



Southeast Michigan Healthy Climate Plan

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Southeast Michigan Council of Governments

2024 Fall Joint Conference:
Air and Waste Management Association &
State Bar of Michigan Environmental Law Section
November 8, 2024

Agenda



- I. Climate Pollution Reduction Grants
- II. GHG Emissions Inventory
- III. Priority Planning
- IV. Comprehensive Planning
- V. Conclusion & Next Steps



SEMCOG Vision

All people in Southeast Michigan benefit from a connected, thriving region of small towns, dynamic urban centers, active waterfronts, diverse neighborhoods, premier educational institutions, and abundant agricultural, recreational, and natural areas.



- Metropolitan Planning Organization
- Council of Governments
- Designated Water Quality Management Agency
- Designated Air Quality Management Agency
- Economic Development District



Regional Planning Partnership

Providing technical assistance on:

- Transportation
- Environment (Air, Water, Solid Waste)
- Infrastructure
- Economic Development
- Bicycle and Pedestrian
- Parks and Recreation

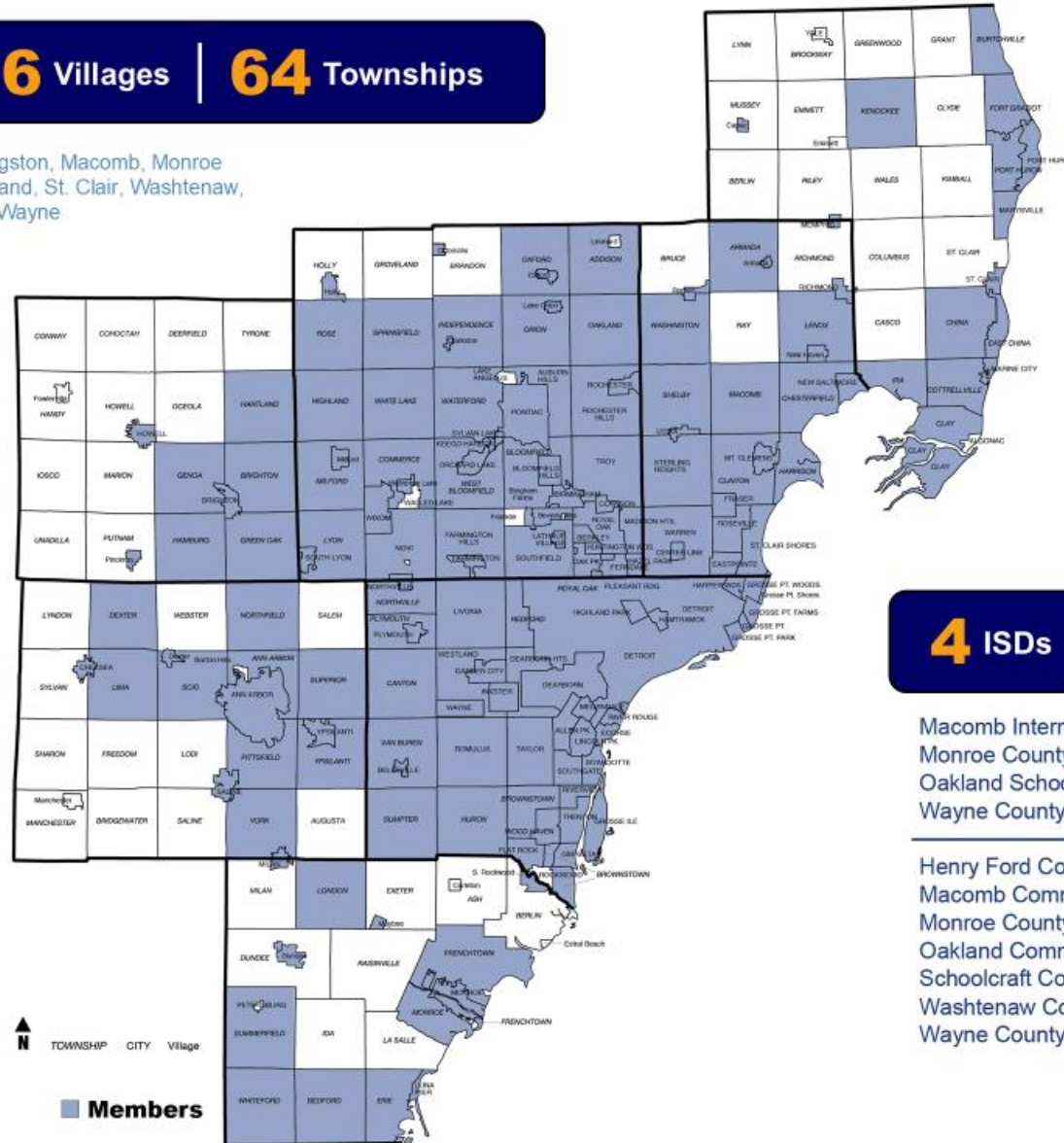
184
Total

SEMCOG Members

86 Cities | 16 Villages | 64 Townships

7 Counties

Livingston, Macomb, Monroe
Oakland, St. Clair, Washtenaw,
and Wayne



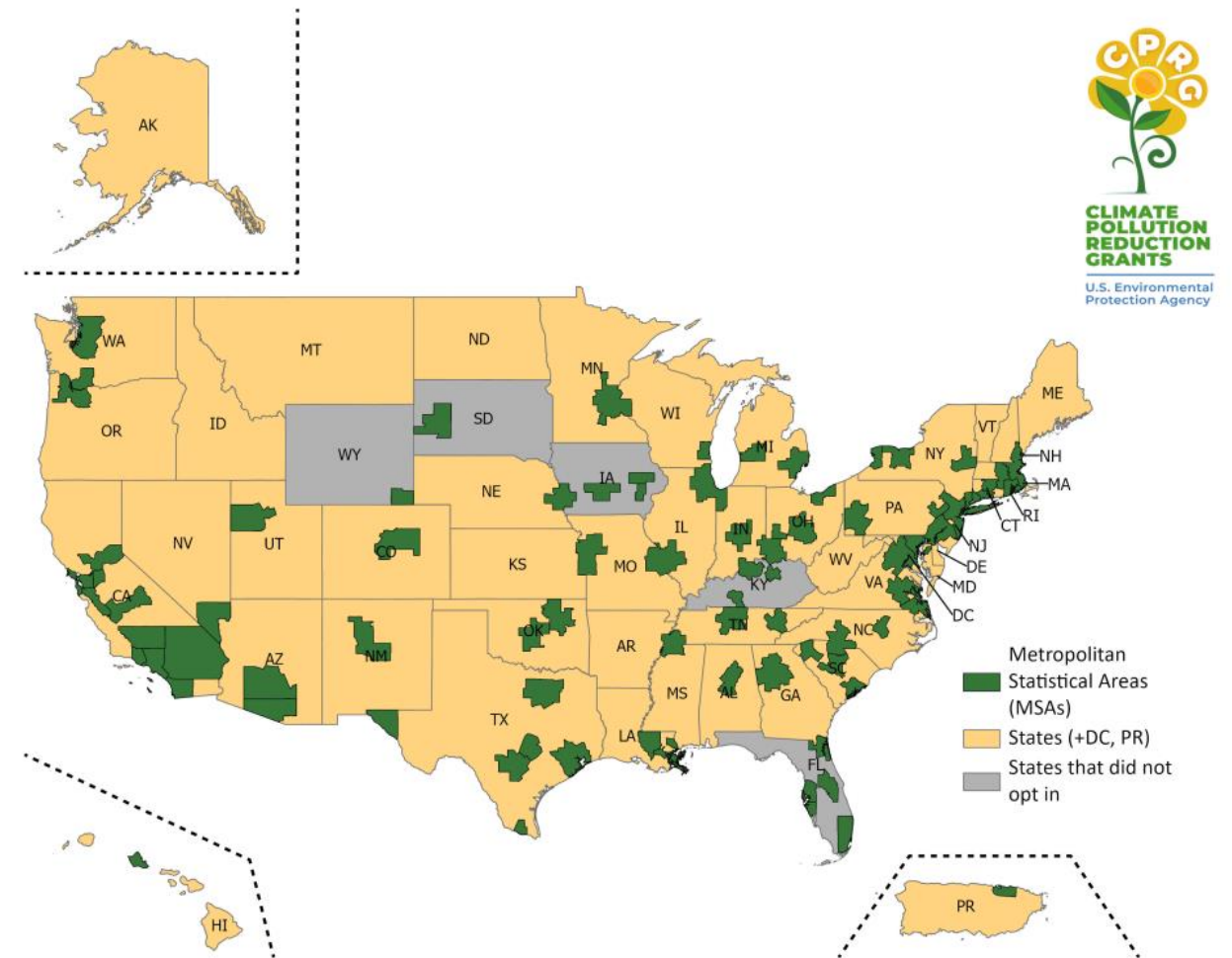
4 ISDs | 7 Community

Macomb Intermediate School District
Monroe County Intermediate School District
Oakland Schools
Wayne County Regional Educational Service Agency

Henry Ford Community College
Macomb Community College
Monroe County Community College
Oakland Community College
Schoolcraft College
Washtenaw Community College
Wayne County Community College District

Climate Pollution Reduction Grants

- **Reduce climate pollution** from GHG emissions.
- Identify **implementation-ready** measures to reduce emissions by 2030 (Priority Plan).
- Identify **near- and long-term** solutions to reduce emissions by 2050 (Comprehensive Plan).
- **Connect and uplift** existing plans, programs and policies.



Southeast Michigan Healthy Climate Plan

SEMCOG Healthy Climate Task Force



Sheila Tomkowiak
Mayor
City of Grosse Pointe



Coleman A. Young II
Councilmember At Large
City of Detroit

Sources of Greenhouse Gas Emissions



Transportation and mobile source emissions include on-road passenger and freight motor vehicle travel, public transportation, freight and passenger rail, off-road vehicles and equipment, waterborne shipping in and out of ports.



Industrial Processes produce emissions related to physical and chemical transformations of raw materials and fugitive emissions that occur through natural gas leakage and oil production wells.



Stationary energy is the use of electricity, natural gas and non-utility fuels in residential, commercial, and industrial buildings, including furnaces, generators, or other stationary combustion equipment.

