

# keeping Decatur sustainable ENERGY EFFICIENCY at home, at work, around the clock

How the city  
and residents  
embrace a  
greener way

## INSIDE

HIGH-PERFORMANCE  
BUILDING STANDARDS

SAVING ENERGY AT  
HOME

RESIDENTIAL SOLAR AT  
WORK IN DECATUR

- ▶ CASE STUDY
- ▶ HOW TO SAVE

WHY RECYCLING  
MAKES SENSE

building  
Decatur  
EFFICIENTLY

Hampton Inn,  
under construction  
at 118 Clairmont Ave.

# Save ENERGY & save MONEY

## Reducing Your Home Energy Use on a Budget

Lowering your home energy use is a great way to save money and reduce your impact on the environment. But it may not be in your budget to make those big energy-reducing investments right now. That's okay. There's still plenty you can do as a homeowner or renter.

### Lighting

Replace burnt-out light bulbs with energy-efficient LEDs – about **\$3** each. Look for the “soft warm” LEDs for a natural light. LED bulbs use 75 percent less energy and last up to 10 times longer than regular bulbs.

### Heating and Cooling

Change your air filters every two or three months to save energy and to prevent allergies and airborne illnesses. Between **\$4** and **\$15**.

Repair leaky ducts with metallic foil tape (**\$12**) and then insulate them, too. Count on spending **\$100-\$300** depending on the size of your ductwork.

Install a user-friendly ENERGY STAR-certified programmable thermostat (**\$75-\$200**).

### Appliances and Electronics

Many electronics use energy even when turned off. To save this energy, use a power strip (**\$10**) and flip it off when the electronics are not in use.

Replace worn-out or damaged seals on your refrigerator and freezer (about **\$30** for a universal refrigerator seal).

### Insulation and Sealing

Caulk and weather strip around windows and doors (less than **\$5** each).

Use insulating spray foam (**\$5** can) to seal gaps where pipes or wires pass through walls or floors.

Caulk and seal exterior light switches and electrical outlets. About **\$5** for caulk and **25¢** for an outlet sealer.

### Water (Heating and Use)

Repair leaky faucets. One drop per second can add up to 165 gallons per month. **50¢**.

Maximum gains, minimal bucks: wrap your water heater tank with a **\$30** insulating blanket. It's easy.

Install aerating, low-flow faucets (**\$3**) and shower heads (**\$12**).

## SMALL CHANGES ... BIG REDUCTIONS

### Everyday Activities

Turn off lights, electronics, and appliances when you're not using them.

Use the sleep mode for your computer.

Take shorter showers to reduce your hot water use.

Use cold water for laundry when possible and avoid small loads.

Use window shades and blinds to block the hot sun in summer time and let in warm rays during the winter.

### In the Kitchen

Match pot and pan size to the size of your burner. Use lids whenever possible.

Wash only full loads in the dishwasher.

Air-dry dishes instead of using the heated drying option.

Clean your refrigerator coils (especially if you have pets or significant dust).

### Car Maintenance

Make sure your tires are properly inflated.

Get a tune up and make sure your car passes the emissions test.

Use the right oil. Look for the “energy conserving” symbol for oil that contains friction-reducing additives.

Don't carry around unnecessary junk in your car. Also if you're not using the roof-rack, remove it – it can be a real drag on your car.

## BEHIND THE WHEEL

Don't idle. In addition to wasting energy, it's bad for air quality.

When driving, keep a steady pace and avoid speeding.

Beat traffic by avoiding rush hour.

Use cruise control and the overdrive gear, if available.

Look for smart commuting options: transit, carpooling, and telecommuting.

Citations: [tva.gov/Energy/EnergyRightSolutions/EnergyRight-Solutions-for-Home/Energy-Efficiency-Advice/Low-Cost-&-No-Cost-Tips](http://tva.gov/Energy/EnergyRightSolutions/EnergyRight-Solutions-for-Home/Energy-Efficiency-Advice/Low-Cost-&-No-Cost-Tips)

[ase.org/resources/top-10-home-energy-efficiency-tips](http://ase.org/resources/top-10-home-energy-efficiency-tips)

# RAISING THE BAR

## High Performance Building Standards

**d**ecatur's High Performance Building Standards (HPBS) require that new residential and commercial buildings be built with environmentally sustainable practices and be certified by an approved green building program.

