

# **Benchmarking Ann Arbor Properties**

**Team 1**

**Sydney Barnes**

**Izzy Beshouri**

**Chase Dautrich**

**Anthony Marx**

**Anant Sinha**

## **Executive Summary**

**Background** - Ann Arbor has identified carbon neutrality as a priority for the coming decades and drafted the A2Zero initiative to guide the community through the transition to carbon neutrality. Part of this initiative is the City of Ann Arbor Energy and Water Benchmarking Ordinance which requires businesses to track their energy and water usage and report them to the city. To accomplish this, the city has an alliance with the 2030 District, which building owners and managers join for assistance to smoothly get through the transition to carbon neutrality. Our team worked in partnership with the 2030 District and the A2Zero Initiative under the leadership of Jan Culbertson to help see Ann Arbor's Energy and Water Benchmarking Ordinance through.

**Methods** - We developed marketing materials to explain why and how to enroll in the 2030 District, and gave specific steps for how to schedule an introductory meeting with us. During the winter semester, we organized property lists that Ann Arbor's 2030 District had already aggregated by finding the contact information for each property's management. We then began sending out emails and calling property managers directly to set up meetings. Our meeting workflow revolved around setting up new profiles on Energy Star Portfolio Manager and DTE Energy Hub, inputting meter data, and preparing reports for larger analysis by the 2030 District. We also put together a stock analysis of projected greenhouse gas emissions for properties in Scio Township based on their building use, and compiled a master list of all properties in Ann Arbor's 2030 District, complete with their energy usage intensity (EUI) and water usage intensity (WUI) values.

**Results** - Over the winter, we contacted 24 building managers through email and phone calls, of which we were able to discuss the 2030 District and enrollment information with eight. One of those building managers complied. Over the summer, three Graham Sustainability Scholars interns enrolled multiple businesses, including First Martin buildings, Ann Arbor Housing Commission buildings, Ann Arbor Public School buildings, and others. The interns also worked with Scio Township to create a stock analysis so that they could better understand their energy consumption by compiling their data and importing it into a baseline program. Lastly, we worked with the 2030 District to update their building master list to include new enrolled buildings, which will inform their annual report.

**Recommendations** - To improve engagement in the outreach process we recommend an illustration of benefits of the program, tailored to tenant needs. We recommend developing a toolkit for client meetings that guides personally-tailored pitches within an overarching framework. We also recommend further cultivation of partnerships between Graham Scholars and City representatives to support fluidity of knowledge and communication between carbon

benchmarking program stakeholders as well as future opportunities for scholars beyond the project.

## **Introduction and Background**

In response to the accelerating, threat-multiplying impacts of anthropogenic climate change, the city of Ann Arbor identified carbon neutrality as a planning priority for the coming decades. In pursuit of this goal, the City drafted a multidimensional plan to guide the community through a just transition to carbon neutrality - the A2Zero initiative. A part of this plan is the City of Ann Arbor Energy and Water Benchmarking Ordinance, which ushers a transition to more energy efficient businesses. The ordinance requires businesses to track their energy and water usage and report them to the city. In alliance with the 2030 District, the city of Ann Arbor provides resources for building owners to successfully register and track their building's utilities.

The 2030 District is a public/private partnership created to help cities reach their energy, water, and vehicle emissions targets. The organization is a network of citywide districts, united under the common goal of reducing energy consumption, water consumption, and transportation emissions by 50%. Building owners and managers join the district for personally-tailored assistance to move their properties smoothly through the transition. The 2030 District acts as a nonprofit third party, streamlining communication between the local government, private sector, and public. For each building that joins the 2030 District and commits to tracking consumption, the 2030 District moves one step closer to achieving their goal. Our team worked in partnership with the 2030 District and the A2Zero Initiative under the leadership of Jan Culbertson to achieve these goals.

The aim of the Graham Scholars involvement and partnership with 2030 District mainly focused on outreach, data acquisition, and analysis. Tasks such as translating ordinance language into deliverable action steps for energy waste reduction and producing marketing materials are important steps in recruiting new building managers to the 2030 District, as well as furthering the reach of the Ann Arbor Energy and Water Benchmarking Ordinance. Another area critical for the Graham Scholars to support and manage was technical support to assist building managers make a smooth transition to energy efficiency and community transparency in step with city ordinances. EnergyStar Portfolio Manager, Aqua Hawk, BUILDEE and the DTE Energy Hub are all various programs and platforms that can be utilized to create portfolios for building managers on their building utility consumption. Jan Culbertson represented the 2030 District throughout the project duration and acted as mentor to the Graham Sustainability Scholars.

