

## Water & Environment Subcommittee

December 6, 2023

9:30 a.m. to 11:00 a.m.

Fitz Center for Leadership in Community  
1401 S. Main Street, Dayton, OH 45409

Remote Meeting Access via Zoom Available

### AGENDA

1. Introductions
2. Climate Pollution Reduction Planning Grant
  - a. Overview of regional GHG Inventory and Pre-Engagement results.
  - b. Proposed Project Prioritization – Our consultant, SSG, will facilitate a discussion of the factors used for ranking potential programs/projects for inclusion in the Priority Climate Action Plan (PCAP).
  - c. Project Refinement – The WESC will provide input on refinement of program/project proposals and the prioritization method.
  - d. We will review the remaining timeline as we approach the January 11, 2024 release of the draft PCAP.
3. Water Quality Planning
  - a. Overview of the Facility Planning Area update process, and any potential updates that may come before the WESC in early 2024
  - b. Source Water Protection Plans – tabletop exercise in January 2024
4. Community Updates/Sharing
5. **2024 Meeting Dates:** Second Wednesdays in January, March, May, September and November. January 11, 2024, March 13, 2024, May 8, 2024, September 11, 2024, and November 13, 2024.
6. Adjourn

# Priority Climate Action Plan

Miami Valley

Briefing: PCAP Background and Projects

November 30, 2023

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# Glossary

<b>Acronym</b>	<b>Definition</b>
EPA	Environmental Protection Agency
EV	Electric vehicle
CCAP	Comprehensive Climate Action Plan, the second deliverable for the CPRG Planning Grant
CPRG	Climate Pollution Reduction Grants, the funding program for climate action plans and planning implementation grants, administered by EPA under the Inflation Reduction Grant.
GHG	Greenhouse gas emissions, including carbon dioxide, methane and nitrogen oxide.
IRA	Inflation Reduction Act
LIDC	Low Income Disadvantaged Communities, a designation by EPA
MtCO <sub>2</sub> e	Metric tonnes of carbon dioxide equivalent, used to represent different GHG emissions in a single number
PCAP	Priority Climate Action Plan, the first deliverable for the CPRG Planning Grant

# 1. Climate Pollution Reduction Grants (CPRG)

CPRG includes two granting phases. Phase 1 are non-competitive planning grants and Phase 2 are competitive implementation grants.

The Priority Climate Action Plan (PCAP) is the first major deliverable of the CPRG process. The PCAP will include:

- GHG inventory for region (Montgomery, Miami, and Greene counties)
- Identification of PCAP measures
- Analysis of the GHG impact of the PCAP measures
- Analysis of the impacts of the PCAP measures on Low Income/Disadvantaged Communities (LIDC)

The draft PCAP will be available in early January and the final PCAP will be submitted to the EPA on March 1, 2024. The Comprehensive Climate Action Plan (CCAP) will begin following the completion of the PCAP.

Any projects which are submitted to the [Phase 2 funding program](#) must be included in the PCAP, but not all projects included in the PCAP need to apply for funding under Phase 2.

## 2. CPRG Phase 2 Implementation Grants

**Unique Opportunity:** The CPRG Phase 2 grants are a unique opportunity to undertake ambitious and novel projects. EPA's goals are to:

1. Implement ambitious measures that will achieve significant cumulative GHG reductions by 2030 and beyond;
2. Pursue measures that will achieve substantial community benefits (such as reduction of criteria air pollutants (CAPs) and hazardous air pollutants (HAPs)), particularly in low income and disadvantaged communities;
3. Complement other funding sources to maximize these GHG reductions and community benefits; and,
4. Pursue innovative policies and programs that are replicable and can be "scaled up" across multiple jurisdictions.

The criteria for Phase 2 are included in Appendix 1.

**Funding Levels:** Funding levels range from \$2 million to \$500 million.

Tier	Grant Ranges	Funds Targeted for Each Tier	Anticipated Number of Grants to be Awarded
Tier A	\$200,000,000 – \$500,000,000	\$2 billion	4-10
Tier B	\$100,000,000 – \$199,999,999	\$1.3 billion	6-13
Tier C	\$50,000,000 – \$99,999,999	\$0.6 billion	6-12
Tier D	\$10,000,000 – \$49,999,999	\$0.3 billion	6-30
Tier E	\$2,000,000 – \$9,999,999	\$0.1 billion	10-50

**Eligible Organizations:** The Phase 2 grant competition is open only to organizations which are engaged in the planning grants (CPRG Phase 1). This includes: states, tribes, Metropolitan Statistical Areas (MSA) planning grants; municipal agencies, departments, or offices; local air pollution control agencies; COGs, MPOs, or other regional organizations consisting of multiple municipalities; or a coalition of two or more eligible applicants.

**Competitive Grants:** The award rate is estimated to be between 1 in 5 to 1 in 10, depending on how many applications are submitted.

### 3. Context Review

SSG has completed a detailed context review for the Dayton-Kettering, OH MSA, as defined by the US Census Bureau. The MSA includes all of Greene County, Miami County, and Montgomery County, Ohio. Findings from the context review are attached in Appendix 2.

### 4. GHG Inventory Summary

Total annual GHG emissions for the Miami Valley region are 11 million MtCO<sub>2</sub>e, or 13.5 MtCO<sub>2</sub>e per capita in 2021. GHG emissions from electricity generation represent 44% of the emissions, followed by transportation at 28% and stationary combustion in buildings (natural gas) at 20%.

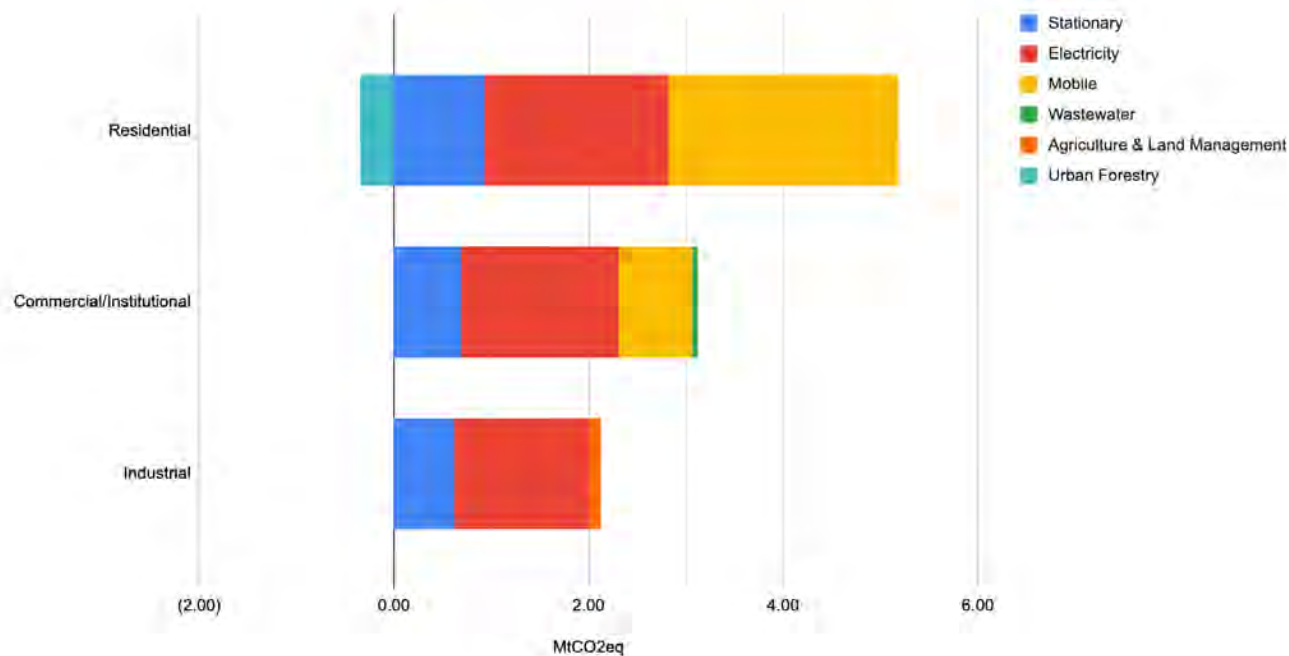


Figure 1. Draft GHG Emissions by sector by source, Miami Valley, 2021

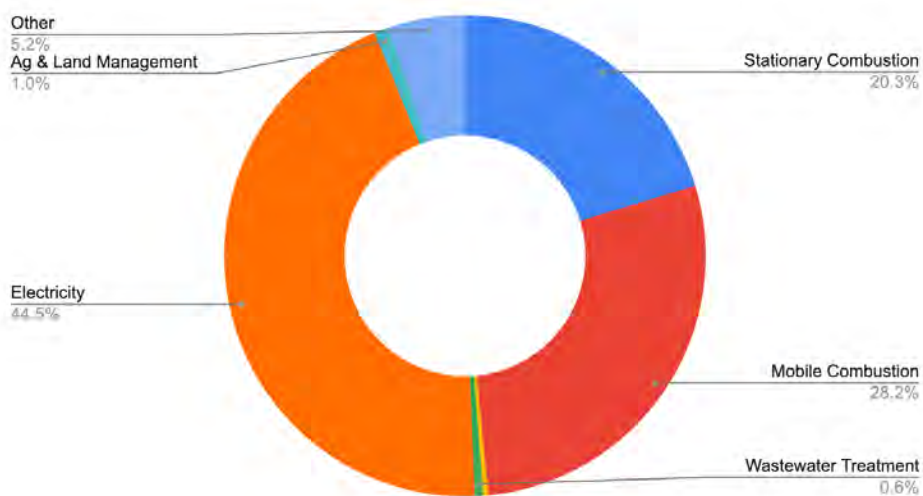


Figure 2. Draft GHG Emissions by source by share, Miami Valley, 2021

## 5. GHG Reduction Opportunities in Miami Valley

1. **Accelerate EV adoption:** EV uptake is relatively slow in Miami Valley compared to other parts of the US. EVs are critical to decarbonizing transportation and reducing transportation costs.
2. **Insulate homes:** Most homes in Ohio are not insulated. Increasing insulation reduces the energy required for heating and cooling, saves money on energy, improves comfort and increases resilience in the event of power outages.
3. **Increase adoption of heat pumps:** Heat pump uptake in Ohio is currently low. Heat pumps reduce energy for heating by at least one third. They also provide cooling, which protects people from

extreme heat, while using less energy than air conditioning. Heat pumps are powered by electricity, which is becoming cleaner in Ohio.

