

# THE CHARGING STATION

THE OFFICIAL NEWSLETTER OF A<sup>2</sup>ZERO AND  
THE ANN ARBOR OFFICE OF SUSTAINABILITY AND INNOVATIONS



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## ABOUT THE EDITOR



Simi Barr (he/him) has worked in Ann Arbor's Office of Sustainability and Innovations since 2020. His work is focused on decarbonizing City facilities and operations, as well as the proliferation of public EV charging infrastructure throughout Ann Arbor.



*The sunset over the Ann Arbor Farmers' Market.*

## WELCOME

Welcome from the City of Ann Arbor's Office of Sustainability and Innovations (OSI). In this issue of the Charging Station, OSI is delighted to share details about what the City is doing to decarbonize its facilities and operations. If you are interested in learning more about any of the organizations featured in this issue and how you can get involved, more detail can be found on our website: [www.a2gov.org/sustainability](http://www.a2gov.org/sustainability). As always, thank you for your interest in sustainability activities in Ann Arbor!

## LAND ACKNOWLEDGEMENT

Equity and justice are at the center of A<sup>2</sup>ZERO and staff in OSI are continuing to ground our work in these critical principles. In that light, we'd like to take a moment to honor the geographic and historic space we share. We acknowledge that the land the City of Ann Arbor occupies is the ancestral, traditional, and contemporary lands of the Anishinaabe and Wyandot peoples. We further acknowledge that our city stands, like almost all property in the United States, on lands obtained, generally in unconscionable ways, from indigenous peoples. The taking of this land was formalized by the Treaty of Detroit in 1807. Knowing where we live, work, study, and recreate does not change the past, but a thorough understanding of the ongoing consequences of this past can empower us in our work to create a future that supports human flourishing and justice for all individuals.

# DECARBONIZING CITY OPERATIONS

## THE OVERVIEW

The City of Ann Arbor has worked to lessen its environmental impact since long before [the adoption of A<sup>2</sup>ZERO](#) in 2020, with sustainability initiatives including the creation of a GreenFleets team in the early 2000s, a revolving energy fund used for energy efficiency projects around the City in the late 1980's, and the installation of various renewable energy systems at City Facilities such as solar thermal water heaters at Buhr Park Pool and City Hall. The passage of A<sup>2</sup>ZERO gives renewed direction to City staff to decarbonize City facilities and operations through energy efficiency, electrification, and renewable energy projects. This work is informed through energy and decarbonization audits at City facilities, which provide information about energy conservation measures and "roadmaps" to achieving whole-building decarbonization.

**ENERGY EFFICIENCY:** Energy efficiency work is imperative to building decarbonization. By improving the efficiency of appliances, vehicles, and buildings, we can lower the overall electricity load. Lowering the loads leads to cost savings and greenhouse gas reductions, and helps to prepare for and alleviate the electricity load increases that come with electrification. The City is working to improve the energy efficiency of City operations in a number of ways, including: replacing street and facility lighting with high efficiency LEDs, installing high efficiency appliances in buildings, and updating building automation systems at some City facilities. Energy and decarbonization audits at City facilities will continue to inform upcoming energy efficiency measures.

**RENEWABLE ENERGY:** Since the passage of A<sup>2</sup>ZERO, City staff have worked to have solar energy systems installed at various City facilities. These allow the facilities to generate renewable energy on-site when the sun is shining. These systems vary in size based on the facility, but can power significant portions of the on-site operations. In addition to the solar systems, certain facilities that provide community services or house critical infrastructure are also receiving battery storage systems, which allow them to continue operations in the event of power outages.

**ELECTRIFICATION:** Electrification of appliances and vehicles is an important sustainability strategy as it helps transition away from fossil fuels such as gas and diesel, towards clean electric alternatives, helping lower greenhouse gas emissions and often increasing efficiency. These benefits will further increase as more renewable energy is added to the grid and/or to City facilities. Ann Arbor is working to electrify its buildings and fleet, converting fossil fuel burning appliances and vehicles to electric alternatives. These improvements have led to reductions in the City's greenhouse gas footprint. The most significant impact thus far has resulted from electrification of vehicles in the light fleet. The City has prioritized fleet electrification when replacing vehicles at the end of their lifespans. Since 2019, the City has electrified around 30% of the light fleet. This has resulted in reducing the annual gasoline usage by about 50%.