Without the support of the Graham Sustainability Institute, this project would not be possible. The partnership between the 2030 District and Graham Sustainability Scholars program

was fostered by the institute and scholars were guided under the leadership of Graham advisors Elizabeth LaPorte and Maaïke Wielenga. The Graham Sustainability Institute also provided scholars with mentorship and seminars to support the project.

## **Methods**

To accomplish our project goals, we began meeting with Jan Culbertson from the 2030 District in September 2021. After establishing the scope and timeline of our engagement together, much of our early onboarding into the 2030 District required training on software, such as the EnergyStar Portfolio Manager and DTE Energy Hub, as well as an education on Ann Arbor's benchmarking ordinance. To do this, we met over Zoom with Jan several times in the fall semester, and then also met separately as a group to perform a faux property benchmarking over EnergyStar Portfolio Manager.

Once we'd developed a proficient understanding of these base concepts, we began compiling marketing materials, such as flyers and email templates, to use while contacting properties. These materials included information about why and how to enroll in the district, and gave specific steps for how to schedule an introductory meeting with us. During that time, Jan also initiated our first meeting with a property manager, Jim Chaconas, who had offered to let us practice our pitch with him and share feedback regarding what information property managers like himself would want to know during these meetings. Afterwards, we adjusted our pitch to focus on the financial benefits of benchmarking, and also put together a checklist of records for property managers to gather before this meeting so that they are more informed of their energy and water usage before we introduce our services.

During the winter semester, we spent significant time fleshing out property lists that Ann Arbor's 2030 District had already put together by finding the contact information for property's management online and then grouping them by priority. We then began sending out emails and calling property managers directly to set up these meetings. Identifying the proper property manager was difficult because many properties were unaware of who in their organization was responsible for managing this data. Another issue was lack of responsiveness from our contacts which proved to be a significant bottleneck in our progress. Meetings with property managers were held both virtually over Zoom and in-person depending on each group's preferences, and ran for about 30-60 minutes. By following the standard operating procedure that our team and the 2030 District created, we helped make a new profile for each property on the EnergyStar Portfolio Manager and uploaded the corresponding property's utility data.

Members from our team continued this work into the summer by interning with the 2030 District: contacting new property managers, setting up new profiles on EnergyStar Portfolio Manager and DTE Energy Hub, inputting meter data, and preparing reports for larger analysis by

the 2030 District. In particular, we put together a stock analysis of projected greenhouse gas emissions for properties in Scio Township based on their building use, and also compiled a master list of all properties in Ann Arbor's 2030 District, complete with their EUI and WUI values.

## **Results & Recommendations**

Over the past year we have worked as a team to assist the 2030 District and the City of Ann Arbor in the first steps of benchmarking all Ann Arbor buildings over the next few years.

We started by attempting to make benchmarking easier before even meeting with clients. To do this we drafted a spreadsheet of all non-city building(s) greater than 100,000 square feet, the first wave of buildings that need to comply with the benchmarking ordinance. This helped make the process more organized so that we could see which buildings had and had not complied as we continued with our outreach. We also created an Energy Star standard operating procedure to make enrollment easier. This provided step-by-step directions of how to set up buildings in Energy Star Portfolio Manager. Lastly, we drafted an email to contact businesses and a pitch for in person meetings to better facilitate communication. After we had this all set up we moved on to contacting local building managers and enrolling them in the 2030 District.

We contacted 24 building managers through email and phone calls, of which we were able to discuss the 2030 District and enrollment information with eight. During this process we found that getting buildings to comply was difficult and we were only able to set up a full meeting with one building manager. We met with the manager and gave our pitch for the 2030 District. Ultimately, communication between the manager and the 2030 District was sporadic and was not able to take off until the summer, when we were closer to the benchmarking ordinance deadline.

Over the summer, three Graham Sustainability Scholar interns continued work on this project. We enrolled multiple businesses by meeting with them over zoom and worked one-on-one with their energy data in Energy Star Portfolio Manager. We helped benchmark First Martin buildings, Ann Arbor Housing Commission buildings, Ann Arbor Public School buildings, and others. We imported clients' water meters and gas/electric data, and connected them with DTE. We also worked with Scio Township to create a stock analysis so that they could better understand their energy consumption. This was done by compiling their data and importing it into a baseline program. Lastly, we worked with the 2030 District to update their building master list to include new enrolled buildings, which will inform their annual report.