The HPBS program for new commercial and residential construction went live in November 2015. In May 2017, all single-family residential renovation projects categorized as substantial improvements were included in the HPBS program. For existing home renovations, a substantial improvement is any construction project in which the construction value exceeds 50 percent of the value of the improvements located on the property.

### Options for certification

- LEED (any certification level)
- Earthcraft (any certification level)
- Green Globes (minimum 3 globes out of 4)
- National Green Building Standard-ICC 700-2015 (any certification level)

### What do these programs do?

The green building certifications look holistically at the building and site to reduce environmental impact, reduce water and energy use, improve indoor air quality and comfort, and provide for a high-quality, durable building that will stand the test of time. Most of the certification programs are broken into mandatory building requirements and optional credits. Based on how many credits you are awarded, you can receive higher levels of certification.

### SITE

Each of the programs encourages development near services people use frequently like public transit, restaurants, churches, and grocery stores – which encourages walking and biking. The design should limit additional stormwater impacts by keeping water on the site and preserving existing topography and trees.

### ENERGY

The certification programs require reduced energy use compared to code-compliant buildings through strategies such as highly efficient walls, windows, roofs, lights, and HVAC systems. The programs also require a third party to inspect the installation to ensure that it is built correctly and the systems work.

### WATER

Reducing irrigation and indoor water demands is important around the country, but especially in our area. Atlanta and DeKalb County have the highest water and sewer rates in the country, and we are fed by the smallest water source of all major metropolitan areas.

### INDOOR AIR QUALITY

Providing adequate ventilation improves health and productivity. Our health is also affected by the chemicals released into the air by materials in our homes and places of work. Providing fresh, healthy air is a strong component of these certifications.

### Permits applied for since the ordinance went into effect:

<b>187</b>	New Homes and Townhomes	<b>3</b>	Commercial Substantial Renovations
<b>11</b>	Residential Substantial Renovations	<b>2</b>	New Commercial Buildings
<b>5</b>	Multi-family Residential Buildings		

### Notable buildings that are or will be high performance certified

- City Schools of Decatur's new Talley Street elementary school
- Agnes Scott College Rebekah Hall renovation
- 120 W. Trinity Place – Old Calloway Building site
- Decatur Recreation Center, Ebster Recreation Center, Beacon Municipal Complex, Fire Stations 1 (at right) and 2, and the Eloise Leveritt Public Works Building



## High Performance Building Standards

# SAVE MORE THAN YOU SPEND

Decatur's High Performance Building Standards were approved in 2014, but not implemented for more than a year afterward. This provided the City Commission time to explore the impact of the standards on substantial improvements to single-family dwellings, to determine whether the financial impact on construction was offset sufficiently by energy savings.

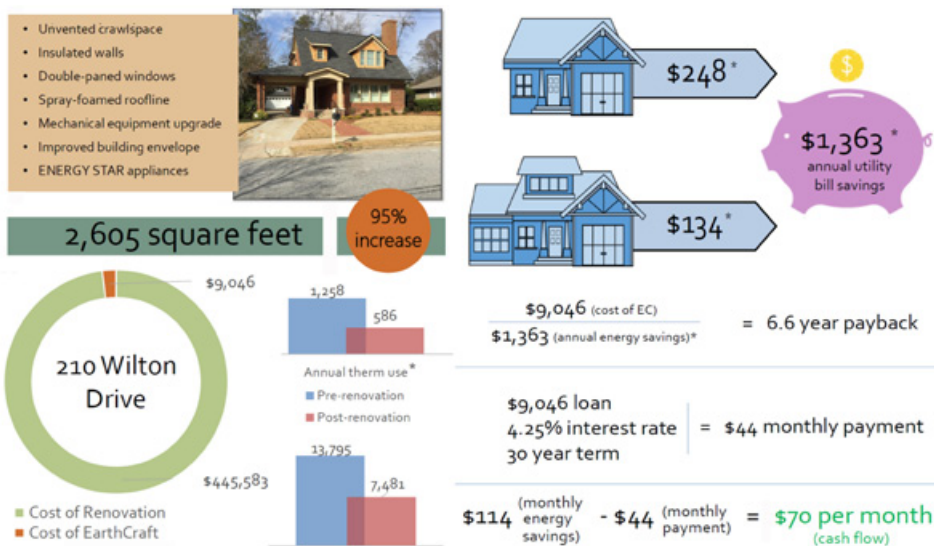
The study was conducted by the Design, Environment, and Construction Division working with Southface Energy Institute. The groups identified two projects that would be good candidates for study, asked the homeowners if they were willing to participate, and then got to work collecting data.