4. **Clean electricity:** Electricity is relatively GHG intensive in Ohio, however, wind and solar are growing as a source of electricity generation in Ohio.
5. **Reduce driving:** Driving is the primary mode for travel in Miami Valley. Cars are expensive both for households and for society and are energy intensive. Avoiding vehicle miles traveled reduces the need to expand the electricity system as transportation is electrified. Walking and cycling are low cost, improve health outcomes and reduce environmental pollutants.

## 6. PCAP Measures List- Draft

The following projects have been developed through the engagement process and as a result of SSG analysis. The focus and scope of the projects will continue to be revised over the next month.

	<b>Project Title</b>	<b>Imperative</b>	<b>Description</b>
1	Virtual Power Plants (VPP)	Clean electricity, financing	<ul style="list-style-type: none"> <li>● Aggregate ground mount solar on Superfund/brownfield/municipal/County sites</li> <li>● Use proceeds to seed revolving loan fund for weatherization</li> </ul>
2	Virtual Power Plants Plus (VPP+)	Clean electricity, energy efficiency of buildings	<ul style="list-style-type: none"> <li>● Aggregation of ground mount solar on Superfund/brownfield/municipal sites</li> <li>● Aggregation of solar PV and batteries on individual homes and businesses</li> <li>● Systematic deployment of building retrofits/weatherization/heat pumps similar to Community Choice Aggregation model for renewable electricity</li> </ul>
3	Community Engaged Carbon and Economic Transformation	Clean electricity, energy efficiency of buildings	<ul style="list-style-type: none"> <li>● AI-guided energy audits, energy advisor and project design for weatherization</li> <li>● Education and behavior change program</li> <li>● Leverage and maximize deployment of IRA incentives for solar PV, heat pumps and weatherization</li> <li>● Use a revolving loan fund to generate return on capital investments that can systematically finance building energy retrofits into the future (i.e. deep energy building retrofits/weatherization/heat pumps)</li> <li>● Support workforce development with Dayton Development Coalition, Strategic Ohio Council for Higher Education (SOCHE), community colleges, State Corrections Dept</li> </ul>
4	Transit Transformation	Transit, EV infrastructure	<ul style="list-style-type: none"> <li>● Expand/upgrade transit routes within low income and disadvantaged neighborhoods</li> <li>● Electrify the Flyer; Additional circulator routes</li> <li>● Charging sub-stations for RTA trolley buses (and private EVs)</li> </ul>



			<p>to extend overhead wire routes</p> <ul style="list-style-type: none"> <li>Expand transit with on-demand services, service hours, frequencies and routes to better serve low-income and disadvantaged communities</li> </ul>
5	Clean Fleets	EVs and EV infrastructure	<ul style="list-style-type: none"> <li>Support municipalities in purchasing EVs (light and heavy duty)</li> <li>Develop charging infrastructure to support the EV deployment</li> </ul>
6	Sugarcreek Waste Facility Upgrade	Waste management	<ul style="list-style-type: none"> <li>Develop thermal drying facilities for wastewater solids to avoid landfilling of sludge</li> <li>Explore and deploy opportunities for Renewable Natural Gas and other resource recovery options</li> </ul>
7	Active Transportation	Mode shift to walking and cycling	<ul style="list-style-type: none"> <li>Implement an education campaign on the benefits of active transportation</li> <li>Incentivize infill and brownfield redevelopment within existing communities to support walking, cycling and transit</li> <li>Address gaps in Miami Valley Trails and sidewalk networks, particularly along fixed transit routes</li> <li>Increase the amount of protected sidewalks and bike lanes and improve their connectivity</li> <li>Increase the amount of bike parking at existing and new destinations</li> <li>Expand bike-share and e-bike shares programs to low-income/disadvantaged communities</li> <li>Incentive for bikes and e-bikes</li> </ul>
8	Clean Cars for All	EV uptake, Mode shift	<ul style="list-style-type: none"> <li>Lease-to-own programs, rebates, and low- or no-interest financing, bulk purchases, preferred parking spots for EVs</li> <li>Incentives to help low-income people replace old polluting vehicles with a new or used hybrid or EV; purchase an e-bike; get a voucher for public transit; and benefitting from home charger incentives and prepaid charge cards.</li> <li>Regional or statewide EV car-sharing cooperatives or services</li> <li>EV-charging infrastructure in disadvantaged communities and areas without EV-charging at home (e.g. multifamily apartments), workplaces, and public spaces such as parks, RTA hubs, and parking lots (using solar PVs)</li> </ul>
9	Supercharge Carbon Sequestration	Carbon sequestration, active transportation, extreme heat and flooding	<ul style="list-style-type: none"> <li>Assemble and connect open space properties as identified in Miami Valley Open Space Plan and multimodal trails and promote ecological restoration with tree planting and native grasses</li> <li>Increase tree canopy and carbon sequestration potential of active transportation trails, with a focus on low-income and</li> </ul>

			<p>disadvantaged neighborhoods at highest risk of extreme heat</p> <ul style="list-style-type: none"><li>• Promote creative reuse of vacant lots and brownfields for ecological restoration and carbon sequestration</li></ul>
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# Appendix 1: Criteria for Selecting PCAP Phase 2 Implementation Projects

<b>Section 1: Overall Project Summary and Approach</b>		<b>45</b>
<i>Description of GHG Reduction Measures</i>	Provides a detailed description of each of the proposed GHG reduction measures to be undertaken; Describes the major features, tasks, milestones, and potential risks for each measure;	20
	Describes the major features, tasks, milestones, and potential risks for each measure;	
	In the case of a coalition application, describes the roles and responsibilities of each coalition member in the project design and implementation;	
	Explains how each GHG reduction measure relates to a priority GHG reduction measure included in the relevant PCAP, why each measure was selected as a priority, and how each measure will meet the goals of the CPRG program.	
<i>Demonstration of funding need</i>	Demonstrates a strong need for EPA CPRG implementation funding;	10
	Explains if and how other funding streams have been explored, and why these sources are not sufficient;	
	Lists federal and non-federal funding sources the applicant has applied for, has secured, and/or will secure to implement the GHG reduction measures, if applicable.	
<i>Transformative impact</i>	The application will be evaluated on the quality of the response and extent to which it demonstrates that the GHG reduction measures have the potential to create transformative opportunities or impacts that can lead to significant additional GHG emissions reductions.	15
<b>Section 2: Impact of GHG Reduction Measures</b>		<b>60</b>
<i>Magnitude of GHG Reductions from 2025 through 2030</i>	The application will be evaluated on the magnitude of cumulative GHG emission reductions and the durability of the reductions to be achieved by the proposed GHG reduction measures from 2025 through 2030, using appropriate methodologies and assumptions. Applications will be assessed on the estimated emission reductions that will directly result from EPA CPRG implementation grant funding.	20
<i>Magnitude of GHG Reductions from 2025 through 2050</i>	The application will be evaluated on the magnitude of cumulative GHG emission reductions and the durability of the reductions to be achieved by the proposed GHG reduction measures from 2025 through 2050, using appropriate methodologies and assumptions. Applications will be assessed on the estimated emission reductions that will directly result from EPA CPRG implementation grant funding.	10
<i>Cost Effectiveness of GHG Reductions</i>	Cost effectiveness of the GHG reduction measures in terms of the CPRG implementation grant dollars requested divided by cumulative GHG metric ton of CO <sub>2</sub> -equivalent emission reductions to be achieved from 2025 through 2030 for the set of measures in the application	15
	Qualitative narrative explaining any factors that may affect the cost-effectiveness calculation.	
<i>Documentation of GHG Reduction Assumptions.</i>	The application will be evaluated on the quality, thoroughness, reasonableness, and comprehensiveness of the methodologies, assumptions, and calculations used for developing the estimated GHG emission reductions for the GHG reduction measures included in the application, including GHG reductions from 2025 through 2030; GHG reductions from 2025 through 2050; and, the estimated cost per metric ton of CO <sub>2</sub> -equivalent GHG reductions to be achieved from 2025 through 2030 for the collection of measures in the application.	

<b>Section 3: Environmental Results – Outputs, Outcomes, and Performance Measures (30 possible points)</b>		60
<i>Expected Outputs and Outcomes</i>	The application will be evaluated on the quality of the response and extent to which it identifies expected outputs and outcomes, as defined in Section I.C for each GHG measure, including listing GHG emission reductions and listing co-pollution (CAP and HAP) emission changes as outcomes, among others.	10
<i>Performance Measures and Plan</i>	Provides a clear description of the proposed performance measures to track, measure, and report progress toward achieving the expected outputs and outcomes for each GHG reduction measure,	10
	Describes the plan for effectively tracking and measuring progress in implementing each GHG reduction measure.	
<i>Authorities, Implementation Timeline, and Milestones</i>	Identifies the parties and their roles and responsibilities for implementing each GHG reduction measure;	10
	For each measure, describes whether the implementing entity has current authority to carry out the measure and if they do not, articulates the plan and timing for obtaining it during the grant period;	
	Provides the detailed implementation timeline for each measure, including key milestones for specific tasks, and discusses the key actions needed to meet the project goals and objectives by the end of the grant period.	
<b>Section 4: Low-Income and Disadvantaged Communities</b>		35
<i>Community benefits</i>	Provides a comprehensive discussion and assessment of expected benefits and/or avoided disbenefits to low-income and disadvantaged communities from the proposed GHG reduction measures;	25
	Lists CEJST Census tract IDs or EPA’s EJScreen Census block group IDs for areas that may be affected by GHG reduction measures	
	Describes the plan to assess, quantify, and report a more thorough quantitative analysis of associated community benefits, including co-pollutant (CAP and HAP) emission reductions	
<i>Community engagement</i>	Explains how input from low-income and disadvantaged communities was incorporated into the application	10
	Describes how meaningful engagement with low-income and disadvantaged communities will be continuously included in the implementation of the GHG reduction measures.	
<b>Section 5: Job Quality</b>		35
	The application will be evaluated on the quality of the response and extent to which it describes, as applicable, concrete strategies and commitments to ensure job quality, strong labor standards, and a diverse, highly skilled workforce for the implementation of the GHG reduction measures.	5
<b>Section 6: Programmatic Capability and Past Performance</b>		30
<i>Past Performance</i>	The application will be evaluated on the quality of the response and extent to which it demonstrates that the applicant has past performance in successfully managing and completing the federal assistance agreements as described in Section IV.B.	10
<i>Reporting Requirements</i>	Demonstrates that the applicant has a history of meeting the reporting requirements under the assistance agreements identified in the project narrative as described in Section IV.B	10
	Describes whether the applicant submitted acceptable final technical reports under those agreements; the extent to which the applicant adequately and timely reported on their progress towards achieving the expected outputs and outcomes under those agreements; and, if sufficient progress was not being made, whether the applicant adequately reported the reason for insufficient progress.	
<i>Staff Expertise</i>	The application will be evaluated on the quality of the response and extent to which it	10

