

Green Guide for Local Governments

Strategy: Solid Waste and Food Production

Strategy: Recycling

Clothes Recycling

Fast Facts-

- An estimated 11.9 million tons of textiles were generated in 2007, or 4.7 percent of total municipal solid waste (MSW) generation. (US EPA, Nov '2008).
- The textile recycling industry annually prevents 2.5 billion pounds of postconsumer textile product waste from entering the solid waste stream, according to the Council for Textile Recycling. (US EPA, Nov '2008).
- This 2.5 billion pounds of postconsumer textile waste represents 10 pounds for every person in the United States.(US EPA, Nov '2008).
- Recycling clothes saves more energy than recycling glass - it takes ten times more energy to make a tonne of textiles than it does a tonne of glass. (BBC World, UK, April '2008).

Actions for Local Governments:
Develop a program for residents to drop off clothes for recycling or donating.
Set up clothing/textile banks where people can deposit their old clothes and others can obtain them.

WEB Resources:

- The Snooty Fox
<http://www.shopsnooty.com/>
- The Salvation Army
http://www.use.salvationarmy.org/use/www_use.nsf/vw-dynamic-index/6DD4E6A690626DFE80256CF5004A9041?openDocument
- Goodwill Locator
<http://www.goodwill.org/page/guest/about>
- Johnson County:
<http://www.jccog.org/documents/recyc-bklet.pdf>.
- Humboldt County: <http://www.arcatarecycling.org/docs/2006RecyclingGuide.pdf>.
- Yolo County:
<http://www.city.davis.ca.us/pw/recycle/pdfs%5CiBIN-recycling-flier.pdf>.
- Harford County: <http://www.harfordcountymd.gov/dpw/envaffairs/download/RecycleReview.pdf>.
- Amador County: http://www.co.amador.ca.us/depts/waste/documents/Recycle_Guide_2006.pdf
- US EPA, Nov '2008:
<http://www.epa.gov/osw/conserve/materials/textiles.htm>
- BBC World, United Kingdom:
http://www.bbc.co.uk/bloom/flash.shtml?cc_start_screen=youractions;cc_action_id=7;cc_chosen_action=yes#/actions/recycling.shtml

Light Bulb Recycling

Fast Facts

- Compact Fluorescent Lights (CFLs) operate on 70% less electricity than regular incandescent lighting and can save 30% on monthly electricity bills.
- Other forms of energy efficient lighting are entering the market presently and becoming more affordable, such as LED lighting, which operate on 90% less energy.
- CFLs contain higher amounts of mercury than incandescent lighting and must be disposed of properly to prevent increased toxins into the environment.
- Almost all parts of a light bulb are recyclable, including the mercury.

- Carbon savings- Replacing one 75 watt incandescent bulb with a 25 watt CFL light bulb saves 100 pounds of carbon per year (EPA, 2008)

Actions for Local Governments:
Educate the public as to importance of recycling CFL light bulbs and locations where they may be recycled.
Develop a recycling program within government agencies and buildings to recycle CFL light bulbs. Ensure fluorescent bulbs are being managed in accordance with Ohio EPA regulations.
Assist businesses to contract with a recycler to handle their light bulb recycling. Many recyclers will pick up for a fee.

Web resources:

- Light bulb Recycling in Cincinnati and Ohio: http://earth911.org/search-recycle?what=light+bulbs&where=Cincinnati+Ohio&max_distance=25
- Home Depot CFL recycling project from http://www6.homedepot.com/ecoptions/stage/pdf/cfl_recycle.pdf
- Environment Ohio from <http://www.environmentohio.org/eehq/cfl/recycling>
- Compact Fluorescent Lighting Facts
 - Duke Energy from <http://www.duke-energy.com/ohio/savings/advantages.asp>
 - NPR from <http://www.npr.org/templates/story/story.php?storyId=7431198>
 - Cut Your Footprint from <http://www.cutyourfootprint.com/lighting.asp>
 - Lighter Footstep from <http://lighterfootstep.com/2007/09/five-ways-to-dispose-of-old-cfls/>
- CFL recycling by mail:
 - Sylvania <http://www.sylvania.com/Recycle/CFLandHouseholdlightBulbrecycling/>
- CFL Recycling Project Facts:
 - Environmental Protection Agency tips for recycling lightbulbs from <http://www.epa.gov/epawaste/hazard/wastetypes/universal/lamps/recycle.htm>
 - Zero Waste Alliance from http://www.zerowaste.org/cfl/cfl_index.htm
 - Focus on Energy from http://www.focusonenergy.com/Residential/Lighting/cfl_recycling.aspx

Personal Emissions Calculator, 2008. US Environmental Protection Agency. Retrieved on November 12, 2008, from http://epa.gov/climatechange/emissions/ind_calculator.html

Plastics Recycling:

Fast Facts-

- The amount of carbon emitted during the manufacturing process will be more than 10 metric tonnes of CO₂ equivalent emissions per metric tonne of material (with reference to landfills). (Tufts University, 2007)
- In 2007, the United States generated almost 14 million tons of plastics in the MSW (Municipal Solid Waste) stream as containers and packaging, almost 7 million tons as nondurable goods, and about 10 million tons as durable goods. (US EPA, 2008)
- The total amount of plastics in MSW—almost 31 million tons—represented 12.1 percent of total MSW generation in 2007. (US EPA, 2008)
- The amount of plastics generation in MSW has increased from less than 1 percent in 1960 to 12.1 percent in 2007. (US EPA, 2008)
- Plastics are a rapidly growing segment of the MSW stream. The largest category of plastics are found in containers and packaging (e.g., soft drink bottles, lids, shampoo bottles), but they also are found in durable (e.g., appliances, furniture) and nondurable goods (e.g., diapers, trash bags, cups and utensils, medical devices). (US EPA, 2008)
- Plastics also are found in automobiles, but recycling of these materials is counted separately from the MSW recycling rate. (US EPA, 2008)

- The net energy savings from achieving a 50 percent recycle rate totals 9,248,000 MBtu. (US EPA, 2008)

Actions for Local Governments:
Assign a day and place where residents can drop off plastics.
Provide incentives, like tax reduction, to residents for recycling.

WEB Resources:

- Rumpke Recycling-Plastic bottles
http://www.rumpkerecycling.com/residential/acceptable_materials/plasticbottles.aspx
- Tufts University, Medford, MA: <http://www.tufts.edu/tuftsrecycles/energy.html>
- US EPA, November '2008:
<http://www.epa.gov/osw/conserve/materials/plastics.htm>
- Johnson County:
<http://www.jccog.org/documents/recyc-bklet.pdf>.
- Humboldt County: <http://www.arcatarecycling.org/docs/2006RecyclingGuide.pdf>.
- Yolo County:
<http://www.city.davis.ca.us/pw/recycle/pdfs%5CiBIN-recycling-flier.pdf>.
- Harford County: <http://www.harfordcountymd.gov/dpw/envaffairs/download/RecycleReview.pdf>.
- Amador County: http://www.co.amador.ca.us/depts/waste/documents/Recycle_Guide_2006.pdf

Electronics Recycling

Fast Facts-

- Electronics contain hazardous materials that are harmful to the environment. If incinerated or taken to landfills, this can result in emitting millions of tons of carbon into the atmosphere.
- Recycling computers, printers, cell phones, radios, iPods, M P 3 Players, televisions and other electronic equipment can help reduce waste and carbon emissions.
- Energy savings for recycling is approximately 337 kg of CO₂ (*Scientific Study by Eric Williams*). Carbon emissions for full life of an "i-mac"=340 kg CO₂. When the product is recycled emissions is < 1%.

Actions for Local Governments:
Upgrade rather than purchase.
Educate to increase awareness.
Ban electronics from landfills.
Provide e-recycling pick-up services.
Donate working computers to schools and charities.
E-waste event day (Information can be provided to residents on what can and can not be recycled, information on drop off points etc).

WEB Resources:

US Counties with e-recycling:

- Alameda County <http://www.accrc.org/>
- Main County <http://www.mcrc.org/>
- Delaware County <http://www.co.delaware.pa.us/recycle/hhw.html>
- Eau Claire County <http://www.co.eau-claire.wi.us/Recycle/recycle.htm>
- King County <http://your.kingcounty.gov/solidwaste/takeitback/index.asp>
- Fairfax County, Virginia <http://www.fairfaxcounty.gov/dpwes/recycling/mat-comp.htm>
- Hamilton County Department of Environmental Services <http://www.hcdoes.org/>

Other resources:

- Rumpke Universal and E-Waste Department

- <http://www.rumpke.com/Industrial/Universal.asp>
- Apple Computers
<http://www.recycleapc.com/>
- Full Circle Group
- <mailto:gbreyfogle@cinci.rr.com>
- Great Lakes Electronics
<mailto:jhestick@recycleelectronics.com>
- Greater Cincinnati Computers
<http://www.iapcomputers.com/>
- Ohio Valley Goodwill
<http://www.cincinnati goodwill.org/>
- Best Computing Services
<http://www.bestcomputingservices.com/>
- Cincinnati Computer Cooperative <http://www.cincinnati computer cooperative.org/>
<mailto:donations@cincinnati computer cooperative.org>
- TAPIN (Technology Assisting People in Need)
<http://www.tapin.org/>
- Technology Recycling Group (TRG)
<http://www.recyclegroup.net/>
- Computer Recycling
<http://www.comprecyclers.com/> <mailto:computerrecyclers@fuse.net>

Office Supplies Recycling

Fast Facts-

- Recycling office supplies lowers your environmental impacts.
- Recycling office supplies such as ink cartridges reduces oil and electricity usage to create new cartridges thus reducing carbon emissions.
- Recycling is also cheaper than buying pre-manufactured supplies. It also has long term cost reduction for individuals and businesses.
- Most waste generated produces carbon in their production, use and disposal. Recycling saves energy and produces less carbon than at the initial production of materials.
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Actions for Local Governments:
Provide special drop boxes for recycling and donation of office supplies.
Establish drop off points for individuals and households.
Develop internal policies for purchasing recycled content or environmentally preferable alternatives for office products. Consider use of a price preference to facilitate purchase of environmentally preferable products. Utilize USEPA's ReCon model (http://www.epa.gov/climatechange/wycd/waste/calculators/ReCon_UsersGuide.html) to gauge environmental impact of purchases and use to promote activities to public and policy makers.
Explore cooperative purchasing arrangements with other local governments to reduce cost of environmentally preferable purchases which may currently command a price premium.
Mandate recycling programs in businesses of a certain size.
Establish policy for businesses to take used office products.
Educate persons about the benefits of recycling products.
Provide incentives for recycling office products.
Donate used products to charities.
Add logo to coffee mugs to promote recycling.
Develop and use catchy advertising slogans to draw attention to the instituted programs.

