

SOLAR POWER FOR ALL

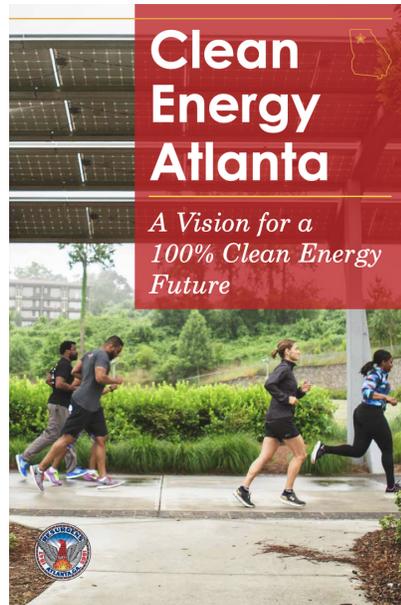
The Promise of Solar Energy in Atlanta Affordable Housing

In 2019, the City of Atlanta adopted two plans to better the City: *One Atlanta*, a commitment to creating or preserving 20,000 affordable housing units by 2026; and *Clean Energy Atlanta*, a commitment to achieving 100% clean energy by 2035. While the timing of the two plans was nearly identical, solutions to the challenges they address—housing affordability and climate change—have traditionally existed in separate spheres.

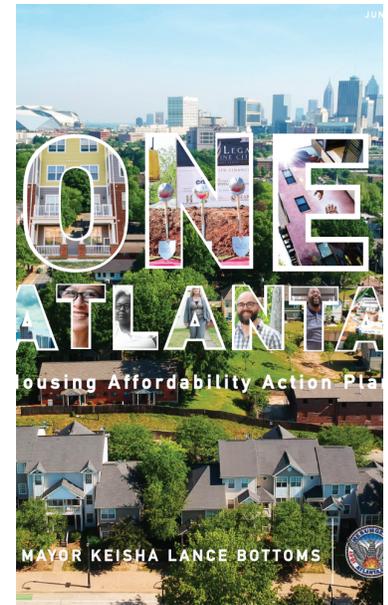
As we begin a new phase of leadership at the City of Atlanta, the opportunity to address two compounding issues affecting Atlanta’s most vulnerable residents—the climate and housing crises—should not be passed up. **Atlanta’s priorities and policies must maximize the clean energy output of our affordable housing investments.**



In Feb. 2020, then-Councilman Andre Dickens and Councilman Matt Westmoreland spoke at a ribbon cutting for a solar array donated to Quest Communities by Solarize Atlanta. Credit: Solar Crowdsorce



Atlanta's Clean Energy Plan



Atlanta's Affordable Housing Action Plan

Atlanta’s *Clean Energy Atlanta* plan and commitment to 100% clean energy was inspired by the need to address climate change, which is already increasing the frequency and intensity of extreme weather events such as downpours and flooding in Atlanta. Individuals facing housing insecurity “are by definition the most exposed to weather conditions and the social and economic problems caused by extreme weather and climate change and variability.”¹

Meanwhile, the *One Atlanta* plan commits to “providing a pathway to affordable and equitable housing opportunities for all who desire to call Atlanta home.”² In 2016, **nearly half of Atlantans spent more than 30% of their income on housing and utility costs, qualifying them as housing-cost burdened.**³

In addition to providing a framework for a transition to 100% clean and renewable energy, **Clean Energy Atlanta emphasizes the need for a just transition to clean energy.**

Electricity in Atlanta is expensive and presents a financial burden for some residents. The median low-income Atlantan spends more than a tenth of their household income on energy bills, which is significantly higher than the national average of 3.5%.⁴

In fact, **Metro Atlanta has the fourth-highest energy burden—the percentage of household income that is spent on energy bills—in the country**, and Georgia as a state has the fourth highest energy bills in the nation.⁵ In short, old, energy-inefficient housing without the money-saving benefits of weatherization, efficient appliances or solar power exacerbate financial—and ultimately, environmental—pressures on Atlantans.



