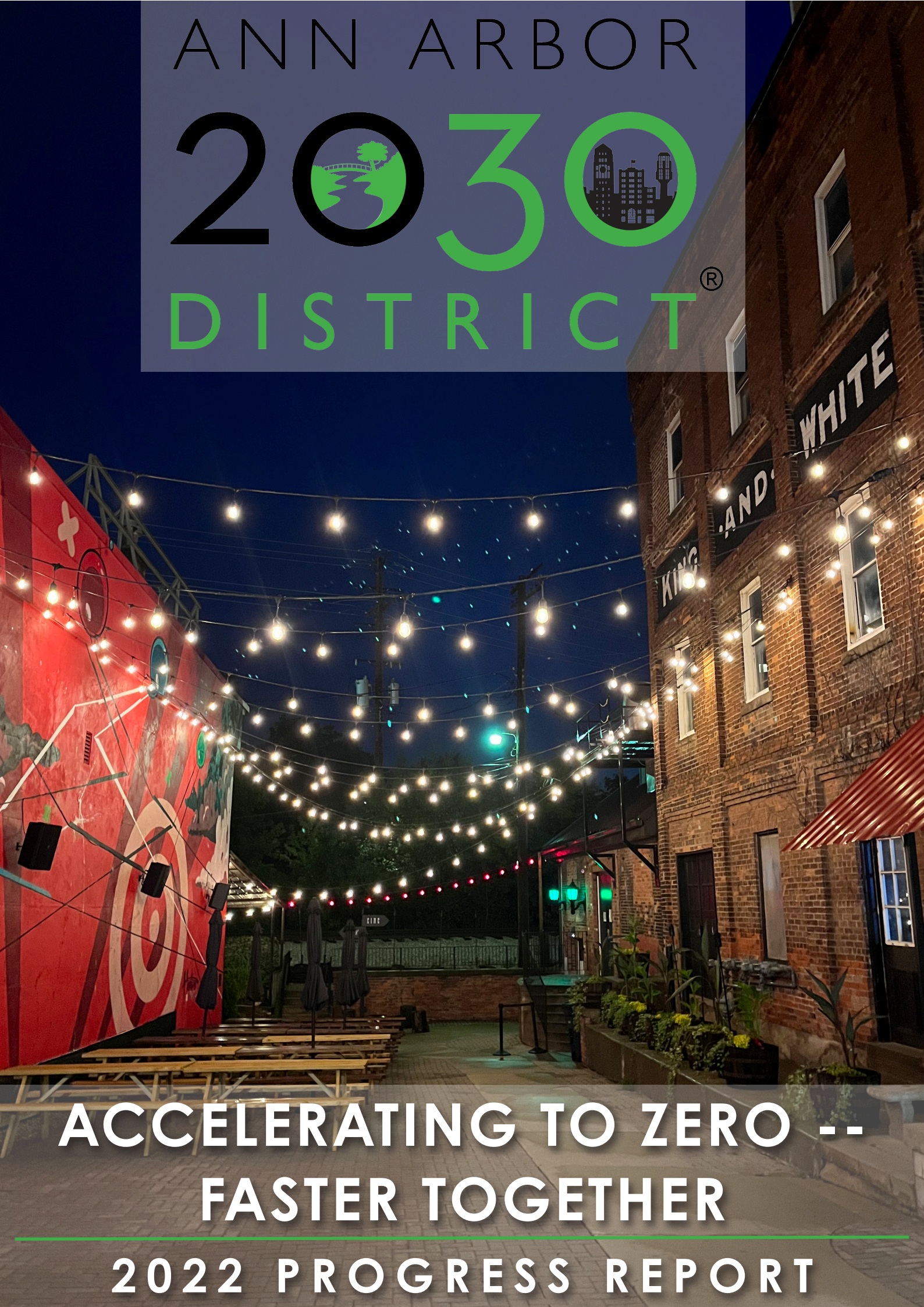


ANN ARBOR

2030

DISTRICT<sup>®</sup>



**ACCELERATING TO ZERO --  
FASTER TOGETHER**

**2022 PROGRESS REPORT**

# Message from Leadership Chair

## 2022 Accelerating to Zero – Faster Together!

A year of climate action progress and membership growth in A2 2030D

With 8 years to achieve a 50%-65% reduction in energy and water use as well as reducing transportation emissions by 50%-65%, we need to rapidly accelerate our progress. We have seen climate change impacts in Michigan including increased rain events and increased temperatures impacting agriculture, wildlife, lakes, woodlands, and humans. I am proud of the work that the Ann Arbor 2030 District has done to educate, measure and monitor carbon emission reductions. We have the foundation set to meet the A2 Zero Carbon Neutrality Plan in the commercial, nonprofit, and multi-family building sectors.

This progress report details significant accomplishments of the A2 2030 District in 2022, such as:

- Increasing building member participation, facilitating direct energy and water data entry into Energy Star Portfolio Manager.
- Providing \$50,000 in energy audit grant funds.
- Working with the City of Ann Arbor to benchmark commercial and multi-family properties.
- Launching a Multifamily best practice group to support property owners and managers navigate benchmarking and the proposed Green Rental Housing Ordinance in addition to reducing their emissions.
- Celebrating the success of our members by highlighting projects that improve efficiency, add renewables and demonstrate progress on carbon neutrality is a priority for every building sector and economically viable.
- By welcoming the Inter-Cooperative Council, A2 Y, and Neutral Zone into membership, A2 2030D continues to include underrepresented members of our community in our work.
- Continuing the second year of Implementing the A2 Zero Plan Lunch & Learn Series with AIA Huron Valley and Washtenaw Contractors Association with 180+ registrants.

Finally, we are beginning to engage with cities, villages, and townships throughout the county. The commercial real estate and construction industry needs full participation in planning and implementing a transition to a decarbonized community now, for the next generation, so that all may grow and thrive.

Sincerely,



## Leadership Council Members

Our Leadership Council consists of volunteer members who support our efforts through their time and expertise:

**Chair:** Jan Culbertson, A3C - Collaborative Architecture

**Secretary/Treasurer:** Irwin Weingarten, QR Management

Thea Yagerlener, City of Ann Arbor

Tamika Banks, DTE

Cindy Cole, MAVD

Gail Roose, AAATA

Neal Warling, JLL

Larry Deck, Walk Bike Washtenaw

Jody Humphries, Washtenaw Contractors Association  
Dave Lowe, 2030 District

**HoW Green Team Leader:**

Murray Rosenthal, Genesis of Ann Arbor

**Multi-family Best Practice Group Facilitator:**

Kevin McNeely, McNeely Building Group, LLC

Data/Communications Manager: Karen Thurman, MCD

Volunteer Data Director: Peter Woolf

# Diversity, Equity & Inclusion Efforts

Ann Arbor 2030 District's goal is to address climate change by rapidly transforming the local built environment from a major contributor of global greenhouse gas emissions to a central part of the solution to the climate crisis. A fully decarbonized built environment in which all people have full and equitable access to, and/or ownership of, affordable carbon free energy and safe, healthy communities.