	demonstrates that the applicant has the requisite organizational experience, including staff expertise and qualifications, staff knowledge, and resources or ability of obtain them, to successfully achieve the goals of the proposed project.	
<b>Section 7: Programmatic Capability and Past Performance</b>		45
<i>Budget Detail</i>	The application will be evaluated on the quality of the response and extent to which the proposed budget provides a detailed breakout by funding type in the proper budget category for each activity for which the applicant is requesting funding	20
<i>Expenditure of Awarded Funds</i>	The application will be evaluated on the quality of the response and extent to which it demonstrates that the approach, procedures, and controls described in the application will ensure that awarded grant funds will be expended in a timely and efficient manner.	15
<i>Reasonableness of Costs</i>	The application will be evaluated on the quality of the response and extent to which the proposed grant expenditures are reasonable for accomplishing the proposed goals, objectives, and measurable environmental outcomes described in the application.	10

## Appendix 2: Context Review

Attached



Regional Planning Commission

10 North Ludlow St., Suite 700  
Dayton, Ohio 45402

t: 937.223.6323  
f: 937.223.9750  
TTY/TDD: 800.750.0750  
www.mvrpc.org

August 31, 2023

From: MVRPC staff  
To: Wastewater Designated Management Agencies (treatment operators)  
Subject: Annual Calendar for Facility Planning Area Updates

### Purpose

The Purpose of this memo is to remind wastewater treatment Designated Management Agencies in the Miami Valley Regional Planning Commission water quality planning counties about the process for proposing, review, and approval of updates to wastewater Facility Planning Areas. This memo further proposes a generic annual calendar for compiling and approving such updates for the MVRPC Board of Directors.

### Background

A **Facility Planning Area (FPA)** is the geographic territory for which a **Designated Management Agency (DMA)** is responsible for the planning, financing, construction, operation, and maintenance of wastewater collection and treatment systems. DMAs are usually cities, villages, counties or in some cases special wastewater authorities. A DMA may have need to update their FPA for a number of reasons:

- A one-off update to accommodate a new development, not anticipated during a previous FPA update;
- A comprehensive update resulting from a thorough review of the wastewater facility plan;
- An internal prioritization update, establishing or updating sub-areas within the FPA.

MVRPC maintains the regional water quality management plan, which compiles all local facility plans and FPAs into a single document. Updates to FPAs must be approved by the MVRPC Board of Directors for inclusion in the regional plan. As always, MVRPC encourages communities to develop FPAs and facility plans in coordination with local comprehensive or development plans, and local zoning. Together, these planning tools can send clear signals to the development community as to the form, type, and density of development desired within your community. They will also chart a roadmap for investments to ensure adequate waste treatment capacity to manage expected flows and protect water resources.

### Preferred FPA Update Process

MVRPC's Facility Planning Policies ([link](#)) and FPA Update Guidelines ([link](#)) describe the process for review and approval of FPA Updates. Those documents, approved by the MVRPC Board of Directors in 2005, are not proposed to be changed here. Rather this memo seeks to clarify the process. Please note, the new **Water & Environment Sub-committee** is intended to fill the role described for the Areawide Facility Planning Subcommittee (AFPSC) in the Guidelines.

1. Ideally, MVRPC will receive proposals for updates to Facility Planning Areas that have been carefully reviewed and approved by the governing authority of the FPA proposed for update. This internal review process should have included opportunities for public review and comment. Proposed updates that would also change one or more surrounding FPAs must demonstrate concurrence from the neighboring DMAs in the proposed change. It is not required, but DMAs may seek assistance in development of proposed FPA updates from MVRPC staff. MVRPC can assist in census data, watershed and community mapping, and public and stakeholder engagement through the FPA planning process.
2. A proposal for an FPA update to MVRPC must be accompanied by a complete application, answering all the elements listed in the FPA Update Guidelines document. Upon receipt, MVRPC staff will conduct a completeness review and work with the proposing DMA to fill gaps in the application, if any.
3. Complete applications will be scheduled for review by the MVRPC Water & Environment Sub-committee at a future meeting. The proposing DMA will be asked to make a presentation to the committee regarding the proposed update. Participants in the Water & Environment Committee will be invited to provide input to MVRPC staff regarding the proposed FPA update. Input received will contribute to the development of the MVRPC staff recommendation to the MVRPC TAC and Board of Directors regarding the FPA update proposal.
4. MVRPC staff will conduct an annual water quality management plan amendment process, which will include proposed FPA updates. The process will include a 30-day public comment period (including a public meeting), and review and consideration by the MVRPC Technical Advisory Committee and the MVRPC Board of Directors.
5. MVRPC staff will forward Board-approved FPA updates to Ohio EPA for certification by the Governor of Ohio and US EPA.

#### Generic Amendment Calendar

MVRPC staff will work to include water quality management plan updates on the agenda of the MVRPC Board of Directors at least annually in the month of **June**. This aligns with MVRPC's fiscal year and with the beginning and ending dates of MVRPC's annual contracts with Ohio EPA for water quality planning. Working backwards from that target, the amendment would be on the TAC agenda in **May**, and the 30-day public comment period and public meeting would occur in the month of **April**.

DMAs developing proposals for FPA updates should work towards developing a complete proposal package in time to present the proposal during a Water & Environment Sub-committee meeting sometime between **July and March**.

Alternative schedules can be worked out for time-sensitive FPA updates, but DMAs should be aware that the amendment process takes a minimum of three months.

# Tabletop Exercise – Emergency Scenarios for Source Water Protection in Southwest Ohio

January 24, 2024 from 8:00 a.m. to 12:00 noon

**Engineers Club of Dayton**

110 East Monument Ave., Dayton, OH 45402

## Event Summary

The Miami Conservancy District is inviting you to participate in a free tabletop exercise that will help communities in southwest Ohio respond to emergencies that threaten drinking water source areas. During the meeting you will gain hands-on familiarity on how to implement, and improve, your community's SWAP in an emergency.

This event is specifically designed for water professionals actively working to protect drinking water assets including source water areas, land use, and drinking water treatment plants.

Three scenarios will be used to discuss the effectiveness of current source water protection and emergency response. They include scenarios with local impacts to individual sources, and scenarios with regional impacts to multiple sources.

**Participants are expected to bring copies of their source water protection plan, contingency plans, and asset management plans.**

Registration is limited to 60 participants.

This event is also hosted by the Miami Valley Regional Planning Commission and the Ohio EPA, with help from the City of Dayton, the City of Cincinnati and the Hamilton to New Baltimore Consortium.

Link for registration:

<https://protix.cityspark.com/e/tabletop-exercise-%E2%80%93-emergency-scenarios-for-source>



# Miami Valley PCAP

Context Review  
November 2023

SSG

# Method

SSG

# Method

- Review documents submitted by MVRPC, as well as other pertinent documents from client and relevant organizations within geographic scope ( Dayton-Kettering, OH MSA, as defined by the US Census Bureau, including all of Greene County, Miami County, and Montgomery County)
- Use the Climate and Economic Justice Screening Tool; the Environmental Justice Screening and Mapping Tool; and MVRPC's 2014 Equity Analysis for a LIDAC analysis; used this to prioritize document review and measure development
- Summarize key takeaways in AirTable, identifying potential commonalities between jurisdictions, as well as potential PCAP projects

# Method

- Review >60 documents:



- Cities reviewed: City of Brookville, Clayton, Dayton, Fairborn, Kettering, Troy, West Carrollton, Greene County, Miami county, State of Ohio, Five Rivers Metro Parks, and others

