



Columbus



The Columbus
Climate Action
Plan

How Can
Citizen Architects
Get Involved



Strategic Plan 2022-2024

Mission

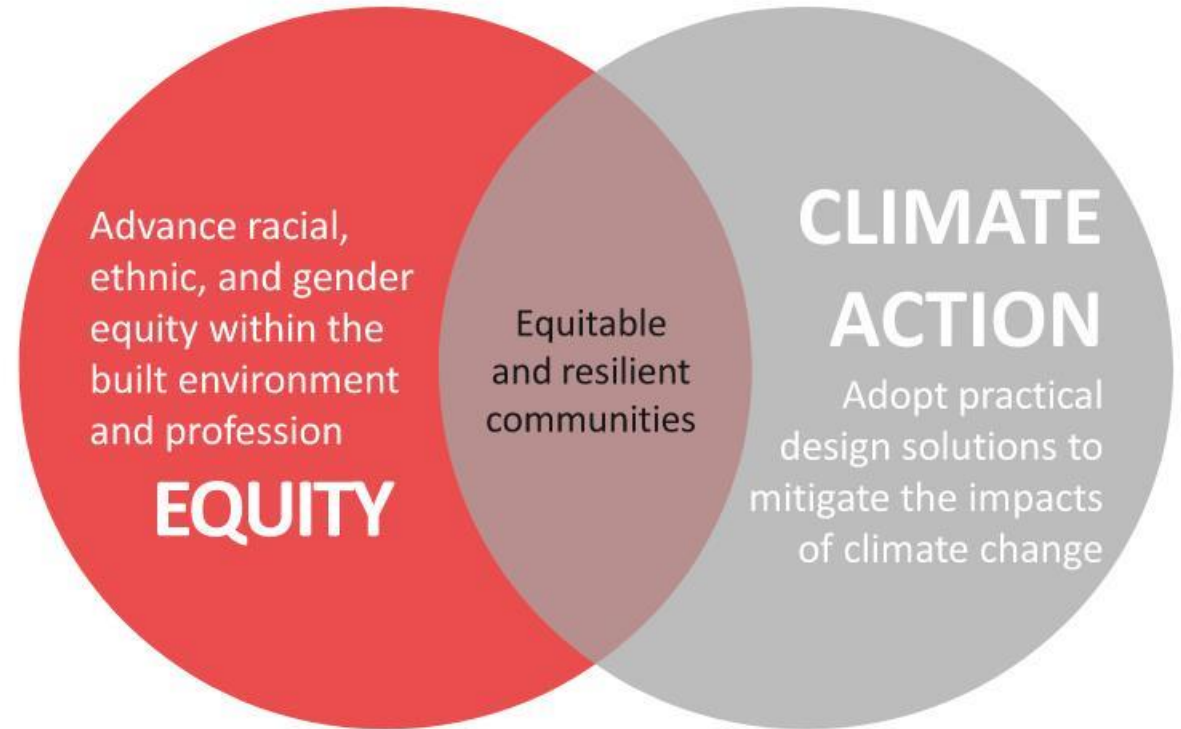
AIA Columbus is a visionary membership organization providing advocacy, leadership, and resources to architects to design a better world

Vision

Through the Power of Design we can drive positive change that fosters equitable and resilient communities

Core Values

- EQUITY: Advocate for diversity and inclusion in education and practice
- COLLABORATION: Foster industry and civic relationships
- STEWARDSHIP: Elevate sustainability to safeguard our community
- EXCELLENCE: Promote design excellence



Building Partnerships



Mayor Andrew Ginther and AIA President Dan Hart at the US Conference of Mayors (June 5, 2022)

“A unique discussion led by AIA architects focused on equitably improving energy efficiency and reducing carbon emissions in both new and existing buildings. AIA leaders will be joined by mayors to discuss how mayors and architects can work together to achieve zero emissions and add value.”

