

What Can I Do?

While we often think of GHG emissions as emissions coming from major energy consumers such as utilities or public transit systems, **all of us** can reduce our carbon footprints and be better environmental stewards.

The CAP calls for both system-level changes as well as personal action to address emissions sources and uplift racial equity and social justice in areas such as transportation, buildings, energy, climate adaptation, and carbon sequestration.

You may ask yourself, “What can my family, friends, and I do in our everyday lives to combat climate change and create a more resilient Montgomery County?” A great place to start is to identify your current carbon footprint and commit to actions to reduce your own impact by following the steps in **Figure 39**.

STEPS

- 1 **Visit the EPA’s Carbon Footprint Calculator or the University of California, Berkeley’s Cool Climate Calculator**
- 2 **Calculate Your Carbon Footprint**
 - Energy
 - Transportation
 - Waste
- 3 **Take Action**

Figure 39: Identify your carbon footprint

Step 1: Visit the EPA’s Carbon Footprint Calculator or the University of California, Berkeley’s Cool Climate Calculator

Carbon footprint calculators such as the Environmental Protection Agency’s (EPA’s) **Carbon Footprint Calculator** or the University of California, Berkeley’s **Cool Climate Calculator** allow users to calculate their carbon footprint, compare their carbon footprint to other U.S. households, and identify actions to reduce their personal energy consumption.¹⁴⁰

Step 2: Calculate Your Carbon Footprint

To calculate your personalized carbon footprint, start by entering the number of people in your household and your zip code before answering entering key information to estimate your home energy, transportation, and waste carbon footprints. To calculate your footprint in each of these three areas, the calculator requests information to determine your current emissions and provides prompts to guide actions to reduce emissions.

- **Energy.** To determine your current emissions, indicate your household’s primary heating source as well as your average monthly utility bill cost for natural gas, electricity, fuel oil, and propane. To commit to actions to reduce your emissions, follow the guided prompts to save energy on heating and cooling, lighting, appliances, electronic devices, and washing and drying clothes.
- **Transportation.** To determine your current emissions, input the number of vehicles in your household as well as each car’s miles traveled and average gas mileage. To find

out how you can reduce your transportation emissions, answer questions related to vehicle maintenance, miles traveled, and purchasing a car with higher gas mileage.

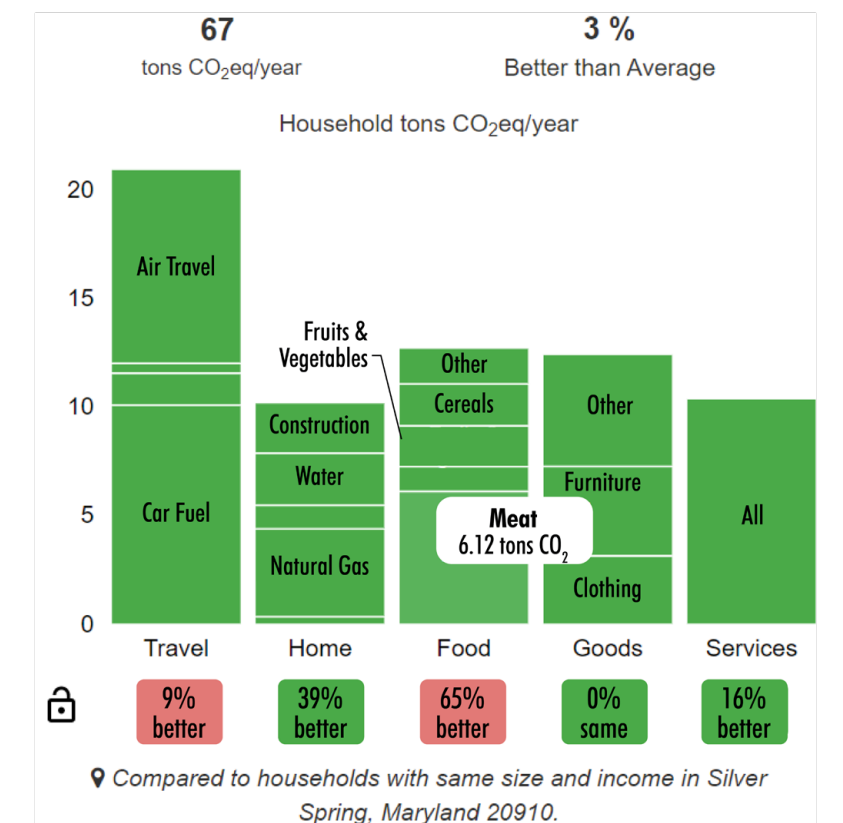
- **Waste.** To determine your current emissions, indicate if your household recycles aluminum and steel cans, plastic, glass, newspaper, or magazines. To make plans to reduce your emissions, mark what materials you would like to start recycling that you do not already recycle.