Auburn Pointe, located to the east of Grady Hospital, includes solar on four buildings and one canopy which offsets electricity used by the development's common areas.
Photo Credit: Radiance Solar.



Solar Power installed by Radiance Solar at an affordable senior housing development near Midtown Atlanta. Photo Credit: Radiance Solar

Tragically, these burdens are felt most in under-resourced communities and communities of color; the median energy burden of low-income Atlantan households is 3.6 times higher than that of other Atlantans, and **the median energy burden for Black households is 33% higher than for White households.**⁶

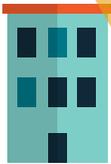
Finally, any building built in Atlanta without smart, energy-efficient building practices and rooftop solar is a lost opportunity for both climate action and action on affordable housing.

Atlanta could be a leader in clean, renewable energy in which every community enjoys the benefits, financial and beyond, of the transition to renewables. But to get there, we'll need to take full advantage of the opportunities before us and stop putting resources into projects that don't adequately take advantage of the overlapping priorities of and pathways to a clean energy future and an Atlanta that is affordable for all its residents.

Case Studies

Environment Georgia Research & Policy Center analyzed the potential for solar on affordable housing in Atlanta. We looked at affordable housing projects that have been preserved or rehabilitated as affordable housing under the One Atlanta plan and calculated the savings and clean energy potential that could have been captured had those developments included solar panels. Specifically we looked at:

Low Rise Buildings



Development: Low-rise (4-story)
Units: 155
Location: McDaniel Street,
Southwest Atlanta



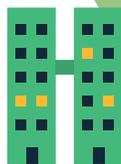
MWh produced per year: 317
MWh per unit per year: 2.05
MWh over 25 years: 7,925



GHG emissions reduced:
equivalent to taking 1,221 cars
off the road for a year.



**Earnings over 25 years, above
system cost:** \$56,879



Development: Low-rise (2-story)
Units: 200
Location: Scott Street,
West Atlanta



MWh produced per year: 408
MWh per unit per year: 1.4
MWh over 25 years: 10,200



GHG emissions reduced:
equivalent to taking 1,572 cars
off the road for a year.



**Earnings over 25 years, above
system cost:** \$69,992⁷

Mid-rise buildings



Development: Mid-rise (8-story)
Units: 196
Location: Peachtree Road,
North Atlanta



MWh produced per year: 213
MWh per unit per year: 1.09
MWh over 25 years: 5,325



GHG emissions reduced:
equivalent to taking 821 cars off
the road for a year.



**Earnings over 25 years, above
system cost:** \$43,442



Development: Mixed low- & high-rise
Units: 181
Location: Richardson Street,
Southwest Atlanta



MWh produced per year: 308
MWh per unit per year: 1.2
MWh over 25 years: 7,700



GHG emissions reduced:
equivalent to taking 1,187 cars
off the road for a year.



**Earnings over 25 years, above
system cost:** \$60,978

Smart Policies Needed

Some incentives for solar on affordable housing already exist: Low Income Housing Tax Credits encourage developers to meet stringent energy efficiency criteria and achieve EarthCraft Platinum or LEED Platinum certification. This may incentivize developers to invest in solar because solar panels can help meet these performance goals.⁸

But, the lack of solar on most affordable housing in Atlanta indicates more needs to be done to address our housing and climate crises efficiently.

Environment Georgia Research & Policy Center identified five policies that could help increase adoption of solar on affordable housing in Atlanta:



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1. Adopt strong green building codes that include solar requirements. At a minimum, **require any buildings built using city funds to include energy efficiency and solar and offer technical assistance and streamlined permitting for affordable housing developers that are including solar.**
2. **Take advantage of Property Assessed Clean Energy (PACE) financing.** After years of work, Atlanta finalized a commercial PACE program that can help developers and building owners finance solar projects. To date this program has not been used, but better education and outreach could make this program successful.
3. Continue to drive creative financing and technology solutions such as the current Atlanta Housing program which helps landlords finance upgrades with the **Solar Energy Loan Fund.**
4. Increase support for solar in the points system that determines recipients of the **Low Income Housing Tax Credit (LIHTC)** and ensure the **Investment Tax Credit** available for solar systems does not inadvertently undermine the chance of getting the LIHTC.
5. Support statewide policy changes that would overcome barriers to solar, including:

a. Adopt **net metering** —this would require utilities to provide fair compensation for the excess energy solar arrays send back to the grid. Net metering could significantly increase the savings identified in this fact sheet.