SUSTAINABLE COLUMBUS[★] CLIMATE ACTION PLAN

Columbus AIA
6/8/2022

Bryan Clark, Chief Sustainability Officer
Erin Beck, Assistant Sustainability Officer
Dave Celebrezze, GreenSpot Coordinator



SUSTAINABLE
COLUMBUS[★]

ANDREW J. GINTHER, MAYOR



Climate Justice: equitable distribution of benefits from climate action planning across the diverse community



Human Health: improves public health through reduced pollutants and hazards, and increasing active habits



Environmental Quality: preserves and improves natural ecosystems and promotes biodiversity



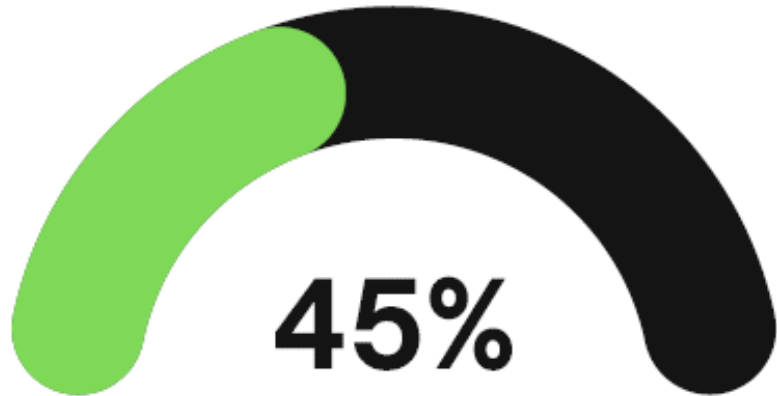
Economic Prosperity: provides opportunity for funding revenue streams, reduced or stable energy costs, and/or job creation



“The Climate Action Plan is part of our community roadmap to equity, health, and prosperity for all Columbus families. Our plan leads with ambition, guided by science and centered in equity, as we build our net zero carbon future by 2050.”



