

## Reducing Greenhouse Gas Emissions — A 13-Step Program

In 2006, Evanston signed the U.S. Mayors Climate Protection Agreement, pledging to reduce Evanston's greenhouse gas (GHG) emissions by 7 percent below 1990 levels by the year 2012 — the target set by the Kyoto Protocol for developed countries. Based on an inventory of Evanston's 2005 emissions, this translates into a 13 percent reduction by 2012 to meet this goal.

Here are 13 steps you can take to cut your emissions and help Evanston meet the Kyoto target.

### 1. Calculate Your Carbon Footprint.

Learn about the GHG emissions associated with your every-day activities by measuring your carbon footprint. A one-minute calculator ([www.zerofootprint.net/one\\_minute/evanston](http://www.zerofootprint.net/one_minute/evanston)) and a more comprehensive tool ([www.zerofootprint.net/calculators/evanston](http://www.zerofootprint.net/calculators/evanston)) have been customized for Evanstonians. See how your footprint compares to the U.S. average and evaluate the emissions savings you can achieve by making various suggested changes in your daily life.

### 2. Lighten Up and Power Off.

Using new **lighting** technologies is one of the fastest ways to cut energy bills and emissions. Compact fluorescent lights (CFLs) use about 75 percent less electricity than incandescent bulbs and last up to 10 times longer. The initial purchase price is higher, but a CFL will save about \$30 in electricity costs over its lifetime. It also produces 75 percent less heat than a conventional bulb, which helps cut home cooling costs.

Note: CFLs contain a very small amount of mercury. The mercury is safe while the bulb is intact or in use, and even if the CFL should break, it poses little risk. But proper disposal is a must. Recycle used CFLs at the Evanston Department of Health and Human Services (2100 Ridge), Evanston Ecology Center (2024 McCormick), Home Depot, or Lemoi's Hardware.

**Appliance** choices provide another opportunity to improve your home's energy efficiency. Every appliance has two price tags — the purchase price and the operating cost. ENERGY STAR-labeled products use 10 to 50 percent less energy and water than standard models. (Visit the [www.energystar.gov/](http://www.energystar.gov/) website for a listing of ENERGY STAR-qualified products.)

**Home electronics** account for a growing portion of the home energy budget. Select ENERGY STAR-labeled office equipment and electronics — and turn these machines off when they are not in use. Even when switched off, however, many of these devices continue to use energy to power such features as digital displays, remote controls, adapters, and battery chargers. Defeat these energy "vampires" by unplugging the equipment or by using a power strip.

### 3. Manage Your Thermostat.

Heating and air conditioning account for roughly half of the energy used in the home. Select energy-efficient temperature settings — 68°F in winter, 78°F in summer — and adjust the setting still further when you're asleep at night or away from home during the day. In winter, lowering the temperature 5°F for 8 hours at night will cut heating bills by 5-10 percent. In summer, raising the temperature while everyone is out for the day will reduce cooling costs a similar amount. A **programmable thermostat** makes it easy to manage these adjustments automatically.

In summer, keep curtains on south-facing windows closed during the day to help prevent solar gain. Fans can help keep everyone comfortable. In winter, open curtains to let the sun's warmth in during the day and close them at night to reduce the chill from cold windows.

#### **4. Caulk and Seal.**

Tightening your home's envelope — outer walls, roof, windows, and doors — is the most cost-effective way to cut energy waste. It will make your home more comfortable, too. Seal air leaks to stop drafts and add insulation to block heat loss in winter and heat gain in summer.

According to the U.S. Department of Energy, roughly 80 percent of older homes are under-insulated. The attic is usually the easiest and most cost-effective place to start adding insulation. Proper ventilation and moisture control will also help improve your home's energy efficiency.

A do-it-yourself guide to air sealing and insulation is available in the Home Improvement section of the ENERGY STAR website ([www.energystar.gov/](http://www.energystar.gov/)). Or a qualified home energy auditor can conduct a thorough assessment and evaluate measures to make your home more energy efficient.

#### **5. Check out ComEd's 'Smart Ideas.'**

Ordinarily, consumers pay a fixed price for electricity, no matter what time of day they use it. But electricity prices fluctuate widely throughout the day. Participants in ComEd's **Residential Real-Time Pricing** program (RRTP) pay the hourly wholesale market price for electricity. By changing how they use energy during high-price periods, RRTP customers can keep their electric bills low. (More information is available at [www.thewattspot.com/](http://www.thewattspot.com/).)

Participants in the **Central Air Conditioning Cycling** program allow ComEd to turn their AC compressor off and on during the hottest days of summer. With the "50% option," the compressor unit can cycle off a maximum of 15 minutes every half hour during weekdays, earning a guaranteed credit of \$5/month from June 1 to September 30. With the "100% option," the unit can cycle off for one continuous three-hour period during any weekday, earning a guaranteed credit of \$10/month for four months.

ComEd will also pick up and recycle older, working refrigerators, freezers, and room air conditioners — for free. These three programs help lower the demand for electricity and reduce the need to operate or build additional power plants. Details about these and other energy-saving programs can be found in the Smart Ideas section of the ComEd website ([www.comed.com/](http://www.comed.com/)).

#### **6. Drive Less, Drive Smart.**

According to the U.S. Environmental Protection Agency, driving accounts for over half of the carbon dioxide emissions for a typical household. As a first step to reduce those emissions, choose the most fuel-efficient car that fits your budget.

Driving less will also help. Combine trips. Car pool. Use public transportation. Telecommute. Walk, ride a bike, or take the train when a car isn't needed. Improve your car's fuel economy by avoiding rapid acceleration and braking, by reducing time spent idling, and by unloading unnecessary items to reduce your car's weight. Keeping your car in shape — engine properly tuned, tires properly inflated — will also help. (For more driving tips and information about fuel-efficient cars, visit the "drive smarter" section of the Environmental Defense Fund's Fight Global Warming webpage: [www.fightglobalwarming.com/](http://www.fightglobalwarming.com/).)