Step 3: Take Action

Based on your information, and depending on the calculator you select, the tools will generate your overall carbon footprint and break down your emissions of carbon dioxide per year into various categories, such as: energy, transportation, waste, shopping, and food. The calculator will also show you how your impact compares to similar households in the United States. Based on the commitments you entered to decrease your household GHG emissions, the calculator generates what your carbon dioxide reduction and cost savings would be after you took your planned actions. See the example display on the right from the University of California, Berkeley’s Cool Climate Calculator.

In addition to the actions recommended through the carbon footprint calculators, please consider the actions below that you, your household, or business can take to reduce emissions and build resilience.

Name	Tons saved	Dollars saved / year	Upfront cost	Status
More efficient vehicle	4.4	\$1,366	\$2,000	Select <input type="checkbox"/>
Purchase alternative fuel vehicle	5.4	\$1,691	\$17,000	Select <input type="checkbox"/>
Purchase electric vehicle	6.9	\$1,948	\$15,000	Select <input type="checkbox"/>
Purchase hybrid vehicle	4.4	\$1,366	\$15,000	Select <input type="checkbox"/>
Telecommute to work	1.0	\$545	\$0	Select <input type="checkbox"/>
Ride my bike	0.5	\$165	\$0	Select <input type="checkbox"/>



Source: University of California, Berkeley’s Cool Climate Calculator. Available: <https://coolclimate.berkeley.edu/calculator>

Actions to Lower Your Carbon Footprint

1. **Walk more:** Walking has no negative impact on the environment – but a great positive impact on you – and you can even **Plog** (pick up litter) while you are walking around to help keep our streets and neighborhoods clean. The International Journal of Behavioral Nutrition and Physical Activity recommends 10,000 steps for increased health benefits – but any amount of walking is better than no walking at all.
2. **Take a bike to your destination:** There are more than 80 Capital Bikeshare stations distributed across many parts of the County. Bikesharing is short-term bike rental – you can see how it works and where you can get a bike by visiting the [Capital Bikeshare website](#) or simply going to a bikeshare station kiosk. You can either pay online or at a kiosk with a credit card for a one-time ride or buy a membership. A Capital Bikeshare membership includes access to over 4,500 bikes and over 500 bike stations throughout the Washington, D.C. metropolitan area. There are e-bikes and dockless options available through the CaBi system as well. And the Capital Bikeshare For All program provides free bikeshare memberships – no credit card required – to those who meet income eligibility requirements.
 - » **Get on a Bike:** Riding a bike is healthy, fun, and a low-impact form of exercise for all ages, and biking has no carbon impact on the environment. For those who can purchase a bike, we recommend checking out local vendors in the County. If you need some assistance, MCDOT works with local organizations like Rockville Bike Hub and Bikes for the World to provide residents with bikes. MCDOT also runs BikeMatch MoCo to help match bike donors with recipients – both adults and kids. Go to www.montgomerycountymd.gov/commute for information.