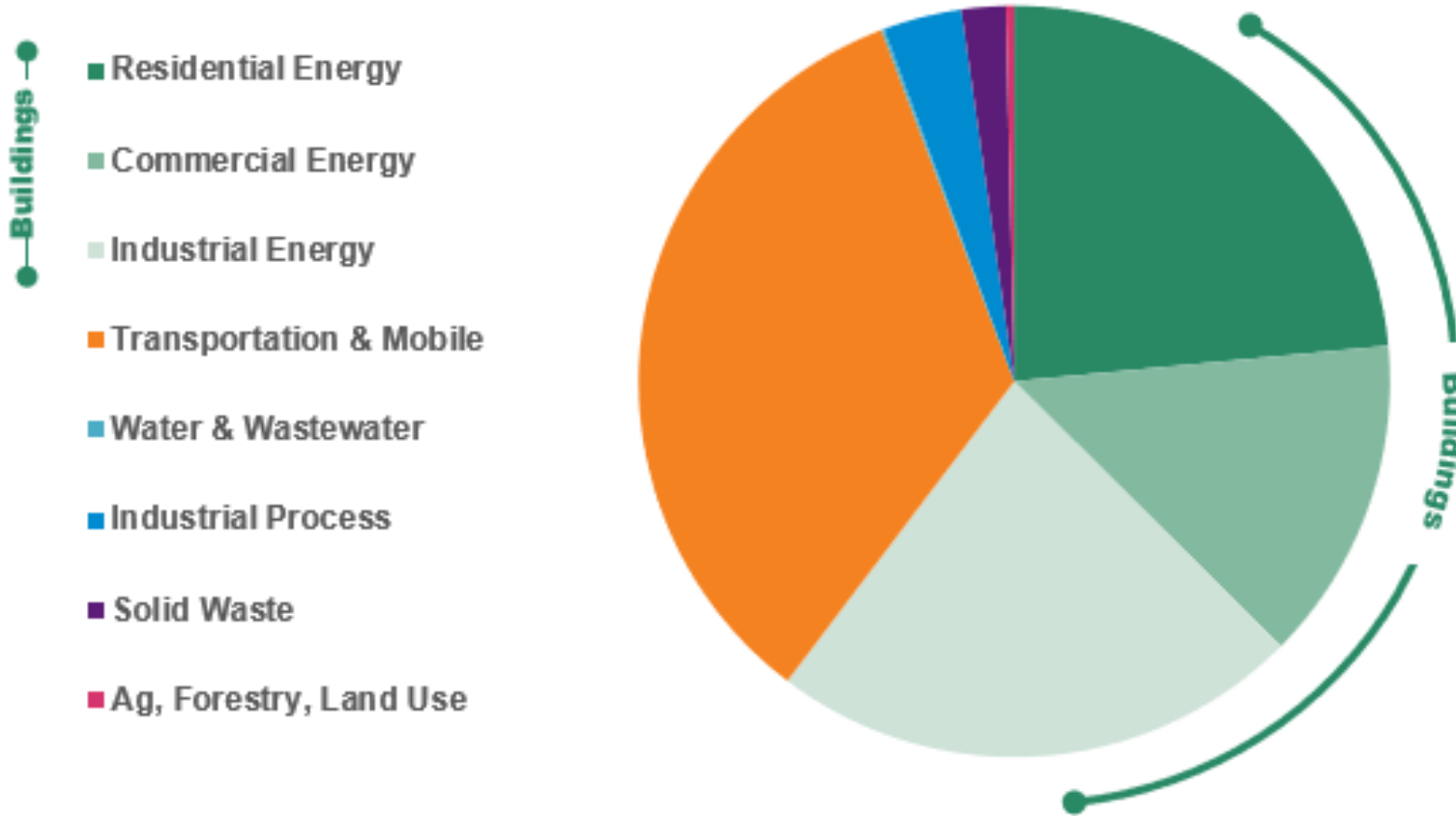


Solid Waste and Water Treatment involves emissions from solid waste disposal through composting or landfills and water/wastewater treatment processes.



