



Up Your Sustainability

Sustainability, as it relates to farming, describes practices that can be sustained over a long period of time without depleting or damaging natural resources, while maintaining the farmer's income and decreasing farm expenses. Learn how to increase your homestead's sustainability

(from "Up Your Sustainability," by Carol Ekarius)

Use Energy-efficient Cars, Appliances

Energy prices are going up and there's no good reason to think they won't continue this upward trend. So butchering energy hogs not only helps you increase sustainability, it also puts money in your bank account.

According to the U.S. Department of Transportation, approximately one-fifth of America's energy is attributed to fueling our automobiles. Increase your sustainability by cutting down on gas or diesel use. Vehicle and equipment maintenance (and this goes for all gas- or diesel-burning engines) can make a tremendous difference in fuel consumption.

Regular tune-ups can increase fuel efficiency by 4 percent and keeping tires at proper inflation can increase it by 3 percent. Replacing a dirty air filter can boost fuel efficiency by 10 percent, and some repairs—for example replacing faulty oxygen sensors—can have up to a 40 percent increase in fuel efficiency.

If you are thinking of replacing an existing vehicle, study mileage rates and consider alternative-fuel vehicles or hybrids, which are currently eligible for attractive tax credits.

One no-cost step you can take is to simply become more conscious of your driving habits.

Use lists when you head to town so you don't forget things you need and plan your errands for maximum time and fuel efficiency.

When it's time to replace appliances and electronics in your home, look for Energy Star certification. The Energy Star program is a voluntary labeling program started in the early 1990s by the Environmental Protection Agency and the U.S. Department of Energy. These agencies calculate that Americans saved \$14 billion over a decade by selecting products that are designed to use less energy.

There are tax credits for consumers and businesses that improve energy efficiency through home improvements or through the installation of alternative energy systems (such as solar, wind, fuel cells or microturbine technology).

Indoor lighting accounts for about one-quarter of the electricity used in the United States and conventional lighting is terribly inefficient, with less than 25 percent of the actual energy being converted into visible light. Compounding the inefficiencies, the heat given off by artificial lighting increases the energy used for cooling buildings by about 10 percent—that's a lot of coal, natural gas or nuclear-generated energy!

Although the commercial sector is the largest user of light energy, home lighting is still a big energy hog—estimated to use up to 25 percent of household electricity.

According to the Environmental Protection Agency, if every U.S. household replaced the light bulbs in their five most frequently used lights with energy-saving bulbs, we'd significantly reduce energy use.

The two alternatives are compact fluorescent bulbs (which contain mercury and should be disposed of by dropping off at a community hazardous household waste site) or LED (light-emitting diode) bulbs. Using five of these energy-efficient bulbs in lieu of incandescent lights not only saves you about \$60 a year in energy costs, but if we all changed five bulbs, we'd prevent greenhouse gas emissions equivalent to the emissions from 8 million cars. More good news: These bulbs last up to 10 times longer than incandescent bulbs.

Next, reduce "phantom loads" from appliances and equipment. What's a "phantom load?" A phantom load is the electricity that is used by appliances and equipment when it's turned off. Devices that create phantom loads include DVD and VCR players, stereo systems, microwave ovens and stoves, to name just a few.

Basically, any device that can be operated with a remote control has a phantom load allowing it to stay in a "ready state" in



order to be switched on by the remote control. The ready state consumes less electricity than when the device is on, but it's operating 24 hours a day, 365 days a year. The average home in the United States has over 25 such phantom loads, a number that's growing quickly as new appliances and electrical devices come onto the market.

According to researchers at Oakridge National Laboratory, the United States uses about 43 billion kilowatt hours (kWh) of electricity per year as a result of phantom loads. It works out that the average home uses about 450 kWh per year of its total energy consumption to power phantom loads; the phantom electricity from televisions and DVDs/VCRs that are turned off costs the United States more than \$750 million each year. Cut phantom loads by plugging these devices into a power strip (like the one you use for your computer) and turn the strip off when you're not using the devices.

Refrigerators and freezers are big energy users, and most of us who live on farms have a higher percentage of these than our urban neighbors. Clean the condenser coils on your refrigerator/freezer or freestanding freezers and defrost as necessary to keep these appliances operating efficiently. Cover beverages and moist foods to keep the humidity level in the refrigerator lower, as dry air is easier to cool than moist air.

Keep your refrigerator's temperature above 36 degrees F and below 42 degrees F, and your freezer's temperature at about 0 degrees F. A good gauge of freezer temperature is ice cream: if it's too soft, lower the temperature; if it's very hard and difficult to spoon, raise the temperature.

Heating and Cooling Systems

As with automobiles, heating and cooling systems need maintenance to operate their best; change filters on these appliances annually.

Other ways to keep your home temperature more comfortable: Reduce drafts by sealing around doors, windows or other openings with caulk.

Insulated drapes can be used at night in the winter to reduce heat lost through windows; closing thin curtains or blinds on south-facing windows during the heat of day in the summer cuts down on heat accumulation and how hard your air conditioner has to work to keep your home cool.

Do you have a gas or wood-burning fireplace? When these aren't in use, they allow free air transfer between the house and the outdoors, which means cold air in winter and hot in summer.

There are commercial, inflatable draft stoppers that you can place inside the chimney hole to reduce air transfer, or you can make your own draft stopper by stuffing fabric (old towels or sheets work well) into a plastic bag and working them just into the chimney—but remember to remove the draft stopper prior to using the fireplace!

Read More About What We All Can Do

When it comes to sustainability, each of us can—and should—do more. We can all replace five light bulbs or cut down on our driving. We can all plant perennials. We can all be conscious of how our decisions impact the world around us.

Making a difference doesn't have to break the bank or your back. To learn more about increasing your on-farm sustainability, check out these books: *Eco Farm, An Acres USA Primer*, by Charles Walters (Acres USA, 2003). *Ecological Design*, by Sim Van der Ryn and Stuart Cowan (Island Press, 1995). *Gaia's Garden: A Guide to Home-scale Permaculture*, by Toby Hemenway (Chelsea Green, 2006). *Hobby Farm: Living Your Rural Dream for Pleasure and Profit*, by Carol Ekarius (BowTie Press, 2005). *How to Grow More Vegetables & Fruit*, by John Jeavons (Ten Speed Press, 2006). *Permaculture: A Designer's Manual*, by Bill Mollison and Rena Slay (Tagari Publications, 1997).

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