COUNTY RESOURCE: Commuter Services

Implementing an ongoing telework program for those on your staff who are able to work remotely can be a major component of reducing your business's carbon footprint – and can save you money, too. Free nationally recognized consulting services are available from MCDOT/Commuter Services to help you every step of the way – just contact them at (240) 777-8380 or [commuter.services@montgomerycountymd.gov](mailto:services@montgomerycountymd.gov).

- » **Bike and Bus:** All Ride On and Metrobus vehicles have bike racks on the front of the bus – or for the Flash bus on Route 29, inside the bus. Biking part way and riding the rest continues to be a great way to make all your important connections in Montgomery County, get into shape, and protect the environment...all at the same time.
3. **Use public transportation:** Along with reducing air pollution, public transportation is also more fuel efficient per passenger mile, which contributes to an overall decrease in the amount of energy necessary for transportation. From Ride On (including Ride On extRa, Ride On Flex and Flash) to Metrobus to Metrorail, there are options to help you get everywhere in the County. Check with Commuter Services for any type of help you need related to taking transit: www.montgomerycountymd.gov/commute or (240) 773-8747.

4. **Combine errands:** If you are driving, save errands for one car trip, combine trips with friends, schedule trips to avoid rush hour traffic, and patronize one-stop shopping centers. Consider using car-sharing services (short-term car rental) rather than buying or leasing your own car. If you do not use your car very often, you may be able to save a lot of money by just renting a car from a car-sharing service or rental car agency when you need one for heavy-duty errands or trips where transit or other modes do not work as well.
5. **Service Your Car:** When your engine runs at peak efficiency, it reduces pollution. Change your oil regularly. Check air filters. Pay attention to that check engine light! Make sure your tires are properly inflated to the manufacturer's specifications. Low tires require more energy to move and maintain speed, which causes your engine to work harder—and you burn more fuel.
6. **Switch to electric or hybrid:** If you drive and are ready to upgrade your vehicle, consider replacing your gas-powered car with a new or used electric vehicle. Even if purchasing your next vehicle is a few years away, you can start planning now by learning about your options. There may be federal and state tax credits available.
7. **Telework one day (or more):** The Washington, D.C. area is consistently ranked as one of the top 10 worst cities for traffic. This is one good reason to leave the car parked 1 day a week (or more if possible!) – and another reason is to protect the environment. If you are an employer in the County, Commuter Services can help you set up a smoothly functioning telework program with the assistance of a nationally recognized consultant – free of charge. If you are an employee wanting to do more teleworking, Commuter Services has information and assistance available for you as well.
8. **Vacation closer to home:** Air travel is a big contributor to GHG emissions. Instead of flying to a location far away, look into vacation locations within driving, bus trip, or rail distance and take a vacation there. Or better yet, take a "staycation" and take in all that Montgomery County has to offer!
9. **Carbon offset your flights:** Carbon offsets are voluntary programs where people can pay to "offset" or make up for the emissions that their flights produce. The easiest option is to offset directly with the airline when you book your flight. You just pay an extra fee on top of the flight cost, which is donated to a carbon offset program. There are also third-party programs, so make sure you do your research.

Actions to Lower Your Carbon Footprint: Home Electricity Usage

1. **Schedule a home energy assessment:** Everyone in Maryland who pays their utility bill qualifies for home energy assessments. There are two options: (1) Quick Home Energy Checkup (QHEC) – there is no additional cost for this program, and it is a great option for renters as well as homeowners. This 45- to 60-minute checkup consists of a contractor coming into the home (there are some virtual options) and providing the resident with energy-saving measures such as LED light bulbs and a high-efficiency shower head. (2) Home Performance with ENERGY STAR® Audit – this is ideal for homeowners, since it costs \$100 for the assessment and is more comprehensive than the QHEC. This 2-hour audit includes a door blower test and provides residents with a list of recommended home retrofits to make their home energy efficient.
2. **Switch to LED lighting:** Making the switch to LED light bulbs offers significant energy savings over incandescent, halogen, and compact fluorescent alternatives. On average, LEDs consume 80% less energy than incandescent light bulbs. Make sure when you recycle those compact fluorescent bulbs that you **recycle right**.