# Findings

SSG

# Socio-Economic Considerations

SSG

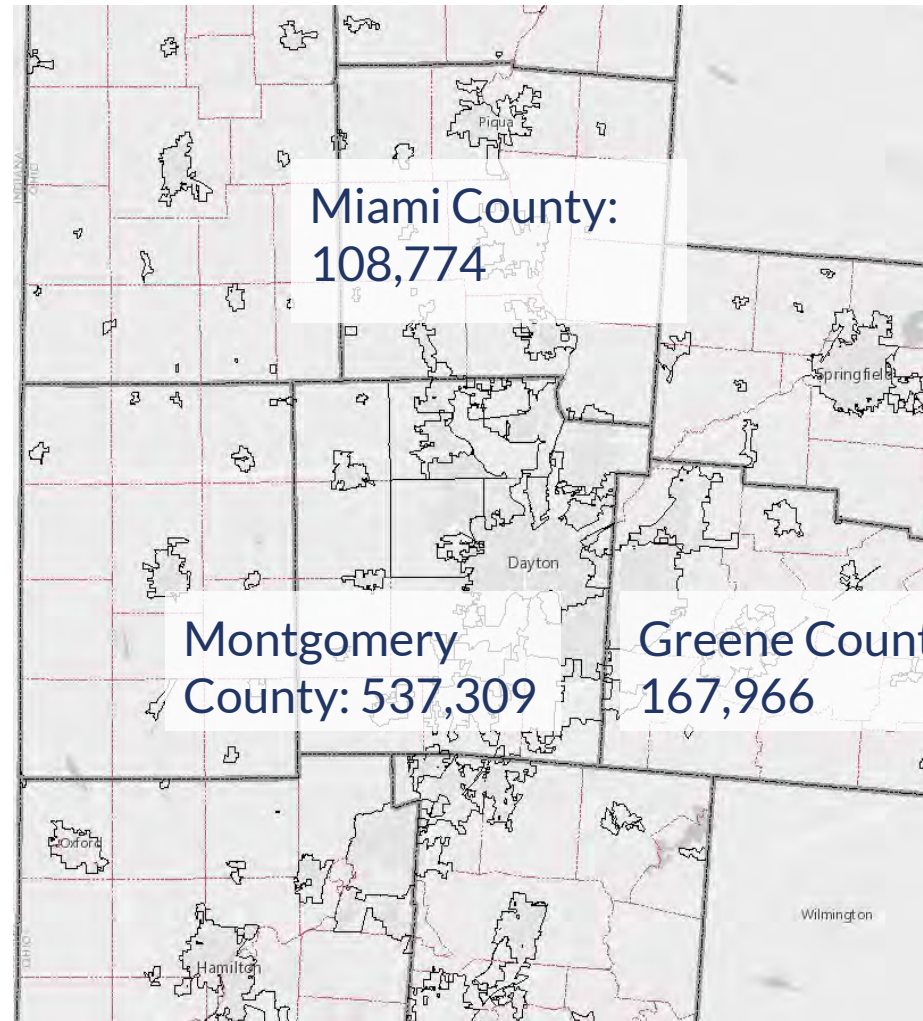
# Demographic Summary<sup>1</sup>

- Largest concentration of people in Montgomery County

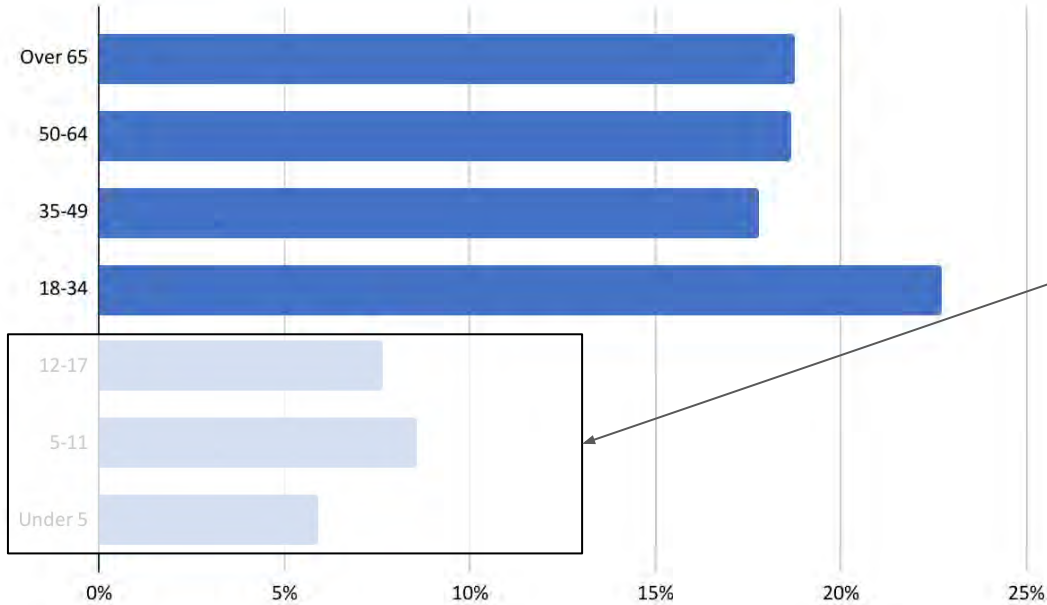
Montgomery County and Greene County are home to many more people of color than Miami County

- Miami County: 89.7% White, 2.4% Black, 2% Hispanic
- Montgomery County: 67.9% White, 21.2% Black, 3.9% Hispanic
- Greene County: 81.7% White, 6.8% Black, and 3.1% Hispanic

1: 2020 Census Data



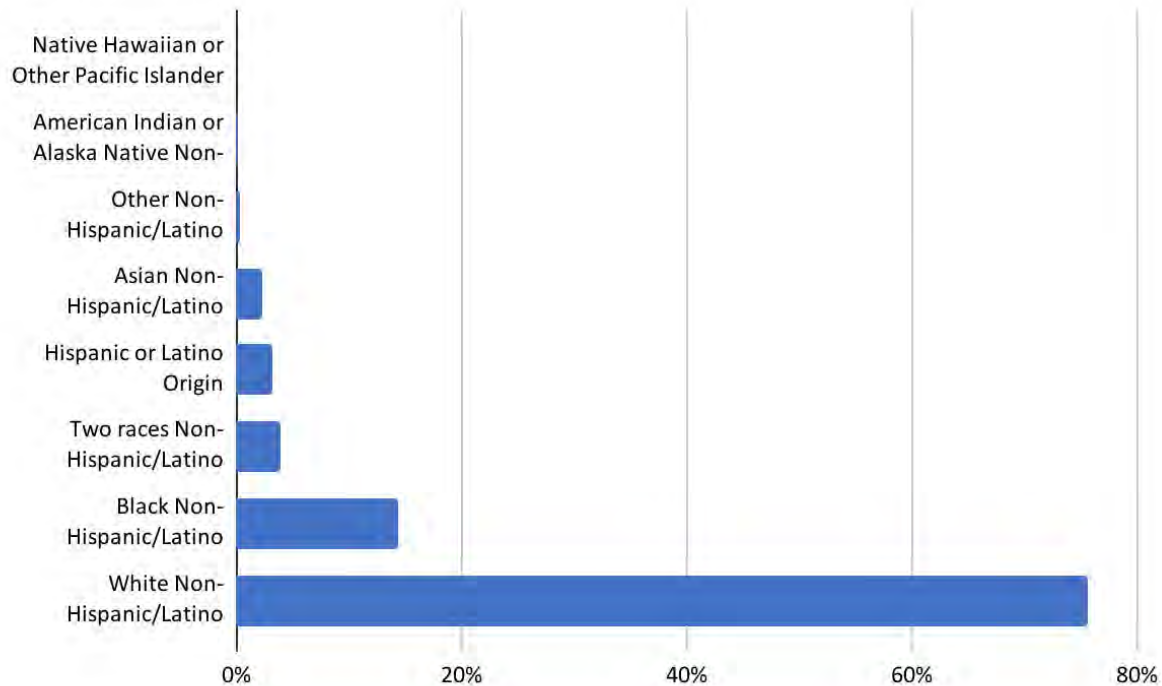
# >60% of the population is under 50



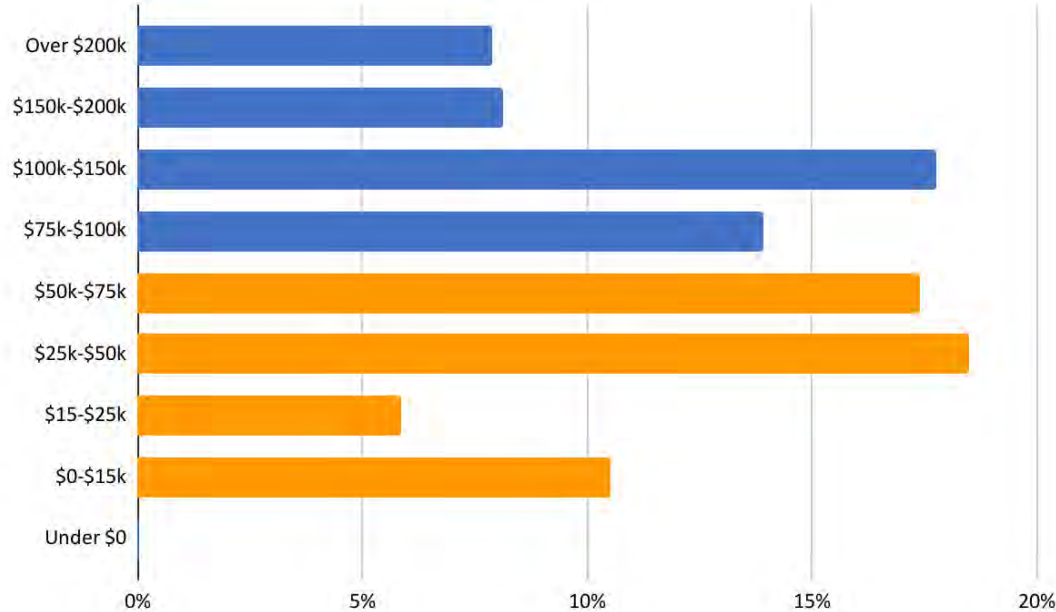
But there are not many kids!



# 14% of the population is Black



# 50% of households have incomes less than \$75k



*The median income is \$72 k*

# Key takeaways from LIDAC analysis

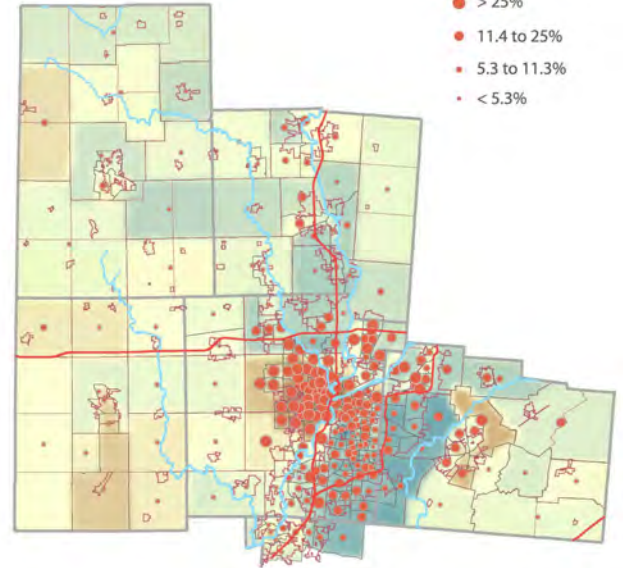
Access to Opportunity



MVRPC's 2014 [Equity Analysis](#) ("Access to Opportunity"):

- Forty percent of the Region's population living in poverty live in areas with low to very low access to opportunity. This is also true for people under 18.
- Access to opportunity is much more limited in the older, urban communities compared to suburban communities.
- Minorities are noticeably more isolated in the urban core and in areas with less access to opportunity (64% of Black people live in areas with lower access to opportunity).