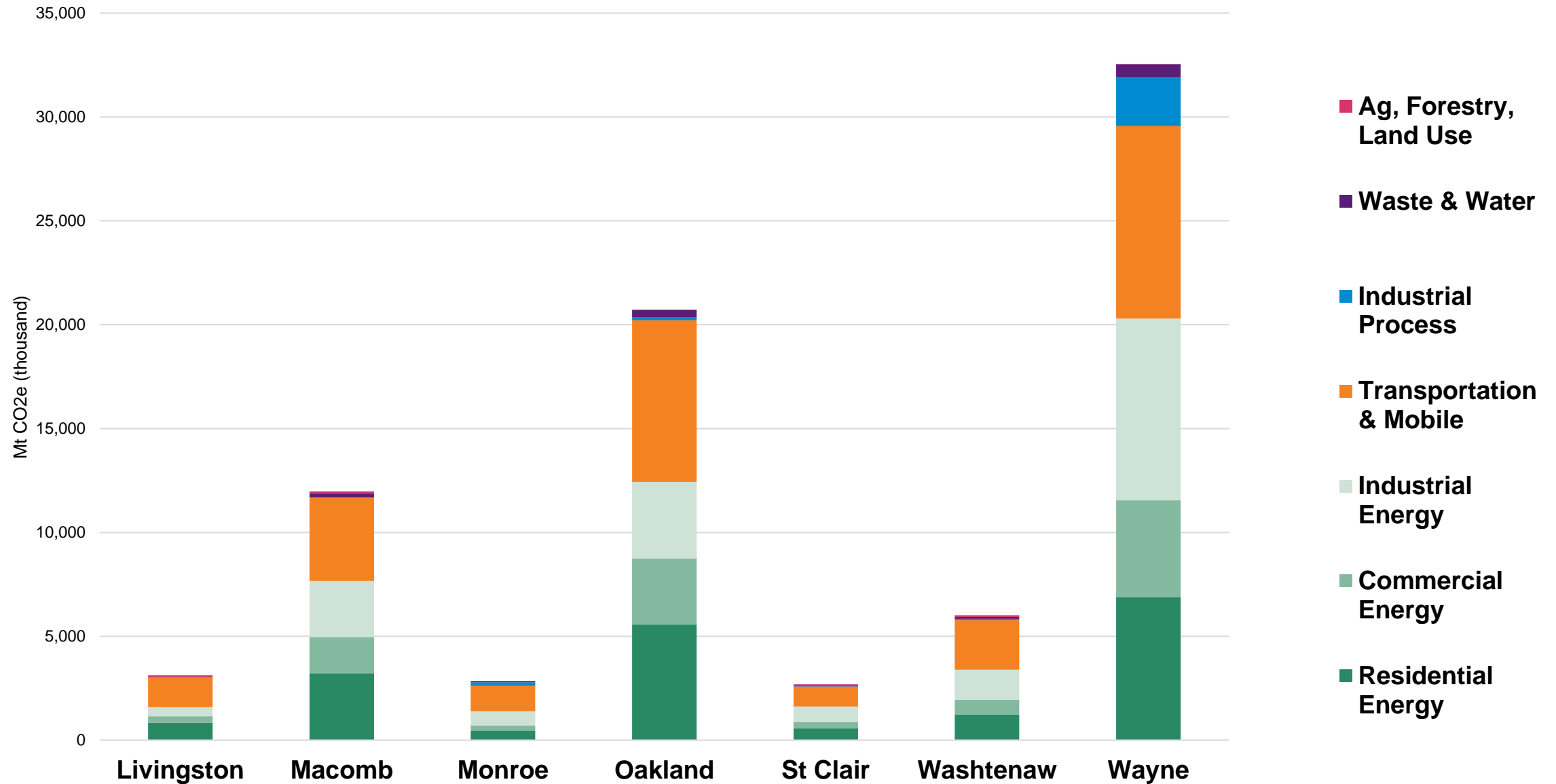
Agriculture, Forestry, and Land Use involve emissions as well as carbon sequestration from forests, crops, and other vegetation as well as livestock and manure management.