*Ann Arbor Fire Department Chevy Bolt charging at City Hall.*



*An electric vehicle charger at Burns Park Senior Center.*

Further information on recent energy projects can be seen in the following article and tables.

# DECARBONIZING CITY OPERATIONS

## ENERGY GENERATION AND STORAGE AT CITY SITES

Since 2023 the City has worked with two firms, Homeland Solar and Melink Solar LLC to install solar systems at various City sites. Between these two firms, the City has over 3 MW of solar under contract at over a dozen City locations. Since 2023, over 600 kW of solar installations, along with 7 new public EV chargers, and 2 battery storage systems have been installed and gone online as a result, with much more to come in 2025 and beyond.

The impacts of the solar and energy storage at City sites have been significant. Though analyses are still underway to understand the financial impacts since installation, preliminary results show reduction in electricity costs to the City at these sites on a monthly basis. At sites with battery storage, such as the Ann Arbor Senior Center, the batteries allow for the storage of solar energy overnight, for use when the panels aren't producing electricity. In the case of the Senior Center, around 90% of the electricity used on-site in 2024 has been generated by the solar on-site. The sustainability benefits of generating renewable energy help move the City towards its A<sup>2</sup>ZERO goals, while also creating recurring cost savings that can go toward improving City operations and other sustainability projects.

OSI is eager to continue installing solar and battery storage systems at City sites. Coming up in 2025 are a number of larger installations at sites that provide critical public services, including the Wheeler Service Center, Fire Stations 1, 3, and 6, Steere Farm Water Pumps, and the Water Resource Recovery Facility. These large City facilities are some of the largest energy users in the City's portfolio, so the impacts of the solar and energy storage systems will be significant, as well as the public safety impacts of keeping facilities like Fire Stations online during power outages caused by extreme weather. Keep up to date with municipal solar projects, as well as much more on [the A<sup>2</sup>ZERO Dashboard](#).

### Public EV Charging

SITE	INSTALLATION TYPE	NUMBER OF CHARGE PORTS	INSTALLATION DATE
Ann Arbor City Hall	Public/Fleet Shared Fast Charging	4	August 2021
Forest Parking Structure	Level 2 Public Charging	14	Summer 2022
Library Lane Parking Deck	Level 2 Public Charging	20	Summer 2022
Ann Ashley Parking Deck	Level 2 Public Charging	16	Summer 2022
Liberty Square Parking Deck	Level 2 Public Charging	4	Summer 2022
Maynard Parking Deck	Level 2 Public Charging	12	Summer 2022
4th and Washington Parking Structure	Level 2 Public Charging	4	Summer 2022
4th and William Parking Structure	Level 2 Public Charging	10	Summer 2022
Curbside Charging – Old Fourth Ward	Curbside Level 2 Public Charging	3	November 2023
Huron Hills Golf Course	Level 2 Public Charging	2	January 2024
Leslie Park Golf Course	Level 2 Public Charging	4	February 2024
Ann Arbor Senior Center	Level 2 Public Charging	2	April 2024
Fuller Park	Level 2 Public Charging	6	May 2024
Veteran's Memorial Park	Level 2 Public Charging	12	Planned 2025
Throughout Ann Arbor: Dozens more public chargers coming in locations including Multi Unit Housing Sites, Retail Spaces, Park and Ride Lots, and more through the City's EVSE commercial discount program and Charging and Fueling Infrastructure Federal Grant Award.			2025 and beyond!