All of this work has left us with a few recommendations for the 2030 District. Communicating with buildings is hard, as managers are very busy. In consideration of this, we

recommend more tailored outreach. We learned that pivoting from a presentation of sustainability impact to an illustration of benefits proves to be more directly related to tenant needs. Future activities could focus on developing a toolkit for client meetings that guides personally-tailored pitches within an overarching framework. We also recommend further cultivation of partnerships between Graham Scholars and City representatives to support fluidity of knowledge and communication between carbon benchmarking program stakeholders as well as future opportunities for scholars beyond the project.

## **Anticipated Impact**

We anticipate that our project will impact a combination of groups across and beyond Ann Arbor, both through direct support provided by our deliverables, as well as the second-order effects of more efficient building energy use.

Our project deliverables will directly support the City of Ann Arbor's carbon benchmarking efforts by providing initial marketing materials, facilitating early connections with building managers, and establishing a baseline of benchmarking awareness and interest in the community for more tailored communications. In 2021, the City had benchmarked very few multi-unit residential properties; now they make up the greatest proportion of properties benchmarked. We considered any disinterest and disengagement that we encountered as a helpful indicator that people need to be incentivized for things like benchmarking. By providing this feedback to our collaborators at the City of Ann Arbor, we hope that the more targeted, incentivized approach will achieve better results.

One major takeaway from our project work is that many people do not know the details of their building's energy use. Our project will help building managers self-manage energy efficiency by initiating early connections with the City's benchmarking program, deciphering the language of the benchmarking ordinance to understand their role, and highlighting free resources and technical support provided by the 2030 District. After benchmarking, property owners will have an efficient tool to track any progress they are making with regards to energy efficiency. They will also be able to compare their properties' energy use to similar buildings in the area. This type of energy transparency created from benchmarking reports will improve consumer choice in the city and reward energy efficiency.


Our work will also have many second-order effects, such as supporting the implementation of the A2Zero carbon neutrality plan, reducing energy bills, providing benchmarking data to utility companies for more tailored customer service, improving air quality, reducing emissions, and healthier, more comfortable buildings.

## Appendices

### Appendix 1: Marketing material on why owners should benchmark

# Why Benchmark?

The Ann Arbor 2030 District provides tools and technical support for energy efficiency improvements before mandatory community transparency.



**Cost Savings**  
Owners and renters save on monthly energy bills

**Property Value**  
Energy efficient properties are of higher market value.

**Self-Management**  
Businesses and workers trained in energy efficiency improvements.

**Meet Carbon Neutrality Goals**  
Energy use data informs objectives and timeline to be in step with citywide reforms.

**Healthy Communities**  
Everyone enjoys cleaner air, reduced emissions, and healthier, more comfortable buildings.

ANN ARBOR  
**2030**  
DISTRICT®

## Appendix 2: An overview of the Ann Arbor 2030 District

# The A2 2030 District

ANN ARBOR  
**2030**  
DISTRICT®

The Ann Arbor 2030 District is a groundbreaking high performance building district that is reducing the environmental impacts of building construction and operations, while also maximizing Ann Arbor's economic viability and profitability for building owners, managers and developers.

---



50%

The Ann Arbor 2030 District is a private/public partnership that works to reduce existing building energy consumption, water use and transportation emissions 50% by 2030.

---

The 2030 District is an important partner for building owners and managers due implementing Ann Arbor's Climate Neutrality Plan, especially meeting the benchmarking and transparency ordinance.

**Benchmarking** - tracking energy and water use in buildings. Provides information to instruct and track energy efficiency progress and to compare energy use to similar buildings.

**Transparency** - reporting benchmarking information to the city and sharing it with the community. Improves consumer choice and rewards energy efficiency.



The 2030 District will help you meet Ann Arbor's benchmarking and transparency requirements for free through:

- Aggregated reporting and analytics.
- Awareness and educational tools.
- Avenue for sharing best practices.
- Connection to resources.

