

Realistic Ways to Reduce Your Carbon Footprint

by Erika-Marie S. Geiss

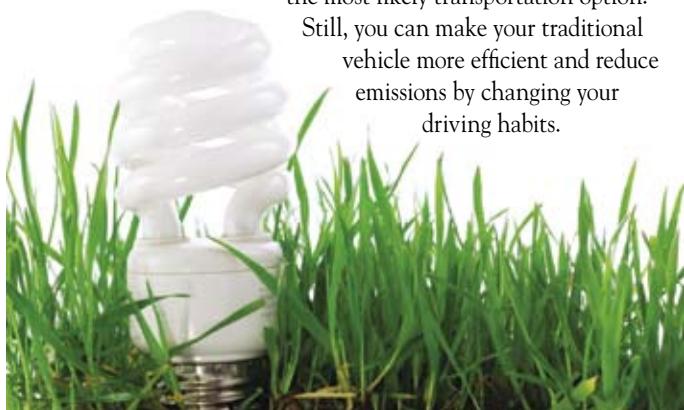
Most people have been duly warned about global climate change and the continual rise in energy consumption. According to the *Annual Energy Outlook 2008* from the U.S. Energy Information Administration (EIA), total energy consumption in 2006 in the United States was 99.5 quadrillion Btu, with U.S. households consuming 10.8 quadrillion Btu. Total U.S. consumption is projected to increase to 131.16 quadrillion Btu by 2030. Governments across the globe are taking action to reduce energy consumption and carbon emissions. Their policies include imposing tariffs and fines on emitters of greenhouse gases, instituting cap-and-trade programs and investing in alternative energy programs and infrastructure. The energy industry, too, is committed to meeting the world's growing energy demand in ways that are environmentally sound. The efforts and goals of governments and the energy industry alike, however, will not come to fruition overnight.

While news abounds of proposals, mandates, investment, research and other efforts in the United States and abroad to address climate change, one possibility is often overlooked: the ability of individuals to make behavioral changes of their own volition. In many ways, we have become complacent and accustomed to a certain way of life that indulges and wastes with ease, often for the sake of convenience. And, at least in the United States where some of the harsher realities of our current energy and environmental crisis are hitting home each time we fill up our vehicles or stock our refrigerators, we like to complain about what government and the energy industry are or are not doing to "fix" the problem. We have another option, however, and that is to make individual behavioral changes to reduce energy consumption, lessen our carbon footprint and save money. Here are some realistic ways to make a behavioral change in our daily lives.

Driving

Since most people are not in the market for a hybrid vehicle and many areas do not have the infrastructure for mass availability of alternative fuel, the four-cylinder combustion engine remains the most likely transportation option.

Still, you can make your traditional vehicle more efficient and reduce emissions by changing your driving habits.



Reducing daily idling time by five minutes per day can reduce an individual's CO₂ emissions by 27 pounds in one month, according to Carbonrally, a firm in Cambridge, Mass., that started a Web-based activism platform for individuals, communities and groups to reduce their carbon footprint. It makes sense, therefore, to avoid idling and to seek alternate routes so that you are driving instead of sitting in traffic. If you are stuck in a traffic jam or are waiting in your car, turn off your engine. To make sure you're not wasting fuel economy, do not overload your vehicle. Use cruise control when on the highway to increase fuel economy as well. Properly inflate your tires; by filling tires to the right pressure, you can reduce CO₂ emissions a total of 29 pounds by the end of one month. Drive less; for short distances, walk or bike. For longer distances, carpool or take public transportation if it is available in your area. Combine your trips and plan ahead. Think twice about how much you need to have the heat or air conditioning on, as they use additional energy and reduce your gas mileage.

At Home and Work

Making small changes at home and at work can reduce energy consumption and your carbon footprint significantly, according to the Earth Hour movement at earthhour.org. Earth Hour started in 2007 in Sydney, Australia, when from 8 p.m. to 9 p.m. on March 31 individuals and corporations in Sydney turned off the lights. In that first Earth Hour, Sydney's power consumption dropped more than 10 percent. By 2008 the Earth Hour movement spread across the globe, and this year it was celebrated on March 29 from 8 p.m. to 9 p.m. across time zones around the world. But turning off the lights for an hour, while a dramatic symbolic statement, is not enough. Other initiatives that can be taken include the following.

Change your lighting. Gradually change from incandescent to compact fluorescent lightbulbs (CFLs). CFLs can reduce your energy consumption significantly. The initial cost per bulb is greater, but CFLs are more economical over time. In a typical home, one CFL can reduce carbon dioxide emissions by 260 pounds per year. Be sure, however, to dispose of them properly as fluorescent bulbs contain small amounts of mercury, so they should not be thrown in the trash or recycle bin. The Environmental Protection Agency (EPA) recommends taking advantage of local recycling options for fluorescent lightbulbs, although it does allow for regular garbage disposal if the bulb is wrapped and sealed in two plastic bags and then placed into the outdoor trash.

