

# Green Living Program Toolkit

## A Resource for Living More Sustainably in Louisville, Kentucky



SUSTAIN *Louisville*

Welcome to the ONE BRIGHT CITY Green Living Toolkit! The Office of Sustainability and Brightside have partnered to develop this set of webpages to guide residents' efforts to live more sustainably in Louisville, Kentucky. For each criterion in the Green Living program, the Toolkit provides a definition, an explanation of the action's importance, a description of how to accomplish the task or activity, and where to find more resources. The Toolkit also provides ways to go beyond the criteria in the Green Living Program, listing additional ways to reduce energy consumption, waste and more. We hope you find the guidance useful, and we welcome your feedback on ways to improve its content.

### Household Achievements

#### Air Quality

#### Reducing Emissions from Mowing the Lawn

Gas-powered lawn equipment pollutes the air. In fact, one hour of mowing with a typical gas-powered lawnmower produces the same amount of smog-forming pollution as driving your car for 200 miles—enough to go from Louisville to Nashville. These emissions contribute significantly to ground-level air pollution and are especially harmful to sensitive groups such as children and the elderly.

#### *Grow More, Mow Less*

Grow More, Mow Less is the concept of replacing turf grass with plants you do not have to mow. Examples include trees, shrubs, flowers, groundcover, edible plants and even low-mow grasses. Low-mow landscaping can save you time, money and hassle – and make our air cleaner – all at the same time.

How can I do it?

The Air Pollution Control District (APCD) provides a list of [six steps to convert turf grass to low-mow landscaping](#).

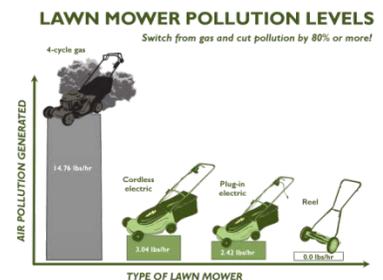
Resources

- [Grow More Mow Less website](#)
- [Grow More Mow Less on Facebook](#)

#### *No-fuel and electric lawn equipment - Lawn Care for Cleaner Air*

If you prefer to keep your turf grass, you can still cut down on air pollution by switching to electric-powered lawn equipment, or even equipment that requires no fuel at all. There are two types of electric lawn equipment – corded and cordless. A variety of electric equipment types are widely available, including lawn mowers, trimmers, and blower/vacs. The most common example of lawn equipment that uses no fuel at all is a cylinder mower – also called a reel mower.

How can I do it?



APCD offers [rebates](#) to residents in Jefferson County who purchase a variety of electric lawn equipment, including electric mowers; string trimmers; leaf blower/vacs; replacement batteries for cordless string trimmers, blower/vacs, and mowers; and reel (aka “push”) mowers. Rebates are available through participating dealers at the point of sale and through non-participating dealers by mailing in your purchase information. A larger rebate can be obtained by recycling a gas-powered version of your lawn equipment.

### **Idle Free**

How many times have you let your car run while picking up someone? Or maybe you hopped in and started the engine – and then decided to fire off a few text messages? A vehicle is idling when its engine is running but it’s not moving, and that’s a waste of fuel and a source of unnecessary air pollution. Experts also say that too much idling actually can harm a modern, high-tech engine!

Going “idle free” means committing to turning off your car or truck engine when you are stopped for 10 seconds or more. Reducing the amount of time a vehicle is idling improves air quality and helps protect human health, because vehicles emit a variety of air pollutants, including particle pollution, volatile organic compounds (which contribute to ozone), toxic chemicals, and greenhouse gases. These pollutants can lead to increased rates of cancer, asthma, and other respiratory illnesses.

Reducing or eliminating idling also reduces wear and tear on your vehicle, and saves you money at the gas pump. In fact, excessive idling can actually be a bad thing for your vehicle – when you are idling, the engine does not operate at peak temperature and fuel is only partially combusted, leading to the buildup of fuel residues on cylinder walls that can damage engine components and lower your gas mileage.

An hour of idling time wastes more than a gallon of gasoline in a 4-cylinder vehicle, more than four gallons in an 8-cylinder vehicle, and approximately one gallon in a diesel vehicle. And contrary to myth, idling longer than 10 seconds wastes more fuel than turning off the engine and restarting it.

