can save approximately 10 percent on your heating and cooling bills. A common misconception is that a system works harder than normal to return the space to a comfortable temperature after the thermostat has been set back. This misconception has been dispelled by years of research and numerous studies (U.S. Department of Energy).
- **Programmable Thermostat** – A programmable thermostat can return a comfortable temperature to the room before you arrive. You select the times the heating or air conditioning comes on, according to your preset schedule. Most programmable thermostats can store and repeat six or more temperature settings a day. You can manually override the temperature setting without interfering with the rest of the daily or weekly schedule. When shopping for a programmable thermostat, look for the ENERGY STAR label indicating the most energy-efficient products. The price is approximately \$29 to \$75. Programmable thermostats are also now available for heat pumps too.

## Equipment

- **Turn Off Equipment** – Turn off equipment when it's not in use. Common misconceptions sometimes account for the failure to turn off computer equipment. Many people believe that a computer will last longer if it is never turned off. This incorrect perception carries over from the days of older, mainframe computers.

- **Turn Off Computer Monitors** – Another common misconception is that screen savers reduce energy use. They do not. Automatic switching to sleep mode or manually turning monitors off is always the better energy-saving strategy.
- **Use a Power Strip** – Many appliances continue to draw a small amount of power when they are switched off. These “phantom” loads occur in most appliances that use electricity, such as VCRs, televisions, stereos, computers and kitchen appliances. In the average home, 75 percent of the electricity used to power home electronics is consumed while the products are turned off. This can be avoided by unplugging the appliance or using a power strip and using the switch on the power strip to cut all power to the appliance.
- **Unplug Chargers and Adapters** – Unplug battery chargers when the batteries are fully charged or when the chargers are not in use. If you have a laptop computer, unplug the AC adapter or put it on a power strip. The transformer in the AC adapter draws power continuously, even when the laptop is not plugged into the adapter.

### Water

- **Don't Let the Water Run** – Don't let the water run when you're not using it. For example, you don't need running water while you are brushing your teeth or scrubbing your hands. Wet your hands, turn off the water while you scrub and turn the water on for rinsing your hands. Turning off the tap while brushing your teeth in the morning and at bedtime can save up to 8 gallons of water per day, which equals 240 gallons a month!
- **Fix Leaks Immediately** – A leaky faucet wastes gallons of water in a short period of time. Leaky faucets that drip at the rate of one drip per second can waste more than 3,000 gallons of water each year.
- **Install Aerators** – Aerators go inside faucets. They reduce the water flow by adding air, which keeps the pressure feeling strong. Installing a simple aerator is one of the most cost-effective ways to save water – you can double the faucet's efficiency without sacrificing performance. For best results, purchase an aerator with the WaterSense label available in late 2008.
- **Run Full Loads** – Only run full loads in the dishwasher or washing machine.
- **Water Heating** – Lower the thermostat on the water heater. Insulate the hot-water storage tank. (Covers are available from most hardware stores. Don't cover the thermostat.)

### Waste – Reduce, Recycle, Reuse

(Distribute **Handout 2, Go Green – Reduce, Recycle, Reuse.**)

Another area of environmental concern is waste. It's called garbage, trash and municipal solid waste – things like the potato peelings left over from dinner preparation, a broken flip-flop, an empty mustard jar or a candy wrapper. Over the past 30 years, the waste produced in the U.S. has more than doubled. People are buying more convenience items and more disposables. In 2006 U.S. residents, businesses and institutions produced more than 251 million tons of municipal solid waste or trash, which is approximately 4.6 pounds of waste per person per day. In Arkansas, we produce even more – 9.8 pounds per person per day (before recycling). Arkansans recycle 42 percent of the waste they generate.

(Distribute ***Go Green Quiz, What Do You Know About Waste?***)

Solid waste has been a problem for centuries. What do you think is the approximate date of these events in the history of solid waste management? Write your guesses on your paper. When solid waste is not recycled, it often goes to a landfill. When solid waste does end up in a landfill, how many years does it remain before it disappears? Read through the list of items on the quiz and write down how many years you think it will take for it to completely disintegrate. We'll take a few minutes for you to record your answers.

Let's look at the dates. *(As you read each one, ask the audience for their guess about the date before revealing the correct answer.)*

- 500 B.C. – The first city dump opened in Athens, Greece.
- 1900 – Pigs were used to help get rid of garbage in several cities. It was said that 75 pigs could consume one ton of garbage a day.
- 1920 – Landfills (burying waste) became popular. This is still a popular method used today.
- 1965 – U.S. Congress passed the first solid waste management laws.
- 1987 – New York's waste crisis made the national news. From March through October 1987, a garbage barge circled Long Island with no place to unload its cargo. It triggered much national public discussion about waste disposal and may have been a factor in increased recycling rates in the late 1980s.

How can we solve our waste problems? Experts recommend that consumers reduce, recycle, and reuse. Waste management practices, such as reducing, reusing, recycling and composting, divert materials from the waste stream.

Reducing involves practices that reduce the amount of waste, such as buying items with less packaging, using both sides of the paper, buying in bulk vs. single servings and buying products in containers that can be recycled.

Recycling diverts items, such as paper, glass, plastic and metals, from the waste stream. These materials are sorted, collected and processed and then manufactured, sold and bought as new products. Composting decomposes organic waste, such as food scraps and yard trimmings, with microorganisms (mainly bacteria and fungi). Compost produces a soil amendment – something that can be added to improve the soil.

Reusing items is another way to stop waste at the source because it delays or avoids that item's entry in the waste collection and disposal system.