For exterior lights, go solar. Choose solar lights for accent and pathway lighting, and change the sockets of exterior entranceway lights to solar-powered ones. Some models of lights and fixtures can be programmed to turn on only when someone enters the room and automatically shut off when someone leaves.

Cut two minutes off of your daily shower. According to Carbonally, reducing your shower from eight minutes to six for one month will reduce your CO₂ emissions by a total of 15.3 pounds. Also, opt for showers instead of baths. According to the EPA, running a hot-water faucet for five minutes uses about the same amount of energy as burning a 60-watt bulb for 14 hours. Limiting your demand for heated water, therefore, can significantly cut down your energy use and CO₂ emissions. You can also retrofit your shower head (and other faucets) for more energy-efficient and water-saving models that use only one to two gallons per minute of water. It takes energy to heat the water in the tank and keep it hot, and as you use hot water, more energy is needed as cold water is piped in to replenish the tank. Also, make sure that any leaks in toilets and faucets are sealed properly.

If you are in the market for new appliances or technology, choose products with the Energy Star rating, which the EPA and the Department of Energy use to identify the most energy-efficient products in their classes. According to the EIA, if the average American were to equip his or her home only with Energy Star products, energy bills and greenhouse gas emissions could be cut by about 30 percent.

Reconsider heating and cooling options. By practicing energy-efficient heating and cooling, according to the EIA, you can lower heating bills by 4 percent and prevent 500 pounds of CO₂ from entering the atmosphere each year. To save energy, turn down the thermostat by two degrees in colder weather and up by two degrees in warmer weather. Instead of cranking up the heat when you feel cold, consider putting on additional layers of clothing. Before turning on the air conditioning, consider whether opening some windows will cool your space enough. If you have ceiling fans, set them to exhaust in the summer to help draw the hot air up, or if you have window fans, use the exhaust mode to draw hot air out. When heating, close the doors so that the registers for each room are not trying to heat more space than they were intended to heat, and seal any openings at windows or exterior doors to maximize your heating efficiency. Conversely, when cooling naturally, open interior doors to maximize air flow, but close them if you are using the air conditioner.

Use fenestration wisely. Windows were designed for ventilation and light, and with that light, heat. Turn off the lights and use the natural light of the longer days instead. If it gets too hot from the sun, angle shades to deflect the light, and do the reverse if it's not warm enough.

Unplug and turn off. If you're not in a room, turn off the lights. If you must have lights on, use timers or battery-operated motion-sensing lights. Unplug nonessential appliances that are not in use (even if they are Energy Star appliances). Even when turned off, appliances still draw energy from the grid. So unplug the toaster oven, the cell phone charger and other

Going the Extra Mile

If you're looking to "super green" your house, changing your cleaning methods can further reduce your carbon footprint. Traditional commercial cleansers contain gases called volatile organic compounds, or VOCs, and other substances that are caustic, poisonous and harmful to your personal environment. When rinsed down the drain, they pose an environmental risk to fish and wildlife, and of course the discarded containers end up in landfills. Even products labeled as "organic" (which must be certified as such by the U.S. Department of Agriculture) and "natural" can be toxic. The Environmental Protection Agency has a program called Design for the Environment (DfE) that identifies safer electronic and chemical products, and the independent nonprofit Green Seal organization likewise identifies environmentally responsible products. Even safer than products with the DfE or Green Seal labels, though, are those with the keywords "nontoxic" and "noncorrosive" or the phrase "container made with 100 percent post-consumer recycled material." Better still, you can make your own cleansers with borax, white vinegar, baking soda, salt and essential oils. These can be used for both light, daily cleaning tasks and larger ones, such as mold or mildew removal. Alone or in different combinations, these five basic products along with water are less expensive than commercial ones and can be just as effective. ♦

chargers when they are not being used. As tempting as it may be to leave your laptop or desktop on and put it in sleep mode – don't. Turn it off and unplug it when you will be away from it for a significant length of time, including overnight. Appliances on standby can still consume up to 10 percent of the electricity they draw when they are in use.

Catch the rain. Instead of using tap water, catch rainwater in vessels and use it to water indoor plants; avoid using sprinklers or the hose on rainy days, and set sprinklers on a timer.

Big Purchases

If you are building or renovating, look for energy-efficient building materials and those certified by the Leadership in Energy and Environmental Design (LEED) Green Building Rating System. The LEED-certified materials may cost more initially, but the long-term financial savings and environmental impact will be worth the investment.

If you are buying a new vehicle, look for those that offer greater gas mileage, flex fuels or other alternative fuel capabilities. Be sure, however, that your area has (or will have in the near future) the infrastructure to support your brand-new, eco-friendly vehicle.

These small, individual behavioral changes can be implemented now, while we await the enactment of wide-scale projects and policies from the energy industry and government. ♦