GHG Emissions Inventory

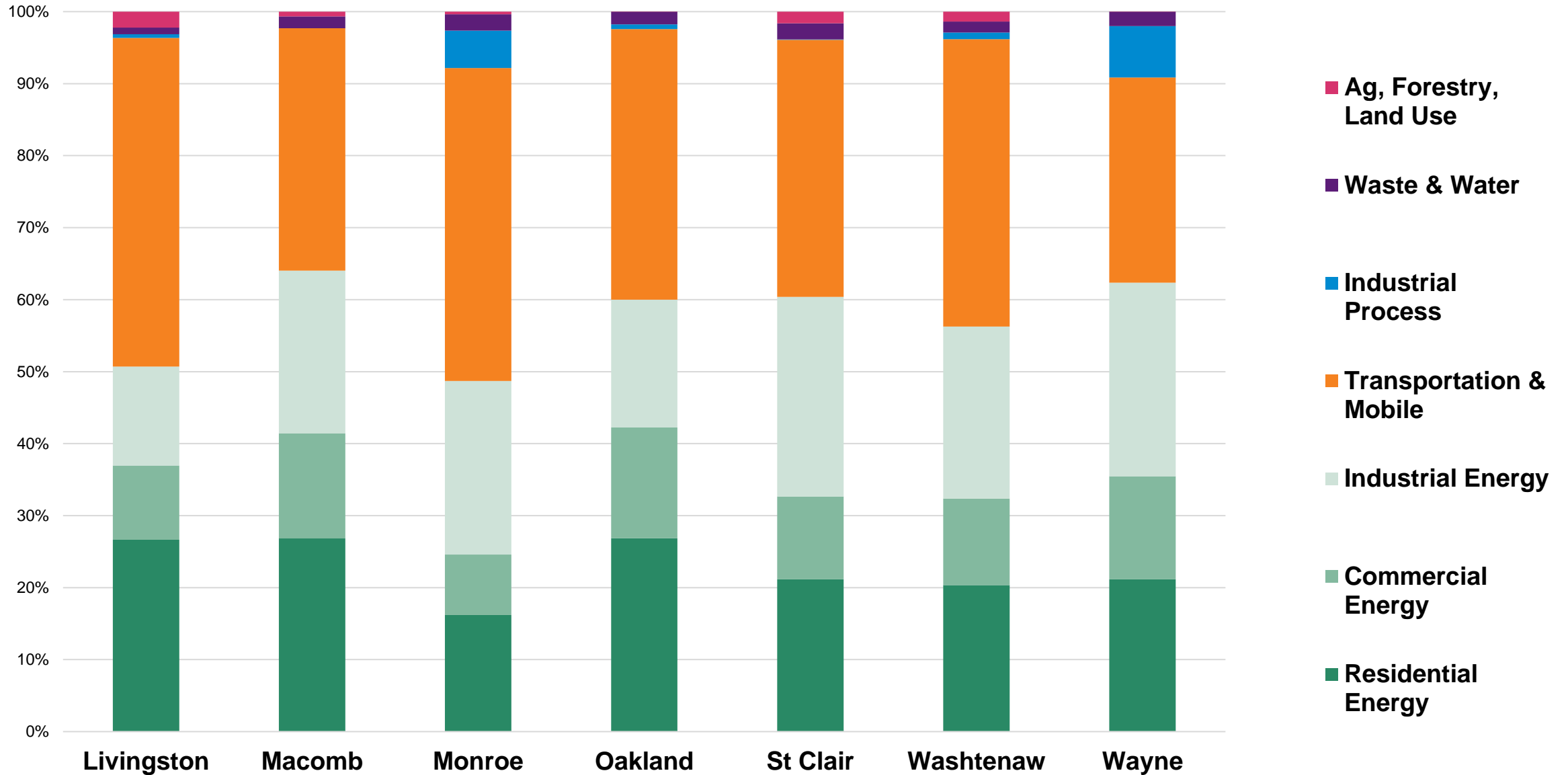


Largest Sectors –
Energy use in buildings (*residential, commercial, and industrial*)
Transportation