Waste that is not recycled or composted is deposited in landfills. Landfills are engineered areas where waste is buried. Landfills have safeguards to protect the environment.

## Reduce

Waste prevention or “source reduction” means consuming and throwing away less. Source reduction actually prevents the generation of waste in the first place, so it is the most preferred method of waste management and goes a long way toward protecting the environment.

**Packaging** – Reduce the amount of unnecessary packaging. Consumers also can share in the economic benefits of source reduction. Buying products in bulk, with less packaging or that are reusable (not single-use) frequently means a cost savings. What is good for the environment can be good for the pocketbook as well.

- Choose products with the least amount of unnecessary packaging.
- Buy loose tomatoes, garlic, mushrooms, etc., instead of pre-packaged.
- Choose larger or economy-sized items that have less packaging per unit.
- Use concentrated products.
- Buy in bulk.

**Toxicity** – Adopt practices that reduce waste toxicity. Products, such as paints, cleaners, oils, batteries and pesticides, that contain potentially hazardous ingredients require special care when you dispose of them. Improper disposal of household hazardous wastes can include pouring them down the drain, on the ground, into storm sewers or, in some cases, putting them out with the trash. The dangers of such disposal methods might not be immediately obvious, but improper disposal of these wastes can pollute the environment and pose a threat to human health.

- Use the least amount necessary to do the job when using hazardous materials such as pesticides.
- Use non-hazardous alternatives when possible.
- Follow directions for disposing of hazardous products and containers.
- Find a hazardous waste collection site in your area for items such as leftover paint, pesticides, solvents and batteries.

(**Optional** – Show products that can be used for an example of reducing packaging. One 64-ounce bottle of juice is less packaging than eight 8-ounce bottles of juice. Mixing juice from concentrate is even less packaging.)

## Recycle

In 1999 recycling and composting activities prevented about 64 million tons of material from ending up in landfills and incinerators. Today this country recycles 32.5 percent of its waste, a rate that has almost doubled during the past 15 years. Twenty years ago only one curbside recycling program existed in the United States, which collected several materials at the curb. By 2006 about 8,660 curbside programs had sprouted up across the nation. Make recycling easy by setting up separate bins for the different recyclable items.

### **What to recycle?**

- Paper – office paper, newspaper, cardboard and other types of paper. Not only can you recycle paper, you can also purchase recycled paper. By weight paper accounts for 35 percent of solid waste. Every day American businesses generate enough paper to circle the earth 20 times.
- Glass – bottles and jars (clear, green or amber)
- Aluminum – beverage containers. Recycling one aluminum can saves enough electricity to run a TV for three hours.
- Plastic – bottles, milk jugs, bags and detergent containers. Plastic accounts for about 11 percent of total solid waste. Americans go through 2.5 million plastic bottles every hour.

### **Where to recycle?**

- Curbside collection is the most convenient way to recycle. These programs offer scheduled pickups of recyclable products from the curb. Unfortunately, curbside recycling is not available in all communities.
- Drop-off centers are sites set up for us to leave materials for recycling. They serve as convenient central pickup locations for processors or recyclers.
- Buy-back centers pay consumers for recyclable materials.

Recycling options vary from town to town, so be sure to check with your local recycling program to see what materials are collected for recycling.

How many years does it take for each of these items to disappear from the environment after they have been discarded? (*Ask the audience for their guesses; then, reveal the answer.*)

Disposable diaper – 500-600 years

Cotton sock – 5-6 months

Styrofoam cup – 1 million years +

Glass bottle – 1 million years +

Leather belt – 40-50 years

Wooden block – 10-20 years

Banana peel – 3-4 weeks

Cardboard box – 1-2 months

Plastic bottle – 1 million years +

Aluminum can – 200-500 years

### **Reuse**

Another way to keep items out of the landfill longer is to reuse them. Reuse is using an item more than once. This includes being used again for the same function and reuse where the item is used for a different function. Reuse can have both financial and environmental benefits. Between 2 and 5 percent of what's currently in the waste stream is potentially reusable.

- **Consider reusable products.** A coffee mug can replace Styrofoam cups. Washable metal forks can be used instead of plastic. Use dishcloths instead of paper towels. Use rechargeable batteries.
- **Maintain and repair durable products.** Clothing, automobile tires and large appliances last longer with proper care. When purchasing new products, look for a longer warranty. Follow directions for proper operation and maintenance. Read and follow clothing care labels. Mend and repair clothes when needed.
- **Reuse bags, containers and other items.** A reusable, canvas tote-bag is the best choice for shopping. Reuse scrap paper, ribbons and gift boxes. Plastic butter tubs can be washed and reused as storage containers for small items such as nails or buttons.
- **Borrow, rent or share items.** Consider renting or borrowing items that you don't use frequently. Rug cleaners and garden tillers can be rented. Before discarding, ask friends or community groups if they can use your old tools, camera equipment or other items. Share magazines with others to extend the lives of these items.
- **Sell or donate goods instead of throwing them out.** One person's trash is another person's treasure. Instead of discarding unwanted appliances, tools or clothes, try selling or donating them. Donate to a thrift store. Have a garage sale. Give hand-me-downs to family members.

The main topics we covered in this lesson were:

- **Energy and Water Efficiency** – You can save money and help the environment by following some of the tips presented today to conserve energy and water.
- **Reduce, Recycle, Reuse** – We talked about ways you can reduce, recycle and reuse items so that less solid waste is generated.

Please complete your evaluation.

By “going green,” you can contribute to a cleaner, healthier environment for America and the world. Your actions can help solve the global environmental problem – and help you save money. **So – Go Green!**

## References

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