Five Easy Wins: Simple Steps Toward Climate Protection

By taking simple steps to improve energy efficiency and invest in readily available clean energy technologies, cities, businesses and individuals can quickly save money and reduce their share of global warming pollution.

Below are five easy, efficient and economically beneficial actions that cities, businesses and individuals can take that lead to dramatic reductions in carbon dioxide pollution.

For cities:

1. **Install LED and CFL bulbs in city-owned lights:** LED, or "light emitting diode," bulbs use 83% less energy than traditional bulbs and last six times longer. Compact fluorescent bulbs (CFLs) are also 50-75% more efficient than traditional incandescent bulbs and last 8 to 10 times longer. Both bring substantial energy savings, reduced maintenance costs and reductions in global warming pollution.
   Example: The city of Philadelphia installed highly efficient LED bulbs in all 28,000 of its traffic signals and saved $800,000 a year. The efficient bulbs also reduced global warming pollution by over 40,000 tons per year. [1]

2. **Capture and sell methane from the city landfill**: Rotting garbage in landfills produces methane, a potent greenhouse gas, but also a valuable fuel that can be captured and sold for use in power plants and for heating and cooling.
   Example: By capturing the methane gas at its city-owned landfill, the City of Fargo, ND achieved annual greenhouse gas reductions equivalent to removing 9,100 vehicles from the road. The city sells the gas to the local Cargill soybean processing plant, which uses the gas in the company's boilers. [2]

3. **Invest in a more efficient city vehicle fleet**: Cities that replace aging or inefficient city vehicles with modern, fuel-efficient models are playing an important role in reducing global warming and air pollution. Cities have also reduced pollution by effectively planning routes for routine travel by vehicles like garbage trucks and maintenance crews, conducting routine vehicle maintenance, and replacing unnecessary trips for meetings with video conferencing.
   Example: Denver, CO implements fleet downsizing as part of its Green Fleets program, saving the city at least $40,000 a year in operating expenses and preventing 10 to 15 tons of CO2 pollution annually. [3]

4. **Invest in energy efficiency upgrades for city buildings**: Energy efficiency is the fastest, cheapest, most reliable way to lower a city's expenses while reducing global warming pollution.
   Example: Chicago is retrofitting public buildings, such as police stations, libraries, and transit facilities, with more efficient equipment for heating, cooling, lighting, and ventilation, and expects to save $6 million per year in energy costs. [4]

5. **Provide incentives for employees to use mass transit**: By offering incentives for employees in urban areas to use mass transit, cities can help people get out of their cars, reduce traffic and parking congestion, and save money for workers—all while reducing global warming pollution.
   Example: Beginning in 1999, the City of Ann Arbor, Michigan, in partnership with the Downtown Development Authority, offered transit passes to downtown businesses at the cost of $5 per employee. Over 300 businesses in downtown Ann Arbor currently provide passes to almost 5,000 employees. In 2003, the Ann Arbor Transportation Authority recorded 293,624 boardings by pass users, preventing 1.5 million potential pounds of C02 pollution from private vehicles. [5]

For businesses:

1. **Improve the energy efficiency of manufacturing processes:** Most businesses engaged in manufacturing can realize substantial financial savings and reductions in pollution by auditing their energy use to identify waste. The US Department of Energy can assist many businesses with this process through its Office of Industrial Technologies' energy assessment project.
   Example: Following a plant-wide energy-efficiency assessment of its Lafayette, Indiana aluminum plant, Alcoa, the world's largest aluminum manufacturer, saved more than $1.5 million by reducing its use of natural gas (260 million cubic feet) and electricity (2,500 MWh). The electricity savings alone reduced carbon dioxide pollution by 3.7 million pounds. Since the assessment, Alcoa's corporate Energy Efficiency Network has identified opportunities to save at least an additional $50 million. To date, the company has completed energy efficiency projects to realize more than $10 million of those additional savings. [6]

2. **Purchase "green tags"** [7] **for clean, renewable energy:** By purchasing clean energy directly—either through the local utility, in the form of "green tags," or by contracting directly with a clean energy supplier—businesses can guard themselves against fluctuating energy costs, lock-in long-term rates for power and dramatically reduce their global warming pollution.
   Example: AMD Microchips, a major computer chip manufacturer, relies on clean energy for 100% of the energy used at its Austin, Texas facility, thereby eliminating 100% of its global warming pollution. AMD officials expect clean energy will save the company $4 million in energy bills over the next 10 years. [8]

3. **Upgrade old equipment with ENERGY STAR-compliant appliances:** Office equipment is one of the fastest-growing electricity uses in commercial buildings in the US. It directly consumes 7% of total commercial electric energy, which translates into $1.8 billion in electricity costs to businesses. A typical US business with 100 employees may have 100 computers, 10 laser printers, 4 copiers, 4 fax machines, and 2 scanners. By purchasing ENERGY STAR-qualified equipment, this business can cut its annual electricity costs by nearly $5,000 relative to an office with equipment that does not meet ENERGY STAR labeling criteria. [9]