Use reusable drinking containers rather than paper, Styrofoam, plastics.
Sponsor special events to promote recycling office products.

WEB Resources-

US Counties recycling

- St. Louis County, Missouri http://www.stlouisco.com/doh/waste/waste_mg.html
- Fairfax County, Virginia <http://www.fairfaxcounty.gov/living/recycling/>
- Delaware County, Pennsylvania <http://www.co.delaware.pa.us/recycle/hhw.html>
- Broome County, New York <http://www.gobroomecounty.com/dpw/DPWRecycling.php>

Some Local Drop off Locations

- Local Merchants – Best Buy, Office Max, Office Depot, Wal-Mart and Circuit City
- Hamilton County Solid Waste District. <http://www.hcdoes.org/SWMD/home.html>

Tire Recycling

Fast Facts-

- Over 1 billion tires are disposed of each year in the United States.
- Only 10% of the tires produced are recycled, 50% end up in landfills, and 40% are incinerated.
- Discarded tires provide a breeding ground for harmful insects, such as mosquitoes. Incineration of tires increases carbon emissions into the atmosphere.
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Actions for Local Governments:
Establish tire drop off weekends for residents to dispose of tires.
Educate the public on the need to recycle tires and recycling sites for tires.
Work with local tire retailers to provide for free drop off of tires for recycling.
Currently Rumpke of Ohio, Inc. is a licensed tire recycling facility. Pickup of tires and shipment to Rumpke are the primary expenses. Several smaller points of pickup are available for a fee.
Establish uses for recycled tires in public projects such as parks, landscaping, roads, etc.

Resources and Contacts:

- Tire recycling facilities in the Cincinnati area: <http://www.co.warren.oh.us/solidwaste/outlets/tires.htm>.
- Ohio Scrap tire recyclers <http://www.scraptire.net/america/index-ohio1.html>
- Ohio Department of Natural Resources <http://www.dnr.state.oh.us/Home/ToolsandResources/ScrapTireRecycling/tabid/18026/Default.aspx>
- Ohio Environmental Protection Agency: Information on tire recycling <http://www.dnr.state.oh.us/Home/ToolsandResources/ScrapTireRecycling/tabid/18026/Default.aspx>
- Norwood Ohio Tire drop off weekend: <http://citizensforabetternorwood.blogspot.com/2008/03/public-works-appliance-recyclingtire.html>.
- Recycling grants information for Ohio: <http://www.dnr.state.oh.us/tabid/9394/Default.aspx>.
- Tire derived fuel facts. <http://www.tceq.state.tx.us/assets/public/compliance/tires/docs/tdf.pdf>
- Texas Natural Resource Conservation Commission <http://www.tceq.state.tx.us/assets/public/compliance/tires/docs/localgov.pdf>

Aluminum Recycling

Fast Facts-

- Aluminum is a sustainable metal and can be recycled over and over again.
- On average, 40 mineworkers are killed on the job each day, and many more are injured. Recycling reduces the need for mining.
- Americans throw away enough aluminum to rebuild our entire commercial fleet of airplanes every 3 months.
- Making new aluminum cans from used cans takes 95 percent less energy and 20 recycled cans can be made with the energy needed to produce one can using virgin ore.
- Tossing away an aluminum can wastes as much energy as pouring out half of that can's volume of gasoline.
- In one year, recycling allows aluminum companies to save the equivalent of more than 19 million barrels of oil – enough energy to supply electricity to about 18 million households for a year.
- Recycling one aluminum can saves enough energy to keep a 100-watt bulb burning for almost four hours or run your television for three hours.

Actions for Local Governments:
Provide base leadership in recycling aluminum by putting recycle bins in your local offices.
Local government should require all its workers to recycle aluminum cans.
Provide financial incentives and tax breaks to businesses and communities to encourage waste reduction and recycling.
Support and partner with local recycling facilities to educate citizens on waste reduction strategies and the types of wastes that can be recycled.

WEB Resources:

- Rumpke Recycling:
<http://www.rumpkerecycling.com/index.aspx>
- Waste On line:
<http://www.wasteonline.org.uk/>
- A Recycle Revolution:
<http://www.recycling-revolution.com/>
- Howard County Maryland-Bureau of Environmental Services
http://www.co.ho.md.us/DPW/recycling_cans.htm
- Environmental Defense Fund:
<http://www.edf.org/home.cfm>
- Pennsylvania Department of Environmental Protection
<http://www.depweb.state.pa.us/dep/site/default.asp>
- Container Recycling Institute, 2001

Paper Recycling

Fast Facts-

- Each day American businesses generate enough paper to circle the globe at least 40 times.
- Every person in the US receives junk mail that represents the equivalent of 1-1/2 trees a year
- Eliminating office paper from waste may reduce waste bills by as much as 50%.
- Making new paper from old paper reduces related air pollution by 95%.
- Nearly 68% of all newsprint used in the U.S. is recovered for recycling.
- Recycling 437,000 tons of paper reduces air emissions equivalent to that produced by 200,238 cars driving one year.
- Making paper from recycled content rather than virgin fiber creates 74% less air pollution and 35% less water pollution.
- If every household in the US replaced just one roll of 1,000-sheet virgin fiber bathroom tissues

with 100% recycled rolls, we could save 373,000 trees, 1.48 million cubic feet of landfill space, and 155 million gallons of water.