#### *How can I do it?*

Members of households can go idle free by eliminating unnecessary idling, such as when they pick up the kids at school or stop at a bank or fast-food drive-thru.

#### *Resources*

- [Kentuckiana Air Education](#)
- [Idle Free Louisville](#)
- [Idling 101](#)
- [Idle Free Myths and Facts](#)

## **Alternative Transportation**

### **Alternative transportation methods**

Alternative transportation means getting from one place to another using a method other than driving alone. Examples include walking, bicycling, carpooling or taking the bus. Using alternative modes of transportation helps improve air quality, reduces congestion and greenhouse gas emissions, saves money spent on gas and reduces wear and tear on your vehicle.

#### *How can I do it?*

There are many resources in Louisville to help you [plan your TARC route](#), [join a carpool](#), [vanpool](#), [schoolpool](#) or [bikepool](#), and [find a safe bicycling route](#). Louisville’s bike share program is coming soon!

#### *Resources*



- [Bike Louisville Homepage](#) – lists many bicycling resources
- [Falls City Community Bikeworks](#) - a community bike shop and a place to learn and do bicycle maintenance and repair
- Car-sharing in Louisville
  - [Enterprise Car Share](#)
  - Zipcar – *coming soon!*

## Energy

### Demand Conservation Program

When you sign up for [LG&E's Demand Conservation Program](#), LG&E will install a device on your central air conditioner, electric water heater or heat pump that will reduce your energy demand during peak hours. LG&E sends a signal to the device instructing it to safely cycle off for 10 to 12 minutes each hour. Most participants are not aware when their air conditioner is cycled off through the program. In return for signing up for the Demand Conservation Program, LG&E will credit your summer utility bills. Credit amounts vary according to the type of home.

The Demand Conservation Program saves consumers money and helps LG&E reduce energy consumption during peak demand days. During peak demand, LG&E is required to provide electricity in significantly higher amounts than normal. Peak demand is what dictates the size of generators and power plants. So, if Louisville can reduce its peak electricity demand, we can help reduce the size of the power plants needed to supply energy in Louisville thereby reducing the amount of fuel needed to provide electricity.

*How can I do it?*

LG&E consumers can sign up on [this website](#).

*Resource*

- [How demand conservation works](#)

### Energy Star Pledge

The Energy Star Pledge is a national campaign that asks people to commit to making small changes in their home and communities with Energy Star qualified products and energy-efficient practices that will save energy, save money and help lessen the impacts of climate change. Individuals who take the pledge can commit to actions such as replacing light bulbs with an energy efficient model, turning off the lights, enabling a computer to power down when not in use and purchasing and properly using a programmable thermostat.

By taking the Energy Star Pledge, you are demonstrating your commitment to take energy saving actions that will reduce greenhouse gas emissions and help protect our climate. In Kentucky, almost all of our electricity comes from coal. Burning coal releases carbon dioxide into the air, which traps heat in the atmosphere and raises the temperature around the world. Warmer temperatures will change weather patterns, increasing the chances for more intense storms, heat waves, droughts and other dangerous weather events. Reducing the amount of electricity we use puts less carbon dioxide in the atmosphere. Using less electricity saves money, too—making efficiency upgrades and behavior changes can cut utility bills by twenty to thirty percent.

*How can I do it?*

Individuals can [take the Energy Star Pledge online](#) or contact Brightside to receive a paper form.

*Resource*

- Visit [Energy Star's website](#) to view resources to help you follow through on your commitment, or to find other projects to help you save energy.

### Water heater temperature

The temperature of the water coming out of your electric or gas hot water heater can be adjusted to reduce the amount of energy it takes to keep the water warm. All water heaters, whether gas or electric, have a temperature set-point

knob. The recommended set point is at or below 120°F, “warm” or “B,” depending on the nomenclature used, to conserve energy and maintain a comfortable amount of hot water in your home.

Keeping water warm in the tank of a hot water heater requires energy. Turning your heater down a few degrees can cut your energy consumption and water-heating costs by six to 10 percent<sup>i</sup>. Water heaters account for approximately 17 percent of a home’s energy use<sup>ii</sup>. Using a lower hot water heater temperature set point also is safer for homes with children and/or the elderly.