Once the projects began, Southface worked with the residents and contractors to design and consult during construction to achieve an Earthcraft certification. Once the construction was completed, Southface asked the homeowners to provide before and after utility bills to determine savings and paybacks for the houses now being certified. Southface compiled a summary that was presented to the City Commission in the spring of 2017 which showed that on very large projects, the cost of additional certifications and enhanced construction measures sees immediate benefits and short returns on investments in the form of energy savings. With the study complete, Design, Environment, and Construction and Southface provided recommendations that were formally approved by the City Commission. The recommendations are:

The City of Decatur should move forward with requiring substantial improvements to achieve certifications as these projects are large enough to justify the additional costs with two exceptions granted for smaller scale substantial improvements.

**Exception 1:** Any substantial improvement that adds less than 20 percent new floor area shall be exempt from the certification requirements.

**Exception 2:** Any substantial improvement that alters less than 85 percent of the existing building envelope shall be exempt from the certification requirements.



## KEEPING COOL AT AGNES SCOTT

You may have noticed drilling rigs outside Rebekah Scott Hall (on South McDonough Street, just south of College Avenue) at Agnes Scott College. These machines were drilling for a new geothermal system that will provide more efficient cooling and heating to the building. Upon completion of the renovation, Rebekah Scott Hall will have air conditioning for the first time in its 113 years, thanks to the new hydro-geothermal HVAC system that comprises 42 wells, each 500 feet deep.

The system utilizes piping placed down boreholes that will act as a giant heat exchanger. During the summer, the system will take heat from the building and store it in the ground. When winter comes, that heat will be extracted to warm the building. This hydro-geothermal system eliminates the need for a boiler. A heat pump will also heat the domestic water used for showers and hand washing.

This system is expected to save more than 200,000 kWh of electricity and 6,000 therms of natural gas, and reduce 140,000 gallons of water per year.

This will be the second geothermal installation at Agnes Scott College. In 2014, Campbell Hall was renovated and outfitted with a new geothermal system. When Rebekah Scott Hall reopens in the fall, almost 10 percent of Agnes Scott College's campus will be served by geothermal air conditioning.

# A DECATUR FAMILY GOES SOLAR



he Frost-Boyce family was committed to creating an energy efficient, solar-powered home when they renovated their 1920s Oakhurst home in 2008. As a professional in the energy sector, KC Boyce knew the environmental advantages and the significant cost savings that solar provides. He and his wife completed an EarthCraft certified renovation, but at the time, solar wasn't in the budget.

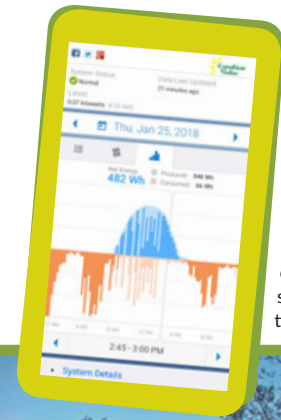
Fast forward to 2016, when Solarize Decatur-DeKalb emerged as a bulk pricing option (see next page), lowering residential solar costs enough for the Frost-Boyce family and 53 other Decatur families to make the move to solar. The combination of a 30 percent federal tax credit and Solarize Decatur-DeKalb's 25 percent savings sealed their commitment. On New Year's Eve 2016, the Frost-Boyces flipped the switch on their system.