Our Ambition



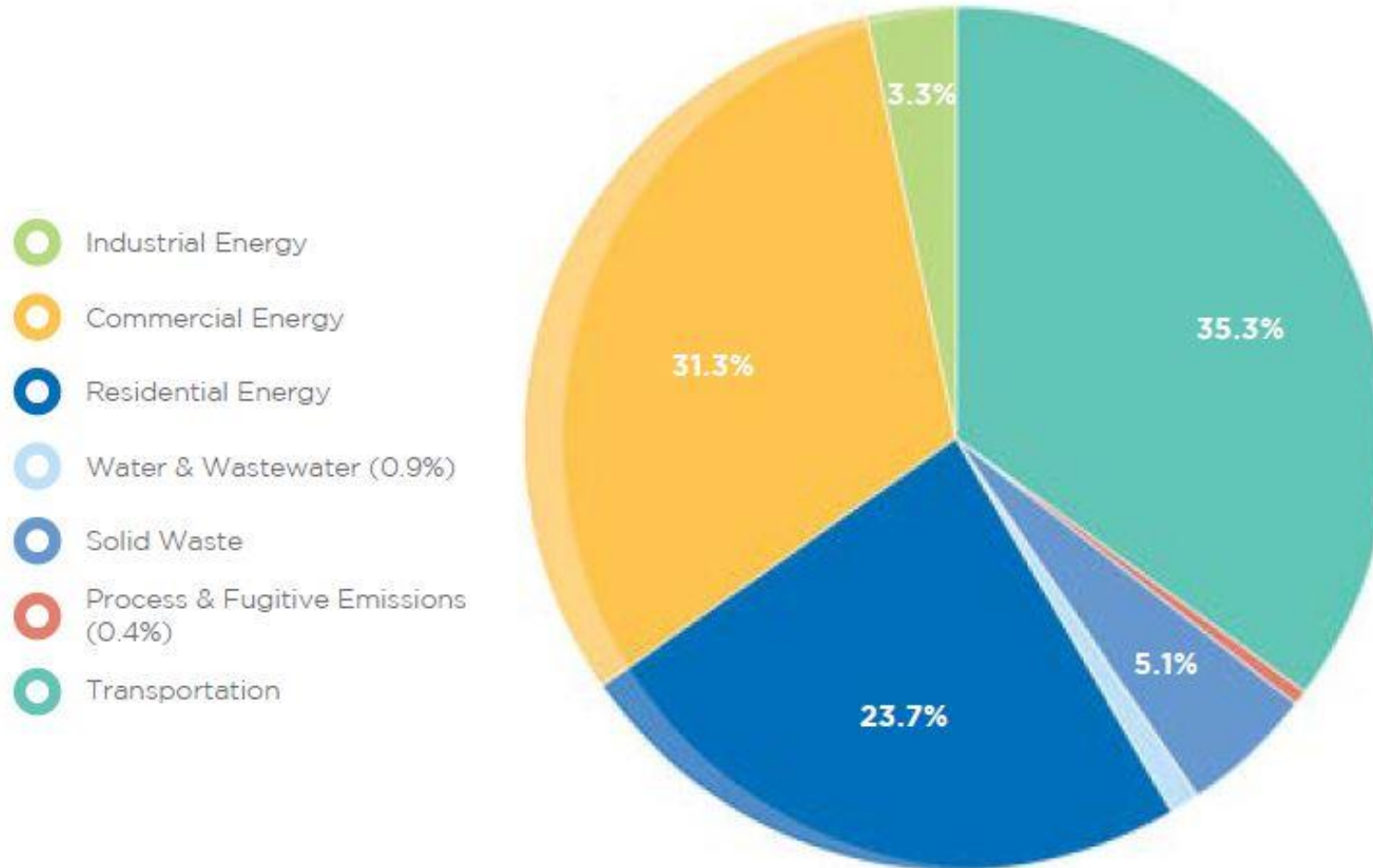
2030 GHG Reduction Goal



2050 GHG Reduction Goal



2013 BASELINE INVENTORY BY SECTOR





SUSTAINABLE COLUMBUS

ANDREW J. GINTHER, MAYOR

What's in the Plan?



CLIMATE SOLUTIONS: THE COLUMBUS WAY

- 1 Empower a community of climate leaders
- 2 Develop a clean energy economy
- 3 Enhance partnerships for preparedness efforts



SUSTAINABLE NEIGHBORHOODS

- 4 Support a healthy and resilient community
- 5 Implement land use planning strategies for healthy ecosystems
- 6 Prepare for warmer and wetter seasons



BUILDINGS

- 7 Increase renewable energy
- 8 Increase building efficiency
- 9 Adopt net zero and resilient building standards



TRANSPORTATION

- 10 Enable carbon free vehicles
- 11 Support equitable mode shift



WASTE

- 12 Reduce waste generated
- 13 Increase waste diversion rate



ad-ap-ta-tion
the process of adjustment to expected climate and its effects

mit-i-ga-tion
human interventions to reduce the sources of greenhouse gases

May 2020 Columbus flood event, rescue photo from Stormcraft Ave.

7.1 INCREASE RESIDENTIAL ON-SITE SOLAR

ROOFTOP SOLAR PHOTOVOLTAIC (PV) PANELS GIVE RESIDENTS THE MOST DIRECT ACCESS TO CLEAN ENERGY

With the regional grid using a significant amount of fossil fuel electric generation, Columbus citizens will get the most reliable clean energy source directly from their own roof and credited to their utility bills through net metering. As the grid is anticipated to integrate more renewable energy and clean generation, the costs of PV systems are expected to continue falling. In the interim, bulk purchasing and incentives should be utilized to spur more adoption.

To improve access and equity to residential solar, the City Division of Power will be working to develop a community solar plan. This will allow residents that do not have a suitable rooftops for solar, such as renters, the benefits of clean energy sources and predictable energy prices.



Image Source: Third Sector Solutions

TARGETS	
Community Solar Plan	by 2025
50 MW installed	by 2030
500 MW installed	by 2050

GHG IMPACT	
2030 Reduction	Low - 19,629 MT
2050 Reduction	Low - 2,956 MT

AGENCIES INVOLVED	
Lead Agency	Building and Zoning
Supporting Agencies	Public Utilities, . . . Sustainable Columbus

EXPECTED BENEFITS	
Climate Justice	
	moderate
Environmental Quality	
	major
Human Health	
	some
Economic Prosperity	
	major