#### *How can I do it?*

First, determine whether you have an electric or gas hot water heater. Gas hot water heaters usually have an exposed knob. Electric hot water heaters usually have a temperature set-point knob located behind a removable panel.

#### Electric Hot Water Heater

1. Using the circuit breaker (i.e. electrical box), turn off the power to your electric hot water heater.
2. Remove the side panel(s) on the hot water heater, revealing the temperature dials. Many electric hot water heaters have two panels – one for the upper tank, and one for the lower tank. Other tanks have one panel that must be removed to access both temperature dials. Follow these steps for each panel. Once the panel is removed, you may have to temporarily remove insulation.
3. Once the panel is open, identify the different parts. The red knob is the reset button in case of a power surge. There will also be a thermostat control knob.
4. Next, adjust the temperature knob to 120°F or lower. Some electric hot water heater thermostats have numbers and others have letters.
  - a. For thermostats that use numbers to display the temperature set point, use a small flat-head screwdriver to turn the upper thermostat to 120°F and the lower thermostat (located in the lower panel) to 110°F. Turning the screwdriver clockwise will turn the temperature up, and turning the screwdriver counterclockwise will turn the temperature down.
  - b. You’ll also use a flat-head screwdriver to adjust thermostats with letters. Higher letters indicate hotter temperatures (e.g., C is hotter than A).
5. Once you have completed the adjustment, replace the insulation and access panels, and turn on the circuit breaker.

#### Gas Hot Water Heater

1. Look for the temperature dial on your gas hot water heater. It is usually located on the front of the water heater, and will not be hidden by a cover. It should have “hot”, “warm” and “vacation” settings, or a set of “A,” “B” or “C” settings. (The vacation setting keeps the pilot light burning, but does not keep the tank water warm).
2. Place the dial at “warm” or at “B” or below to obtain energy-savings. If someone is unsure of the setting necessary to reduce water temperature, she/he can check their water heater handbook for a temperature chart or measure the temperature of a cup of hot tap water using a thermometer four hours after the temperature dial has been adjusted.

#### *Resource*

- [Step-by-step instructions on lowering your water heating temperature from the U.S. Department of Energy](#)

## **Health and Wellness**

### **Regular exercise**

Louisville’s Department of Public Health and Wellness provides the following exercise recommendations:

- Children need 60 minutes of physical activity each day
- Adults need 150 minutes of moderate-intensity aerobic activity (e.g. brisk walking) every week or 75 minutes of vigorous-intensity activity each week

**Moderate-intensity aerobic activity** means you're working hard enough to raise your heart rate and break a sweat. One way to tell is that you'll be able to talk, but not sing the words to your favorite song. Here are some examples of activities that require moderate effort:

- Walking fast
- Doing water aerobics
- Riding a bike on level ground or with few hills
- Playing doubles tennis
- Pushing a lawn mower

**Vigorous-intensity aerobic activity** means you're breathing hard and fast, and your heart rate has gone up quite a bit. If you're working at this level, you won't be able to say more than a few words without pausing for a breath. Here are some examples of activities that require vigorous effort:

- Jogging or running
- Swimming laps
- Riding a bike fast or on hills
- Playing singles tennis
- Playing basketball

Regular physical activity is one of the most important things you can do for your health. It can help:

- Control your weight
- Reduce your risk of cardiovascular disease
- Reduce your risk for type 2 diabetes and metabolic syndrome
- Reduce your risk of some cancers
- Strengthen your bones and muscles
- Improve your mental health and mood
- Improve your ability to do daily activities and prevent falls, if you're an older adult
- Increase your chances of living longer

*How can I do it?*

Exercising for 10 minutes at a time is a great way to start. You can spread your activity out during the week, so you don't have to do it all at once. You can even break it up into smaller chunks of time during the day. It's about what works best for you, as long as you're doing physical activity at a moderate or vigorous effort for at least 10 minutes at a time.