- If all morning newspapers in the US were recycled for one day, we would save the equivalent of 41,000 trees and 6 million tons of waste would never end up in landfills.
- Making recycled paper generates 74 percent less air pollution and 35 percent less water pollution

Actions for Local Governments:
Provide base leadership in paper recycling by putting recycle bins in your local offices.
If concerned about identity theft and security, all paper should be shredded before putting in recycle bins.
All government-based agencies should be required to recycle their paper products, including the post office.
Local government should require all its workers to recycle all waste office paper and uncontaminated cardboards.
Form partnerships with the local facilities that recycle paper to monitor when trends in paper recycling and plan appropriate responses.

WEB Resources:

- Rumpke Recycling: <http://www.rumpkerecycling.com/index.aspx>
- Seventh Generation: <http://www.seventhgeneration.com>
- Worldwatch Institute: <http://www.worldwatch.org>,
- Carnegie Mellon University: <http://www.cmu.edu/greenpractices/recycling/paper>.
- Earth Answers: <http://www.tappi.org>

Glass Recycling

Fast Facts-

- Glass is one of the few materials that can be recycled indefinitely. Container glass can be recycled repeatedly with no loss of quantity or quality.
- Not all glass is recyclable; the glass in light bulbs, cookware and windowpanes are not recyclable because they have additives that would contaminate the recycling process.
- The energy we save when we recycle one glass bottle is enough to light a light bulb for four hours.
- Producing glass from crushed, used glass requires 30 percent less energy than producing glass from raw materials.
- Recycling one glass bottle or jar saves enough electricity to light a 100-watt bulb for four hours.
- Every ton of glass that is recycled results in a ton of raw materials saved to process new glass, including 1,300 pounds of sand, 410 pounds of soda ash and 380 pounds of limestone.
- Recycling two bottles saves enough energy to boil water for five cups of tea.
- Every ton of glass recycled saves the equivalent of nine gallons of fuel oil needed to make glass from virgin materials.
- For every ton of glass that is recycled to make new glass products 693 pounds of carbon dioxide is saved.

Actions for Local Governments:
Provide base leadership in glass recycling by putting recycle bins in your local offices.
Partner with local recycling facility to inform citizen and businesses as to which glass can be recycled and which cannot be recycled.
Partner with local recycling facilities to monitor the rate of glass recycling in your county.

WEB Resources:

- Hamilton County Environmental Services: <http://www.hcdoes.org/SWMD/Residents/Recycling/recybenefits.html>
- Environment-Green: http://www.environment-green.com/Glass_Recycling.html
- Environmental Defense Fund: <http://www.edf.org>
- Oregon State University: <http://oregonstate.edu/ehs/hwpages/glass.php>

Rechargeable Battery Recycling

Fast Facts-

- Producing new plastics from recycled material uses only two-thirds the energy required to manufacture it from raw materials.
- Coltan is a tar-like mineral found in rechargeable batteries. This mineral primarily is found in the Democratic Republic of Congo.
 - Coltan is not only from afar, but Congo armies have been known to sell it illegally to buy weapons. The illegal mining of it in Congo's eastern lowlands has decreased gorilla populations. So if these types of batteries are recycled and coltan is reused, not only is there landfill diversion but also wildlife conservation and social action.
- Most of the benefits of recycling rechargeable batteries lie in the transportation of the raw materials. Many of the basic ingredients that make the batteries work are mined in other countries, which are thousands of miles away.
 - Nickel is found in areas such as South Africa, Brazil, and the Philippines.
 - Most lithium is found in South America and Chile.
 - The top lead-producing areas are Australia, China, Peru, Sweden, Morocco, South Africa, and North Korea.

Actions for Local Governments:
Start programs to provide recycling drop off points in government buildings (city hall, libraries, schools, courthouses, and administrative services). <ul style="list-style-type: none"> • The RBRC (Rechargeable Battery Recycling Corporation) is a non-profit, public service organization. Their Call2Recycle program allows businesses, retail stores, community, and public agencies to collect common rechargeable batteries in program boxes. The boxes are then shipped back free of charge at any weight. • Place boxes in well-travelled areas of the buildings where they will be highly visible. • Each location will be in charge of shipping their own box back when it is nearly full. Weight estimates should be kept for records.
Recycle rechargeable batteries from city/village operations (drill batteries, cell phones, laptop batteries, etc.).
Encourage individuals and community groups to recycle rechargeable batteries.
Have rechargeable battery drives at community events.

WEB Resources:

Recycling Battery Recycling Corporation
<http://www.rbr.org/>

Keep Cincinnati Beautiful-Recycling at Home-see batteries at the bottom of the page
<http://www.keepcincinnatibeautiful.org/index.php/main/show/428>

Plastic Bag Recycling

Fast Facts-

- Producing new plastics from recycled material uses only two-thirds the energy required to manufacture it from raw materials.
- Most plastic bags are recycled into composite lumber but can also be reprocessed into small pellets which can become feed stock for a variety of products such as new bags, pallets, containers, crates, and pipe (ACC, 2007).