We recognize that the built environment is not neutral: racial, ethnic, religious, and economic segregation and displacement are reflected in the development and physical form of the built environment locally and worldwide.

Policies and initiatives that mitigate the consequences of climate change can also protect those who are most at risk. Building sector decarbonization has the potential to reduce the energy cost burden on low-income communities; drive equitable economic prosperity by creating wealth, jobs, and business opportunities; and reduce exposure to health risks.

To support this effort in 2022 we have

- Expanded our District and resources to Washtenaw County in collaboration with Resilient Washtenaw
- Specifically reached out to non-profits serving diverse communities to engage them in membership.
- Partnered with Solar Faithful to reach diverse faith communities enabling them to decarbonize with no upfront capital expenditure.
- Adjusted our energy management grant funding to increase support to non-profits and buildings serving frontline individuals and neighborhoods.

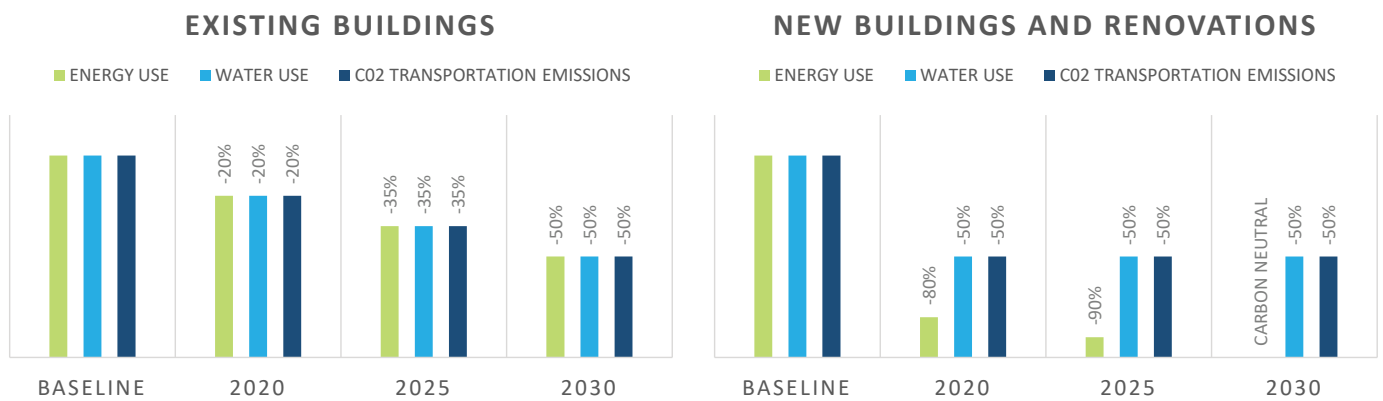


Visit Solar Faithful [solarfaithful.org](https://solarfaithful.org)



# What are 2030 Districts?

2030 Districts Network, created by Architecture 2030, are unique private/public partnerships committed to reducing energy use, water use, and transportation emissions. Together, districts benchmark, develop, and implement creative strategies, best practices, and verification methods for measuring progress towards a common goal of meeting the 2030 Challenge for Planning and ultimately achieving carbon neutrality no later than 2040. Locally, the Ann Arbor 2030 District (A2 2030 D) serves all of Washtenaw County supporting Ann Arbor's [A2 Zero plan](#) to achieve community-wide carbon neutrality by 2030 and [Resilient Washtenaw](#), the county's plan to achieve community-wide carbon neutrality by 2035.



## THE 2030 NETWORK

24 districts in total span across the United States and Canada, together making up the 2030 Districts Network, a registered 501(c)(3) non-profit organization in the U.S. Its mission is to develop and sustain local 2030 Districts and partners in achieving the 2030 Challenge Goals, outlined in the 2030 Challenge for Planning.



## The Ann Arbor 2030 District

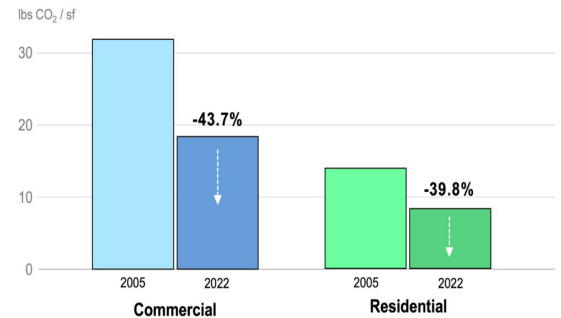
The Ann Arbor 2030 District is a membership organization that bridges the gap between private and public sectors to reduce negative impacts from buildings and transportation - the two leading contributors to climate change in our region. Our members have committed to significantly reduce water and energy use, and carbon emissions from transportation by the year 2030.

Our unique relationships with the community, private sector, public officials, and building owners, position us as a nexus for dramatically improving the health and environment of the community.

## THE GOOD NEWS

We are now witnessing the remarkable decarbonization of the U.S. building sector with record CO<sub>2</sub> emissions reductions that began in 2005. That year, building operating energy and emissions decoupled from building sector growth. Since 2005, the carbon intensity of the entire U.S. building stock (CO<sub>2</sub> emissions per square foot of floor area) declined by 39.8% for residential and 43.7% for commercial buildings:

U.S. Building Sector Operations:  
CO<sub>2</sub> Emissions Intensity

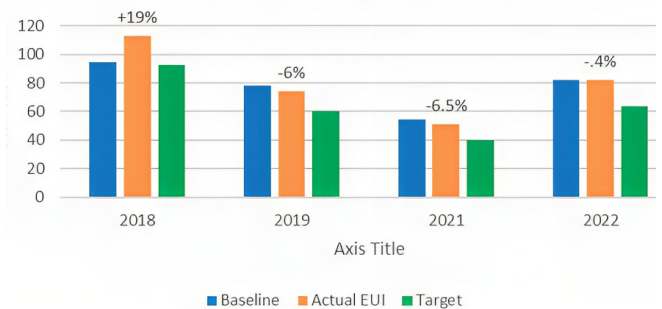


Source: Architecture 2030,  
U.S. Energy Information Administration (EIA),  
Annual Energy Outlook (AEO)

## THE IMPORTANT NEWS

Locally, our district benchmarking\* reveals that we have only reduced GHG emissions by 18.6 % since 2003. District properties have a HUGE opportunity to reduce emissions both through efficiency and deploying renewable energy. Accelerating our efficiency and renewable energy deployment is imperative to meet carbon neutrality goals.