*Resources*

- [Big 4 Bridge](#) – The Louisville ramp is approximately 1/4 mile (1,181 ft.), the bridge itself is approximately 1/2 mile (2,562), and the Jeffersonville ramp is approximately 1/4 mile, for a distance of 1 mile (2 miles round trip).
- [Louisville Loop](#) – The Louisville Loop is an estimated 100-mile trail system that will encircle the city and link existing and new parks and neighborhoods to civic attractions, transportation alternatives and recreation opportunities.
- [Mayor's Miles](#) - Mayor's Miles are a distance-marking system for walking paths. Ground markers and pole signs designate every 1/10th of a mile to help facilitate walking for groups and individuals. Find a Mayor's Mile near you!
- [Metro Parks – Find a Park](#)
- [Participate in Metro events, like the Mayor's Hike, Bike and Paddle](#)
- [Metro Parks Community Centers Fitness Classes](#)
- [Louisville Metro Health and Wellness Homepage](#)

### **Tobacco and smoke-free homes**

A tobacco and smoke-free household is one in which no members smoke tobacco or engage themselves or others in the use of any other tobacco products such as electronic vaping devices, cigarettes, cigars or chewing tobacco. According to the Surgeon General, smoking is the single greatest avoidable cause of disease and death. Children exposed to secondhand smoke are at an increased risk for sudden infant death syndrome (SIDS), acute respiratory infections, ear problems and more severe asthma. Exposure of adults to secondhand smoke has immediate adverse effects on the cardiovascular system and causes coronary heart disease and lung cancer.

The ability to live in a smoke-free home is a choice that everyone should have. Unfortunately, for those who live in multi-family buildings such as apartments and condominiums, breathing secondhand smoke from neighboring units has become a real health problem. Secondhand smoke exposure is dangerous at any level, and secondhand smoke often seeps into neighboring units under doors and through cracks in the walls, ventilation systems and open windows.

#### *How can I do it?*

Households can commit to being tobacco and smoke-free. Individuals in need of assistance can contact Louisville Metro's Department of Public Health and Wellness, which offers a [Tobacco Prevention and Cessation Program](#). Landlords can take action by prohibiting smoking in and around multi-family housing, renting non-smoking units and establishing non-smoking common areas.

#### *Resources*

- [Smoke-free Homes Community Action Kit](#)
- [Smoke-Free Homes Help for Landlords](#)
- [Smoke-Free Housing – a Toolkit for Residents of Federally Assisted Public and Multi-family Housing](#)
- [Bringing Smoke-Free Policies Home](#)

## Healthy, Local Food

### **Maintain a vegetable garden**

A vegetable garden can be planted in your yard, at a community garden plot or in containers on your porch or deck. Growing a vegetable garden is cost-saving and eliminates emissions coming from the trucks that drive food from the farm to the grocery store or another food retail outlet. Homegrown vegetables have better flavor and higher nutrition content than vegetables purchased at a grocery store.

#### *How can I do it?*

Choose foods to grow that you like to eat and then get planting! Start small if you are new to gardening and ask a friend with some experience to help you get started. Tomatoes, kale, lettuce, zucchini, radishes and basil are easy plants for beginners and grow well in Louisville. In addition to the many nurseries in Louisville that sell plants and seeds, there are a number of organizations that offer free and low-cost gardening instructions. See the resources list below for more information.

#### *Resources*

- [Brightside NatureScape Grants](#) – a grant for establishing community gardens in Louisville
- [Louisville resources for establishing community gardens and urban farms](#)
- Plant and Seed Sales:
  - [Frank Otte Nursery](#) (multiple locations)
  - [Fresh Start Grower's Supply](#)
  - Home Depot
  - [Louisville Grows](#)
  - Lowe's
  - [New Earth Garden Center](#)
  - [St. Matthew's Feed and Seed](#)
  - [The Plant Kingdom](#)
  - [Thienemans Herbs and Perennials](#)
  - [Wallitsch Nursery and Garden Center](#)
  - Walmart
- Gardening Information:
  - [15,000 Farmers](#)
  - [Bernheim Arboretum and Research Forest](#)
  - [Center for Neighborhoods Green Institute](#)
  - [Community Farm Alliance](#)
  - [Community Gardens in Louisville](#)
  - [Cooperative Extension Service](#)
  - [Jefferson County Extension Services](#)
  - [Jefferson County Master Gardener Association](#)
  - [Lots of Food](#)
  - [Louisville Grows](#)
  - [Louisville Metro Government](#)
  - [Yew Dell Botanical Gardens](#)
  - [Your Local Library](#)