Actions for Local Governments:
Require retailers that use plastic bags to have drop boxes at each location.
Purchase products made from recycled materials (benches, picnic tables, and piping) for use in community areas.

WEB Resources:

ACC (American Chemistry Council) (2007). Retrieved October 2008 from the World Wide Web: www.plasticbagrecycling.org.

Hamilton County Solid Waste District – Drop Off Sites
<http://www.hcdoes.org/SWMD/Residents/Recycling/DropOff.html>

Strategy: Waste Management

Waste Reduction

Fast Facts-

- Waste reduction is the most effective method for reducing the need for landfill space and reducing carbon emissions.
- Even recycling contributes to some amount of carbon emissions through reprocessing of recycled materials and transportation of materials to processing centers.
- Waste reduction saves money by eliminating the costs to dispose of waste and replace materials and supplies.

Actions for Local Governments:
Set your photocopiers and printers to print on both sides by default.
Make computer files, not paper files when possible.
Encourage staff to use reusable coffee mugs and dishes in office lounges.
Invest in rechargeable batteries and battery chargers for supplies that require batteries.
Buy only what you know you will use.
Perform an organization wide waste audit, throughout all operations, to identify heavily produced wastes and strategies for reducing waste produced and sent to landfill.

WEB Resources:

- Hamilton County Solid Waste Management District-Industrial and Commercial Programs
<http://www.hcdoes.org/SWMD/Businesses/businesses.html>
- Tips on reduction from the California Integrated Waste Management Board:
<http://www.ciwmb.ca.gov/WPW/Coordinator/>.
- The story of stuff by Annie Leonard: <http://www.storyofstuff.com/>.
- Waste reduction tips from the Pennsylvania Department of Environmental Protection:
<http://www.dep.state.pa.us/dep/deputate/airwaste/wm/RECYCLE/facts/reduce.htm>.
- More waste reduction tips: <http://www.recycle.cc/tips.htm>.
- Success story on waste reduction, the state of Ohio, from the EPA:
<http://www.epa.gov/epawaste/partnerships/wastewise/success/state.htm>

Reusing

Fast Facts-

- The amount of waste doubled from 2.7 to 4.6 pounds per day for an average person in the last few years (USA EPA, Nov '2008)
- Almost 2-5% of the solid wastes generated are reusable. (USA EPA, Nov '2008)
- There are more than 6,000 reuse centers that are available throughout the country which includes Good Will and the Salvation Army. (USA EPA, Nov '2008)
- Reusing provides incentives by lowering the costs of recycling, composting, land filling and combustion, and in turn, contributes to the reduction of green house gases. (USA EPA, Nov '2008)

Actions for Local Governments:
Encourage residents/businesses to reuse more and more.
Have regular meetings to increase the awareness.
Encourage bulk or wholesale selling.
Have specific dates when all the charities can get together at a place where people can donate their old items.
Establish a reuse program/network.

WEB Resources:

- Goodwill Industries-Public Policy Priorities
<http://www.goodwill.org/page/guest/about/publicpolicypriorities>
- Salvation Army Cincinnati:
<http://www.salvationarmycincinnati.com/>
- Building Value-Non-profit Reuse Center
<http://www.buildingvalue-cincy.org/>
- ReSource- Building Stronger Non-Profits
<http://www.resourceweb.org/>
- ReStore-Habitat for Humanity Building Supply Store
<http://www.habitat-tristate.org/restore/index.php>
- Monroe County Solid Waste Management
http://mcswwmd.org/index.php?option=com_content&task=view&id=122&Itemid=113
- US EPA
<http://www.epa.gov/epawaste/conserv/rrr/reduce.htm>
- Virginia Department of Environmental Quality
<http://www.deq.virginia.gov/waste/reuse.html>
- Minnesota Consumer's Handbook for Reducing Waste
<http://www.pca.state.mn.us/oea/reduce/handbook3.cfm>
- Wabash County Solid Waste Management District
<http://www.slashthetrash.com/reuse.htm>
- Escambia County, Florida
http://www.co.escambia.fl.us/departments/solid_waste_manag/Recycling-HelpfulHints.php
- San Diego Waste Management
<http://www.wastemanagementsd.com/env/reuse.asp>
- Brevard County Solid Waste Management
<http://www.brevardcounty.us/swr/reusedir.cfm>
- State of Arkansas Department of Environmental Quality
http://www.adeq.state.ar.us/solwaste/branch_recycling/electronics_reuse_and_recycling.htm

Reducing Trash Going to Landfills

Fast Facts-

- It is important that alternatives are found to properly dispose of garbage.
- Increasing recycling not only reduces the amount of land required for disposal but also saves energy, reduces carbon emissions and promotes economic development through the enhanced industrial activity.
- Usually about 70% of most waste is recyclable material.
- Increasing national recycling could reduce waste from 28% to 35% reducing carbon emissions by 9.8 million metric tons of carbon equivalent (MTCE).