2030 District Actual EUI VS Baseline of Reporting Buildings



## WHERE WE ARE HEADING

We are amid a climate emergency and the gravity of the consequences will be determined by the timeliness of our actions. In partnership with A2 Zero and Resilient Washtenaw, the following strategies are key actions needed to achieve the deep reductions in carbon emissions within the next decade.

## POLICY AND ADVOCACY

Ann Arbor 2030 District recognizes that a favorable business and regulatory environment will help members achieve the [A2 Zero Carbon Neutrality Plan](#) and [Resilient Washtenaw](#), Washtenaw County's Climate Action Plan. A2 2030D will continue to advocate for both market-based solutions and positive public policies at the local and state level. Specifically, A2 2030D supports:

- Ordinances & legislation supporting a Circular Economy
- Adopting the 2021 IECC with the Zero Code Renewable Energy Appendix in Michigan
- Eliminating the cap on Distributed Generation in Michigan
- Power our electric grid with 100% renewables no later than 2040
- Electrification of our transportation sector and building the needed infrastructure
- Local benchmarking and transparency ordinances
- Policies to encourage the use non-motorized & public transportation
- Ordinances that strengthen Complete Neighborhood concepts
- Performance based incentives
- An equitable transition to Carbon Neutrality

# Accelerating to Zero – Faster Together!

The Ann Arbor 2030 District is making great strides to heal our planet. However, as only 1 district in a network of 24, we also exist alongside many other working groups. These groups are all aiming to accomplish similar goals and reach net-zero.

## UNIVERSITY OF MICHIGAN

Carbon neutrality commitments:

- 2025 - Reduce greenhouse gas emissions from purchased electricity (Scope 2) to net zero.
- 2040 - Eliminate direct, on-campus greenhouse gas emissions (Scope 1).
- 2025 - Establish goals for a wide range of indirect emission sources (Scope 3).
  - Foster a universitywide culture of sustainability, with justice as a core principle.

[2022 Climate Action Report](#)

## CITY OF ANN ARBOR

[A2ZERO Year Three Annual Report](#)

The A2ZERO goal of community-wide carbon neutrality requires reducing our community's annual greenhouse gas emissions from over 2.1 million metric tons of CO2 equivalent pollution to zero by 2030.

Ann Arbor's largest source of greenhouse gas (GHG) emissions is from the electricity used in homes and businesses (41% of emissions).

These emissions are driven by both how much electricity is consumed and how carbon intensive the fuel mix is that generates that electricity.

## WASHTENAW COUNTY

### RESILIENT WASHTENAW PLAN:

A way to get to net zero emissions and plan for providing service and infrastructure in a changing climate.

#### GOALS:

- Net Zero - County Operations by 2030
- Net Zero - County by 2035

#### NOTABLE FACTS:

- Existing Buildings are the largest source of community CO2 emissions (66%).
- Transportation accounts for one third of community CO2 emissions.

## STATE OF MICHIGAN

The MI Healthy Climate Plan lays out a pathway for Michigan to reach 100% carbon neutrality by 2050 to avert the worst impacts of the climate crisis, create good-paying jobs, and build a healthier and more prosperous, equitable, and sustainable Michigan for all Michiganders.

[MI Healthy Climate Plan Online Portal](#)

## 2030 DISTRICT NETWORK

The vision of the 2030 Districts Network is to establish a global network of thriving high-performance building districts and cities uniting communities to catalyze transformation in the built environment and its role in mitigating and adapting to climate change.

[Districts Annual Reports](#)

ver, just as we are  
g groups. Together,  
carbon emissions.

# District Goals



## ENERGY

### **Decarbonize the Built Environment through:**

- Expand the district to include Washtenaw County, beginning with Cities, Villages and Townships in collaboration with Resilient Washtenaw
- Work with members to benchmark buildings in conjunction with and ahead of the A2 Benchmarking Ordinance implementation dates
- Work with members to establish both long- and short-term targets, aligning necessary upgrades with capital improvement cycles.
- Support and expand the HoW Green Team
- Support and expand the Multi-family Best Practice Group
- Re-engage Restaurant & Bar members as they recover from the pandemic
- Continue Energy Audit and Assessment Programs and publish case studies
- Develop green leasing and tenant engagement programs
- Expand on-site and off-site renewables through education, outreach, and technical support
- Expand on the Implementing A2 Zero Educational Series with additional deep dives to explore the specific decarbonization strategies and technologies including
  - Heat Pump technology and Geo-exchange Systems
  - Wastewater Heat Recovery Systems
  - SMART building systems
  - Distributed Energy Response Management Systems (DERMS)
  - Recognize buildings and tenants making substantial progress.



**Energy  
Efficiency**



**Electrification**



**Renewable  
Energy**





## WATER

### Reduce, Reuse and Recognize

- Work with members to benchmark buildings in conjunction with and ahead of the A2 Benchmarking Ordinance implementation dates.
- Work with members to establish both long- and short-term targets, aligning necessary upgrades with capital improvement cycles.
- Promote Stormwater and Rainwater Harvesting & Reuse technologies
- Promote native landscapes to reduce or eliminate irrigation
- Promote Greywater Reuse technologies
- Recognize buildings and tenants making substantial progress.



## TRANSPORTATION

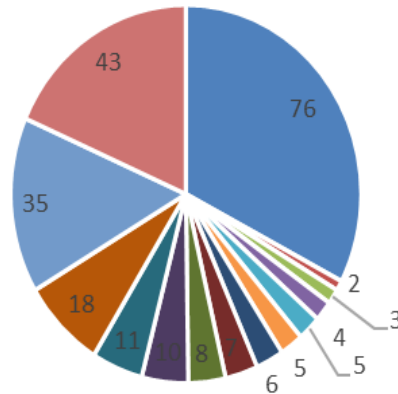
### Engage, Transition, Recognize

- Expand participation in the A2 2030D transportation survey in January 2023.
- Promote electrification of fleets.
- Promote work from home policies.
- Promote the addition of EV charging stations.
- Support and promote walking & biking.
- Develop a tenant and employee engagement strategies to support reducing vehicle miles traveled by 50%
- Recognize buildings and tenants making substantial progress.