When asked what he would recommend to other homeowners considering solar, KC had a couple of suggestions:

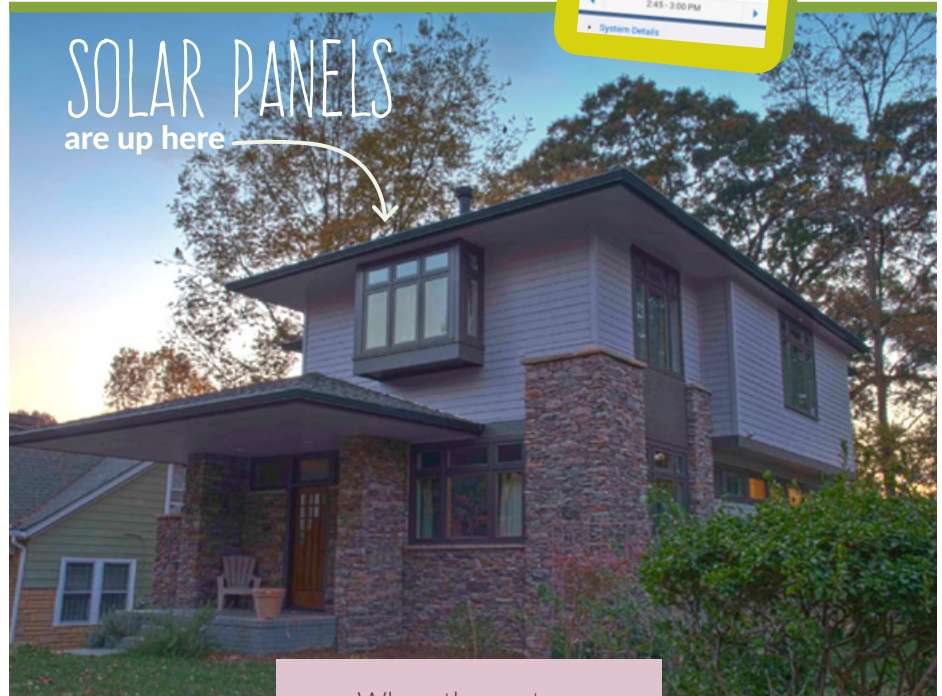
**Find a qualified installer.** The authorized installer for Solarize Decatur-DeKalb's residential participants was Creative Solar USA, but Boyce also advises asking neighbors about their experiences, and checking out Georgia Solar Energy Association's list.

**Calculate your home's current energy needs before building your system.** A home audit or your solar installer can help calculate how much electricity your HVAC, water heater and major appliances use. Do include electric vehicles in the calculation. This will help determine how much solar you need – and how much it will cost. For example, the Frost-Boyce HVAC consumes 4 kW when running, so their 5.4 kW system just covers that load at peak production.

The Frost-Boyce system includes a smartphone app that tracks the



A smartphone app allows the homeowners to check the performance of their solar system at any time.



system's usage and production on an hour-by-hour basis. This provides data to help fine-tune usage patterns even more, and they plan to add smart thermostats to the mix. These technologies make the system more cost effective.

Though the solar industry is facing challenges with the imposition of a 30 percent tariff on imported solar panels and the solar tax credit expiring in 2020, there are some positive changes happening as well. KC said that the solar industry has planned for these changes so that the cost increase for solar due to the tariffs should only be

When the system produces more energy than the home uses, the excess goes back to the grid and the electrical provider (Georgia Power in this case) reimburses the homeowner.

1-2 percent. For the homeowners, this is largely offset by a continued 8 percent average annual rate of return from cost savings. And with new technology emerging, renewable energy efficiencies

will continue to improve. All of this is to say it is a great time to make a solar investment for your home, and with Georgia in the top 10 of states in the renewables sector, you will definitely be supporting our economy.

For more information, see the Georgia Solar Energy Association website: [gasolar.org](http://gasolar.org)

# SUCCESS FOR SOLARIZE DECATUR-DEKALB



**S**olarize Decatur-DeKalb is part of a growing movement of bulk purchasing programs that cuts the price of solar photovoltaics (PV) drastically, thus making solar-produced electricity a realistic option for homeowners and business owners. Typically, one or two solar contractors is selected for a geographic area, and these installers are able to provide bulk purchase pricing. For Solarize Decatur-DeKalb, homeowners saved 25 percent in purchase costs.