AMERICAN ADDITION+

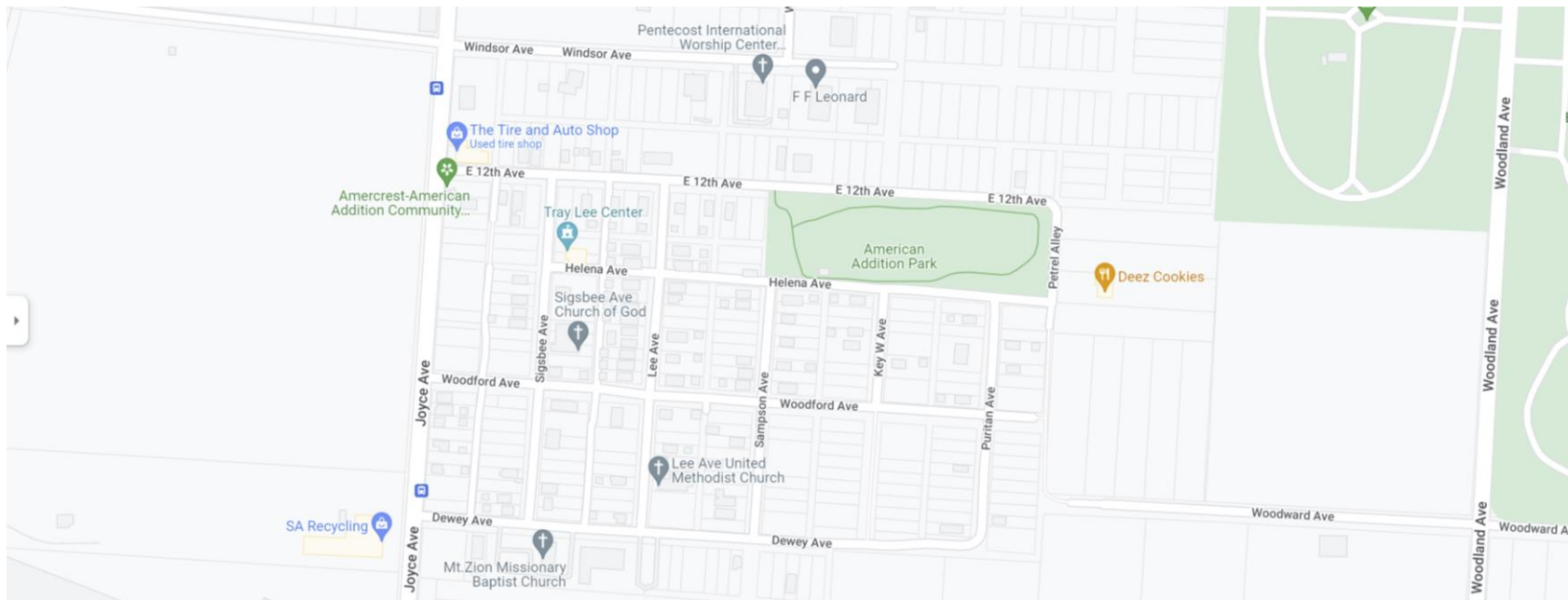
EQUITABLE. AFFORDABLE. SUSTAINABLE.



AMERICAN ADDITION + NET-ZERO

“We are working with the neighborhood to make American Addition the first net zero energy historically Black neighborhood in the country.” *Mayor Andrew J. Ginther*

AMERICAN ADDITION OVERVIEW



- Founded May 7, 1898
- 237 plats in the neighborhood
- City infrastructure 1969
- Environmental design 2010
- New homes 2013
- Phases 4 2023

The goal for American Addition+ is creation of the first net zero energy neighborhood in Ohio – and the first BIPOC net zero energy neighborhood in the country. We will achieve these goals through equitable community engagement; deep energy efficiency retrofits; net zero energy building design and construction; and workforce development – all in the American Addition neighborhood.



AMERICAN ADDITION + *DRAFT* PHASES

PHASE 1 – EQUITABLE ENGAGEMENT

PHASE 2 – WORKFORCE DEVELOPMENT

PHASE 3 – DEEP ENERGY RETROFITS PRE-2010

PHASE 4 – NET ZERO HOMES

PHASE 5 – DEEP ENERGY RETROFITS POST-2010



1.
Net-zero
Energy



2.
Reduce Energy
Consumption



2.
High
Performance
Envelope



3.
Appropriately
Designed
Systems



4.
On Site
Energy
Production

































4.
Monitoring &
Verification


NET ZERO ENERGY HOMES

<https://www.parkcity.org/departments/sustainability/energy-efficiency/net-zero-buildings>


NET ZERO CERTIFICATIONS

	Performance or Design	Metric	Boundary	Combustion Allowed?	Efficiency Required?	Offsite RE Allowed?	Other Reqs.
					NC: 70% EBB* EB: 50% EBB (both w PV)	Yes. Using the offsite RE exception.	Must include on-site storage; 20% embodied carbon reduction.
					Highest efficiency	Yes, must be local. 75% of roof for solar.	
					NC: 25% < 90.1-2010 EB: 30% < CBCECS	Yes. Must be <i>Additional</i> .	10% Embodied Carbon Reduction + Carbon offsets for the remainder
					No, but LEED Certified	Yes. See tiered structure for on- and offsite RE	Must be LEED-NC or EBOM certified. Performance in Arc.
							TOU Option for LZC.
					Must meet ASHRAE 90.1-2016	Yes. After onsite. Tiered structure applies discount factor to various options.	