# DECARBONIZING CITY OPERATIONS

## ENERGY GENERATION AND STORAGE AT CITY SITES

### Solar Facilities

SITE	INSTALLATION TYPE	ARRAY SIZE (kw DC)	INSTALLATION DATE
Ann Arbor Farmer's Market	Thin film rooftop	10	June 2009
Miller Manor	Roof mount	19.6	September 2015
Bryant Community Center	Roof mount	19.5	November 2018
Fire Station 6	Roof mount	52.5	October 2019
Northside Community Center	Ground + Roof mount	23.8	September 2020
Leslie Park GC Maintenance Barn	Roof mount	11	March 2023
Huron Hills Golf Course Pump House	Ground mount	24.4	June 2023
Buhr Park Pool/Ice Rink	Roof mount	162.4	June 2023
Leslie Park GC Pump House	Ground mount	32.9	November 2023
Cobblestone Farm	Roof mount	47.8	November 2023
Huron Hills GC Club House	Carport	25.7	January 2024
Leslie Park GC Club House	Carport	40.7	February 2024
Gallup Canoe Livery	Roof mount (pergola)	18.2	March 2024
Ann Arbor Senior Center	Carport	31.2	April 2024
Fuller Park	Carport	119.8	May 2024
Ann Arbor Municipal Airport Terminal	Ground mount	78	October 2024
Ann Arbor Airport NW Hangars	Ground mount	71	October 2024
Veteran's Memorial Park Pool/Ice Rink	Roof + Carport	379.4	Planned 2025
Fire Station 1	Roof mount	96.8	Planned 2025
Fire Station 3	Carport	11	Planned 2025
Bicentennial Park	Carport	~55*	Planned 2025
City Hall/Justice Center	Roof mount	135	Planned 2025
Wheeler Service Center	Ground mount	1296	Planned 2025
Steere Farm Wells	Ground mount	605	Planned 2025
Water Resource Recovery Facility	Roof mount	641	Planned 2025

\*still in the design process

### Battery Storage

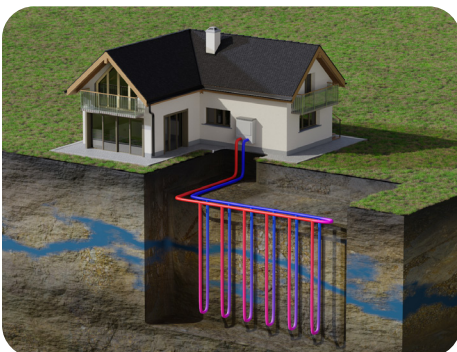
SITE	BATTERY SIZE (kWh)	INSTALLATION DATE
Northside Community Center	20	September 2020
Bryant Community Center	32	May 2023
Ann Arbor Senior Center	64	April 2024
Veteran's Memorial Park	192	Planned 2025
Fire Station 6	Design in progress	Planned 2025
Water Resource Recovery Facility	516	Planned 2025
Peace Neighborhood Center	Design in progress	Planned 2025
Green Baxter Community Center	Design in progress	Planned 2025

# DECARBONIZING WITH GEOTHERMAL

## SYSTEMS THAT COULD TRANSFORM OUR COMMUNITIES

Another area of building decarbonization that the Office of Sustainability and Innovations (OSI) is exploring is geothermal heating and cooling. Geothermal heating and cooling systems exchange heat with the ground through a system of fluid-filled underground pipes. The ground temperature remains relatively constant throughout the year at around 55°F, which allows geothermal systems to both heat and cool buildings by pulling heat from the ground for heating during the winter and removing heat from indoor spaces and storing it in the ground for cooling during the summer. Above ground, geothermal heat pumps that are connected to the underground pipes help transfer heat between the fluid in the pipes and the air.

While geothermal systems can be designed to serve an individual household or building, they can also be designed to serve multiple households or buildings through a system called district geothermal. District geothermal systems are a series of underground piping connected to multiple households or buildings to meet their heating and cooling demands. Each home or building in the system has its own geothermal heat pump that connects to the underground geothermal loop, allowing it to transfer heat between the home or building and the overall system. As each building has different heating/cooling needs, the heat is transferred and shared between them depending on each building's unique circumstance, meaning energy is never wasted. In both the individual system and on the district scale, this results in efficient and affordable heating and cooling that, when powered by renewable energy, can significantly reduce emissions.