During the Decatur-DeKalb Solarize campaign, which ended in 2017, residential solar capacity in DeKalb County increased nearly 600 percent, from 130 kW to approximately 900 kW. Half of those installations were in the city of Decatur. In addition to the residential installations, 98 kW of capacity was installed on commercial buildings.

The Solarize campaign was spearheaded by Environment Georgia, Georgia Interfaith Power & Light, Sierra Club, Southface, Solar

CrowdSource, and the Decatur Environmental Sustainability Board.

Besides the financial and environmental benefits, a mission of the Solarize campaign is to donate a solar installation to a local nonprofit.

Global Growers, which works with the refugee community in the area to provide sustainable agriculture and education, was selected. As a result, Global Growers will have a 10 kW PV

system installed to help keep their fruit and vegetable refrigerators powered.

almost  
600%  
more solar  
in DeKalb



# LET'S TALK TRASH

Want to reduce your energy consumption? Take another look at what you're throwing away!

The average person in the U.S. produces **4.4 pounds of trash per day** or 1,600 pounds per year. Everything that you throw away required a lot of energy to get to your garbage bin – from acquiring raw materials, converting those to finished products, transporting them to stores and to your home. And once you discard the spent material, it's got to be trucked to the landfill.

All this uses a great deal of energy and resources, and adds up to some pretty startling numbers: this manufacturing and consumption process produces about 40 percent of greenhouse gas emissions in the U.S. and makes about 254 million tons of trash per year. Yikes!

Fortunately, there are so many easy ways to reduce the amount of trash you produce, thereby reducing your energy consumption. You know what's coming next folks: reduce, reuse, and recycle!

## Reduce

- Use a reusable water bottle instead of plastic water bottles
- Bring your own coffee/travel mug and prepare your coffee with a reusable coffee filter
- Bring your own bags when shopping
- Buy groceries in bulk to reduce packaging
- Use cloth towels instead of paper
- Use reusable food containers and snack bags
- Eliminate disposable straws, plates, and utensils from mealtime
- Buy less stuff, and buy stuff you can recycle

## Reuse

- Purchase second-hand clothes instead of new ones
- Reuse glass jars for storing items
- Reuse cardboard and paper for kids crafts, or line your flower beds with newspaper to keep weeds at bay.

## Recycle

On average, manufacturing products from recycled materials uses about 60 percent less energy than manufacturing the same products from raw materials. Don't know what you can and cannot recycle? Check out the nifty guide below. If you feel overwhelmed by all of this, that's okay. Start small. Remember that every little bit counts, so find what's easiest for you to do and go from there!



### SEPARATE YOUR GLASS!

Use your red Decatur glass recycling bin.

Don't have one? Contact Public Works and ask for a red glass bin of your own.

All glass colors accepted.

No ceramics or mirrors



YES!

### RECYCLE THESE

**PAPER** | Magazines • Catalogs  
Junk mail • Newspapers and inserts  
Cardboard • Paper (white and color)  
Clean pizza boxes  
Milk and juice cartons

**PLASTICS** | Marked #1-7  
Clean Styrofoam with recycling logo  
Plastic flower pots  
Coffee sleeves and lids

**METAL** | Soda cans • Tin cans



THANK YOU

NOPE!

### DECATUR DOESN'T RECYCLE THESE

Light bulbs • Straws  
Baby food squeezey pouches  
Compostable plastic • Plastic grocery bags (recycle them at the store)  
Coffee cups • Tissues • Napkins  
Plastic toys • Sticky notes  
Batteries\* • Shredded paper\*  
Broken glass • Soiled pizza boxes