3. **Pay attention to your thermostat:** Industry recommendations suggest you set your thermostat to 68 degrees in the winter and 78 degrees in the summer. Installing a programmable thermostat may be an option. Programmable thermostats can help make monitoring easy and human error-free. One suggestion is to set the thermostat to the suggested setting while you're awake and then lower it while you're asleep. Lowering your thermostat 10 to 15 degrees for 8 hours can reduce your heating bill by 5% to 15%.
4. **Use your appliances at the right time:** During the day, many people use their computers, electronics, and lights, creating peak demand. Using larger appliances at off-peak times of day can lower peak demand. In addition to shifting your energy usage, consider adjusting the way appliances are used by taking actions like the following: wash clothes with cold water and make sure you have a full load, use a lower heat setting on the dryer and use a dryer ball to help cut energy costs, and run the dishwasher only when it is full and scrape instead of pre-rinsing the dishes.

5. **Unplug small appliances when not in use:** Make sure electronics are turned off when not in use or set them to sleep mode to avoid vampire loads. Use power strips to uniformly shut off power to devices. Unplug chargers and other small appliances (like the coffee pot) when you are done using them. The energy costs of plugged-in appliances can really add up, and unplugging these devices could save you \$100 to \$200 a year.
6. **Take shorter showers:** Switching to a 5-minute shower can cut water use by almost half. Not only that, but by reducing the amount of hot water used in the shower, users can conserve water as well as the energy used to heat the water.
7. **Invest in ENERGY STAR® appliances:** By choosing ENERGY STAR®, a typical household can save more than \$575 on their energy bills and still enjoy the quality and performance they expect. At the end of your appliance's useful life, transition to electric appliances in anticipation of the electric grid becoming greener.
8. **Switch to clean energy:** Maryland is a choice state, meaning that you can buy your electricity from many different sources, including renewable energy sources such as wind and solar. Many suppliers offer green electricity for purchase by Montgomery County residents, but their offerings can be difficult to compare – due to differing terms, conditions, and other relevant considerations. Green-e is the trusted global leader in clean energy certification. They make it easy for businesses and individuals to purchase verified clean energy with confidence and for consumers to choose sustainable products and services.

COUNTY RESOURCE: Montgomery Energy Connection

Montgomery Energy Connection

is a program of Montgomery County that was created to be your link to energy savings. On this website, you will find information to help lower your utility bill, assistance to help pay your utility bills, information about switching to renewable energy sources, and other helpful hints about energy usage.

Use the Program Finder tool by inputting your housing type, zip code, household size, and household income to find out what programs are available to you.



COUNTY RESOURCE: Paying for Projects: Montgomery County Green Bank

This publicly chartered non-profit organization is dedicated to accelerating affordable energy efficiency and clean energy investment in Montgomery County. They have programs for residents and businesses. Visit <http://mcgreenbank.org/> for financing options.

9. **Switch to renewable energy:** As solar PV systems are expected to have lifetimes of 25 years or more, it is important for residents to have a good understanding of all aspects of the decision to "go solar."
 - » **Participate in Community Solar:** Community, or shared, solar makes it possible for anyone with an electric bill to access solar energy, even if they can't put it where they live. Residents receive the same benefit as installing solar panels on their roofs by subscribing to a large commercial project in the same utility area. Find more information at www.MontgomeryEnergyConnection.org
 - » **Join a Solar Co-op:** A solar co-op is a group of residents who come together in order to get better pricing and service on home solar installations. Members receive expert advice and guidance, removing much of the hassle of do-it-yourself installation. Solar co-ops make installing a solar system easy. The County has helped over 200 residents through this process since 2016.