A model showing a geothermal system.

Currently OSI and its collaborators are exploring geothermal and district geothermal in a number of locations. Ann Arbor Public Schools has also been installing geothermal systems at a number of the schools. The Ann Arbor Housing Commission recently broke ground on a new affordable housing site that will also use geothermal for heating and cooling. And at OSI, with our collaborator Community Action Network (CAN) the Bryant Community Center will soon be transitioning to a geothermal heating and cooling system. On the district scale, OSI has spent the last year working closely with CAN and the residents of the Bryant Neighborhood, along with additional collaborators to design a district geothermal system in the Bryant neighborhood thanks to a planning grant from the U.S. Department of Energy. During this planning period, the team has designed a system that could provide heating and cooling to the entire neighborhood, with plans to also connect the Bryant Elementary school, the City's Wheeler Service Center, and the County's Mental Health Facility over time. OSI has applied for and is waiting to hear from the U.S. Department of Energy whether it has won funding to install the designed system.

Additionally, OSI is looking for other areas in the community that could be a good fit for district geothermal. In 2024, OSI began working with Stantec to assess the feasibility of district geothermal across Ann Arbor. Using the results, OSI and Stantec will select up to three areas to do a more in-depth feasibility study. For more information on geothermal heating and cooling and the work OSI is doing around it, check out [our geothermal heating and cooling website](#).



Test boring at 121 Catherine Street. This is a test drill to ensure that the area is viable and there aren't any issues in the subsurface. The actual drilling process is essentially the same.

# ANN ARBOR PUBLIC SCHOOLS

## COLLABORATOR SPOTLIGHT

This month we talked with Jason Bing, director of capital programs at Ann Arbor Public Schools, to hear more about how students and staff alike are working to make our preeminent public educational system even more sustainable. As the director of capital programs, Bing supports the design, planning and implementation of [capital investments in district facilities and campuses](#) through the Sinking Fund and 2019 Bond funds. He reports to the Assistant Superintendent of Capital Programs and Physical Properties.

### **Does AAPS have goals around the topic of sustainability? If so, what are those goals?**

AAPS adopted [Board Policy 8000: Environmental Sustainability](#) in 2018, outlining support for the prioritization of environmental sustainability in the district. In 2022, the district adopted the [AAPS Environmental Sustainability Framework](#), which organizes goals within three categories: 1) Responsible Operations, Maintenance and Construction; 2) Environmental Education and Climate Literacy; and 3) Healthy School Campuses. One of the more notable goals is the pursuit of eliminating Scope 1 greenhouse gas emissions by 2035.

### **What role do the students have in the sustainability initiatives of AAPS?**

AAPS has many student organizations that participate in various sustainability initiatives. One of the most active groups is the [Freeman Environmental Youth Council](#). The council is a district-wide leadership group that brings students together from all five AAPS high schools to collaborate around critical environmental issues that affect young people today and in the future. The work these young people do, as well as the educators that advise them, is truly inspiring.

### **What types of sustainability projects are underway at the schools?**

AAPS has many incredible educators that have developed environmental sustainability projects for their classrooms and students, some with support from the City's Office of Sustainability and Innovation! [A list of those projects can be found here](#). Additionally, there are many planning and design efforts underway through the capital program to create healthy, high performance 21st century learning environments for students, staff and school communities that meet or exceed the [Collaborative for High Performing Schools \(CHPS\)](#) green building guidelines.

### **Are geothermal projects being considered?**

AAPS has three geoexchange systems currently in operation (Skyline HS, Clague MS, Forsythe MS). Seven additional systems are in the design and planning phase, with the intention of supporting all-electric HVAC systems to align with the District's commitment to decarbonization.