# District Statistics

As of December 31, 2022 the district has 230 buildings, totaling 9.4M SF. We have grown by 180%. The mix of properties benchmarking in the district is dominated by multifamily, office and k-12 schools.

## DISTRICT PROPERTY TYPES

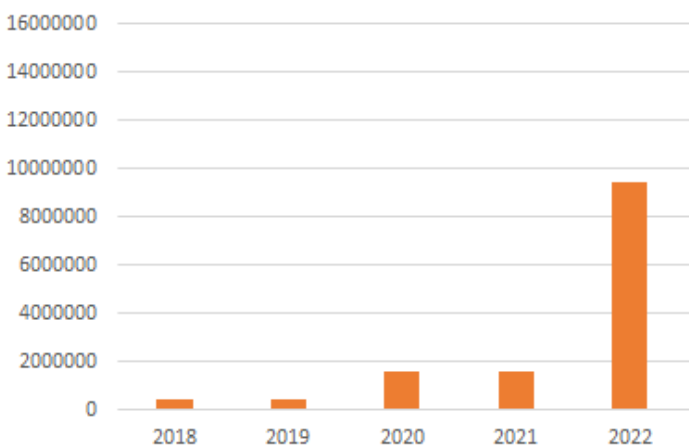


**230** MEMBER BUILDINGS

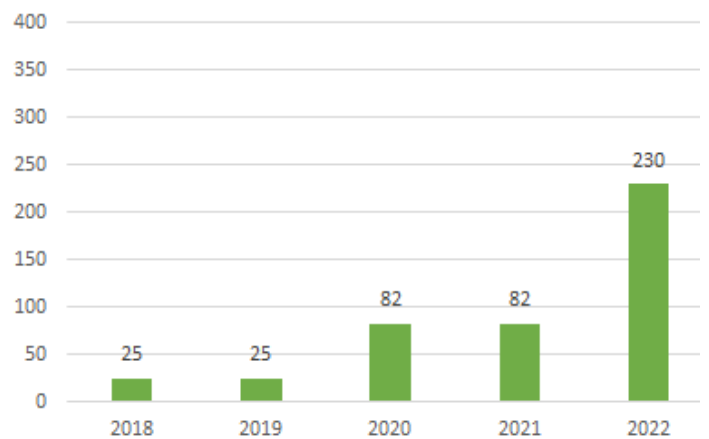
- Multifamily Housing
- Prison/Incarceration
- Restaurant
- Transportation Terminal/Station
- Library
- Single-Family Home
- Other
- Worship Facility
- Fire Station
- Entertainment/Public Assembly
- Other - Public Services
- Residence Hall/Dormitory
- K-12 School
- Office