 = Transportation

 = Embodied Carbon

 = Site Energy Use

 = CO2e

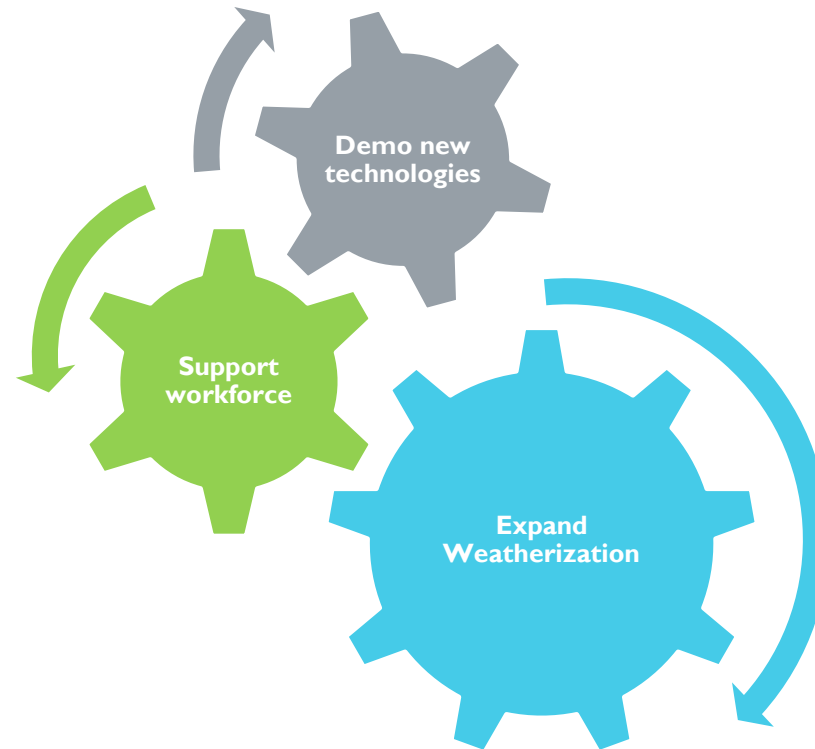
 = Source Energy Use

AMERICAN ADDITION + ENERGY BURDEN

Deep Energy Retrofits

- Maximize deep energy retrofits
- Install solar
- Coordinate with other social programs (i.e., Sojourn, Celebrate One)

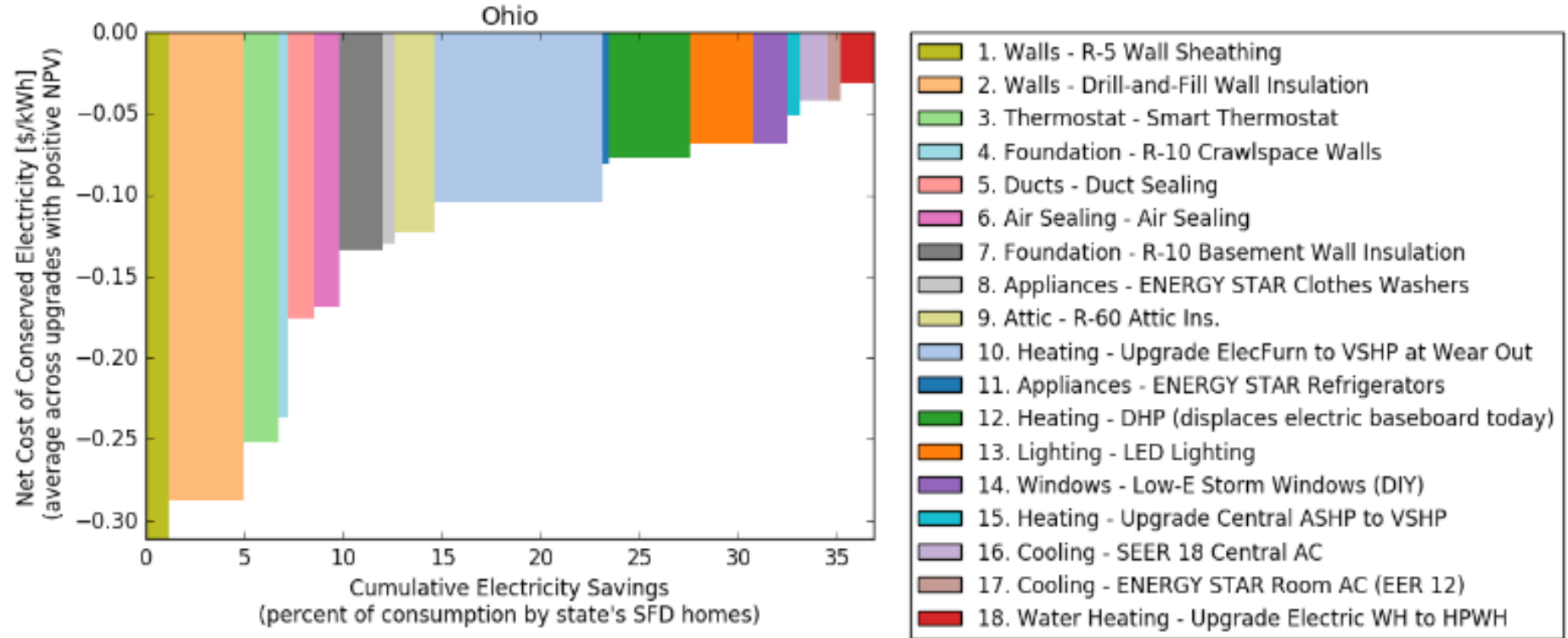
Workforce: Ensure equitable access to good paying careers in the clean energy sector for People of Color, Women, and Youth in Opportunity Neighborhoods



