KEEPING THE LIGHTS ON

ENERGY EFFICIENCY AND COMMUNITY SOLAR FOR ALL GEORGIANS

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Many Georgia families struggle with high energy bills. In 2018, the Georgia Low Income Home Energy Assistance Program (LIHEAP) served 140,795 families in need of assistance with their energy bills.[1] Lower-income families, in particular, spend a larger percentage of their income on energy bills than higher income families.[2] As a result, struggling families sometimes find themselves forced to choose between electricity and other basic necessities, such as groceries or healthcare.[3] This high energy burden often leaves lasting negative impacts on health and financial well-being.[4] Families fall into debt trying to pay utilities,[5] sometimes seeking high interest short-term loans to avoid utility shutoffs for nonpayment.[6] High energy bills not only drive up housing costs but also can cause health problems, as families cut back on necessary heating and cooling to save money.[7] In effect, high energy bills contribute to health problems and trap families in a cycle of poverty. For all these reasons, energy is an equity issue in Georgia.

ENERGY EQUITY refers to the fair distribution of the benefits and burdens of the ways we produce and consume energy. In practice, this means reducing mounting energy costs to ensure that families are able to meet their basic needs, making homes and communities healthier for all by increasing access to energy efficiency and clean energy, and ensuring that decision-making around energy policy is more reflective of the needs of all communities.

The good news is that energy efficiency and community solar can help reduce the burden of high energy bills!

Energy efficiency and community solar can lower and stabilize utility bills, creating healthier and more comfortable living environments and reducing the high energy demand that drives up energy prices. But programs offering energy efficiency upgrades and community solar remain largely unavailable or otherwise inaccessible for the families who need them the most to reduce their high utility bills: families who rent, live in multifamily affordable housing, or otherwise cannot afford the often high upfront costs of energy efficiency and solar. Georgians need energy efficiency programs that, in addition to

WHAT IS ENERGY EFFICIENCY?

Energy efficiency means using less energy to perform the same function. It can refer to the character of individual appliances as well as an entire home. For example, an LED light bulb uses less energy to provide the same amount of light as a traditional incandescent light bulb.

See Appendix A.

rebates, provide equitable financing options, like on-bill financing options, to make participation accessible and affordable. Likewise, community solar can go a long way toward making clean energy more accessible and affordable to the families and households struggling with high utility bills. By understanding the benefits of and barriers to energy efficiency and community solar, we can determine how to make them more equitable and accessible programs for all Georgians.

BENEFITS OF ENERGY EFFICIENCY AND COMMUNITY SOLAR

Energy efficiency and community solar can transform families and communities. Reducing energy use and reliance on dirty energy means lower utility bills for struggling families, greater financial stability, better health outcomes, and cleaner communities.

FINANCIAL STABILITY

High energy burden can intensify financial instability, often forcing people to choose high risk financial alternatives. When families are unable to pay their utility bills, they face loss of service and shutoffs. To pay their utility bills and avoid loss of service, families often resort to risky short-term loans with high interest rates, which fuel a cycle of poverty and financial instability.[8] Addressing high energy burden through energy efficiency improvements can significantly reduce struggling families' utility bills, increase their financial stability, and help them avoid risky, predatory loans.

DID YOU KNOW?

Energy efficiency and solar create jobs.

- There are nearly 4,000 solar jobs in Georgia at more than 230 companies.
- As of 2017, over 57,400 Georgians work in the energy efficiency sector.

Solar energy can increase community resilience during extreme weather events.

- Backup solar power can help families manage during power outages by storms.

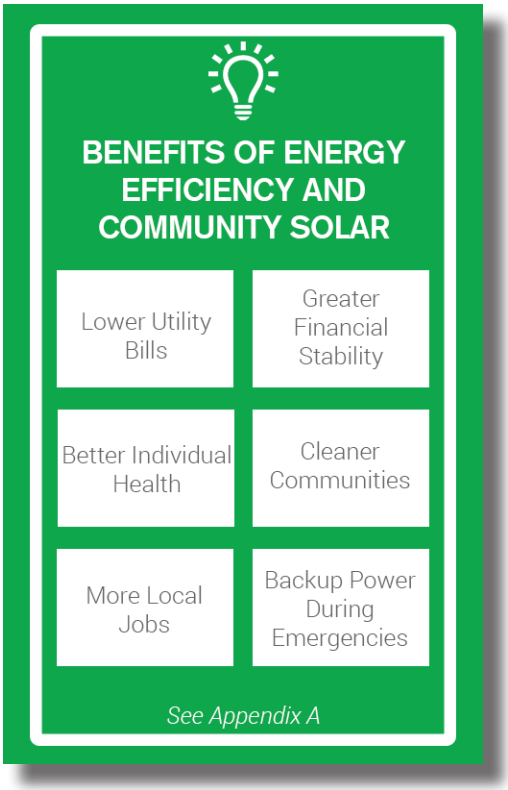
See Appendix A.