*Solar arrays at Bryant Elementary School.*



*AAPS new electric school bus.*

*Photos credit Ann Arbor Public Schools.*

# ANN ARBOR PUBLIC SCHOOLS

## COLLABORATOR SPOTLIGHT

### How does energy efficiency factor into AAPS' efforts?

AAPS is actively pursuing aggressive energy efficiency targets with all of the planned [new construction and major modernization projects](#), seeking energy use intensity outcomes that represent 50% less (or better) energy use than the District's typical existing school facility operations, or 20% (or better) than current code efficiency standards. These align with the New Buildings Institute [Decarbonization Roadmap Guide: For School Building Decision Makers](#). Each architecture and engineering team is using energy modeling to develop baseline code compliant models from which to suggest improvements, or energy conservation measures, to increase overall efficiency and meet District energy efficiency targets. Additionally, when replacing energy consuming equipment that is near or at the end of useful life, the District is making every effort to select high efficiency alternatives in order to reduce operating costs and reduce carbon footprint. We have recently upgraded lighting throughout many district school buildings to high efficiency LED fixtures and added automation controls to lighting and HVAC systems for increased efficiency.

### What types of solar projects are taking place?

AAPS currently owns and operates 12 rooftop solar arrays, with nine more in the design and planning stage. The arrays currently energized represent over two (2) megawatts (MW) of capacity, which represent over 8% of district electrical consumption in a typical year and over \$300,000 in annual cost savings to the general fund. Each of the planned new construction and major modernization projects are being designed to support on-site clean energy generation through solar arrays as well.

### How are projects being funded?

Thankfully, the AAPS community has invested in the district, and funding for capital investments (solar, geothermal, lighting, controls, etc) is provided through the Sinking Fund and 2019 Bond funds, which are separate and distinct from the general (operating) fund. This allows us to continue to invest in healthy, high-performance building upgrades to support students and staff. Furthermore, the district is always pursuing incentives (such as those made available through the Inflation Reduction Act), rebates (utility based) and grants to make local investments go even further.

### Are there initiatives taking place beyond buildings and how they use energy? (i.e. Fleet projects, food, commuting, etc)

AAPS continues to incrementally transition a fleet of diesel school buses to electric school buses. At the end of calendar year 2025, we expect to have 14 electric school buses in service (representing over 10% of the fleet) and will be pursuing additional grants and incentives to expand this effort. Some really exciting work is taking place at the [Freeman Environmental Education Center](#), spearheaded by Coert Ambrosino and Sarah Hill - two absolutely outstanding educators. Recently, the team has been working with University of Michigan students to develop a strategic master plan for the center, as well as to create a plan for a student-driven nursery that could support the growth of native tree and plant species which could be utilized at district sites to increase biodiversity and green infrastructure. Furthermore, the District is exploring additional funding opportunities to leverage available resources to reduce energy.

### How can people stay informed about sustainability work at AAPS?

For information on general environmental sustainability in the AAPS, please visit: <https://www.a2schools.org/departments/environmental-sustainability>

For information on the Freeman Environmental Education Center, please visit: <https://sites.google.com/a/aaps.k12.mi.us/enved/freeman-environmental-center>

For information on environmental sustainability and the 2019 Bond, please visit: [a2schoolsbond.org](https://a2schoolsbond.org)



Solar array at Skyline High School.

# BENCHMARKING

ANOTHER IMPORTANT STEP ALONG THE PATH TO DECARBONIZATION

As part of addressing building decarbonization in commercial and multifamily housing properties, the City of Ann Arbor implemented its Energy and Water Benchmarking and Disclosure Ordinance, the first in the state of Michigan. Benchmarking is an easy and fast process that measures a property's energy and water use and compares it to an average for similar properties. It allows owners and occupants to understand their property's relative energy performance and helps identify opportunities to cut energy waste. How properties covered by the ordinance perform is disclosed publicly, putting data in the hands of tenants seeking to understand their potential energy bills and incentivizing owners to improve the performance of their properties.