Actions for Local Governments:
Encourage communities to reduce, reuse, and recycle---pass ordinances, create policies, and set goals for community recycling and waste reduction efforts.
Establish recycling and waste reduction programs as a part of all government operations.
Initiate programs to ensure every community resident possesses a recycling bin and understands proper usage.
Reduce office waste going to landfills.
Enact policies/ordinances to encourage zero waste to landfills.
Buy items with as little packaging as possible.
Buy locally-office products, supplies, foods etc. produced in the tri-state area.
Develop clean incinerators for the burning of certain garbage.
Use some household waste for bio-methane.
Initiate pay-as-you-throw systems which charge for each bag or bin of garbage collected. http://www.miller-mccune.com/article/657
Employees work one day at home per week to reduce office waste. http://www.doh.state.fl.us/Environment/greenPlanforDOH.txt
Lobby state/federal legislators to pass laws requiring manufactures to collect and recycle used goods.
Ensure waste collection, disposal and recycling contracts are written in a manner which provide economic incentives for the community to increase recycling efforts. Build upon these efforts to ensure community residents understand the importance of recycling to the financial health of the community.
Explore solid waste and recycling consortiums with surrounding jurisdictions as a means of enhancing recycling programs and reducing costs of collection and disposal.
Investigate outsourcing of solid waste collection operation as a cost of savings mechanism; thereby freeing up financial capacity for additional recycling and waste reduction programs.
Mandate recycling in businesses of a certain size.
Ensure zoning codes allocate space for recycling containers and not just waste dumpsters.
Pass a LEED policy at the local government level to ensure internal construction projects comply with strict standards for waste reduction and recycling.
Encourage employees and staff to reduce, reuse, and recycle.
Hold seminars, and workshops on the importance of reducing wastes to landfills.

WEB Resources:

- Foundation to Recycle all Waste, P. O. Box 58050, Tulsa OK 74158.
- Governor Granholm Signs New Laws to Reduce Trash into Michigan Landfills
<http://www.michigan.gov/gov/0,1607,7-168--89408--,00.html>.
- Waste not, sort a lot
Landfill nearly full; officials stress recycling to reduce trash.
[Lance Cpl. Bryan A. Peterson](http://www.okinawa.usmc.mil/public%20affairs%20Info/Archive%20News%20Pages/2007/070615-recycle.html)
<http://www.okinawa.usmc.mil/public%20affairs%20Info/Archive%20News%20Pages/2007/070615-recycle.html>.

- Residents urged to reduce trash to save on hauling
<http://www.daytondailynews.com/green/content/oh/story/news/local/2008/05/15/ddn051608trashinside.html>.
- At Clean Plants, It's Waste Not <http://www.wired.com/science/planetearth/news/2005/08/68448>.
- Zero Waste, Recycling and Climate Change http://www.grrn.org/zerowaste/climate_change.html.
- Reducing Carbon One Garbage Can at a Time
<http://www.miller-mccune.com/article/657>.
- Landfill Gas to Energy
<http://www.landfillgastoenergy.com/>.
- Landfills: Harzadiious to the Environment <http://www.zerowasteamerica.org/Landfills.htm>
- Turning Tech Green in Europe
http://www.businessweek.com/bwdaily/dnflash/jan2005/nf20050118_0815_db089.htm

Public Education and Awareness

Fast Facts-

- Education and awareness is a powerful tool for waste management.
- Education and awareness provides avenues for teaching citizens on ways they can reduce waste.
- Education and awareness can take the form of holding public seminars, distributing written flyers, and outreach through various forms of media including public access television.
- The best way to educate people is through proactive action.

Actions for Local Governments:
Recognize, popularize, and celebrate America Recycles Day (November 15)
Design campaigns that target how extra waste is generated around the holidays such as Christmas and Thanksgiving.
Share information about how to purchase items that come with less packaging.
Provide environmental shopping tours in stores to help consumers better understand the complexity of the country's solid waste stream.
Form community groups for recycling organic waste.
Form action groups to reduce junk mail.
Set aside a consumer awareness week event to make residents aware of the type of waste they personally throw away and help relate it to their buying decisions.
Encourage citizens to contact manufacturers to voice their concerns.
Provide guides to repairing, reusing and renting goods.
Develop guidebooks to highlight the businesses that provide systems to keep goods out of landfills.
Evaluate and promote use of environmental roundtables. The aim is to bring together key citizens and business leaders in your area to talk about waste reduction issues on a regular basis.

WEB Resources:

- Keep Cincinnati Beautiful
<http://www.keepcincinnatibeautiful.org/>
- Keep America Beautiful
<http://www.kab.org/site/PageServer?pagename=index>
- California Integrated Waste Management Board:
<http://www.ciwmb.ca.gov/WPW/Coordinator/media.htm>
- Zero waste Alliance:
<http://zerowaste.org>

- *Harnessing Collective Intelligence to Address Global Climate Change*, Thomas W. Malone and Mark Klein <http://www.mitpressjournals.org/doi/pdf/10.1162/itgg.2007.2.3.15>
- 100 Climate Change Councils-releasing our collective wisdom to take massive action on climate change (UK) <http://www.climatechangecouncils.com/2008/08/harnessing-collective-intelligence-to-address-global-climate-change.html>

Strategy: Food Production

Community Gardening

Fast Facts-

- Community gardens sequester carbon and reduce reliance on packaged foods.
- They reduce landfill space by reducing the need to dispose of packaging and increase community pride.
- They promote healthy diet and beautify communities.
- They reduce reliance on imported fruits and vegetables that increase carbon through shipping of produce to markets.
- Community gardens increase social interaction, improve the quality of life for people in the neighborhood. They reduce food costs and save resources (ACGA, 2008).
- Carbon Savings- each square foot of garden can sequester from about .3 to 2.5 lbs of carbon.