### Enrollment

Membership in Ann Arbor's 2030 District involves a multi-disciplinary collaborative effort to meet the District goals

<p><b>Step 1: Determine Membership type</b></p> <ul style="list-style-type: none"> <li>• Property Owner, Manager or Developer</li> <li>• Community Stakeholder</li> <li>• Professional Stakeholder</li> </ul>	<p><b>Step 2: Fill out "Letter of Commitment"</b></p> <p>Express how your company / organization will commit and help be an active partner in the Ann Arbor 2030 District and agree to the district-wide goals.</p>	<p><b>Step 3: Email "Letter of Commitment"</b></p> <p>For any inquiries about the 2030 District in Ann Arbor or to send your "Letter of Commitment" to join us, Email <a href="mailto:annarbor@2030districts.org">annarbor@2030districts.org</a></p>
---	---	--

For more information, visit <https://www.2030districts.org/>



## Appendix 3: Overview of the Ann Arbor Ordinance for owners

# A2 Ordinance



## Chapter 104: Energy & Water Benchmarking Title VIII of the Code of the City of Ann Arbor

### 8:451. Legislative Purpose

"The purpose of this chapter is to establish an energy and water benchmarking, reporting, and transparency requirement for certain buildings and properties within the City, **in order to allow potential or current tenants to access consistent and relevant information regarding the relative costs of their rental inclusive of utilities.** The energy and water use of a Covered Property shall be benchmarked and submitted to the City in accordance with this chapter."

### 8:452. Definitions

#### 8.453. Collecting and Entering Benchmarking Data

"**Each year** the Owner of each Covered Property shall collect and enter all data needed to benchmark the entire property for the previous calendar year into the Benchmarking Tool. [...] **Property's energy and water use shall be compiled using one or more of the following methods:**

- (a) **Obtaining Aggregated Whole-Building Data from a utility; or**
- (b) **Collecting data from all tenants; or**
- (c) **Reading a master meter"**

#### 8.454. Submitting a Benchmarking Report

"For every Covered Property subject to this chapter, the Owner shall annually submit to the Manager an energy and water Benchmarking Report in an electronic format via the Benchmarking Tool, **by the date specified in Section 8:455.** [...] The Owner of each Covered Property shall enter data into the Benchmarking Tool such that the energy and water **Benchmarking Report shall be based on an assessment of the aggregated total energy and water consumed by the whole Property** for the entire calendar year being reported."

### 8:455. Benchmarking Schedule

Property	Initial Reporting Date
Covered City Properties $\geq$ 10,000 ft <sup>2</sup>	December 31, 2021
Covered Non-City Properties $\geq$ 100,000 ft <sup>2</sup>	June 1, 2022
Covered Non-City Properties $\geq$ 50,000 ft <sup>2</sup>	June 1, 2023
Covered Non-City Properties $\geq$ 20,000 ft <sup>2</sup>	June 1, 2024

### 8:456 - 8:479. Benchmarking Exemptions, Maintenance of Records, Violations and Enforcements, Rules and Regulations, Reserved

Adopted as of 10/18/2021

#### Appendix 4: Outreach email template to property managers

BCC: [property managers]

CC: [Graham-2030District@umich.edu](mailto:Graham-2030District@umich.edu)

FROM: [a2benchmarking@2030districts.org](mailto:a2benchmarking@2030districts.org)

SUBJECT:

IMPORTANT: Assistance to Meet Ann Arbor's Benchmarking Ordinance

CONTENT:

Good afternoon,

The Ann Arbor 2030 District, a non-profit organization, is offering free support to organizations needing to benchmark their properties in conformance with Ann Arbor's Commercial and Multi-family Benchmarking ordinance.

In October 2021, the city of Ann Arbor adopted an Energy & Water Benchmarking Ordinance ([City Code 104](#)) as part of the city's larger [A2Zero plan](#) to achieve carbon neutrality by 2030. Under this ordinance, all covered properties throughout Ann Arbor must benchmark their energy and water use. **Non-city building(s) greater than 100,000 square feet are given until June 1, 2022 to benchmark their property, after which point the mandate becomes active. Your organization has been identified as having a property(s) within this category.**

The [Ann Arbor 2030 District](#) is part of a national nonprofit network whose purpose is to lower building emissions by reducing energy, water use and transportation emissions. By aiding properties in measuring their utility consumption, we are able to provide tailored strategies and resources for how building owners and tenants can reduce their utility costs. In short, this service will save you and your tenants money (as an included benefit of the ordinance requirements).

By joining the Ann Arbor 2030 District, we will provide your organization free benchmarking assistance to comply with the city's new ordinance. There is no cost to property owners/managers to join the Ann Arbor 2030 District. **To join or learn more, please contact our team at [a2benchmarking@2030districts.org](mailto:a2benchmarking@2030districts.org) to set up a virtual or in-person meeting.**

For additional information regarding the Ann Arbor 2030 District or A2Zero Plan, refer to the attached materials or visit one of our hyperlinks. Please do not hesitate to follow up with any questions. And remember, *you can't manage what you can't measure!*

We look forward to working with you in the near future.

Sincerely,

Ann Arbor 2030 District - Outreach Team