LOWER ENERGY COSTS

We pay more for energy during periods when people are using the most energy, like during hot summer days in Georgia.[9] The costs to families living in inefficient homes are tremendous, as power is more expensive during times of high usage and often comes from energy sources that harm the environment and vulnerable communities. By using less energy over time through efficiency measures, families can reduce their power costs and significantly lower their utility bills.[10]

IMPROVED INDIVIDUAL HEALTH[11]

There is a direct link between burdensome energy bills and health.[12] Energy burdened families hoping to save money sometimes cut back on necessary energy use, such as heating and cooling, which can result in poor health.[13] Living in improperly heated or cooled homes increases cases of asthma, heart disease, and other respiratory problems, especially among children and elderly individuals.[14] Increased health problems and visits to the hospital lead to medical bills, a significant financial burden for already cash-strapped families. Energy efficiency can reduce the need to cut back on necessary heating and cooling and improve the health of families.



IMPROVED COMMUNITY HEALTH

Low-income neighborhoods are disproportionately located near polluting power generation facilities. African-Americans, in particular, are more likely to live within 30 miles of a coal-fired power plant, which results in poor air quality that can cause or aggravate respiratory conditions.[15] Emissions from polluting power plants located in or around low-income neighborhoods contribute to higher rates of asthma and cancer.[16] In effect, home energy inefficiency is a public health issue as much as it is a home comfort and financial concern for families in low-income neighborhoods. Making homes more energy efficient and increasing access to clean energy like community solar can go a long way toward reducing the reliance on dirty energy and increasing the overall health of the community.[17]

HOW TO MAKE SOLAR AND ENERGY EFFICIENCY AFFORDABLE AND ACCESSIBLE

Energy efficiency and solar programs remain out of reach for most low-income families who need them the most to reduce their utility bills. While many utilities around the country have created robust energy efficiency and solar programs, low-income families still encounter barriers that prevent them from participating in these beneficial programs. Financial obstacles block low-income families at every turn. Low-income families often lack access to financing, for instance, making it impossible for them to pay for the upfront costs of energy efficiency upgrades and solar installations. High fixed charges that utilities sometimes charge solar users make solar financially out of reach for families interested in installing solar panels.[18]

In addition to the financial barriers, the type of home or housing arrangement a family has can prevent them from accessing energy efficiency and solar options. For example, low-income families may live in rental housing where they lack the authority to do energy efficiency upgrades or install solar panels. Other families may live in homes that lack suitable rooftops, due to the roof condition or tree coverage, for solar panels.

POLICY RECOMMENDATIONS

- **On-bill financing.** Design and implement an on-bill financing option, based on the Pay As You Save model, to eliminate high upfront costs that prevent low-income families from making energy efficiency upgrades and installing rooftop solar;
- **Incentives and rebates.** Provide robust financial incentives and rebates for low-income families looking to participate in energy efficiency and solar programs; and
- **Community solar.** Design and implement community solar programs that allow low-income families who rent, have rooftops unfit for solar panels, or cannot afford solar panels to access solar.

These conditions along with the financial obstacles block low-income families from taking advantage of the growing energy efficiency and solar opportunities.[19]

Policies and programs that address these barriers can increase low-income access and participation in energy efficiency and solar, and provide relief to low-income families. Making energy efficiency and solar accessible to all communities and consumers, especially low-income families and communities of color, means creating policies and programs that reduce the high upfront costs and that focus on community building, community resilience, and economic opportunity.