### **Purchase local food**

Food is considered local if it comes from the surrounding region. Some people define it as coming from within 100 miles, but there are lots of other ways to define local. Local food is better for the environment, the economy and your taste buds. Because it travels fewer miles before it reaches your plate, purchasing local food reduces emissions from trucks driving it from the farm. Local food is often, though not always, produced on diversified farms – farms that grow lots of different things. Diversified farms require smaller amounts of fertilizer and pesticides compared to food grown in monoculture – or one crop grown in high quantities. Purchasing food grown close to Louisville is better for the local economy because it keeps money in the hands of local business owners—farmers! Finally, local food has more flavor because it is eaten closer to the time it is picked and because it ripened in the field rather than in a warehouse.

*How can I do it?*

Local food can be purchased at many locations around Louisville, including [farmers' markets](#), [Fresh Stops](#), stores and restaurants, as well as through caterers. Community Supported Agriculture (CSA) shares, another option for purchasing local food, give families and individuals a share of local produce from a farm through a direct investment in the harvest. A list of places to buy local food, including CSA programs, is on the [Louisville Farm to Table website](#).

*Resource*

- [The Senior Farmers' Market Nutrition Program for low-income seniors](#)

## Stormwater Management

### **Divert rain water from Louisville's combined sewer system**

Disconnecting downspouts, installing rain barrels and planting rain gardens – all mechanisms for diverting rain water from Louisville's drainage system – can help prevent combined sewer overflows. During storms, large quantities of water are diverted into the stormwater drainage system, which flows into the Ohio River or Beargrass Creek. The area inside Louisville's Urban Services District has a Combined Sewer System that was designed to drain stormwater and residential sewer systems into the same pipe. When too much rain falls at a time, the combined sewer system can overflow into creeks, streets or buildings. These overflows contain untreated wastewater that affects human health.

*Disconnected downspout*

Downspouts direct water from roofs and gutters into the Combined Sewer System. Disconnecting downspouts diverts the water from the sewer system toward a rain barrel, yard or garden.

*How can I do it?*

MSD produced an appendix to its "How-to Guide for Building your Own Rain Garden" that explains [how to disconnect a downspout from your home](#) (see page 16).

*Rain barrels*

Rain barrels collect and store rain water diverted from roofs that would otherwise enter the stormwater drainage system. The water collected in a rain barrel can be used to wash your car or water your yard, vegetable or flower garden.

*How can I do it?*

Metro TV and MSD partnered to produce [an instructional video on how to install a rain barrel](#), and the University of Kentucky Cooperative Extension Service offers [a publication on building a rain barrel](#).

*Rain gardens*

Rain gardens capture, absorb and filter water diverted from roofs, driveways or other paved areas during rain events. In addition to diverting water from Louisville's stormwater system, rain gardens can increase the appeal of your home, reduce the amount of grass to mow in your yard and reduce the potential for water retention in your yard.

*How can I do it?*

MSD's [rain garden reference guide](#) provides the steps needed to create a residential rain garden, a list of native plants and sources, and general planting and installation tips.

### **Native plants**

Native plants are those that have occurred in the region's natural habitat for thousands of years. Native species help support plants and wildlife that are supposed to be in our region and absorb more rainwater because their root system grows deeper than non-native species. In addition, if properly established, native plants are low-maintenance and require little or no fertilization.

#### *How can I do it?*

Planting native species is similar to planting any type of flower, grass or tree. The non-profit, Plant Native, offers detailed instructions on [How to Naturescape](#) – or plant native species. You can also join Brightside's annual [Native Planting Day](#) to gain hands-on experience planting native trees, flowers and plants.