Percent Minority



# Key takeaways from LIDAC analysis<sup>1</sup>

- Montgomery County:
  - highest percentage of minorities, people in poverty, residents with disabilities, and households without access to cars
  - highest percentage of elderly residents (aging populations) (along with Miami County)
  - most of the \*multiply burdened\* tracts are within the City of of Dayton, along the river and S/W/SW/NW in the city
  - major issues are energy, transportation, housing (cost and stock)
  - proximity to superfund sites
- Greene and Miami County:
  - housing quality in a few census tracts (lead paint; in Fairborn).
  - proximity to superfund sites

# Key takeaways from LIDAC analysis<sup>1</sup>

- **Dayton** : most populous city in the MSA (138,525)
  - 54% of population qualify as low income,
  - 49% percent of population are people of color (primarily Black)
  - 11% unemployment rate and \$23,247 per capita income
  - Contains both a "Justice40 (CEJST)" disadvantaged community and an EPA IRA disadvantaged community.
  - 2 Superfund sites, 8 hazardous waste, treatment, storage, and disposal facilities, 28 water dischargers, 157 air pollution sites, 27 brownfields, and 71 sites on a toxic release inventory.

<sup>1</sup> US EPA EJ Screen Community Report

# Key takeaways from LIDAC analysis<sup>1</sup>

- Most other major cities in the region besides Dayton also have brownfield and/or superfund sites
- Air pollution/air quality (particulate matter) seems to be a common issue across all jurisdictions and disproportionately worse compared to the national average (though improved through the MVRPC Air Quality Awareness Program)
- Common critical service gaps across jurisdictions include transportation access and presence of food deserts; Dayton, Fairborn, Beavercreek, and Huber Heights also face a housing burden

<sup>1</sup> US EPA EJ Screen Community Report

# Industry Summary<sup>1</sup>

- Transition from production-based to service-based economy post-2008 recession
- Largest sectors by employment: government, health care, manufacturing, and retail (accounts for 54% of the six-county area's jobs)
- Largest single-site employer in Ohio: Wright-Patterson Air Force Base
- Largest growth sector: 29% increase in jobs in the health care sector between 2004 and 2016

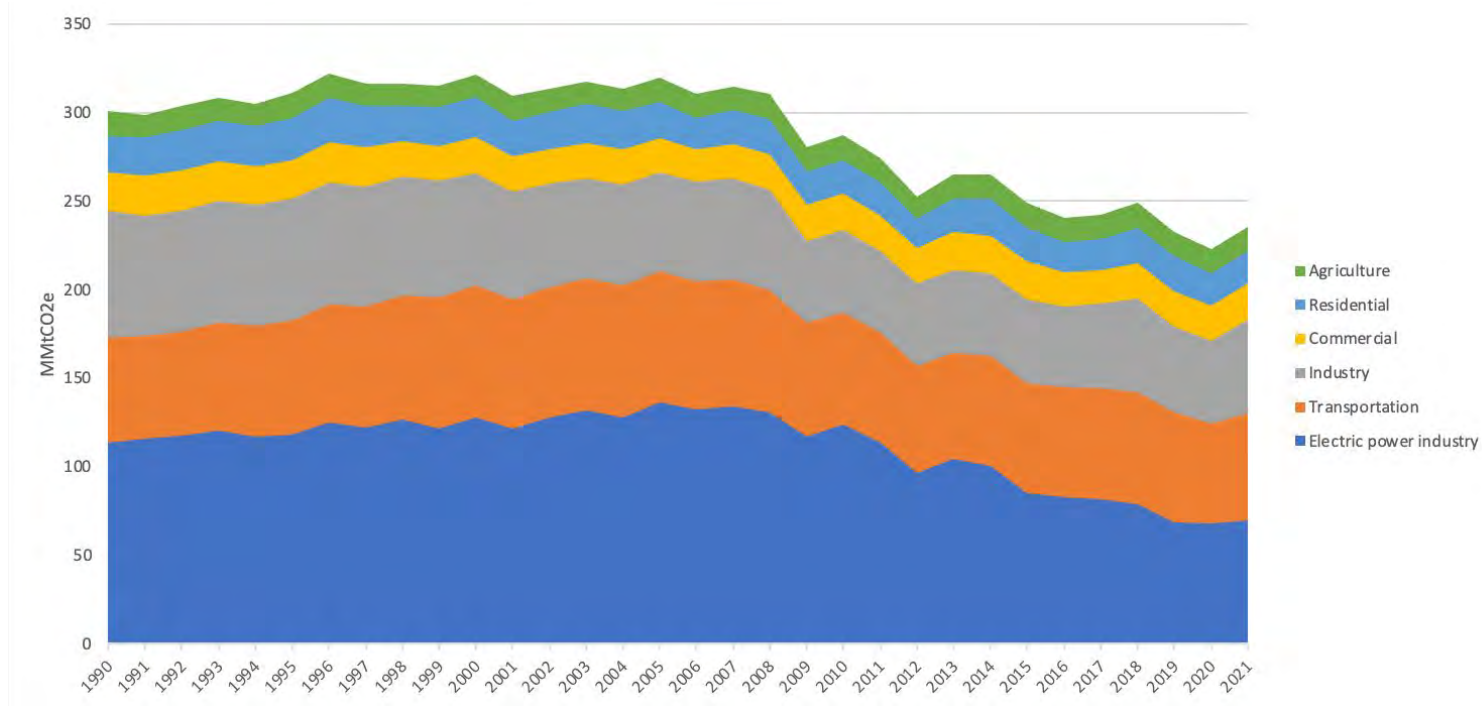
1: Data is at the county level and includes Darke, Greene, Miami, Montgomery, Preble, and Warren counties. (Source: <https://www.mvrpc.org/miami-valley-business-industry-regional-profile>)