4. **Invest in efficient heating, ventilation and cooling equipment (HVAC):** Air conditioning accounts for the second-highest use of electricity (approximately 15% of total consumption) in commercial buildings. The energy-savings potential of the commercial air conditioning market is huge. In the western region of North America, for example, completely replacing the current stock of HVAC systems with high-efficiency models offers the potential to reduce electricity use by1.65 million megawatt hours annually—enough to eliminate 750,000 tons of CO2 pollution. [10]

5. **Provide incentives for employees to carpool or ride mass transit:** Federal legislation passed in the late 1990's allows companies to provide their employees with tax-free incentives to ride public transportation to and from work. Employers may provide up to $105 a month, or $1260 a year, to their employees as a tax-free benefit to commute by transit or vanpools. Providing transportation is an easy way for employers to attract and keep good workers, while promoting the use of mass transit. In most cases, public transportation reduces pollution per mile of travel by half. [11]

For individuals:

1. **Replace incandescent lights with compact fluorescent bulbs:** Lighting accounts for about 20% of all electricity use in the US and about 15% of electricity use in most homes. If every one of 110 million American households replaced a single 60-watt incandescent bulb in their home with a 15-watt compact fluorescent bulb (CFL), the energy saved would be enough to power 2.5 million homes, the equivalent to taking 800,000 cars off the road. [12] If every American home replaced the five most frequently used bulbs with CFLs, one trillion pounds of greenhouse gases would be kept out of the air over the course of the bulbs' 5 to 8-year lives. That's equivalent to the annual emissions of 8 million cars, or the annual output of more than 20 power plants. [13]

2. **Make your next car a fuel-efficient model:** Exhaust from cars, trucks and other transportation is responsible for one-third of America's global warming pollution. Individuals and families can easily cut their car-related pollution in half by making sure their next vehicle has a highly efficient engine that gets better mileage for each gallon of gas it burns. As a side benefit to reduced pollution, owners of efficient vehicles save big money at the gas pump; double your car's mileage, and you can cut your gasoline costs in half. Many car manufacturers offer highly efficient models, and in coming the years even more models will be available. [14]

3. **Purchase "green tags" [15] for renewable energy:** The generation of electricity is responsible for 40% of global warming pollution in the US, mostly from the burning of coal at power plants. By switching to clean, renewable sources of energy like wind power, individuals can dramatically reduce their share of pollution from electricity while saving money on their energy bills. Residents of Colorado, Oklahoma and Austin, Texas learned in the fall of 2005 that their purchase of "green tags," mostly for wind power, would result in lower energy bills. As natural gas and other fuel costs continue to climb, the cost of the wind stays the same—making clean, renewable energy a powerful hedge against volatile fossil fuel costs. [16]

4. **Upgrade old appliances with energy efficient models:** In most homes, the cost of using appliances and heating and cooling equipment averages more than $1,200 per year. As much as 10% of the average home's energy use is wasted on "vampire" appliances—TVs, cell phone chargers, stereos and similar equipment—that continue to use electricity in "standby" mode, even when they're turned off. By upgrading to highly efficient appliances, TVs and air conditioning equipment, you can save money on your energy bill and reduce global warming pollution. For example, by replacing a 20-year-old refrigerator with a new, energy-efficient model, you will reduce your home's CO 2 contribution by about one ton per year—all while saving about $65 per year through reduced electric bills. [15] For more information, visit the American Council for an Energy Efficient Economy at www.aceee.org.

5. **Insulate your home's windows, doors and water heater:** Most homes, especially older ones, waste a significant amount of the energy they use for heating and cooling through cracks in doors and windows, and from poorly insulated water heaters. About one-third of a typical home's total heat loss usually occurs through windows and doors. For more information on improving home efficiency, visit the American Council for an Energy Efficient Economy at www.aceee.org.

Notes

1 "Best Practices for Climate Protection," at www.iclei.org.

2 See http://www.epa.gov/landfill/proj/prof/profile/cityoffargoandcargilllfge.htm.

3 "Sustainable Transportation Options: A Guide for Local Governments," ICLEI, at www.iclei.org.

Notes

4 ICLEI, www.iclei.org/usa.
5 ICLEI, www.iclei.org/usa.
6 US DOE, at http://www.eere.energy.gov/consumer/industry/others.html.
7 Green tags, also know as Renewable Energy Certificates, allow energy consumers to purchase wind power, solar power, and other clean energy sources indirectly through a third-party provider. To learn more, visit http://www.green-e.org/what_is/dictionary/trc.html; for a list of green tag providers in your area, see http://www.green-e.org/your_e_choices/pyp.html.
8 Ibid.
9 Guide to Energy-Efficient Commercial Equipment, at http://www.aceee.org/ogeece/ch5_office.htm.
10 See http://www.cee1.org/resrc/facts/hecac-fx.php3.
11 American Public Transportation Association, http://www.apta.com.
12 US Department of Energy, at http://www.energystar.gov/index.cfm?c=cfls.pr_cfls.
13 US DOE, at http://www.energystar.gov/index.cfm?c=lighting.pr_lighting.
14 NRDC, at http://www.nrdc.org/breakthechain/howto1.asp.
15 Green tags, Op cit.
16 "Windfall? No, but savings ahead," Los Angeles Times, October 15, 2005.
17 See http://www.aceee.org/consumerguide/index.htm#importance.