#### *Resources*

- [Brightside's list of native trees and plants](#)
- [Lists of Kentucky nurseries and native wildflowers, grasses and plants from the Louisville Water Company](#)
- [The UK Cooperative Extension's list of native species](#)
- [The Kentucky Native Plant Society website](#)

### **Plant and maintain a tree**

Trees provide many benefits in Louisville. By providing shade, trees help reduce the urban heat island effect – a phenomenon where urban areas warm faster than neighboring, less developed regions. If strategically planted next to a building (on the west or south side), trees can reduce air conditioning needs by up to 30 percent and energy consumption 20 to 50 percent. In addition, trees absorb carbon dioxide, carbon monoxide, sulfur dioxide, nitrogen dioxide, ozone, small particulates and water during rain events, reducing the likelihood of stormwater overflow from Louisville's sewer system. Furthermore, studies have shown that trees improve real estate values.

#### *How can I do it?*

Brightside offers [tree planting instructions](#) and the Louisville Metro Tree Advisory Commission offers guidance on [tree care and maintenance](#). Individuals can register for Brightside's annual [Native Planting Day](#) to gain hands-on experience planting native trees. The Kentucky Division of Forestry offers [tree planting instruction and tips](#), [proper tree pruning techniques](#) and [other tree planting resources](#). Once you have planted the tree, log it on the [Louisville Tree Tracker](#) to help the mayor track his progress toward his goal to create a more robust tree canopy.

#### *Resource*

- [List of places to purchase trees](#)

### **Reduce graywater during rain events**

Reducing graywater – wastewater coming from washing basins such as sinks, dishwashers, showers and washing machines – helps reduce the burden on Louisville's stormwater system, especially during rain events. Not running the dishwasher, taking a shower or doing a load of laundry while it is raining are all behaviors households can implement to help prevent combined sewer overflows (CSOs) (see *Divert rain water from Louisville's combined sewer system* for an explanation of why preventing CSOs is important).

## **Waste Reduction**

### **Composting**

Composting is the process of turning food scraps and yard waste into a dark, earthy material called compost or humus. Bacteria, worms and fungi decompose the materials in the compost bin over several weeks. The resulting compost is rich in nutrients and can be used as an additive to make soil more fertile for plants.

Each year, almost three thousand pounds of trash go to the landfill for each Louisville resident—but most household waste can be composted! It's easy to do, and it saves tons of space in the landfill so less of our land has to be used to hold garbage. As landfills decrease in size, they release fewer harmful gases and fewer pollutants collected by rainwater that runs through the waste material, into the ground and finally into nearby rivers and streams. Homemade compost is also a free replacement for lawn and garden fertilizer.

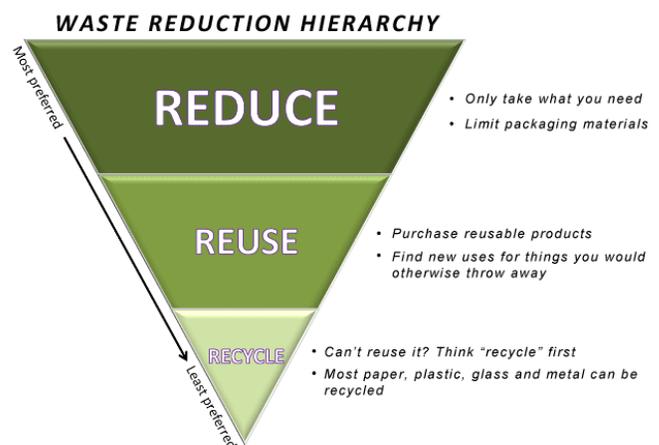
### How can I do it?

Options for compost bin construction vary according to cost, size, location and time limitations. The easiest way to start composting is to pile the materials on the ground. A garbage can or large plastic container with holes drilled or punched every six inches around the sides and on the bottom will also work. A larger compost bin can be constructed from wire mesh or wood. Indoor composting containers using earthworms – or vermicomposting – is a good option for apartment-style living. Once you have a bin, you can begin composting by adding acceptable food items and yard waste to the container. Details about composting and constructing composting containers are available from the [Louisville Metro Department of Solid Waste](#) and the [University of Kentucky Cooperative Extension Service](#). Compost bins are also available for purchase online. The UK Cooperative Extension Service offers an in-depth [home composting guide](#). If you have any questions about your compost bin, you may contact the Jefferson County Cooperative Extension Office at (502) 569-2344 or [visit their website](#).