# Energy

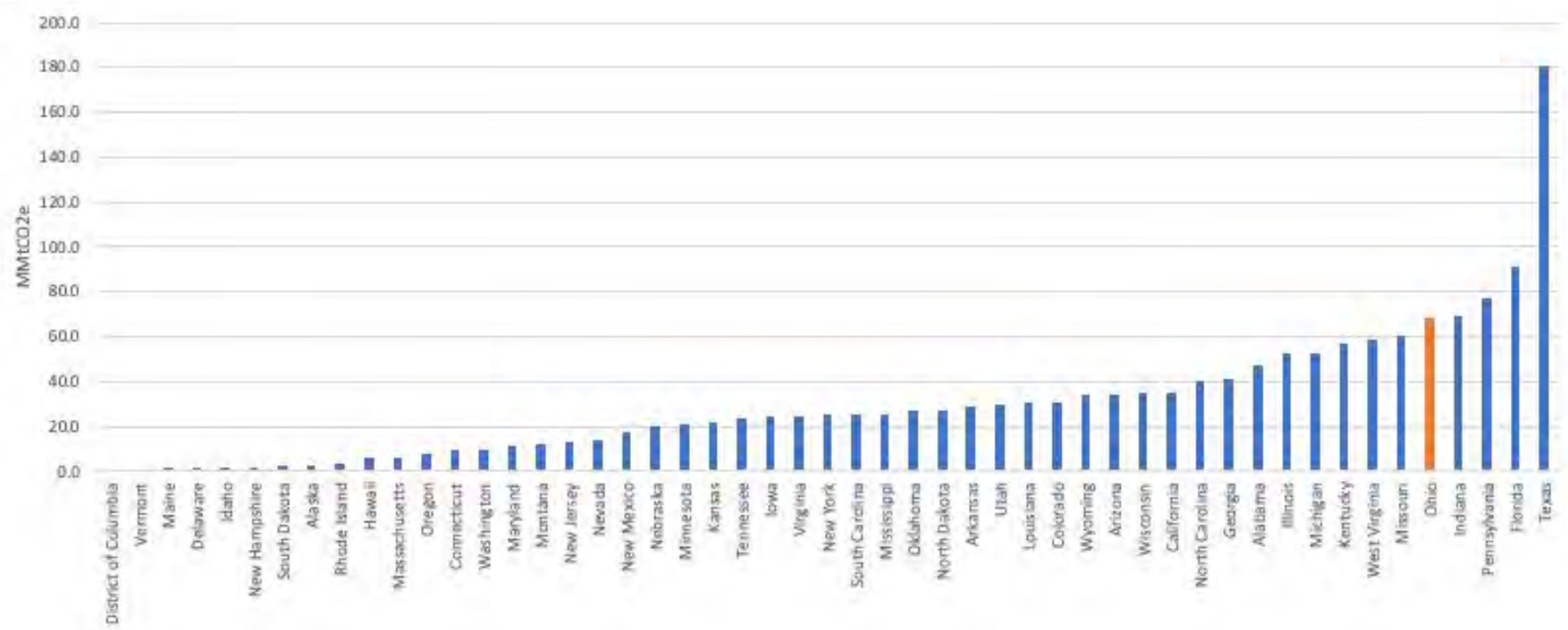
SSG



# Electricity is the major source of emissions, followed by transportation and industry

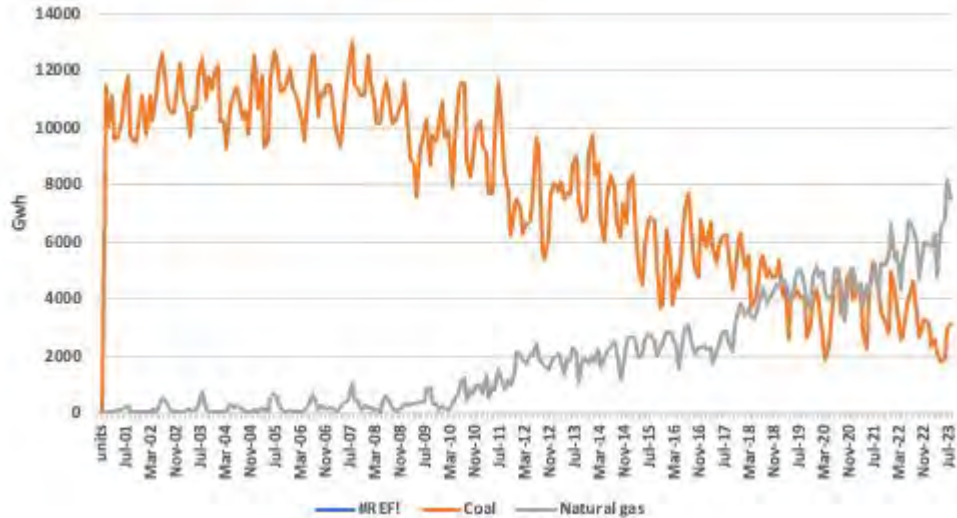


# Electricity is dirty in Ohio



Source: EIA, 2023

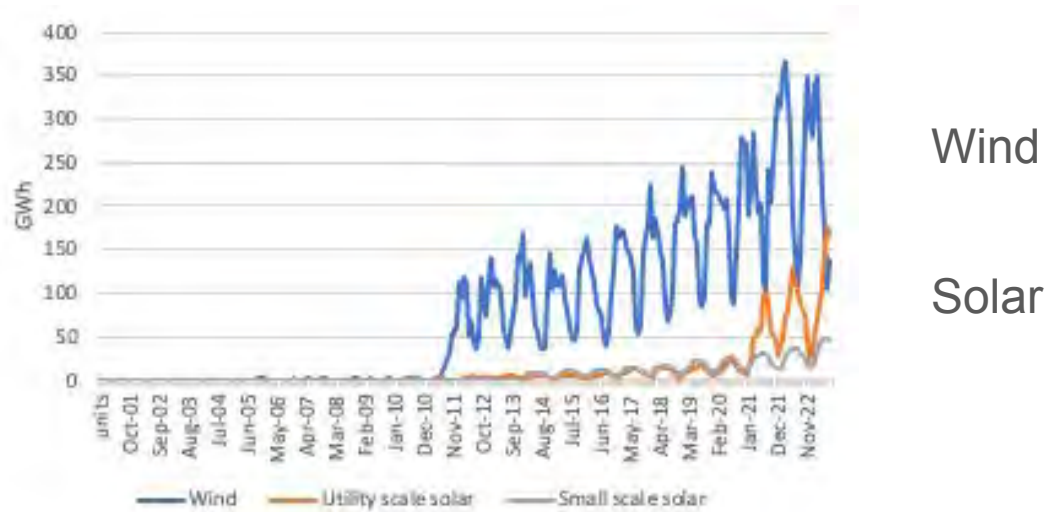
# The electricity system has transitioned recently



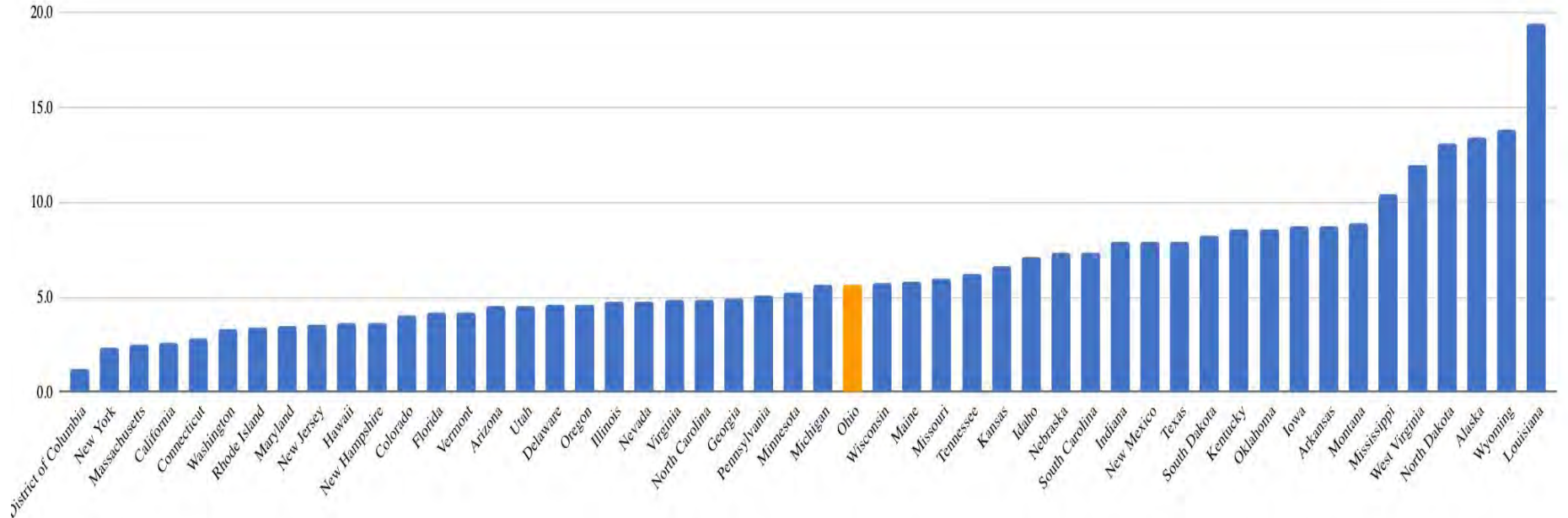
Gas

Coal

# And the next transition is underway

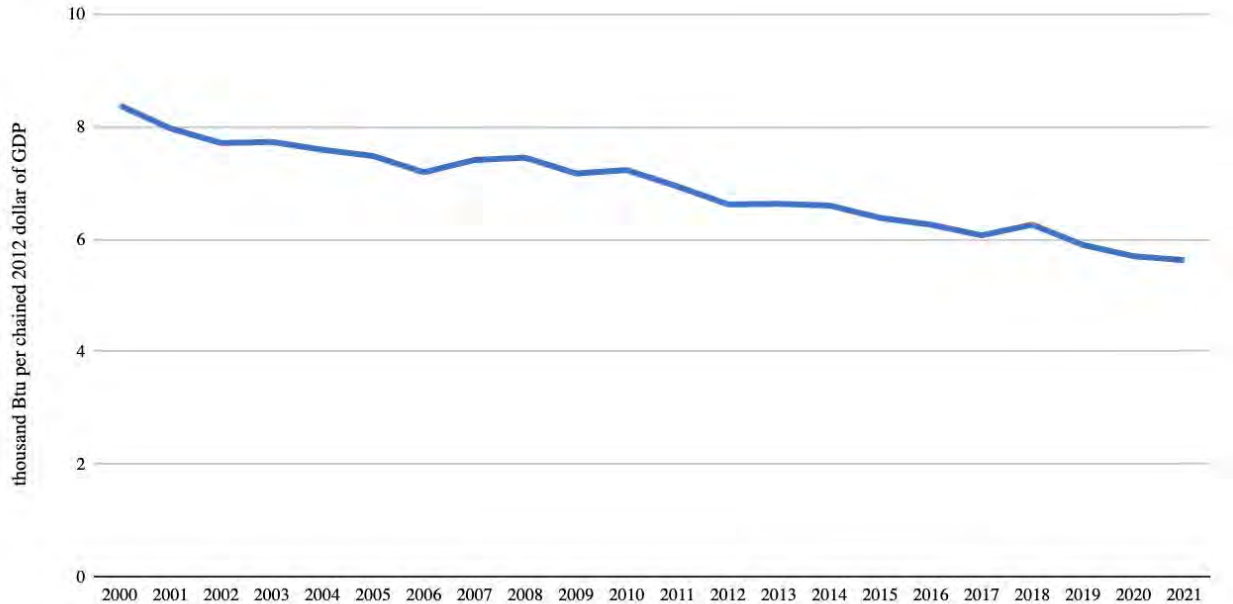


# Ohio's economy is energy intensive



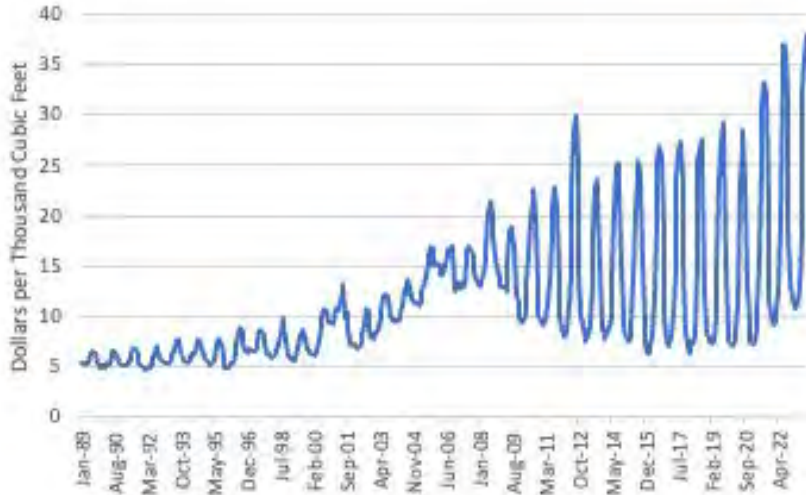
Energy intensity by state (2021)

# But its economy is becoming more efficient

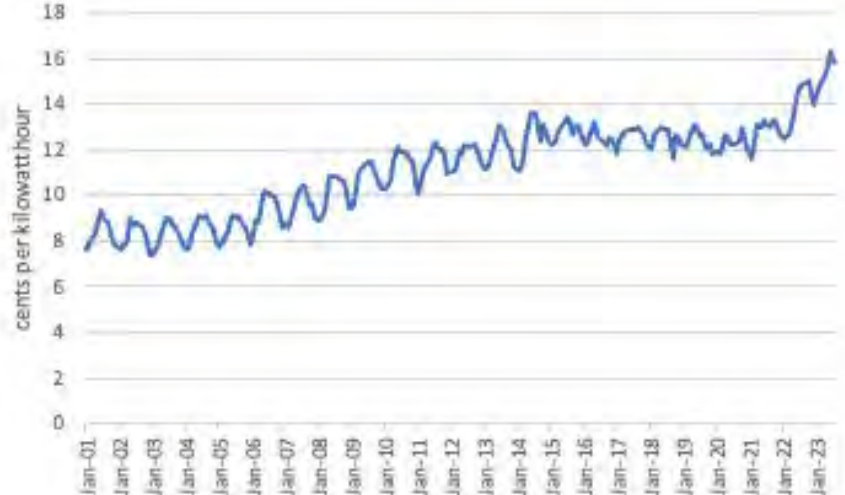


Energy intensity, Ohio (2000-2021)