BETTER AND MORE INCLUSIVE FINANCING

Low-income families generally lack the money or credit necessary to finance energy efficiency upgrades and solar measures that can reduce and stabilize their monthly energy bills. To combat this problem, some utilities have begun implementing on-bill financing, which allows customers to finance energy efficiency upgrades or solar on their monthly utility bills. Through on-bill financing, the utility pays the upfront costs of the upgrades.[20] In turn, the customer gradually pays back the costs on the monthly bill, based on the energy savings the customer receives as a result of the new energy efficiency upgrades.[21]

The PAYS (Pay As You Save)[22] model of on-bill financing, in particular, has gained popularity in the south, with co-ops such as **Roanoke Electric Cooperative** in Virginia[23] and **Ouachita Electric Cooperative**[24] in Arkansas launching their own programs. Under the PAYS model, the utility places on the customer's monthly bill a fixed charge that is less than the estimated savings generated from the energy efficiency upgrades, so the customer experiences immediate cash flow. Because the PAYS model does not place a lien on the property or on the customer obtaining a loan or lease, the model expands access to customers who otherwise would be unable to finance energy efficiency upgrades and rooftop solar. Enabling more families to access energy efficiency and rooftop solar lessens the need to turn on expensive power generation systems and build more power generating plants.[25] This means lower overall power costs for the utility and its customers and fewer environmental impacts in vulnerable communities where power generating plants are often located.[26] On-bill financing, therefore, benefits everyone and is crucial for ensuring access to energy efficiency and rooftop solar for all.

OTHER TYPES OF SOLAR PROGRAMS

Distributed generation (or rooftop solar), delivers energy generated from the solar panels on the home's rooftop directly to the home.

Utility scale solar, large utility-owned solar arrays that are usually not located in the community using the energy, allows families to access solar without the potential fuss and expense of installing panels on their rooftops.

See Appendix A

UTILITY INCENTIVES AND REBATES

Most electric utilities have energy efficiency and solar programs that provide financial incentives and rebates for customers looking to participate in such programs. But few electric utilities provide robust energy efficiency and solar incentives specifically targeted to low and moderate-income customers. Programs that support low-income energy efficiency are largely funded by federal sources, such as the LIHEAP and the Weatherization Assistance Program (WAP). Until recently, there was little utility funding to support energy efficiency programming and incentives for low-income communities.[27]

The largest electric utility in Georgia is Georgia Power, which

serves more than 2.4 million customers across the state. The American Council for an Energy Efficient Economy recently released the first edition of its Utility Energy Efficiency Scorecard, ranking Georgia Power 44 out of the 51 largest utilities in the country.[28] Electric utilities across the state have the opportunity to increase energy efficiency programming for all customer classes, and such programs are particularly needed to reduce the high energy burden on low-income families.[29]

Georgia is making progress on this front. In 2016, at the urging of Energy Efficiency for All-Georgia[30] members, the Georgia Public Service Commission ordered Georgia Power to spend $2.5 million per year from 2017-2019 on a new energy efficiency program for low-income single and multifamily homes. The new Energy Assessment and Solutions Program (EASP) would serve approximately 300-400 families living in single family homes and 600-800 families living in multi-family homes.[31] This program, which launched in September 2017, is a strong starting point and something to build on in the future to sufficiently address the energy needs of all low-income families in Georgia. See Appendix B for information about local utility programs and assistance.

COMMUNITY SOLAR

Shared community solar[32] presents an ideal alternative for low-income households who rent, cannot afford the high upfront costs of rooftop solar panels, live in multi-family housing, or lack suitable rooftops for panels. Community solar, sometimes called shared solar, allows individuals to purchase affordable clean energy produced close to home, without installing any new equipment. Using this model, a solar array is built in a location with good sun exposure and access to the power grid. Anyone who pays their own power bill, including renters and owners, can then buy subscriptions for a portion of the energy produced by the system, which is credited against their power bill.

Graphic courtesy of Groundswell.org

Community solar expands access to a broader group of people and provides tangible benefits (e.g. energy bill credits) to individuals and families who need help on their energy bills. Currently, roughly 49% of all households and businesses cannot host solar arrays on their own property.[33] Community solar overcomes physical and economic obstacles to solar access. Creating community solar programs specifically tailored for low-income families can go a long way toward lowering their energy burden.[34]

WHAT CAN YOU DO **NOW** TO REDUCE YOUR ENERGY BILLS?