Solar installation in progress at Quest Communities where solar helps to power the common areas of the Westside affordable housing complex. Credit: Creative Solar

b. Enable virtual net metering to help buildings that are sub-metered capture the full benefits of solar energy. Current law allows for a large solar array on a housing development to feed into one meter. Building managers can therefore divide the benefits of that solar amongst residents or use the power for common areas. But, in buildings where each apartment is metered separately, passing along solar savings to residents in full is impossible. Virtual net metering would credit residents on their electric bills for excess energy produced by their share of the community solar installation, thus opening the benefits of solar energy for Georgians who live in apartments and/or are renters.

Climate change and affordable housing are two of the largest challenges facing Atlanta and the time has come to think about opportunities to address these crises in tandem. ***It is time we work to truly realize the promise clean energy can bring to our City and its residents.***



Environment Georgia Research & Policy Center is a bipartisan, grassroots environmental group working for clean water, clean air and open spaces for all in the state of Georgia.

Methodology

Developments profiled here are among those listed as rehabbed, preserved as affordable housing, or receiving rental assistance in the City of Atlanta's Housing Affordability Tracker, which also provided the number of units per development. The roof area of these developments was estimated using Google's Project Sunroof. Buildings were labeled as either "low-rise," "medium-rise," or "high-rise," based on a search for that project's website, or the appearance of the project based on its address in Google Maps.

To obtain the solar energy potential and financial savings resulting from solar adoption, the address and roof area of each development were entered into the National Renewable Energy Laboratory's ReOpt Lite tool, available at <https://reopt.nrel.gov/tool>. The tool was set to financial optimization, with the electricity rate set at "Georgia Power Co: SCHEDULE R-24 RESIDENTIAL SERVICE," the type of building set at "Mid-rise Apartment," the annual energy consumption calculated as the number of units in the building multiplied by the estimated average annual usage for apartments nationwide, and all other inputs left with default values. Under "Location," the PV & wind space available was set to "Roof space only." For each address, the tool returned the financially optimized solar capacity (in kW) per building and the 25-year cost savings. For each project, the 25-year cost savings in year 1 was multiplied by the number of buildings in the project and divided by the number of units in each project to find the per-unit savings.

Sources:

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- ² <https://www.atlantaga.gov/home/showdocument?id=42220>
- ³ <https://www.atlantaga.gov/home/showdocument?id=42220>
- ⁴ Ariel Dreihobl and Lauren Ross, American Council for Energy-Efficient Economy and Energy Efficiency for All, *Lifting the High Energy Burden in America's Largest Cities: How Energy Efficiency Can Improve Low Income and Underserved Communities*, April 2016, archived at https://web.archive.org/web/20210726142711/https://assets.ctfassets.net/ntcn17ss1ow9/1UEmqh5I59cFaHMqVwHqMy/e81368fa10d39bbb4b114262aaee5be2/Lifting_the_High_Energy_Burden_0.pdf.
- ⁵ Ariel Dreihobl and Lauren Ross, American Council for Energy-Efficient Economy and Energy Efficiency for All, *Lifting the High Energy Burden in America's Largest Cities: How Energy Efficiency Can Improve Low Income and Underserved Communities*, April 2016, archived at https://web.archive.org/web/20210726142711/https://assets.ctfassets.net/ntcn17ss1ow9/1UEmqh5I59cFaHMqVwHqMy/e81368fa10d39bbb4b114262aaee5be2/Lifting_the_High_Energy_Burden_0.pdf.
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- ⁷ <https://www.southface.org/georgias-housing-developers/>
- ⁸ <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

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