Weatherization: Address the damage caused by climate change in Opportunity Neighborhoods by:

- Expand number of homes that are eligible for weatherization services through increased funding
- Providing funding for old inefficient appliances, not covered by other programs

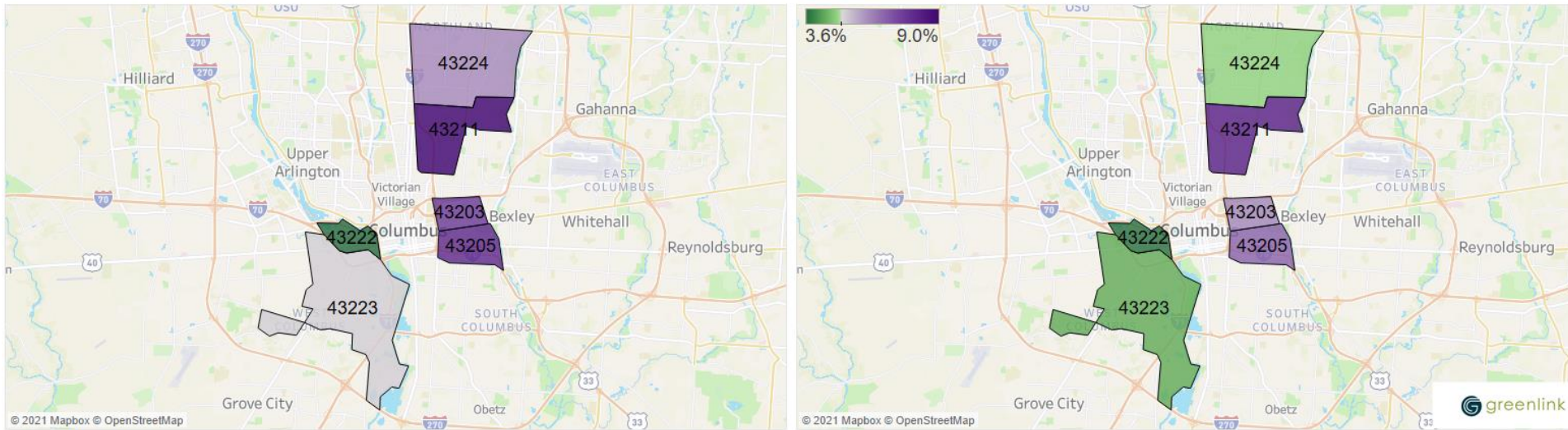
Figure D-33. Electric efficiency supply curve for Ohio



AMERICAN ADDITION + D.E.R.