While we need more robust programs to address the energy needs of Georgians, programs do exist to help you better manage your utility bills. If you are unable to afford your utility bill, apply for LIHEAP to get emergency financial assistance. If your utility bills are currently manageable, but you would like to lower them, contact your utility or electric municipal cooperative to learn how you can get a free energy audit to determine your energy efficiency and weatherization needs. *See Appendix B for more information.*

YOU HAVE A UTILITY BILL YOU CAN'T AFFORD TO PAY?

Apply for LIHEAP, which offers assistance in the form of a **one-time** payment to help with a high utility bill.

- Visit the Georgia Community Action Association website for more information and to find your local agency. *See Appendix B.*
- Project SHARE is also a statewide program administered by the Salvation Army that provides emergency assistance. For more information, call 1-800-25-SHARE.

YOUR CURRENT UTILITY BILLS ARE MANAGEABLE, BUT YOU'D LIKE TO LOWER THEM?

- Learn about your weatherization options by visiting the Georgia Community Action Association website. *See Appendix B.*
- For Georgia Power customers, as well EMC members and municipal utility customers, ask about a free Energy Audit.

YOU'D LIKE TO NOT ONLY LOWER YOUR BILLS BUT ALSO HAVE MORE CONTROL OVER YOUR ENERGY CONSUMPTION?

- Learn about PayGo, a prepay program. For more information, visit PayGoUtilities.com.
- For Georgia Power customers, consider enrolling in the PrePay program for more flexibility and better management of your utility bill.

GEORGIA'S CLEAN ENERGY FUTURE

Accessible energy efficiency programs and community solar can help low-income families in Georgia manage their utility bills and access clean, affordable energy. Expanding access to energy efficiency and community solar to families struggling with high energy bills would go a long way toward ensuring that no one ever has to choose between their energy bills and groceries. The information and recommendations provided in this paper will enable families to lower their energy burden while securing a better energy future for their communities and for all Georgians.

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APPENDIX A ENERGY EFFICIENCY

WHAT IS ENERGY EFFICIENCY?

A more energy efficient home would provide the same level of convenience and temperature comfort while using less overall energy. Energy efficient homes are well-insulated with few or no air leaks, and have efficient heating and cooling systems and appliances. Lower-income families often live in older homes with outdated appliances, heating, and cooling systems, and lacking proper insulation. Furthermore, renters often lack control over their energy systems and appliances, making upgrades more challenging.[35] State and federal weatherization and energy efficiency programs offer assistance and incentives for home upgrades (including air sealing, installing LED bulbs, and ENERGY STAR® appliances, etc.) that reduce energy usage and increase home comfort.

HOW IS ENERGY EFFICIENCY DELIVERED?

1. Weatherization Assistance Program (WAP), a federal program delivered through the United States Department of Energy (DOE), provides "whole-house" energy efficiency upgrades for low-income households struggling with high utility bills. Through WAP, state-based community action agencies, other nonprofits and local governments receive federal funding to deliver WAP assistance to low-income households.[36] The agency or entity responsible for delivering WAP starts by visiting the home to do an energy audit or assessment of the home's energy efficiency needs. Some agencies have staff work crews that conduct the energy audits and install weatherization measures, while others hire contractors to perform the work. Others, such as the Southwest Georgia Community Action Council, use a combination of staff work crews and hired contractors. During the energy audit, the contractor analyzes the "whole house," looking at the building envelope, heating and cooling systems, electrical systems, lighting, and appliances to determine the specific energy efficiency needs of the home. Because the program seeks to not only reduce the utility bills of low-income families, but to improve the health and safety of their homes, the contractor also assesses any potential safety concerns in the home before installing any energy efficiency measures.[37]
2. Utility-Based Energy Efficiency Programs generally include whole-house weatherization measures, which complement state-based weatherization programs, and direct install programs for low-income households. Direct install programs involve providing or installing low-cost efficiency items, such as light bulbs and low-flow showerheads. These items, which the utility may offer at no cost to the resident, provide modest bill savings and may accompany weatherization upgrades.[38] Additionally, energy efficiency programs may offer rebates for customers who purchase energy efficient bulbs, thermostats, and appliances.[39]
3. Low Income Home Energy Assistance Program (LIHEAP),[40] administered by the U.S. Department of Health and Human Services, provides financial assistance to low-income households that pay a high proportion of their income for home energy, particularly heating and cooling. In 2014, LIHEAP assisted 122,861 households in Georgia.[41] Georgia households participating that year received an average of $338 in heating assistance.[42]

TYPES OF SOLAR PROGRAMS

1. Distributed generation (or rooftop solar), delivers energy generated from the solar panels directly to the home. Distributed generation systems are often placed on the rooftops of homes, but they can also be on the ground or elsewhere on the property. Homeowners may elect to pay for upfront installation costs and ongoing maintenance costs, or they may engage in power purchase agreements, known as solar energy

procurement agreements in Georgia, in which a solar developer arranges for the design, permitting, financing, and installation of a solar energy system at little to no upfront cost.