**9.4 Million** TOTAL GROSS SQUARE FEET FROM MEMBER BUILDINGS

District Property Square Footage By Year

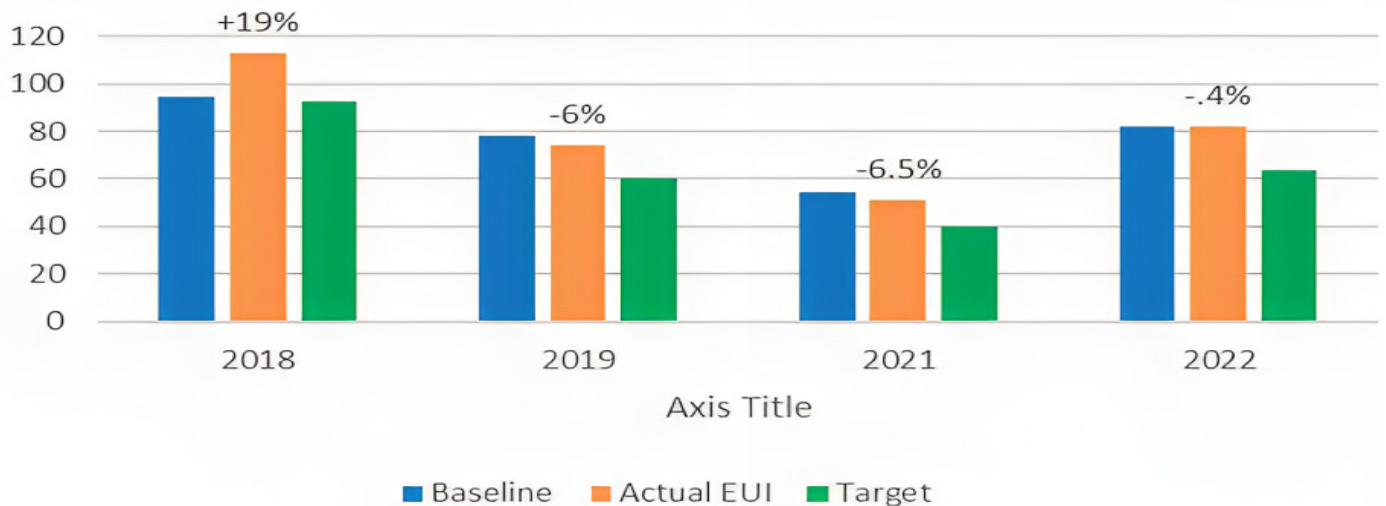


Total Number of District Properties

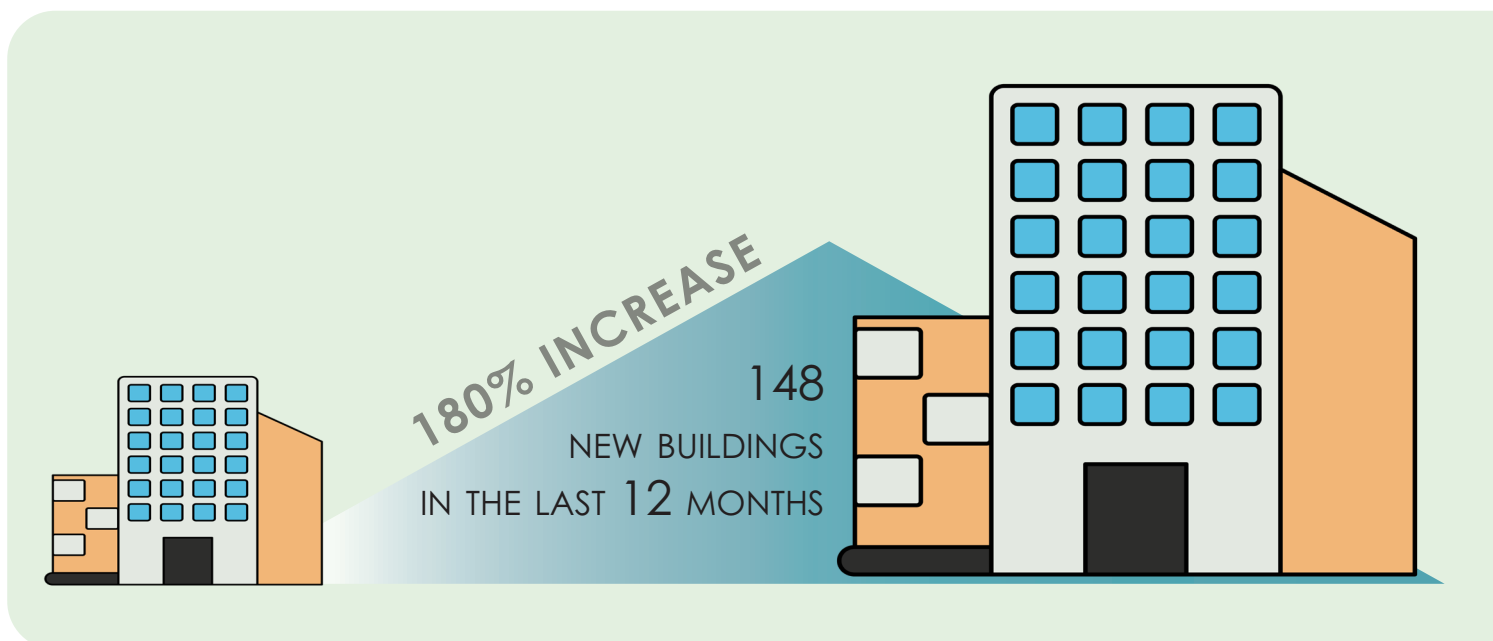


# Energy Benchmarking

AVERAGE ENERGY USE INTENSITY (EUI) AND TARGETS OF REPORTED DISTRICT BUILDINGS

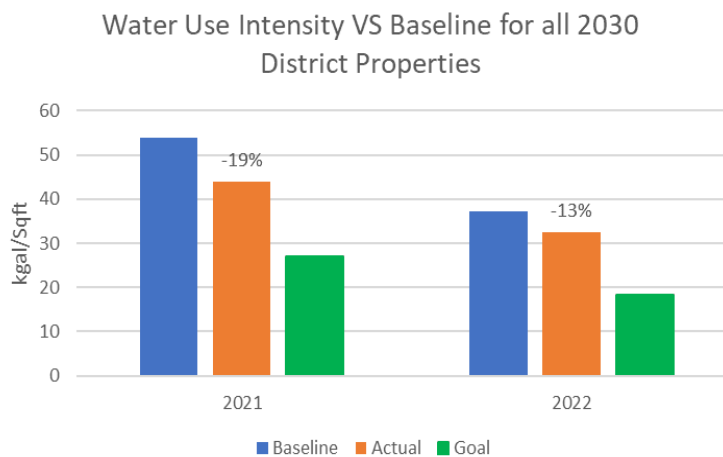


The district has benchmarked energy use since 2018, skipping 2020 because of the pandemic. The number of buildings and square footage has almost tripled since 2019 and the building use make up has changed. The 2003 baseline EUI is calculated by building use and area, thus, depending upon the use and square footage of the district buildings reporting, the 2003 district baseline and resulting target changes each year. Multifamily (which has increased the district) has a lower EUI than office and municipal buildings accounting for the reduction in our average EUI since 2019. The 2022 actual EUI is just below the 2003 baseline indicating that our buildings have a lot of efficiency opportunity. We need to accelerate both our efficiency and electrification efforts.

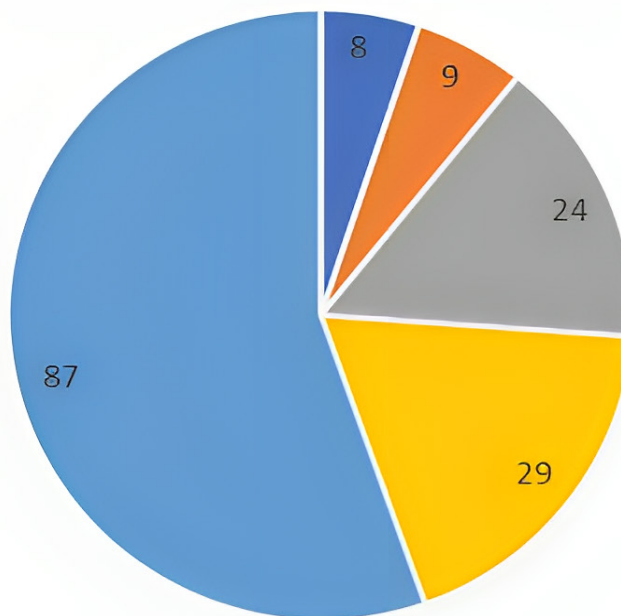


# WATER BENCHMARKING

This is the second year the A2 2030 District is reporting the benchmarking of water use. This cohort of buildings show less reduction from the baseline. There is peak water use June-August indicating that many of our buildings use potable water for landscape irrigation. Working on reducing turf grass and increasing the use of native landscaping would be a helpful strategy in reducing water use in addition to promoting WaterSense fixtures. Multifamily continues to have the highest WUI of benchmarking property types at 87 gallons per SF/year.



AVERAGE WUI BY BUILDING TYPE (GAL/FT<sup>2</sup>/YR)

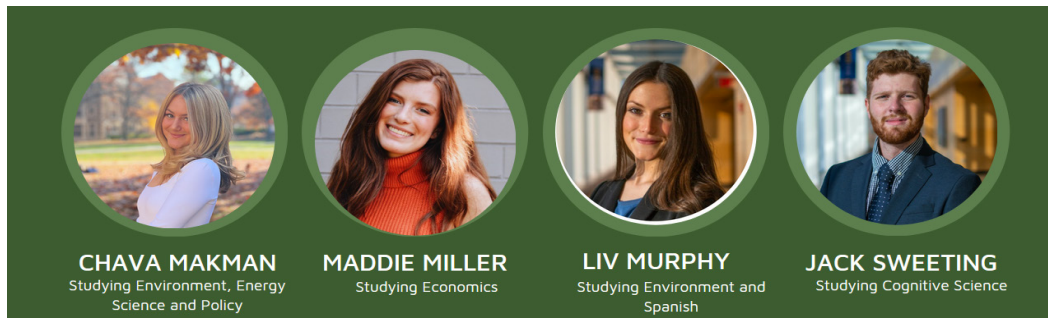


- Fire Station
- Residence Hall/Dormitory
- Office
- K-12 School
- Multifamily Housing