\* recycle these at Decatur's semi-annual electronics recycling events

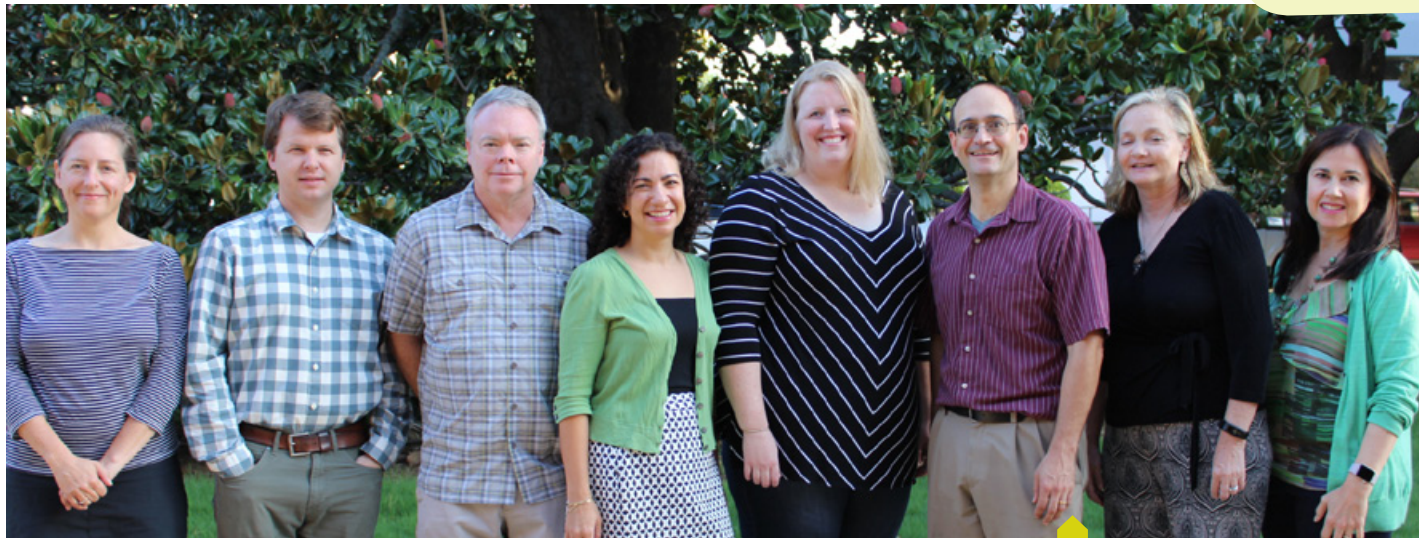
## BINS!

Residents have access to one free 18-gal. recycling bin from Decatur Public Works, 404-377-5571, and a red glass bin from the recycling provider. Or you can provide your own bin, any type or color, 18 gal. or smaller.

# ENVIRONMENTAL SUSTAINABILITY BOARD

## Advocates for the Earth and the City

Decatur  
Grows  
Greener



Established in 2009, the board provides recommendations to the City Commission regarding Decatur's environmental regulations, plans and initiatives. The board helps implement city projects that impact the natural environment to protect and improve the quality of life for the people of Decatur.

Contact Project Manager Courtney Frisch at [courtney.frisch@decaturga.com](mailto:courtney.frisch@decaturga.com) for updates and information. Find out more about Decatur's Sustainability Plan online at [decaturga.com/sustainabilityplan](http://decaturga.com/sustainabilityplan).

**Join us to help make a difference!** You can participate in our public ESB meeting, as a member of one of our subcommittees, or as a volunteer for events. We get more done with your help!

**2018 Board Members:**  
*Michael Black (chair)*  
*Brendan Gardes (vice chair)*  
*Juliette Apicella*  
*Lindsay Averett*  
*Mary Jane Leach*  
*Meisa Salaita*  
*Susan Montgomery*  
*Sam Pugh*  
*Steve Blackburn*

The Environmental Sustainability Board and the City of Decatur worked together to contribute to these initiatives:

### Buildings & Energy

- Adopted the High Performance Building Ordinance, which requires all new buildings to obtain a green building certification
- Supported LED street lighting upgrades by Georgia Power
- Assisted with ongoing review of energy usage at city facilities

### Resource Conservation

- Piloted new public recycling bins, which were later adopted as the new standard
- Launched a survey on Open City Hall about residential curbside glass recycling services

### Natural Systems

- Obtained a professional assessment of city-wide tree canopy coverage using aerial photography in 2015 and 2010
- Engaged community members in committee discussions around greenspace and stormwater
- Supported the Decatur Farmer's Market in establishing a new Saturday location

### Education & Outreach

- Promoted events like Electronics Recycling Day and the DEA's Drug-Take-Back Initiative
- Collaborated with City Schools of Decatur to explore establishing a sustainability committee