## Recycling

Recycling takes materials that would otherwise be thrown away, such as paper, plastic and metal, and makes them into new products. Recycling centers can even reprocess items like batteries, old electronics and motor oil.

Reducing, reusing and recycling conserves landfill space, energy and natural resources. The best way to conserve natural resources and help our environment is to reduce consumption of things we don't really need. For example, if you don't need a bag, don't take one. If you own a business, look for ways to reduce unnecessary packaging materials. Reducing and reusing materials saves resources such as trees and metals from being harvested in the first place. Not only does the reuse of materials preserve the environment, it also saves energy since materials don't have to be extracted, shipped and processed. It takes twenty times more energy to harvest new aluminum than it does to recycle an aluminum can into a new one. When you can't reduce or reuse, look for ways to recycle.



### How can I do it?

Curbside pick-up is available for residents that live inside the Urban Services District. Enter your address in the ["My Louisville" tool at the bottom of the Louisville Metro Government homepage](#) to see your recycling pick up day. Recycling outside the Urban Services District is the responsibility of individual residents. Many small cities in Jefferson County have contracts with private haulers, so residents should contact their city administrator for recycling options. If you cannot participate in a recycling program through your city, or if you live in an unincorporated area, you can contract with a private waste hauler for recycling. There are also many [drop-off locations](#) in Jefferson County. Enter your address [here](#) to find out if you live inside the Urban Services District.

### Resources

- [What can I recycle?](#) (includes collection locations for hard to recycle items)
- [Video on what can be recycled in Louisville and where the recycling goes](#)
- [Electronics recycling info](#)
- [Order a recycling bin](#)
- [Benefits of recycling](#)
- [Receive \\$50 for recycling your refrigerator or freezer](#)
- Tough to recycle items:
  - [Turn your garbage into art by donating items to Good Garbage](#)
  - [Recycling Center Search](#)

## Reusable shopping bags

Using reusable shopping bags, which are typically made of cloth or a durable plastic, reduces raw material consumption, energy usage, litter and landfill needs. Plastic bags are made from petroleum products and natural gas and paper bags are made from trees. Since only 8% of plastic bags make it to the recycling bin, most end up as litter or in the landfill.

Plastic bags that litter the landscape ultimately end up in the ocean or clogging stormwater drains. Recycling plastic and paper bags is better than throwing them away, but recycling consumes a lot of energy that could be avoided if consumers only used reusable bags. Furthermore, plastic bags are especially harmful to wildlife which can be [harmed through ingestion or entanglement](#) (e.g., a turtle mistakes a plastic bag for food).

*How can I do it?*

Reusable bags are available for purchase at many retail outlets. Keep the bags in your car, in your purse or on your bike at all times for convenience. Remember that you can use cloth bags at the grocery and at other retail outlets as well.

## Water Conservation

### Check pipes for water leaks

Finding water leaks saves both water and money. A slowly dripping faucet can waste over a thousand gallons of water a year! Some leaks are easy to spot, but leaking pipes and running toilets can go undetected and can cost you money for months or years.

*How can I do it?*

The nonprofit Home Water Works provides written and video [instructions on how to check for water leaks in your home](#) using the water meter and checking individual water users.

*Resource*

- [Leak detection tips](#)

### Water conservation devices

Installing a low flow showerhead, aerated faucet or a toilet water conservation device conserves water and reduces the energy it takes to heat faucet water. Although water is plentiful in Louisville, taking steps to conserve water remains useful because it takes energy for the water company to treat water and pump water to your home.

#### *Installing a Low-Flow Showerhead*

A typical shower head releases between 5.0 and 8.0 gallons of water per minute; a low-flow showerhead reduces that amount to approximately 2.5 gallons per minute. Showerheads with a WaterSense label have flow rates of no more than 2.0 gallons per minute. Low flow showerheads cost around \$10 - \$20 each, and can save approximately \$250 per year on heating water costs and water use.

*How can I do it?*

Installing a low-flow shower head is as simple as unscrewing your old showerhead and replacing it with a new one. For more specific instructions, you can read the [U.S. Department of Energy's "reduce hot water use for energy savings" webpage](#) or watch the Sierra Club's [video on how to install a low-flow shower head](#). The Alliance for Water Efficiency provides an [overview of showerhead efficiency](#).