Appliances	Lighting	HVAC/Enclosure
Smart, Enabled Wi-Fi Thermostat		Smart Thermostat
Energy STAR Refrigerator	LED Replacements for Incandescent Bulbs	Energy STAR Air Source Heat Pump EER >= 12.5
Energy STAR Clothes Washer/Dryer		Wall Insulation
		Attic Knee Wall Insulation
Average Measure Energy Savings (kWh): 465	Average Measure Energy Savings (kWh): 260	Average Measure Energy Savings (kWh): 1,120
Average Bill Savings: \$70	Average Bill Savings: \$30	Average Bill Savings: \$275

AMERICAN ADDITION + D.E.R.



	Average Energy Bill Today	Average Energy Burden	Post-efficiency Energy Bill	Final Energy Burden
Average	\$2,086	7.01%	\$1,896 (-\$190)	6.29%
Minimum	\$845	1.79%	\$750 (-\$95)	1.59%
Maximum	\$3,170	16.2%	\$2,800 (-\$370)	14.4%

AMERICAN ADDITION + WORKFORCE

The goal of the **Empowered!** program is to provide pathways to good paying careers that lead to upward mobility in the construction and clean energy sector for Opportunity Youth in Columbus.



EMPOWERED!

SUSTAINABLE COLUMBUS[★]

AMERICAN ADDITION + INFRASTRUCTURE

\$4,000,000 project to complete City infrastructure

\$300,000 in new sustainability benefits

- 150 new trees

- 50% reclaimed asphalt pavement

- 100% asphalt sealer to reduce NOx, VOC, and other air pollutants

- 100% air quality monitoring before and after

- 5 new solar-supported LED streetlights

- 60% recycled content pipes minimum

Incorporating Climate Action Programs into GreenSpot

Target One

1,000 community partner signatory commitments

- 5 geographic areas of the city (NE, NW, SE, SW, central). Area Commission boundaries will be respected.
- each area will recruit 200 organizational partners to take the pledge.
- Partners take the pledge by becoming GreenSpot and/or Smart Columbus Accelerator Partner Program members.
- Climate coaches will assist with recruiting and assisting signatories.

Target Two

5,000 Resident GreenSpot Climate Pledges

- 5 geographic areas of the city (NE, NW, SE, SW, central) Area Commission boundaries will be respected.
- each area will recruit 1,000 resident pledges.
- Residents take the GreenSpot Climate Pledge.

Target Three

200 Training events

- Hold resident and business trainings (in-person/virtual) on how to achieve the pledges and offer networking opportunity.
- Outreach at events and associations to recruit residents and organizations to take the pledge.
- Social media campaign.
- Follow up individually with resident and organizational pledgees on progress and assistance.
- Develop GreenSpot Climate Resiliency Kits for residents

Background: Climate Action Plan 1.1 Empower a Community of Climate Leaders

- Standalone website, Sustainable Columbus branding. Explains 1.1. and the CAP. Following resources listed: literature, testimonials, rebates, cc impacts on Columbus, CAP, progress tracker (# of signs up/GHG reductions) etc. also...

Community Partner Signatories Commitments

Business/Organization Climate Pledge

Join GreenSpot and/or Smart Columbus'
Acceleration Partner Program to take the pledge

Click below to take the
Climate Household Pledge



Business
Program



Acceleration
Partner
Program



GreenSpot Climate Pledge

- **Household Pledges:**

- Take the pledge!

- Energy

- Change lights to LEDs*
- Use cold water in laundry cycle
- Turn thermostat up in the summer and down in the winter*

- Water

- Water yard once a week or less*
- Use WaterSense labeled shower heads
- Turn off water when you brush your teeth*
- Plant a native tree*

- Reduce Reuse Recycle

- Pay bills online or over the phone
- Compost food scraps*
- Recycle Right*

- Travel Green

- Shop closer to home and plan your route.
- Carpool, walk, bike, or take the bus at least two miles per week.

*All these contribute to other CAP priorities such as increasing water/energy efficiency, increase recycling, increase tree canopy. Also connects to other city programs that have resources for residents.

GreenSpot Advisory Board Working Groups

1. Climate Action Plan (CAP) 1.1 incorporating CAP into GS.
2. CAP Energy/Water Conservation/increase tree canopy
3. GreenSpot and ESG
4. Earth Day
5. GS Sustainable Business Course review
6. GS business survey data
7. GS Sustainable Business Class reunion
8. What is GreenSpot Video
9. GS eDashboard promotion/My GreenSpot review
10. OSU outreach
11. Member value-added engagement





SUSTAINABLE COLUMBUS[★] CLIMATE ACTION PLAN

THANK YOU!

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COLUMBUS[★]**

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