Actions for Local Governments:
Set aside spaces within the community for community gardening.
Promote community gardening through contests and recognition for community gardens.
Develop abandoned spaces within communities to establish community gardens.

WEB Resources:

- Civic Garden Center of Greater Cincinnati Neighborhood Gardens Program <http://www.civiggardencenter.org/HTML/NG.html>
- American Community Gardening Association, 2008. Retrieved on November 1, 2008 from <http://www.communitygarden.org/learn/starting-a-community-garden.php>.
- Detroit Agriculture Garden Resource Program Collaborative <http://www.detroitagriculture.org/>
- Slow Food-Detroit <http://www.slowfood-detroit.org/home.html>
- Common Ground: Grow Your Own Way <http://commongroundmag.com/2008/07/growyourown0807.html>
- Better Homes and Gardens: the NYT on urban gardening <http://gristmill.grist.org/story/2008/5/7/164633/9072>
- The Vertical Farm Project Update <http://www.ecogeek.org/content/view/988/73/>

Community Supported Agriculture (CSAs)

Fast Facts-

- Community Supported Agriculture (CSA) is a mutual commitment between a farm and a community of supporters which provides a direct link between the production and consumption of food. (Local Harvest- <http://www.localharvest.org/csa.jsp>).
- CSA members cover a farm's operating budget by purchasing a share of a seasons' harvest.
- Participating in a CSA or buying locally grown food keeps money within the community.
- One fifth of all fossil fuels in US are used for agriculture. Buying locally grown foods decreases dependence on fossil fuels.
- One member share is usually planned to provide the weekly vegetable needs of a family of four.
- Some CSAs offer "working shares", where members commit to working on the farm 3-4 hours a week in exchange for a discount on membership cost.

Actions for Local Governments:

Sponsor initiation of CSAs in your community.

Provide information of locations of CSA farms in your community.
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WEB Resources:

- Local Harvest-real food, real farmers, real community
<http://www.localharvest.org/>
- Local Harvest-Cincinnati Area CSAs
<http://www.localharvest.org/search.jsp?map=1&lat=39.085561&lon=-84.513589&scale=8&ty=0&zip=45999>
- USDA –National Agriculture Library –Community Food Systems
http://fnic.nal.usda.gov/nal_display/index.php?info_center=4&tax_level=2&tax_subject=276&topic_id=1344
- Central Ohio River Valley Local Food Guides
<http://www.eatlocalcorv.org/>
- Ohio Ecological Food and Farm Association
<http://www.oeffa.org/>
- Cincinnati Locavore-Celebrating the Ohio Valley Foodshed
<http://cincinnatiocavore.blogspot.com/>

Diet Choices

Fast Facts-

- Organic farms emit carbon that is recycled back into the farm, hence they are sustainable. (Science Creative Quarterly, 07-08).
- Agriculture emits 454.1 teragrams of Co2 which is equivalent to 6% of total carbon emission. (US EPA, 1990-2006).
- Methane emissions from manure management which includes domestic animal types, beef and animal dairy, represent 7% (i.e. 41.4 teragrams of carbon equivalence) of the total CH4 emission (US EPA, 1990-2006).
- Rice cultivation is the minor contributor of the carbon emission (approximately 5.9 teragrams of carbon equivalence) (US EPA, 1990-2006).

Actions for Local Governments:

Provide property tax incentives to farmers to encourage them to do organic farming.

Support local and sustainable food production.
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Encourage less energy usage.

Raise awareness about the various diet food choices.
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WEB Resources:

- Rocky Mountain Land Institute-Healthy Food Systems
<http://law.du.edu/images/uploads/rmlui/rmlui-sustainable-HealthyFoodSystems.pdf>
- Science Creative Quarterly, Issue 3, September 07- April 08
<http://www.scq.ubc.ca/organic-foods-healthy-alternative-or-just-another-fad/>
- US EPA Inventory for Agricultural Sector
http://www.epa.gov/climatechange/emissions/downloads/08_Agriculture.pdf

Buying Local Products

Fast Facts-

- Buying local is usually associated with farmers markets, however, food products are not the only things that can be provided locally.
- Local may not just refer to your jurisdiction; it may mean the state or the nation.
- Buying local helps the environment as well as the local and national economy.
- Reduce the use of beef by 25%. Livestock production is responsible for 18% of greenhouse gas emissions.
- All meat and poultry should be sourced from North America, 80% of the energy used by the food system comes not from growing the food, but by transporting and processing it.
- All fruits and vegetables should be sourced from North America, using seasonal local produce as a first preference and using tropical fruits only as "special" occasion ingredients. Most bananas have traveled 3,000 miles in high-speed refrigerated ships to reach an American breakfast plate. A local apple might be grown within 10 miles.
- Serving only domestic bottled water and reducing waste from plastic bottles -- Americans throw away 40 million plastic water bottles every day
http://www.ctahr.hawaii.edu/CS/blogs/sustainable_agriculture/archive/2007/08/07/buying-local.aspx

Actions for Local Governments:
Lobby at the state level for legislation to protect and encourage local farmers and manufacturers.
Develop slogans like "Shopping Local is a Green Choice" and create a marketing strategy to encourage residents to buy locally.
Create grant to encourage green initiatives to reduce carbon emissions.
Organize groups to educate community about the benefits of local purchasing.
Sponsor trade shows to raise awareness of local and green purchases that can be made.