# Energy costs are increasing



Price of Natural Gas Delivered to Residential Customer, Ohio



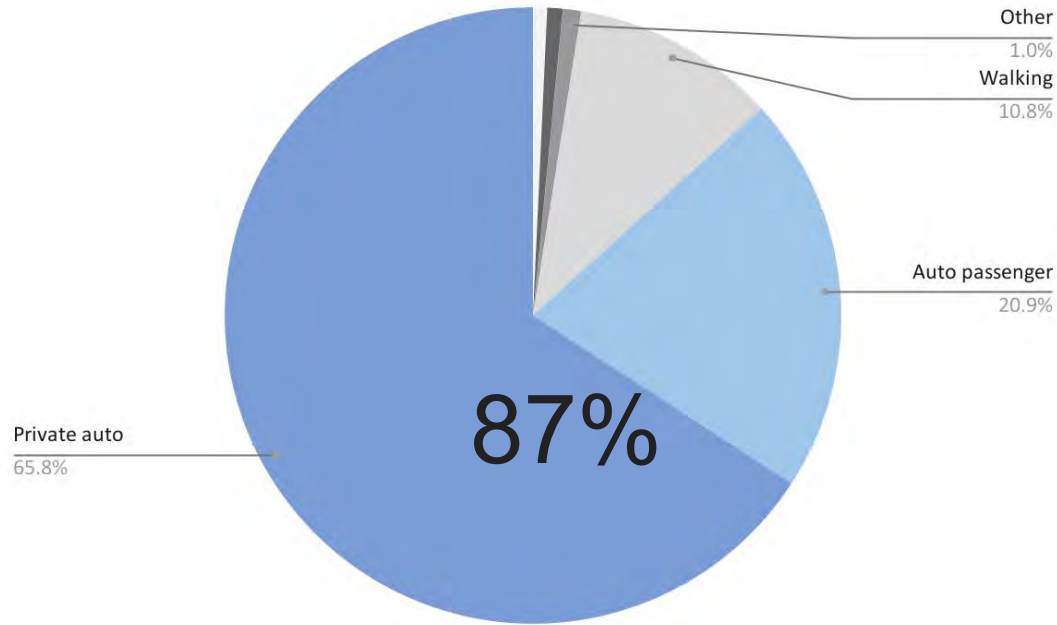
Retail Price of Electricity, Ohio

# Transportation

SSG



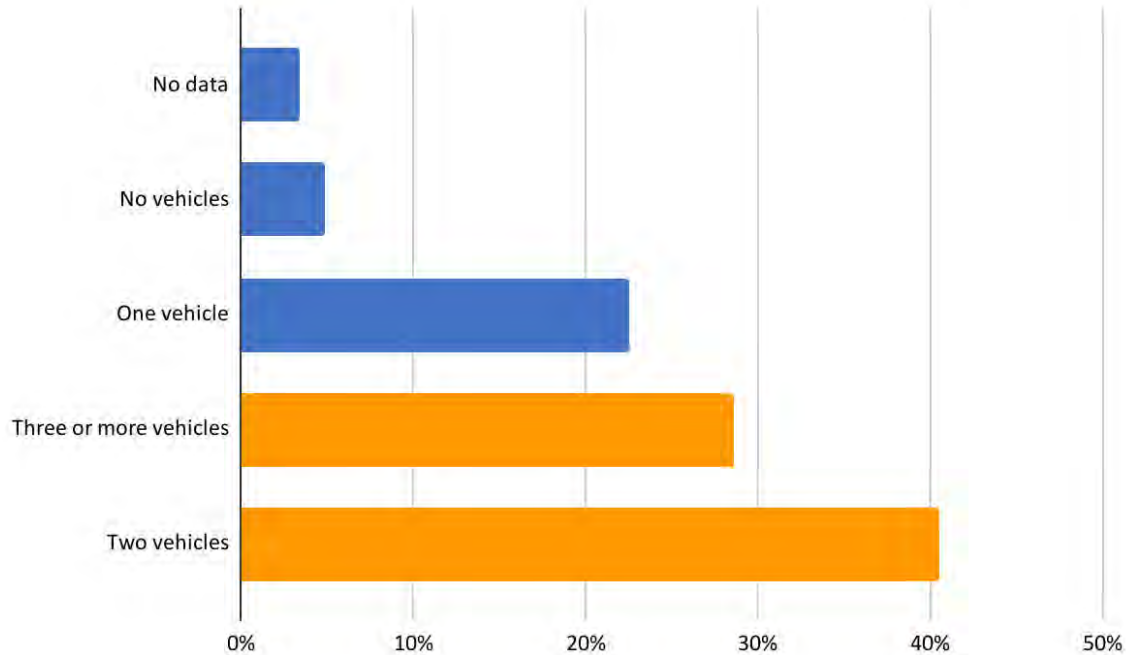
# Vehicle modes dominate



Residential VMT, Miami, Greene and Montgomery Counties, Thursday, Spring, 2023

Source: [Replica, 2023](#)

# There are lots of cars!



*740,000 vehicles!*

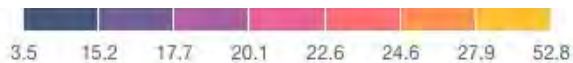
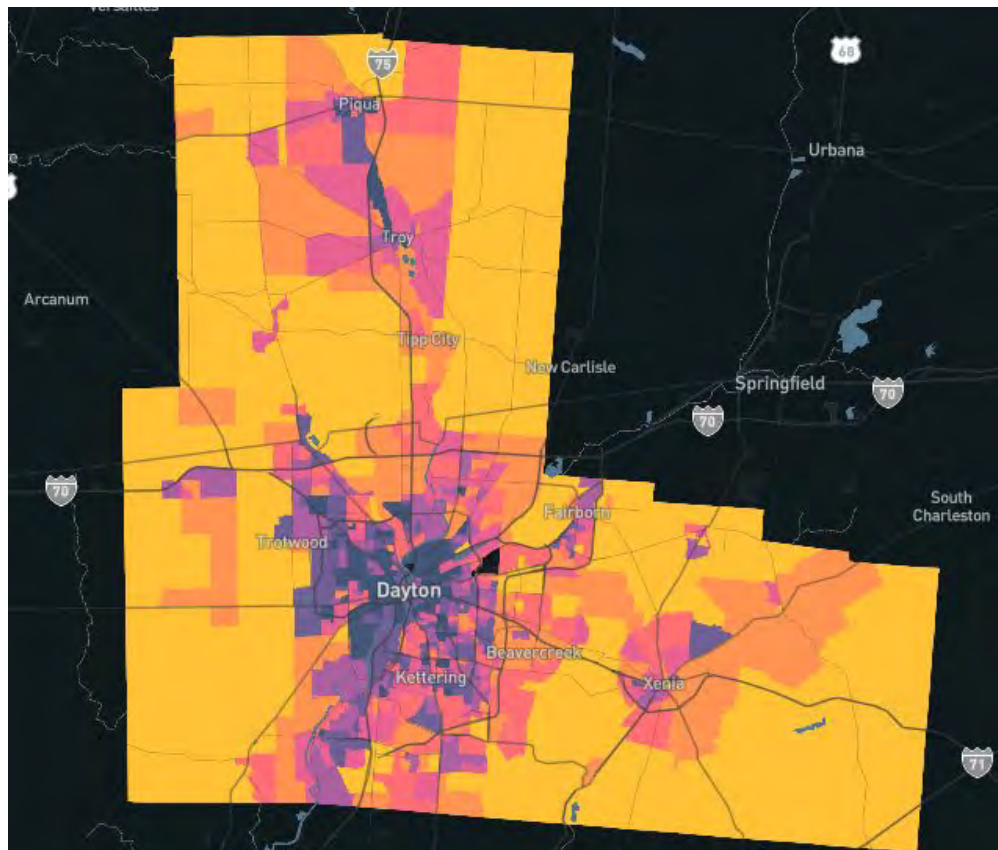
It took a decade to sell  
the first million EVs but  
just a year to reach the  
third million in the US.

# The EV revolution has not yet arrived

*In spring 2023, there were just  
8,091 battery electric vehicles*

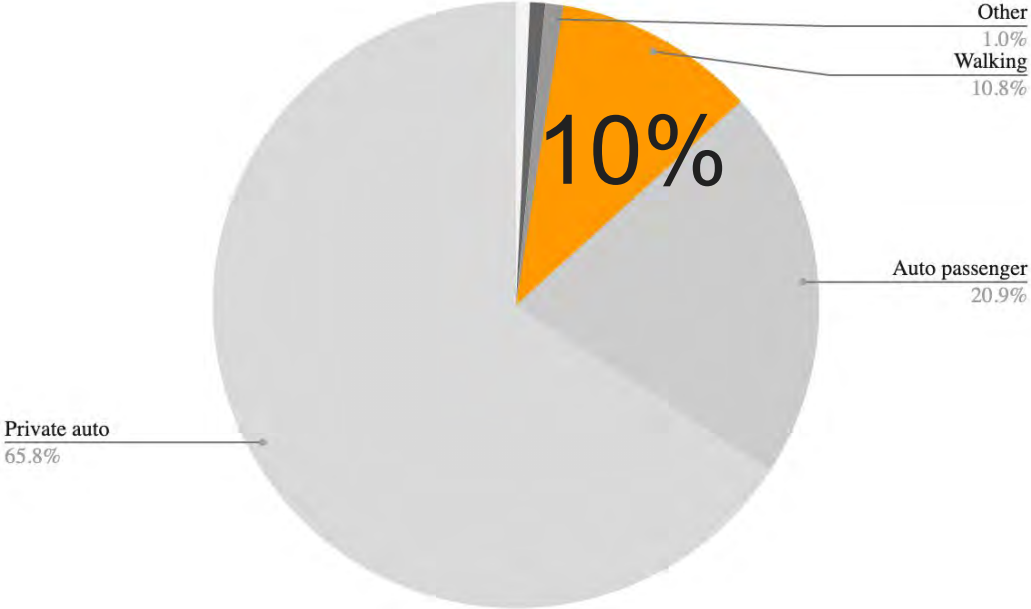
**<0.3%**

# VMT per resident is 10X higher in rural areas



Source: [Replica, 2023](#)