#### *Faucet Aerator*

For maximum water efficiency, purchase aerators that have flow rates of no more than 1.0 gallons per minute. Faucet aerators cost around \$1 to \$10 and can result in energy savings if hot water is regularly used.

*How can I do it?*

To install a faucet aerator, unscrew the tip of the faucet and replace it with a low-flow model. Demonstration videos are available online. The Alliance for Water Efficiency provides an [overview of faucet efficiency](#).

#### *Toilet Water Conservation Device*

There are several devices individuals can install to reduce the amount of water used in a toilet. Examples include toilet tank bags, a fill cycle diverter (typically used in older toilets), an early closing toilet flapper, a toilet dam and dual-flush conversion devices. Most devices cost \$1 to \$5 and save around ½ gallon per flush.

*How can I do it?*

The Alliance for Water Efficiency provides [instructions on selecting the most appropriate toilet retrofit device](#). Displacement products should only be used in toilets with a flush volume of 3.5 gallons or above. Using a brick as a water displacement device is not recommended. Bricks placed in water will break down over time, and the resulting sediment will clog your tank.

*Resource*

- [More toilet water-saving devices](#)

## **Neighborhood Engagement**

### **Petition for a neighborhood policy change**

Some neighborhoods have policies that are contrary to living more sustainably in Louisville. If enough members of the neighborhood agree that certain policies should be changed or eliminated, they can be. Drafting a petition is a good method for measuring and demonstrating neighborhood commitment to a potential change.

A petition is a document signed by many individuals to an official representative requesting a change in policy, action or standards. A neighborhood petition is typically signed by members of the neighborhood and submitted to an official neighborhood representative.

*How can I do it?*

A petition includes an explanation of the issue, a description of what is needed and why (this could include a list of well-researched reasons for making the request), a concise call to action specifically outlining the changes your neighborhood hopes to implement and a list of signatures with a place for residents to write in their address. Collecting signatures can be as simple as going door to door, attending a neighborhood meeting or emailing the document to your neighborhood listserv. Once you have a significant number of signatures, hold a meeting with your neighborhood's key decision-makers. At this meeting, explain the issue and present the petition as a representation of the amount of support.

## Other Sustainable Living Tips

### Air Quality

- [More Clean Air Tips](#)

### Energy Conservation

- [Other ways to save energy used by your hot water heater](#)
- Weatherization
  - [Weatherization assistance in Louisville](#)
  - [How to weatherize your home for the winter](#)
- [Energy saving tips from LG&E](#)
- [Saving money with natural lighting – UK Cooperative Extension Publication](#)
- [Sign up for free weatherization services through Project Warm](#)
- [Complete an energy audit of your home to see where you can improve](#)
- Tips from the U.S. Department of Energy
  - [Ways to save on electricity costs](#)
  - [How to save energy in the spring](#)
  - [How to save energy in the summer](#)
  - [Weatherizing your home for fall](#)
  - [Saving on home heating costs](#)
  - [How to save energy during vacation](#)
- [Other energy efficiency tips from the U.S. EPA](#)
- Install renewable energy
  - [Check out this list of renewable energy incentives available in Kentucky](#)
  - Purchase Renewable Energy Certificates

### Waste Reduction

- [Avoid purchasing bottled water. Instead, use a cup or a reusable water bottle.](#)
- [Learn about Louisville's Yard Waste Container Regulation](#)

### Water Quality and Conservation

- If you have a sprinkler system, use a rainfall shut-off device to automatically turn off your sprinkler during rain events and only water your lawn when absolutely necessary.
- [Tips for conserving water at home](#) – UK Cooperative Extension Service
- More water conservation tips are available on the [Home Water Works website](#).
- [Protecting Louisville's Water Quality](#)

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<sup>i</sup> U.S. Environmental Protection Agency. (2010). Energy Efficiency. Retrieved on August 25, 2014 from <http://www.epa.gov/p2/pubs/energy.htm>

<sup>ii</sup> U.S. Department of Energy. (n.d.). Home Water Heating. Retrieved on August 25, 2014 from <http://energy.gov/articles/askenergysaver-home-water-heating>