WEB Resources:

- Purchase from local businesses, farmers markets, in local areas.
- Buy Cincy
<http://www.buycincy.com/>
- Local.com
http://www.local.com/results.aspx?keyword=purchasing&cid=665&gid=US_-_National&qclid=CJiN-e7G9pYCFQRFGgodS0wNXw
- EcoSherpa: Realistic, Responsible Living <http://www.ecosherpa.com/green-living-tips/buying-local/>
- Green Options <http://greenoptions.com/tag/buying-local>
- Buying Local: Not Just for Food, Not Just About Shopping <http://www.blogger.com/buying-local-not-just-food-not-just-about-shopping>
- Buying Local Helps The Neighbors
<http://yourbiz.msnbc.msn.com/archive/2008/01/25/601229.aspx>
- Toronto Buying Local Green Action <http://ecoworldly.com/2008/07/28/toronto-buying-local-green-action/>
- Support your community by buying local: Charlie Jackson's how-to guide for finding the freshest down-home fruits and veggies http://findarticles.com/p/articles/mi_m0KWZ/is_/ai_91398439
- Sustainable Agriculture: Buying Local
http://www.ctahr.hawaii.edu/CS/blogs/sustainable_agriculture/archive/2007/08/07/buying-local.aspx

Farmers' Markets

Fast Facts-

- Most farmers selling their produce through farmers markets grow their foods organically hence buying produce from a farmers' market is a healthy way of eating.
- Besides supporting local production and businesses, it helps reduce energy use through transportation and lesser packaging of food.
- Farmers Markets provide an avenue for people within a community to interact hand-in-hand with providing an outlet for agricultural foods grown locally.
- Farmer's Markets are fast becoming common in many communities across the country.
- Many people are forgoing major chain stores to find Farmers Markets for organic and truly freshly grown fruits and vegetables.
- If you own a Farmers Market and you want to be found, you need to promote your service and your location.
- Farmers Markets establish friendships and renew a sense of community for residents.

Actions for Local Governments:
Sponsor initiation of Farmers Markets in your community.
Designate spaces within cities and townships where farmers can sell their produce.
Involve a wide range of individuals, organizations and businesses to make use of existing talents and resources in the community in starting and running a Farmers Market.
Provide financial incentives, such as tax breaks on farm produce, for farmers within your jurisdiction.
Create a Farmers Market calendar centered around availability of local produce.
Sponsors events for or awards for local farmers.

WEB Resources:

- Taste the Local Difference
http://localdifference.org/forum/topic.asp?TOPIC_ID=82
- Portland Farmers' Market
<http://www.portlandfarmersmarket.org/>
- Farmer's Market Online: <http://www.farmersmarketonline.com/howto33.htm>
- Farmers Market Dot Com: <http://farmersmarket.com/>

Composting

Fast Facts-

- Yard trimmings and food materials constitute up to 24% of municipal solid waste (US EPA, 2008).
- When yard waste and food materials are composted, they create organic fertilizers. Applying this to agricultural fields can increase the amount of carbon stored in these soils and significantly contribute to the reduction of carbon (SAGE, 2008).
- Carbon sequestration in soils has been recognized as a possible way through which greenhouse gases such as carbon can be mitigated.
- According to a European study, about 8.6% of the total EU emission-reduction objective could be met if 20% of the surface of agricultural land could be used as a sink for carbon (SAGE, 2008).

Actions for Local Governments:
Provide a collection facility for compostable materials.
Hire a coordinator for the facility. The end product of the facility can be used in public landscaping.
Create ordinances that allow backyard composting.
Purchase methane digester. Methane that is collected can be used to replace some use of fossil fuels.

Host programs to teach community members about backyard composting.

Provide yearly composting bin sale where they are offered at a reduced rate.
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WEB Resources:

- Hamilton County Solid Waste Management District-Backyard Composting
<http://www.hcdoes.org/SWMD/Residents/Yardwaste/ywcompost.html>
- Hamilton County Solid Waste Management District-Compost Demonstration Sits
<http://www.hcdoes.org/SWMD/Residents/Yardwaste/ywcompostdemo.html>
- Hamilton County Solid Waste Management District-Recycling Yardwaste in Your Community
http://www.hcdoes.org/sw/Yardwaste/yardwaste_in_community.htm
- SAGE (25 Feb 2008). "Compost can turn agricultural soils into a carbon sink, thus protecting against climate change." Retrieved October 2008 from the World Wide Web:
http://www.eurekalert.org/pub_releases/2008-02/spu-cct022208.php.
- US EPA (US Environmental Protection Agency), (7 October 2008). "Composting." Retrieved October 2008 from the World Wide Web:
<http://www.epa.gov/osw/conservation/rrr/composting/index.htm>.