- » **Install solar panels or a solar hot water heater:** The Maryland Energy Administration created a booklet entitled [A Maryland Consumer's Guide to Solar](#). If you're a Maryland resident considering solar power (also known as photovoltaics or PV), this guide will equip you with information you need in order to make sound decisions.
- » **Go Geothermal:** Installing a geothermal or geoexchange pump is another option for switching to clean energy. This system takes advantage of the stable temperatures of the soil by transferring heat stored in the earth into your home during the winter and transferring it out of your home and back into the ground during the summer. Geothermal systems can be initially expensive to install but typically pay off within 10 years.

10. **Plant trees:** Because trees use carbon dioxide to build their trunks, branches, roots, and leaves, they are natural carbon absorbers and help to clean the air. In fact, one mature tree can absorb up to 48 pounds per year! [The Tree Montgomery](#) program provides residents with shade trees.

Actions to Lower Your Carbon Footprint and Build Resilience for Your Business

1. **Schedule an energy audit:** An energy audit can help determine your baseline energy use and offer a clear outline for ways to save energy at work. Quick Energy Checkups (QECs) include a service provider visiting your business, making recommendations, and installing energy-efficient devices. Your service provider will install up to \$250 worth of these energy-efficient devices at no cost to you.
2. **Benchmark your energy use:** You can't manage what you don't measure, so tracking your energy use with a benchmarking tool (such as EPA's ENERGY STAR® Portfolio Manager) can help identify energy savings opportunities in your building and compare your performance against your peers.

High performers can also earn recognition with the ENERGY STAR® building label. The County can help: <https://www.montgomerycountymd.gov/green/energy/benchmarking.html>

3. **Switch to LED lighting:** Making the switch to LED light bulbs offers significant energy savings over incandescent, halogen and compact fluorescent alternatives. On average, LEDs consume 80% less energy than incandescent light bulbs.
4. **Invest in ENERGY STAR® appliances:** Before you buy or lease appliances, check to see if they are ENERGY STAR®-rated. An ENERGY STAR®-rated appliance has been evaluated and deemed energy efficient, which can save you money and help you manage your small business energy costs, especially in the long run. Choose electric (as opposed to gas) appliances if possible – this will become increasingly important as the electrical grid becomes cleaner.
5. **Install programmable thermostats:** Your building may not be open 24 hours a day, so a programmable thermostat will help regulate the temperature in your building.
6. **Look for deep retrofit opportunities:** Major systems upgrades such as HVAC upgrades, insulation, and window replacements, require planning and capital costs, but can provide a bigger return on investment with higher energy savings. Financing opportunities are available with EmPOWER Maryland incentives, Commercial Property Assessed Clean Energy (C-PACE) financing, and the Montgomery County Green Bank.
7. **Think outside the building:** Are you in control of the landscaping around your business? If so, you have a great opportunity to create energy savings for your small business with energy-efficient landscaping. Strategically planting trees to block winds or provide shade on hot summer days can help reduce your heating and cooling costs. Another way to reduce your carbon

footprint is to reduce the lawn area by half; many corporate lawns can be successfully transformed into low-maintenance planting beds that can include trees, native flowers and groundcovers and that will require routine, but not weekly, maintenance. Other options would be to both reduce your carbon footprint and add voluntary stormwater management through installation of a RainScapes Rain Garden or Conservation Landscape.

8. **Become a Certified Green Business:** The Green Business Certification Program helps businesses to green their day-to-day operations through the provision of tools, incentives, inspirational ideas, collaboration, and leadership opportunities. Visit: <http://www.mcgreenbiz.org/>.
9. **Plan for emergencies:** The Montgomery County Office of Emergency Management's Business Preparedness page has resources for creating an Emergency Action Plan, a Business Continuity Plan, and "go-kits" for your business, and for implementing trainings and drills for employees to prepare for extreme weather events and emergencies. Visit: https://www.montgomerycountymd.gov/OEMHS/plan/busprep.html#_Build_a_Kit.

