

THE CHARGING STATION

THE OFFICIAL NEWSLETTER OF A²ZERO AND THE ANN ARBOR OFFICE OF SUSTAINABILITY AND INNOVATIONS



IN THIS ISSUE:

WELCOME 1
LAND ACKNOWLEDGEMENT 1
GHG EMISSIONS 2-3
COLLABORATOR SPOTLIGHT 3
EVENTS & ANNOUNCEMENTS 4-5

ABOUT THE AUTHOR:



The author for this month's feature article on greenhouse gas emissions is Thea Yagerlener. As an Energy Analyst with OSI, Thea's work primarily focuses on designing, developing, and implementing data-driven energy programs to reduce our community's emissions.



WELCOME

Welcome from the City of Ann Arbor's Office of Sustainability and Innovations (OSI)! This month's issue of *The Charging Station* focuses on greenhouse gas (GHG) emissions, the leading way of tracking our progress towards achieving the equitable, healthy, safe, and carbon neutral community envisioned in the A²ZERO Plan. If you are interested in learning more about A²ZERO and our work, more detail can be found on our website: www.a2gov.org/sustainability. And as always, thank you for your interest in sustainability activities in Ann Arbor!

LAND ACKNOWLEDGEMENT

Equity and justice are at the center of A²ZERO 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.

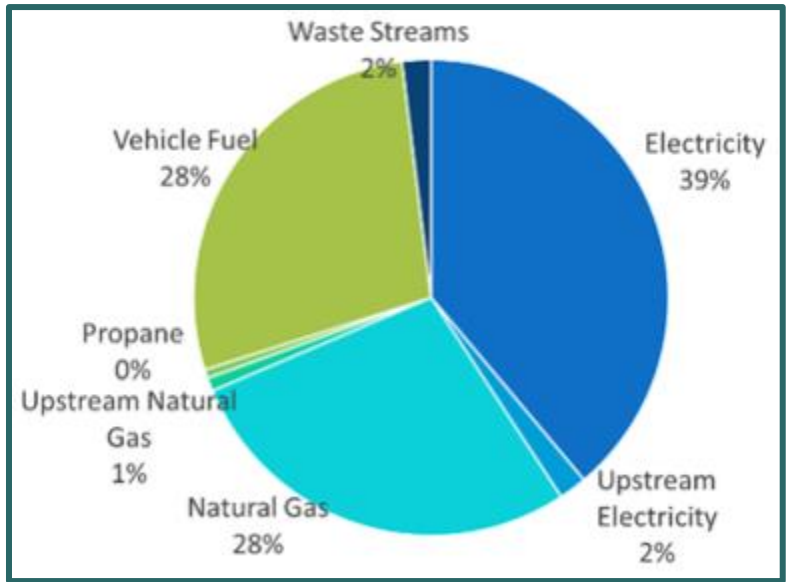
GREENHOUSE GAS EMISSIONS

A PRIMER TO ANN ARBOR'S GHG INVENTORY

Measuring greenhouse gas (GHG) emissions is the leading way of tracking progress towards our climate goals, from guiding science-based targets grounded in equity, to looking at the impacts of individual behavior, to creating new programs and initiatives to support local action. [Standards exist](#) on how local governments measure their greenhouse gas emissions - and the City of Ann Arbor not only adheres to those standards but also continues to help develop and refine them.

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. Measuring our progress against this goal is of

paramount importance. That is why, every year, Ann Arbor completes a [community-wide greenhouse gas inventory](#). This inventory informed the design of the A²ZERO Carbon Neutrality Plan and is one of the meaningful indicators we use to track progress in meeting our climate goals. The inventory annually monitors key sources of emissions in the community, including the electricity we consume, the fossil fuels we burn in our homes and vehicles, and what we throw in the trash.



Electricity Usage: 39% of Emissions

Ann Arbor's largest source of GHG emissions is from the electricity we use in our homes and businesses. These emissions are driven by both how much electricity we consume and how carbon-intensive the fuel mix is that generates that electricity. In 2021, over 57% of DTE Electric's fuel mix used to supply electricity to Ann Arbor (and other communities) was generated using coal. 9.5% of the fuel mix was generated with renewables. Since 2015, DTE Electric's fuel mix carbon intensity has decreased 16%, but the City is actively pushing the utility to transition to 100% renewable energy faster and more intentionally.

The way emissions from electricity are measured means that we do not account for renewable energy credits (RECs) or other voluntary green power purchases in our baseline figures. However, we do track how many community members participate in these programs so we can understand their efficacy and regional impact. Broadly, 21% of electricity used in Ann Arbor is coming from renewable energy sources, inclusive of onsite solar installed on homes and businesses, as well as through the MIGreenPower program and REC programs.