# Student Teams and Interns

As primarily a volunteer organization, the A2 2030 District relies on the important work of U-M student project teams—both graduate and undergraduate. 2022 saw progress through the work of the following groups:

## MEET THE GRAHAM SCHOLARS TEAM!



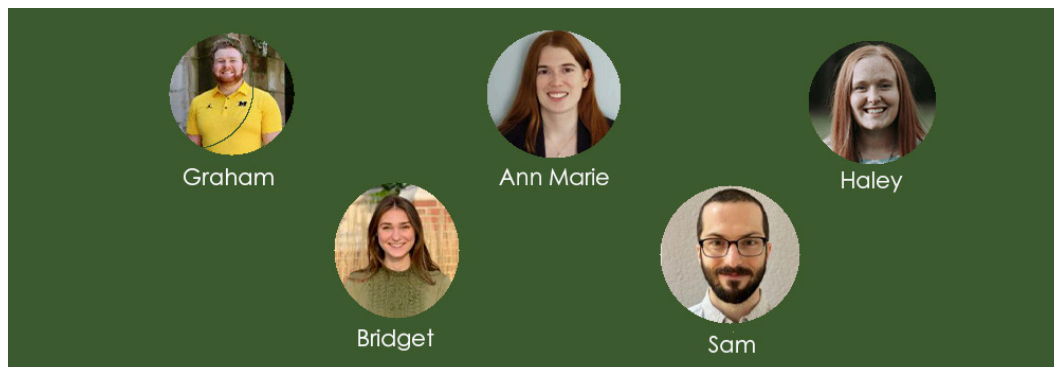
Graham Sustainability Institute Graham Scholars Program Student Team

<https://graham.umich.edu/scholars>

Project: Conduct the A2 2030 D transportation survey in January 2023

This team, working through the Fall of 2023, is reaching out to Ann Arbor Building Managers/ Owners of properties in the City of Ann Arbor to engage them in the transportation survey.

## MEET THE SEAS MASTER TEAM!



UM SEAS Master Project Student Team

<https://seas.umich.edu/>

Project: Resilient Washtenaw Capstone

To kick off the A2 2030 D outreach to all the cities, villages and townships in Washtenaw County the 2022-2023 UM SEAS Master Project Team is working in collaboration with the district and Washtenaw County to design and implement a survey that will inform our ongoing work and provide detailed information on the efficiency of all their township halls as an indicator of age, building efficiency and plans/interest in improvements.

# Key Highlights of our work in 2022

## MUSEUM GROUP



The 2030 Districts Network launched a Networkwide museum group that has grown to include 30 museums across North America who meet quarterly to share best sustainability practices.

## HOUSE OF WORSHIP (HoW) GREEN TEAM



Open to HoWs and Non-profit organizations in Washtenaw County. The A2 2030 D [House of Worship \(HoW\) and Non-Profit Green Team](#). More than 50 organizations have participated throughout the county and we are benchmarking 12 HoW buildings. All of those benchmarking have completed an energy audit and are implementing their energy efficiency measures. In addition, one HoW has an electrification plan and 5 buildings have PV systems.

## MULTIFAMILY BEST PRACTICES GROUP

Formed to support multifamily building managers and owners to decarbonize their buildings through efficiency, electrification, and renewable energy. Our focus has been on benchmarking, connecting with resources, and providing feedback on the Green Rental Housing Ordinance draft. Learn about the Green Rental Housing Ordinance [here](#).



## DTE DATA HUB PILOT



In March 2021, we began a much-needed pilot to import DTE Energy gas and electric data directly into Energy Star Portfolio Manager through the DTE Data Hub. Tamika Banks, Principal Supervisor, DTE EWR Energy Services has been diligently working on phase one, which includes electric and gas use data. Building owners and managers are much more inclined to benchmark with automated data.

## BENCHMARKING



The City of Ann Arbor's City Council unanimously adopted the Energy and Water Benchmarking Ordinance ([City Code 104](#)) in October 2021. The ordinance requires that building owners and managers of buildings greater than 20,000 square feet benchmark - or track - their building's energy and water use. Learn more about this ordinance and A2 2030D's role [here](#).

## ENERGY MANAGEMENT GRANTS

### Energy Management Best Practices



**Benchmark and Track  
Energy Usage**



**Conduct an Energy  
Audit**



**Improve Energy  
Efficiency**



**Transition to Renewable  
Energy**

In 2022 A2 2030D granted 27 ASHRAE Level II energy audits, covering about .5M square feet. We also helped fund retro-commissioning for 2 buildings and one decarbonization plan. Members can apply for an energy management grant [here](#).

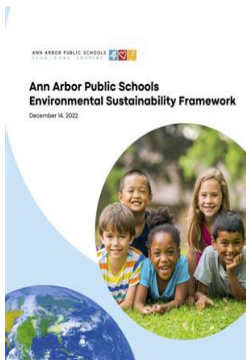
## IMPLEMENTING A2 ZERO LUNCH & LEARN SERIES

A joint program with AIA Huron Valley and Washtenaw Contractors Association. If you missed the programs, recordings and presentations can be found here:

- 1-11-22: [Washtenaw Climate Action Plan](#)
- 2-8-22: [Native Landscape & Green Infrastructure](#)
- 3-8-22: [Collaborating on Building Decarbonization in the City of Ithaca, NY](#)
- 4-12-22: [University of Michigan Campus facility strategies](#)
- 5-10-22: [Reducing Embodied Carbon: The role of Mass Timber and developing a Circular Wood Economy](#)
- 6-14-22: [Building Electrification: An Owner's and Architects Guide to Heat Pumps](#)
- 9-13-22: [Lowering the embodied carbon in steel in carbon capture research and technologies](#)
- 10-11-22: [Smarter Buildings: Data Driven Building Performance](#)
- 11-9-22: [Affordable, Net Zero Energy Multi Family Housing](#)