2. Community solar farms, unlike rooftop solar panels, are generally located somewhere in the community—on a church, apartment building, community center, or other property—and provide energy to any neighborhood residents who purchase a subscription.
3. Utility scale solar, similar to community solar, allows families to access solar without the potential fuss and expense of installing panels on their rooftops. While a rooftop solar installation may consist of dozens of panels, a single utility scale project may have hundreds of thousands or even millions of panels, producing large amounts of energy for their customers or members.[43]

ENERGY EFFICIENCY AND SOLAR PROVIDE INCREASED JOB OPPORTUNITIES

According to American Council for Energy Efficiency, over 57,400 Georgia residents already work on energy efficiency products and projects.[44] Energy efficiency stimulates local economies by creating local jobs in the manufacture, sale, and installation of efficiency measures.[45] Additionally, there are nearly 4,000 solar jobs[46] in Georgia at more than 230 companies. As of 2018, the U.S. solar industry employs more than 240,000 workers at nearly 13,000 companies.[47] Solar jobs have grown 16 percent since 2015, faster than the overall U.S. economy.[48] The solar industry ranks second in total employment among energy industries, employing twice as many as coal and nearly five times the number employed by the nuclear industry.[49] Solar jobs pay well, too. At a median wage of $21 per hour, solar workers are competitive with similar industries and provide a livable wage.[50]

Additionally, the solar workforce is becoming more diverse in terms of employing more women, racial and ethnic minorities. More accessible education, training programs, and apprenticeships that provide hands-on experience and technical credentials will allow the solar workforce to continue growing and diversifying.[51]

EMERGENCY PREPAREDNESS BENEFITS OF SOLAR

Solar-powered backup generators and microgrids can be a key resource for homes, businesses, shelters, and other facilities to be resilient in the aftermath of emergency situations. Particularly, solar energy can help families manage power outages associated with natural disasters.[52]

APPENDIX B ASSISTANCE & HELP

ORGANIZATION/UTILITY	SERVICES
Your Local Community Action Agency Website: https://www.georgiacaa.org/gcaa_map.htm	Your local community action agency may provide weatherization. At your agency, you can also apply for LIHEAP emergency financial assistance. Visit the GCAA website to find your local agency.
Your EMC or Municipal Utility	Your utility or power company may provide a free Energy Audit to identify your home's energy efficiency needs. Call to learn more or request an application.
United Way 211 Website: http://www.211.org/services/housing-and-utilities	Provides emergency financial assistance for qualified individuals struggling to pay utility bills. Call 2-1-1 or visit the website to find your local United Way.
Georgia Power Website: https://www.georgiapower.com/	• Free Energy Audit to identify your home's energy efficiency needs (learn more and fill out an application at http://residential.georgiapower.com/products-programs/energy-audit/) • Rebates and incentives for energy efficiency measures, including installing LED lighting, smart thermostats, etc. • Home Energy Improvement Program (contact 1-877-310-5607 for additional information). • PrePay Program (visit https://www.georgiapower.com/residential/payment-options/pre-pay.cshtml or call 1-877-506-3905 to learn more and sign up).
PayGo Website: https://paygoutilities.com/	Prepay program helps consumers manage and take control over their energy bills and consumption. Contact PayGo at https://paygoutilities.com/company/contact/.
Project SHARE Website: https://projectshareinfo.com/	Emergency financial assistance to cover a utility bill. To apply for aid, make an appointment at the SHARE Partner Agency in your county of residence. Call Project SHARE toll-free at 1-800-257-4273 for more information.

FOOTNOTES

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12. M.M. Haby, et. al, Energy interventions that facilitate sustainable development and impact health: an overview of systematic reviews, Revista Panamericana de Salud Pública, 39(4), at 200-207.
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FOOTNOTES

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