Actions to Lower Your Carbon Footprint: Daily Actions

1. **Be the change:** Extend your efforts by sharing knowledge with your friends and family about reducing carbon footprints and emissions. Start the conversation through word of mouth or social media about how you and others are taking action to reduce your impact.
2. **Be an advocate:** Get involved politically at the municipal, county, state and federal levels. While personal actions are important, the systemic change necessary to address climate change requires both governmental solutions (legislative and regulatory) and business reforms. So write to your elected officials and use your wallet and voice

to encourage businesses to green their operations and impact. Since climate change knows no borders, it's important that your advocacy also extend beyond Montgomery County.

3. **Buy less stuff:** Reduce and reuse is always the best bet. The [Buy Nothing Project](#) allows people and communities to narrow the single-use materials or convey stuff that has never been used to other working hands, through gifting and sharing between group members. Shop at secondhand stores, thrift stores, and yard sales, and through Craigslist, Freecycle, and bartering. Use the County's wonderful public libraries.
4. **Buy local:** Support your local economy by buying local. The MoCo Made initiative was first launched in fall 2017 in partnership with the Montgomery County Economic Development Corporation to highlight our County's vibrant local food and beverage sector. Locally sourced products and food have a lower carbon footprint because they take fewer modes of transportation to get to your home and have lower amounts of embodied carbon. Consider buying locally sourced plants for your garden. Local native plant sales in the spring are a good way to support small growers and benefit the environment by planting native plants. We have some wonderful small-business nurseries that also offer great plants.
5. **Gift differently:** Reduce your carbon footprint when buying gifts by giving experiences, gifting greener, giving back, buying local, and remembering the 3Rs (Reduce/Reuse/Recycle) when buying and wrapping gifts. Montgomery County features an annual event called Gift Outside the Box (<https://www.montgomerycountymd.gov/DEP/gift-greener.html>), but you can gift greener year-round.

6. **Know your water use:** Every drop counts! Whether you're on public water or have your own well, the benefits of conserving water add up. If you're on a municipal water meter, your water bill will go down. If you're on a well, you'll have water for drier times of year like late summer and early fall. Regardless of the source, you'll save money on the electricity it takes to pump and heat water. According to the U.S. Department of Energy, heating water can account for 12% of a home's annual energy use, and energy usage is part of our carbon footprint.
7. **Meatless Mondays:** What we eat and how it is produced can have a huge impact on the environment. The impacts of intensive meat production operations include deforestation, air and water pollution, and GHG emissions. Opting for Meatless Mondays is one solution for those of us who find it hard to go 100% meat-free! Every Monday, choose a vegetarian meal over a meal that includes meat. There are endless possibilities beyond salad, and it's an easy and delicious step to reduce your carbon footprint. Meatless Mondays is also a great opportunity to educate yourself a little more about ALL your food, how it's grown, how it's processed, and the impacts it has on the environment around it.
8. **Start composting:** Composting enriches soil, helping it retain moisture, and suppresses plant diseases and pests. Composting also reduces the need for chemical fertilizers and encourages the production of beneficial bacteria and fungi that break down organic matter to create humus, a rich nutrient-filled material. Compost facilitates improvements in soil health, which in turn, allows more carbon to be sequestered in our soils through the interaction of plants and fungi and bacteria in the soil. If you do not produce sufficient compost, top-dress your beds with compost rather than relying on chemical fertilizer and leave your leaves in planting beds, only mulching the front edges to create a neat appearance.
9. **Participate in RainScapes:** *RainScapes* is both an approach and a program on how to create environmentally friendlier landscape solutions at your home, business, or faith-based organizational grounds. RainScapes are focused on working with natural systems, such as native plants that are adapted to our native soils; amending, not replacing soils; and shaping the ground to capture and slow down runoff so it can soak in, help the plants grow, and create a beautiful, healthy habitat. These gardens do not need chemical fertilizers or potable water, and they will have a lower carbon footprint than landscapes that rely on mechanical tools for maintenance, such as lawn mowers or leaf blowers.
10. **Shop at a Farmers Market or Join a CSA:** Farm-fresh food, smiling faces, a sunny sky (hopefully!) — what better way to stock up for your week's meals? The produce, cheeses, breads, eggs, flowers, and even meats that you find at Montgomery County's farmers markets are fresher and travel a shorter distance than similar grocery store products. Community Supported Agriculture (CSA) refers to a once-a-week or biweekly box full of local fruits and veggies that are in season delivered to your door or that you pick up. You can find more information at <https://montgomerycountymd.gov/agservices/farm-to-table.html>.
11. **Stop the junk mail and use paperless billing:** How much of the mail in your mailbox do you really want to look at, and how much goes straight to the recycling bin? The average American receives 41 pounds of junk mail every year, and according to the EPA, only 40% of mail is recycled. Not just that, but it has to be delivered to your home and that is contributing to our carbon footprint. From now on, say NO to junk mail. Go to <https://www.catalogchoice.org/> for more information.