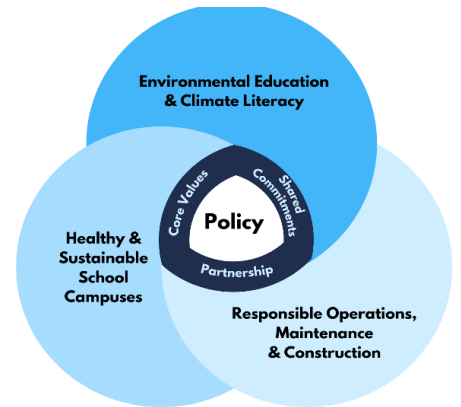
# Celebrating Members



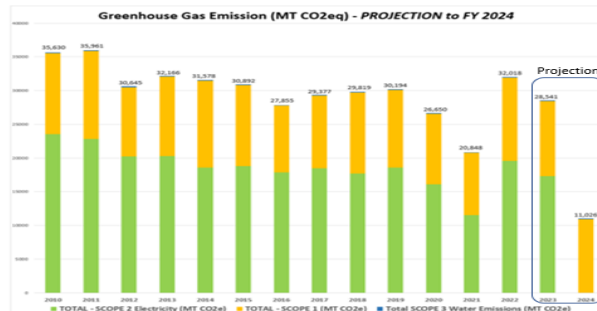
## ANN ARBOR PUBLIC SCHOOLS

CONGRATULATIONS ON:

- Adopting a [Sustainability Framework](#)
- Benchmarking ALL your buildings (energy & water)
- Completing a Greenhouse Gas Inventory



### Greenhouse Gas Emissions Projection to Fiscal Year 2024



Green Power Purchase and AAPS Owned Solar will eliminate Scope 2 Electricity Emissions by FY 2024

**Overall GHG Emissions will be reduced by ~60%!**

## DELTA DELTA DELTA

A founding property member of the District, the House Corporation and Chapter have worked together to:

- Create a permanent Sustainability Officer position
- Implement Composting & Recycling
- Implement a donation program at the end of the year

And achieved these performance metrics:

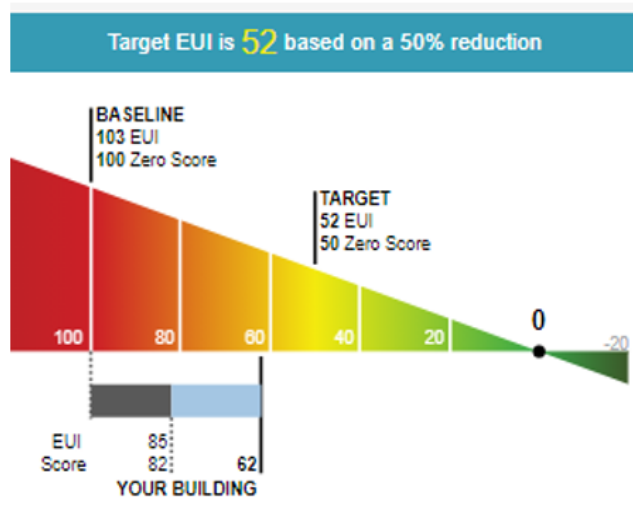
## Benchmarking

### ENERGY Since 2018

- 23% reduction in electricity use
- 18% reduction in gas use
- LED fixtures
- Added dormer cooling (HP/ERV)
- Retro-commissioning

### WATER Since 2015

- 50% Reduction in water use
- Toilet replacements 1.6 gpf
- Showerhead replacements 1.5 gpm





## ZINGERMAN'S COMMUNITY OF BUSINESSES

The Zingerman's Deli has long been on the sustainability path with compostable packaging, A2 Zero Containers, composting with Community High and buying from local farms—even making buying trips via foot to the farmer's market.

2022 began a focus on Energy throughout the Community of Businesses by:

- Working with a DTE Energy Manager
- Benchmarking energy & water use at all locations
- Analyzing energy demand and reducing peak energy use



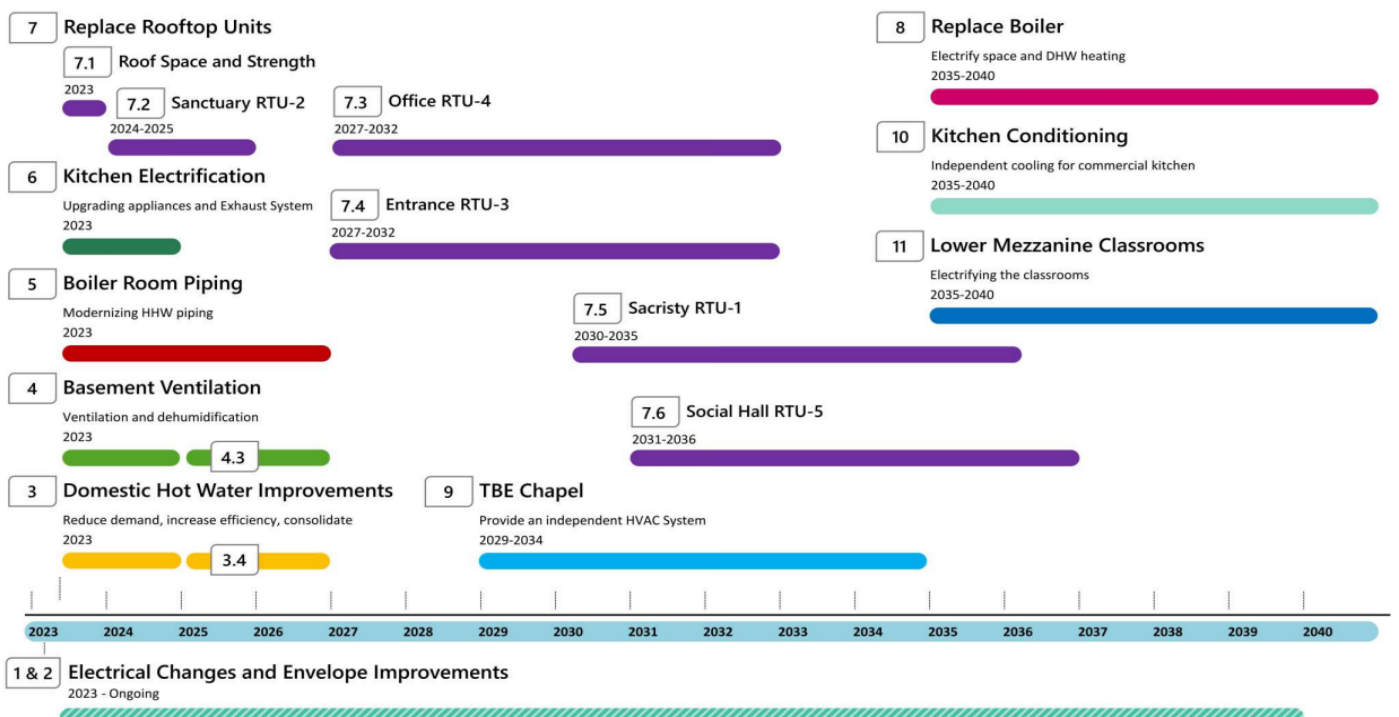
## GENESIS OF ANN ARBOR



Genesis has been in the forefront of sustainability through their energy efficiency work and 64 KW solar system. This year they completed their decarbonization plan with a goal of achieving carbon neutrality by 2030:

### ELECTRIFICATION TIMELINE

**Genesis of Ann Arbor**  
2309 Packard St, Ann Arbor, MI



A special thank you!