Commercial and multifamily properties over 20,000 square feet in the city are currently required to benchmark. Properties covered by the ordinance who have not started benchmarking should visit the city's [benchmarking website](#), or email [benchmarking@a2gov.org](mailto:benchmarking@a2gov.org). There are how-to guides and videos on the website to guide building owners or managers through the benchmarking process. For hands-on support, the [Ann Arbor/Washtenaw 2030 District](#) offers free benchmarking assistance to its members. Joining the district is free, and they can walk properties through obtaining the aggregated utility data required to comply with the ordinance. Lastly, if you live in a property covered by the ordinance, ask your property owner or manager if they have completed their benchmarking report!



**ENERGY STAR SCORE**  
**71/100**  
50=median, 75=high performer

This building energy profile is a summary of data gathered from Energy Star Portfolio Manager. The profile displays metrics and offers insight into annual energy consumption and costs compared to other buildings of the same property type. Additional resources for increased efficiency and cost savings are linked at the bottom of the page.

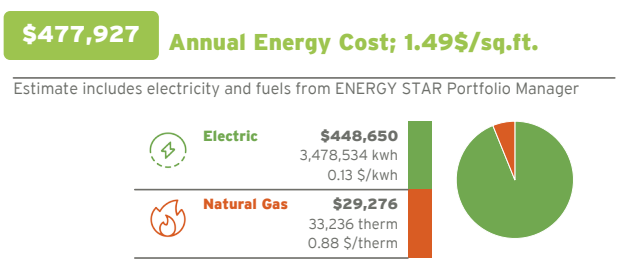
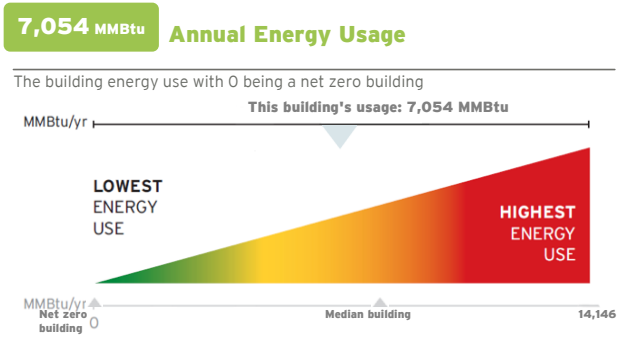
### BUILDING INFORMATION

**LOCATION:**  
Ann Arbor, Michigan 48104  
**YEAR BUILT:**  
20...  
**GROSS FLOOR AREA:**  
... sq.ft.  
**PROPERTY TYPE:**  
Multifamily Housing

### REPORT INFORMATION

**PROFILE CREATION DATE:**  
10/23/2024  
**REPORTING YEAR:**  
2023

Brought to you by the Building Energy Analysis Manager



- Insights & Trends**
- ✔ This building's **greenhouse gas emissions** were: 2,104 metric tons CO2e
  - ✔ This building's cost per square foot was: 1.49 \$/sq.ft.
  - ✔ This building's energy use intensity was: 47 kBtu/sq.ft.
  - ✔ This building's electricity consumption: 3,478,534 kwh
  - ✔ This building's natural gas consumption: 3,323,649 kbtu

- Take Action!** The following actions can help you save money on your energy costs for years to come
- SCHEDULE a review with 2030 District Energy Advisor: [Jan Culbertson](#)
  - Apply for FREE or Discounted ENERGY AUDITS: [A2 W/2030 District, RESTART](#)
  - Apply for FREE Onsite [Solar Feasibility Study and/or procurement assistance](#)
  - DTE Programs and FREE efficiency assessments: [Multifamily, Commercial](#)
  - ENROLL in [DTE's Renewable Energy Program MIGREENPOWER](#) for +\$0.02487/kWh. Access financial assistance: [Michigan Saves & PACE](#)
  - Check out the Buildings and the Inflation Reduction Act Policy [Guidebook](#)

An example of the Commercial Benchmarking Annual Energy Use Scorecard. These documents illustrate the energy usage of a given building and offer next steps to reduce energy use.