# But people walk



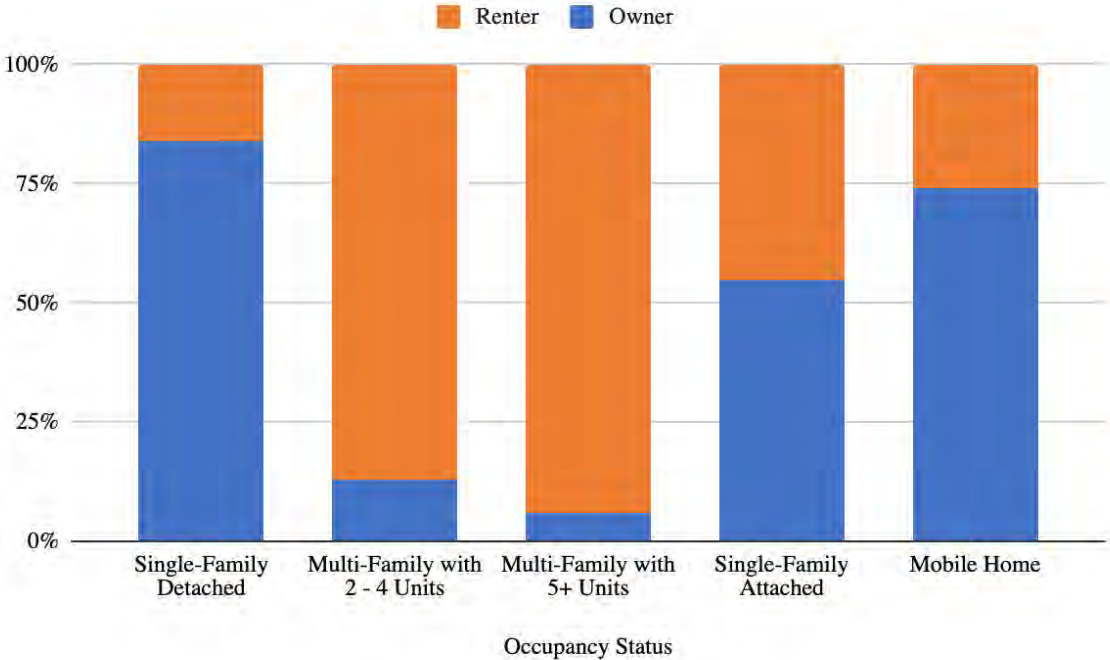
Residential VMT, Miami, Greene and Montgomery Counties, Thursday, Spring, 2023

Source: [Replica, 2023](#)

# Buildings

SSG

# Most apartments are rented

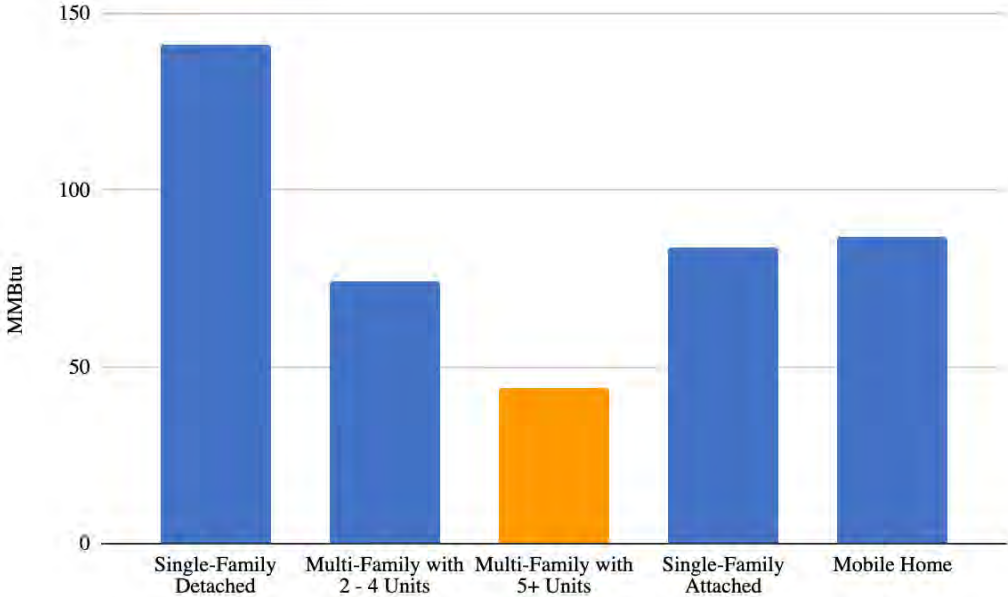


Residential Building Stock in Ohio

Source: [NREL, 2023](#)



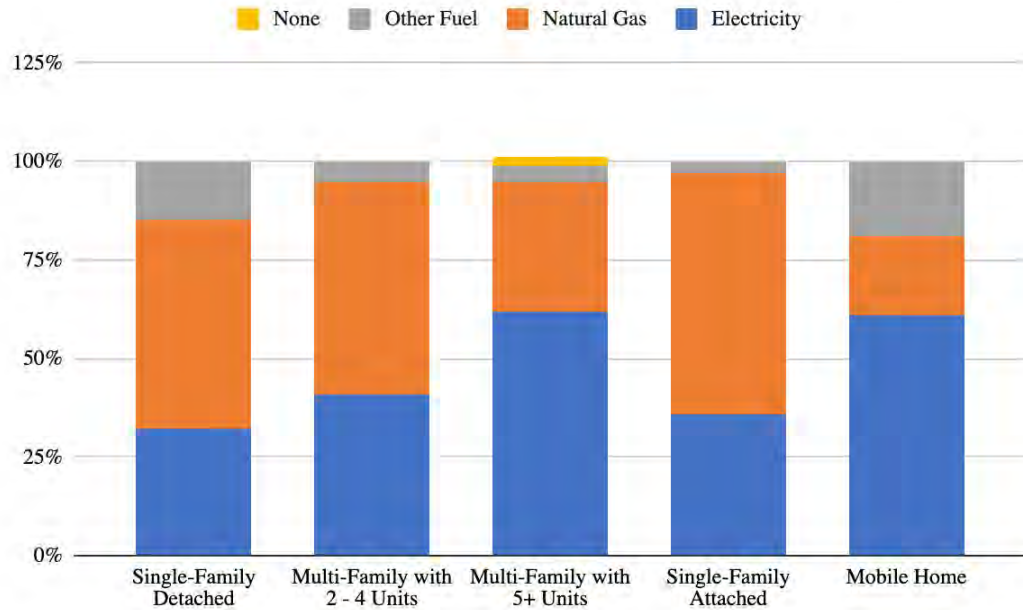
# Apartments use <50% of the energy of a single



Residential Building Stock in Ohio

Source: [NREL, 2023](#)

# Many homes are heated with electricity

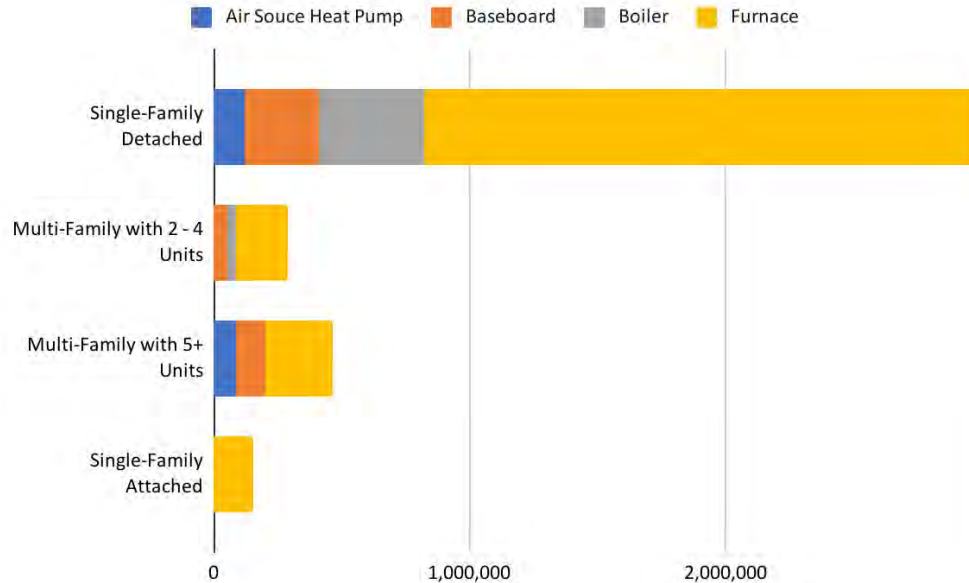


Residential Building Stock in Ohio

Source: [NREL, 2023](#)

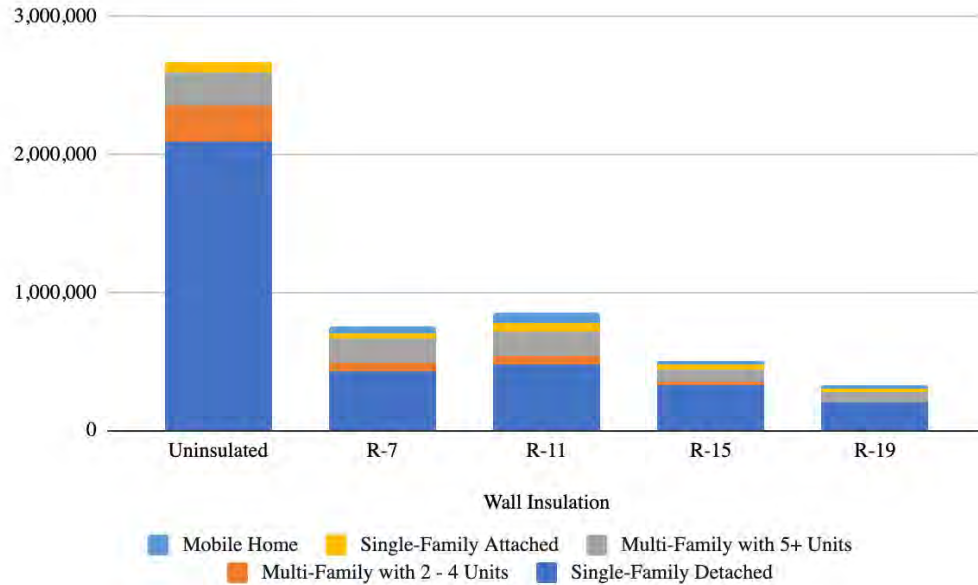
In the United States, air-to-air heat pump sales grew by around 11% in 2022, overtaking gas furnace sales after years of almost equal growth.

# The heat pump share is low



Residential Building Stock in Ohio

# Most homes are not insulated



Residential Building Stock in Ohio

Source: [NREL, 2023](#)

# Key Opportunities

SSG

# Big opportunities

1. EV adoption is slow
2. Homes are not insulated
3. Heat pump penetration is low
4. Electricity is carbon-intensive
5. People drive a lot