STATE-WIDE SPONSORS



MAJOR FUNDERS



# Join Us!

## **PROPERTY OWNER/MANAGER/TENANT STAKEHOLDERS**

If your building is in Washtenaw County, consider joining us! Not only will we help you set up an ENERGY STAR Portfolio Manager account to track your energy and water usage, but once you share your data with us we'll generate a building performance report. This provides you with the information you need to take the next steps toward making your building operationally efficient. Membership is free for building members. Note: the district does not include single family, condos or duplex residences.

## **PROFESSIONAL STAKEHOLDERS**

If your firm provides a service or product that could be helpful to our members in reaching their 2030 goals, consider becoming a professional stakeholder! This will help expand your brand awareness to the most progressive property owners and managers in Ann Arbor. Bring your cutting-edge technology and service to support the mission of the district.

## **COMMUNITY STAKEHOLDERS**

If your organization's mission is aligned with our own, consider becoming a community stakeholder! You can expand your organization's reach and collaborate with the district in providing new thought leadership.

## **VOLUNTEERS**

We have several committees always open to new volunteers. No matter what your area of expertise is, we have a place for you to make a difference.

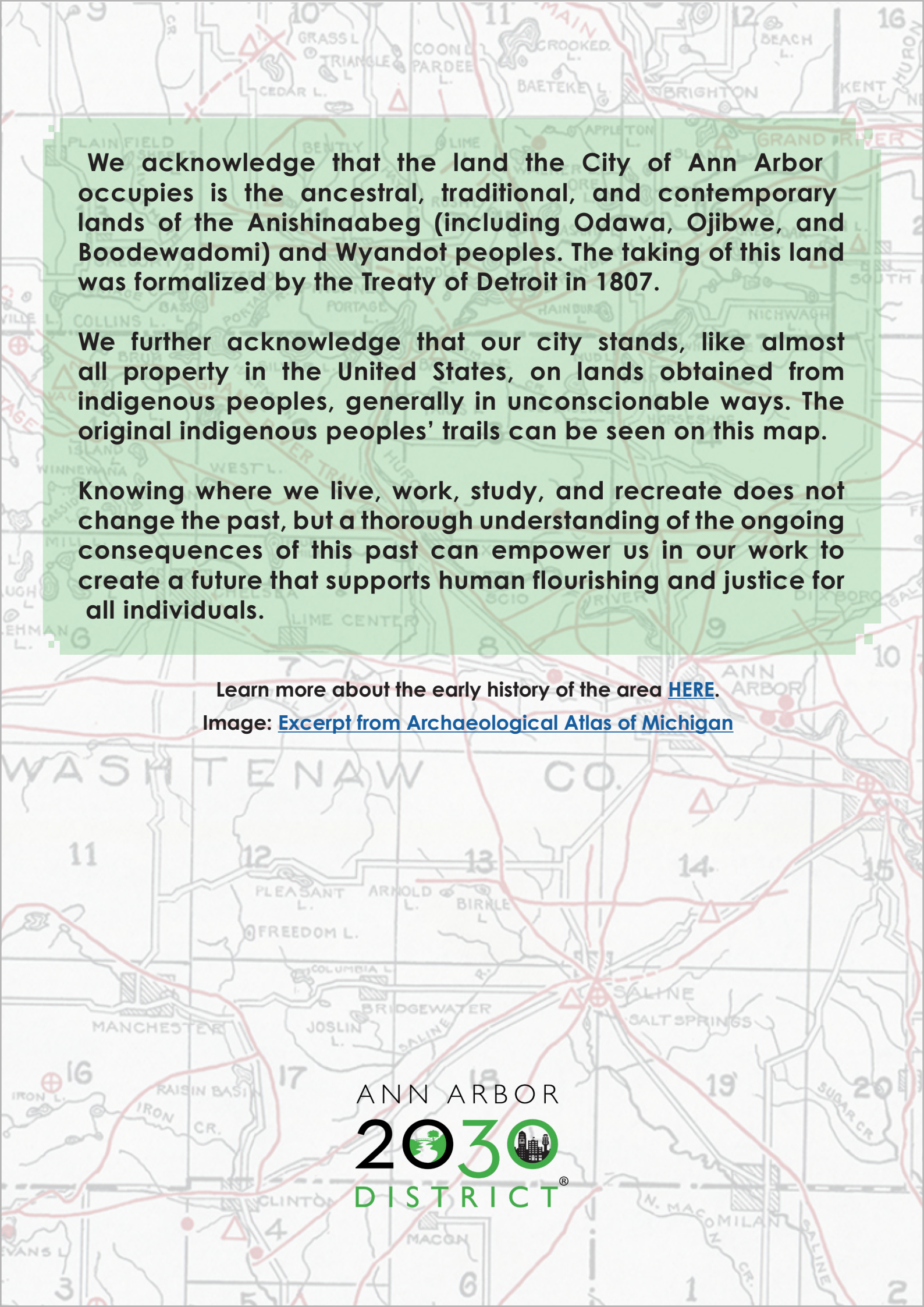
## **SPONSORS**

Please consider supporting the district. We would not be able to make progress toward our goals without your generous support that contributes to making Ann Arbor a more sustainable, healthy, and resilient place to live and work. Contact [jculbertson@2030districts.org](mailto:jculbertson@2030districts.org).

## **STATE-WIDE SPONSORS**

Join all three Michigan 2030 Districts in Ann Arbor, Detroit, and Grand Rapids at a discount! [Sign up here](#).

JOIN US! [2030DISTRICTS.ORG/ANNARBOR/](https://2030DISTRICTS.ORG/ANNARBOR/)



We acknowledge that the land the City of Ann Arbor occupies is the ancestral, traditional, and contemporary lands of the Anishinaabeg (including Odawa, Ojibwe, and Boodewadomi) and Wyandot peoples. The taking of this land was formalized by the Treaty of Detroit in 1807.

We further acknowledge that our city stands, like almost all property in the United States, on lands obtained from indigenous peoples, generally in unconscionable ways. The original indigenous peoples' trails can be seen on this map.

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.

Learn more about the early history of the area [HERE](#).

Image: [Excerpt from Archaeological Atlas of Michigan](#)

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