"Natural" Gas Usage: 28% of Emissions

"Natural" or methane/fossil gas is one of the primary GHG sources in Ann Arbor. Unlike electricity, which can be generated with renewable energy and have lower - or zero - carbon intensity, combusting fossil gas will always generate greenhouse gas emissions. Moreover, fossil gas combustion has been associated with serious public health impacts, including childhood asthma, cancer, and lung disease. And the system that distributes fossil gas throughout our communities leaks, leading to even more GHG emissions and creating safety risks. That is why OSI is working to find more sustainable ways to heat and cool our homes and businesses, including electrification.

Vehicle Fuel Usage: 28% of Emissions

Fossil fuels combusted in our vehicles for commuting or other trips around town are another major source of emissions. During 2020, miles traveled in our vehicles dropped 36% from the previous year, then increased 30% in 2021. Based on national averages, vehicle miles traveled remained steady in 2022.

To learn more about the City’s greenhouse gas emissions inventory, including methodology, results, and actions, please see our [Community Greenhouse Gas Inventory webpage](#). This page includes a series of short videos, reports, and fact sheets that can help you learn more about how we measure and reduce our community’s contribution to climate change.

Accounting for GHG emissions is not the only meaningful indicator of success of A²ZERO and climate action overall. We know that the changing climate will disrupt the lives of many, and especially those already facing vulnerabilities. Work improving the resiliency of our community and focusing on our equity priorities is key. In alignment with all of these A²ZERO priorities, [Ann Arbor was recently awarded \\$588,000](#) from the U.S. Department of Energy to design a community-scale geothermal system that covers the majority of the heating and cooling load for 260 households in the Bryant neighborhood, Bryant Elementary School, the Washtenaw County Community Mental Health Service Center, Bryant Community Center, and the City’s Wheeler Center.

WHAT ABOUT CONSUMPTION-BASED EMISSIONS?

Ann Arbor’s GHG inventory currently does not account for the emissions associated with all the goods and services we consume as a community. [A 2013 Berkeley study](#) estimated that the average Ann Arbor household consumes food, goods, and services that generate 19 metric tons of carbon dioxide equivalent - roughly 1,000,000 metric tons of carbon dioxide equivalent when scaled to the community. The City is currently working with peer communities to create a methodology for calculating local consumption that can be integrated into future GHG inventories.

For now, Ann Arbor’s [Circular Economy initiative](#) and A²ZERO’s [sustainable food programs](#) are helping address these emissions. The Circular Economy initiative has been gathering metrics to evaluate and value Ann Arbor’s existing circular economy activities, including avoided emissions and jobs created. And the sustainable food programs are helping identify ways to define and then embrace more sustainable food practices. Learn more at the sites above.

COLLABORATOR SPOTLIGHT

ANN ARBOR PUBLIC SCHOOLS DOES THE MATH

A²ZERO Collaborator Ann Arbor Public Schools (AAPS) recently completed its inaugural greenhouse gas inventory. AAPS released their [Environmental Sustainability Framework](#) in December 2022, which outlines three areas of climate action. One of the commitments was to conduct a greenhouse gas inventory to inform the Responsible Operations, Maintenance, and Construction actions at AAPS sites.

The AAPS GHG inventory spans over 10 years, starting with a baseline year of 2010. It accounts for natural gas, electricity, and water consumption, vehicle fuel, and onsite carbon sequestration. In a recent presentation to the AAPS Board of Education, Executive Director of Environmental Sustainability Emile Lauzzana shared findings from the inventory and provided context from weather patterns, COVID disruptions, and enhanced ventilation to provide improved air quality.

Since 2010, AAPS has seen a 10% reduction in greenhouse gas emissions to 32,018 metric tons of carbon dioxide equivalent (MT CO₂e). Emissions have reduced 14% per student and 12% per square foot. An AmeriCorps Fellow estimated that AAPS land sequesters 2,200 MT CO₂e each year. Onsite solar production provides 413,000 kWh of renewable electricity - and that number is growing as AAPS installs more onsite renewables.

96% of AAPS’s emissions come from electricity and fossil gas usage in their buildings. AAPS uses ENERGY STAR Portfolio Manager to track the energy efficiency performance of its buildings. Lauzzana shared excitement for the new Inflation Reduction Act incentives that allow non-profits to receive direct rebates for geothermal and solar installations, which he expects will be able to be applied to geothermal installations in progress at Forsythe and Clague Middle Schools. “Not only is it good for the planet, and good for our students to learn about, it’s a net savings for the district,” said Lauzzana.

UPCOMING EVENTS

Neighborhood Swap Days

Saturday, May 6th | Kerrytown Neighborhood

Saturday, May 20th | Foxfire Neighborhood

Swap days are opportunities for community members to come together and offer items for free and exchange goods. Think clothes, books, decor, small appliances, etc. It's a perfect way to give your unwanted items a new home, instead of sending them to the landfill - and a great way to find that item you've been looking for, without having to buy it new! Learn more at osi.a2gov.org/swapdays.