**CONNECT WITH A<sup>2</sup>ZERO**  
**INSTAGRAM | FACEBOOK**  
**[sustainability@a2gov.org](mailto:sustainability@a2gov.org) | [a2zero.org](http://a2zero.org)**  
**JOIN OUR MAILING LIST | YOUTUBE**



## ANNOUNCEMENTS

**GET TO KNOW THE SUSTAINABLE ENERGY UTILITY:** The Ann Arbor Sustainable Energy Utility is an opt-in, supplemental municipally-owned energy utility that provides 100% renewable energy from local solar generation and battery storage systems and networked geothermal systems installed at participating homes and businesses in the City. For more information about the SEU and the election on November 5, visit [a2gov.org/a2seu](http://a2gov.org/a2seu).

**Commercial EV Charger Program.** Applications for the City of Ann Arbor's Commercial EV Charger Program are still open. With the goal of increasing the availability of publicly accessible EV chargers, the Commercial EV Charger Program provides an opportunity for commercial and multifamily property owners in Ann Arbor to receive up to four FREE level 2 EV chargers. To learn more about the program and view our application, visit [osi.a2gov.org/evchargerprogram](http://osi.a2gov.org/evchargerprogram).

**A<sup>2</sup>ZERO Rebates Still Available:** In total, OSI anticipates distributing \$1.9 million in rebates, providing an estimated 1,300 sustainability-related rebates to residents across the city. At least 50% of the rebates are for income qualified households. More details, including our new dashboard, are available at [osi.a2gov.org/rebates](http://osi.a2gov.org/rebates).

**The Home Energy Advisor is no longer on a waitlist!** The waitlist has been exhausted and the portal is now open to sign up to receive your free, custom home decarbonization plan. Learn more and sign up at [a2zerohea.org](http://a2zerohea.org).

**Check out Green Light.** A new series from CTN and OSI that digs into sustainability in Ann Arbor with the residents who are envisioning, creating, and establishing a sustainable and equitable future for our community. [Check out our newest episode on the Sustainable Energy Utility.](#)

**University of Michigan Community Read "Not Too Late: Changing the Climate Story from Despair to Possibility"** From October 18 – December 13 the LSA library is offering free access to the [audio](#) and [ebook editions](#) of "Not Too Late: Changing the Climate Story from Despair to Possibility" (edited by Rebecca Solnit and Thelma Young Lutunatabua) as a community read to anyone connected to the Internet in the State of Michigan. An in-person reading group will be held in early December – details coming soon!

## UPCOMING EVENTS

**AAHC Homebuyer's Summit for Section 8 Voucher Recipients** | November 6, 11 AM – 2 PM | Washtenaw Community College – Morris Lawrence Building

If you're a Section 8 voucher recipient or community member interested in homeownership, this free event is for you! Learn about affordable housing opportunities, meet key experts, and take the next step toward owning a home. Lunch provided along with live entertainment, raffle prizes & giveaways, and networking opportunities. [Learn more and register here.](#)

**Workshop: Climate Friendly Homes** | November 8, 2:30 – 3:30 PM | Ann Arbor Senior Center

Join for an informative introduction to the Home Energy Advisor (HEA) program, tailored to provide Ann Arbor residents with actionable plans towards more affordable, comfortable, and decarbonized homes. All ages welcome. Located at the Ann Arbor Senior Center, 1320 Baldwin Ave. Preregistration required. Contact 734.794.6250. Free of charge.

**November Lunch and Learn: Commercial On-Site Solar and Storage** | November 12, 12 – 1 PM | Virtual

Learn about on-site solar and solar + battery systems at this lunchtime session hosted by the Ann Arbor/Washtenaw 2030 District. Hear from Missy Stults, PhD, Director of the City of Ann Arbor Office of Sustainability and Innovations, Chuck Hookham, President of Ann Arbor Consultants, and Jan Culbertson from the 2030 District. Learn more and sign up for the virtual meeting at [2030districts.org/annarbor/event/november-lunch-and-learn/](http://2030districts.org/annarbor/event/november-lunch-and-learn/).

For more information on our upcoming events, please visit [www.a2gov.org/sustainability/events](http://www.a2gov.org/sustainability/events).