One more strategy to consider: join a car-share program such as I-GO ([www.igocars.org/](http://www.igocars.org/)).

### **7. Fly Less; Offset the Trips You Do Take.**

For some of us, air travel is the biggest source of personal carbon emissions. Alternatives include choosing other modes of transportation where possible, taking vacations closer to home, and using video-conferencing for meetings and webcams to keep in touch with family and friends.

You can reduce the carbon footprint of the trips you do take by flying economy — since business and first-class seats take up more room, thereby reducing the number of people the airplane can carry. Flying non-stop will also help. Take-off, landing, and taxiing use a lot of fuel and thus increase the carbon intensity of multi-leg trips.

To compensate for emissions that can't otherwise be avoided, make a contribution to the Evanston Climate Action Fund. The Fund invests in GHG reduction projects here in Evanston, with a special emphasis on projects benefiting nonprofit organizations and lower-income households. Current contributions will help support a first set of grants to local childcare centers for energy-efficient lighting upgrades. Tax-deductible contributions to the Fund may be sent to the Evanston Community Foundation ([www.evcommfdn.org/community/climateaction.html](http://www.evcommfdn.org/community/climateaction.html)).

### **8. Reduce and Reuse.**

Waste prevention conserves valuable resources, saves energy and landfill space, and reduces waste toxicity. When you shop, choose products with minimal packaging, purchase items in bulk, and seek non-toxic or less toxic alternatives to materials containing hazardous substances.

Other helpful practices: use cloth napkins, rechargeable batteries, refillable containers, and other products designed to be used more than once; take reusable shopping bags to the store; use sturdy coffee mugs at the office; maintain and repair durable products; and borrow, rent, or share seldom-used items, such as power tools and party equipment.

### **9. Recycle.**

Recycling, together with waste prevention, diverts organic wastes from landfills, thereby reducing the amount of methane — a potent GHG — produced as waste decomposes. It also saves energy since manufacturing goods from recycled materials typically takes less energy (and less water) than producing goods from virgin materials. And recycling paper products saves trees, letting them remain in the forest where they remove carbon from the atmosphere.

Evanston's weekly curbside pickup program accepts cans and foil; newspapers and many other types of paper; glass containers; plastic containers labeled 1, 2, 3, 4, and 5; and six-pack rings. Take items that need special handling — medications, latex paint, electronics — to drop-off locations for recycling. (Guidelines are available at [www.cityofevanston.org/recycling](http://www.cityofevanston.org/recycling).)

Finally, purchase recycled-content products to complete the recycling loop.

### **10. Use Water Wisely.**

Evanston's water treatment facility accounts for the biggest portion of the city's electric bill. So, using water efficiently saves energy while helping to conserve a precious resource.

Start by fixing leaks. A slowly dripping faucet or a "running" toilet can waste thousands of gallons of water a year. Install newer low-flush toilets and water-efficient showerheads and faucets to cut water usage still further. The average home retrofitted with WaterSense-labeled toilets and faucets ([www.epa.gov/watersense/](http://www.epa.gov/watersense/)) can save more than 11,000 gallons of water/year.

Simple every-day practices can also save a lot of water. Turn off the tap while you brush your teeth or shave. Take short showers instead of a bath. Choose energy- and water-efficient models ([www.energystar.gov/](http://www.energystar.gov/)) when you buy a new dishwasher or washing machine.

Use water wisely outside, too. Water the lawn or garden during the coolest part of the day to reduce evaporation. (Early morning is best.) Use drip irrigation rather than in-ground and conventional sprinklers. Collect rainwater in a rain barrel for landscape irrigation.

### **11. Eat Green.**

Food production has a major environmental impact. In *Livestock's Long Shadow*, the U.N. Food and Agriculture Organization reports that livestock production accounts for 18 percent of all GHG emissions. Producing grains, fruits, and vegetables has consequences as well, with its often heavy use of chemical fertilizers and pesticides. A great deal of energy is also spent on transporting, processing, and packaging food.

Your food choices can help change this picture. Eat seasonally. Buy locally: support Evanston's farmers markets. Eat less meat. Avoid air-freighted and hothouse-grown foods.

### **12. Landscape Green.**

The benefits of green landscaping over formal landscapes and lawns are many. A natural landscape reduces emissions from landscaping equipment, which are often much greater than those of a car for each hour of operation. Diverse plantings better absorb rainwater, reducing runoff and water pollution from pesticides and fertilizers.

Adding native plants to your garden is a good place to start. They are adapted to local conditions and do not require watering (except during establishment), chemical pesticides, fertilizers — or mowing. Native species attract birds, beneficial insects, and wildlife and improve bio-diversity.

Other green landscape techniques include rain gardens, tree planting, permeable paving for driveways, sidewalks, and parking areas, green roofs, and rain barrels and cisterns. (The Center for Neighborhood Technology is a good resource: <http://greenvalues.cnt.org/>.)

### **13. Join Citizens for a Greener Evanston.**

CGE is a group of Evanstonians working to engage the broader community in helping Evanston achieve its GHG emissions-reduction goal: 13 percent by 2012. A steering committee plans and coordinates the broader effort, and 10 task forces work on implementing specific aspects of the Evanston Climate Action Plan.

Join the campaign by signing up for CGE's electronic newsletter for information about campaign activities and green events in town. Consider joining one of the task forces. Visit the CGE website ([www.greenerevanston.org](http://www.greenerevanston.org)) for details.