Water Treatment Plant Open House

Saturday, May 6th | 10:00am-2:00pm | 919 Sunset Road

Celebrate National Drinking Water Week at the Ann Arbor Drinking Water Treatment Plant and enjoy water-themed activities! Tours of the plant will be offered, you'll be able to see a vacor truck and a fire truck up close, and there will be plenty of activities for kids! Plus, OSI will be there giving out free trees through the 10,000 Trees Initiative.

First Annual Climate Teach-In

Sunday, May 7th | 1:30pm-5:00pm | Genesis of Ann Arbor (2309 Packard St)

The Climate Teach-In is not just about teaching and learning -- it's about community building and creating momentum for action. It's about bringing together individuals, climate action organizations, congregations, local government, and higher education to learn from each other, support each other, and find new ways to collaborate. The opening keynote speaker will be Mayor Christopher Taylor. Plus, chat with OSI staff during networking breaks! Learn more at www.a2climateteachin.com.

Sustainable Heating Franchise Listening Sessions

Thursday, May 11th and Tuesday, May 16th | 6:00pm | Zoom

Interested in learning more about sustainable heating? Have ideas on what sustainable heating means in Ann Arbor? Join us at a listening session on our plans for a Sustainable Heating Franchise! Registration required. Learn more at www.a2gov.org/departments/sustainability/Carbon-Neutrality/Pages/Natural-Gas-Franchise.aspx.

Ann Arbor Police and Fire Open House

Saturday, May 20th | 11:00am-2:00pm | Fire Station 1 (111 N 5th Ave)

Join us for the annual City of Ann Arbor Fire and Police Open House! Activities will include fire and police vehicles, smoke house demonstrations, police K-9 officers, vehicle extractions, and more. Plus, OSI staff will be on hand to answer questions about our programs.

Huron River Day 2023

Sunday, May 21st | 12:00-4:00pm | Gallup Park

Enjoy free, family-friendly river activities at Gallup Park, including live animals, children's activities, river exhibits, hands-on demonstrations, music, food, and more - plus discounted boat rentals! OSI will have a booth at the event - stop by to make a pinwheel and learn about wind energy, or to ask us about our many programs! Learn more at www.a2gov.org/departments/Parks-Recreation/play/Pages/Huron-River-Day.aspx.

Flower Day 2023

Sunday, May 28th | 10:00am-4:00pm | Ann Arbor Farmers Market

Flower Day, in collaboration with the Sunday Artisan Market, features Farmers Market vendors selling plants and flowers, artisans, food carts, live music, and other fun activities. Stop by the OSI booth to learn about our [10,000 Trees Initiative](#) and [Pollinator-Aware Yard Care program](#).

2023 Sustainability Series - Where Do We Go From Here? Looking Forward at Carbon Reductions Planning and Resources.

Wednesday, May 31st | 6:00pm | Virtual via Zoom & In-Person at the AADL Downtown Branch

Join us online or at AADL Downtown for the final 2023 Sustainability Series event. This month, we'll be discussing carbon reductions planning. Register for this event [here](#).

A2ZERO Week is coming June 4th – 10th! If you have an activity you'd like to host during that week, please let Missy Stults know at MStults@a2gov.org. For more information on our upcoming events, please visit www.a2gov.org/sustainability/events.

ANNOUNCEMENTS

City of Ann Arbor Wins DOE Geothermal Grant

The City of Ann Arbor has been selected by the U.S. Department of Energy (DOE) to receive up to \$588,000 to design a geothermal heating and cooling system in the Bryant neighborhood, on the city's south side. The looped geothermal system will be paired with efficiency improvements and rooftop solar. The system will also feature battery storage to cover at least 75% of the neighborhood's heating and cooling load, thus eliminating energy burden for 262 low-income households, a local school, a County community mental health service center, and the City's Wheeler Service Center facility.

The project is an important part of the city's A²ZERO plan for achieving a just transition to community-wide carbon neutrality by 2030. Led by the City of Ann Arbor, the project is also supported by four additional community-based organizations that represent key community voices including low-income and frontline residents (Community Action Network), mental health service providers (Washtenaw County), public educators (Ann Arbor Public Schools) and utility service providers (DTE Energy).

See the announcement from Michigan Congresswoman Debbie Dingell to learn more about the community geothermal heating and cooling system project at one of the below links:

<https://debbiedingell.house.gov/news/email/show.aspx?ID=UFADWZZ36PHTEFFWIQQO7SUJAE>

<https://www.energy.gov/articles/us-department-energy-announces-13-million-support-community-geothermal-heating-and-cooling>

Interested in having announcements posted in *The Charging Station*? Contact Sheronda at SGloster@a2gov.org.

CONNECT WITH THE OFFICE OF SUSTAINABILITY AND INNOVATIONS

EMAIL US (SUSTAINABILITY@A2GOV.ORG) | VISIT US ON THE WEB (A2GOV.ORG/SUSTAINABILITY)

[JOIN OUR MAILING LIST](#) | [CHECK OUT OUR YOUTUBE PLAYLIST](#)