Actions to Increase Climate Resilience

1. **Purchase flood insurance:** It is important to note that home insurance does not cover flooding and homeowners, regardless of whether or not they are in a Federal Emergency Management Agency (FEMA) floodplain area, are still at risk of flooding, especially in areas undergoing redevelopment. Even if you do not live in a designated floodplain (most flooding occurs outside of FEMA floodplain areas), you can buy FEMA flood insurance at a modest price. The *Maryland Insurance Administration* provides information on the types of insurance available as well as assistance on complaints related to your claims. The *National Flood Insurance Program* is another great resource providing information on the cost of flooding, flood maps, insurance coverage, lowering flood risks, and purchasing insurance.
2. **Flood-proof your home:** Go to the National Flood Insurance Program's website to evaluate your risk and then, depending on what you learn, make improvements, such as elevating your HVAC equipment, which is often located in the basement; making sure windows and doors are watertight; enhancing stormwater management on your property through the County's *RainScapes Program*; and installing a sump pump if your home is an older one and a French drain to divert water away from your house. Encourage neighbors to decrease rather than increase impervious cover (including converting driveways to pervious pavement), and if necessary, alert the Department of Permitting Services if flooding results from nearby redevelopment.
3. **Stay informed about high heat days and intense storms:** Register with the *Alert Montgomery System*, which provides accurate and immediate emergency notifications from Montgomery County to your cell, work, or home phones via text, email, or voice message.
4. **Build an emergency preparedness kit:** Be prepared for climate disasters by having basic household items on hand, such as non-perishable food, water, a battery-operated radio, a flashlight, first aid materials, extra batteries, and a backup of critical files on a thumb drive or other media).
5. **Reduce health risks:** Plant shade trees to reduce summer heat; don't overexert in hot weather, avoid waters with a blue-green "paint" slick, which is a sign of harmful algal blooms (and don't let children or dogs enter waters with blooms), and be mindful of insect-borne disease from mosquitos and ticks.
6. **Build community connections and support systems:** Be aware of vulnerable neighbors, especially during high heat days, and check in on them to offer assistance and comfort. Be aware of community shelters and cooling centers, and ensure pets are hydrated and have access to cool areas. Another wonderful opportunity is to join or start one of the many County-supported "*villages*" designed to foster social connections and mutual, neighbor-to-neighbor voluntary support, such as providing transportation to medical appointments, grocery shopping, doing household repairs, and cooking meals. If you live in Silver Spring, become a member of the *Silver Spring Time Bank* to strengthen community ties by giving and receiving services without exchanging money, or start a time bank in your community.