GHG Emissions by County – total

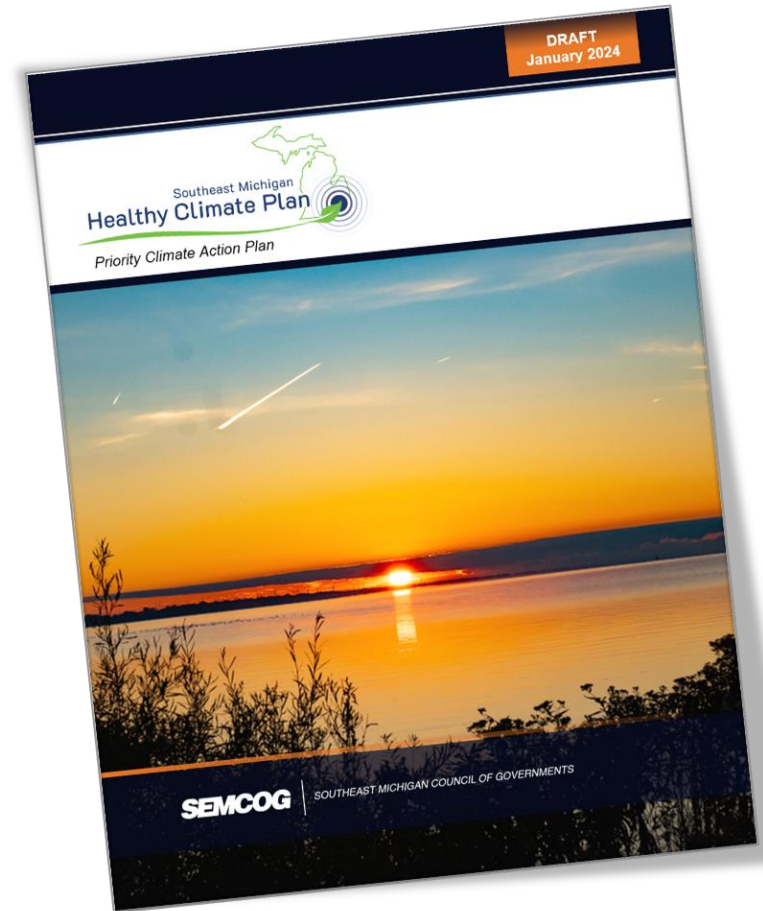


GHG Emissions by County - % of total



Regional Priority Measures

- **5 broad measures** to reduce climate pollution
 - Specific **goals** and project types
 - GHG **emissions** reduced
 - Equity and **environmental justice** impacts
 - **Workforce** development impacts
 - Other environmental, economic, or community **benefits**
 - **Implementation** entities

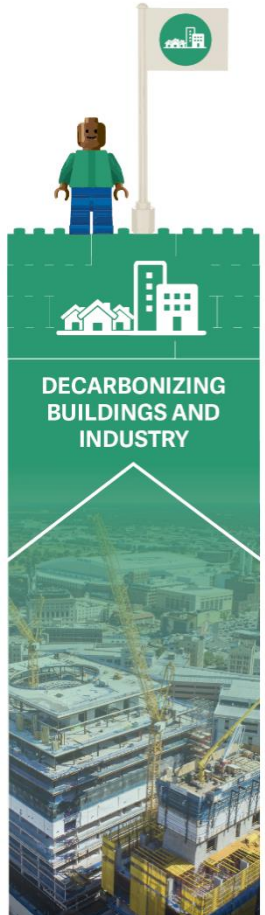


The Building Blocks of a Brighter Future



REGIONAL PRIORITY MEASURE:

Decarbonizing Buildings and Industry



Goals:

- Decarbonize **households** with approximately 80% focus on households in equity and environmental justice areas.
- Decarbonize the **municipal** portfolio of buildings and facilities.
- Decarbonize small to medium **commercial and industrial** buildings.

REGIONAL PRIORITY MEASURE:

Modernizing Mobility Systems

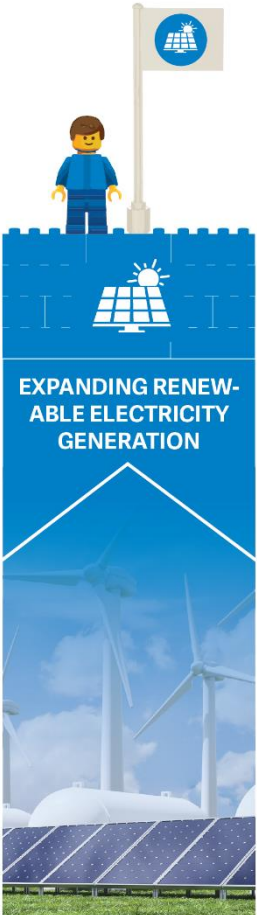


Goals:

- Shift rapidly to **emissions-free fleet vehicles**, in cooperation with local industry.
- Reduce emissions by increasing use of **public transit systems** and upgraded infrastructure.
- Avoid emissions by shifting to more **active transportation** modes.

REGIONAL PRIORITY MEASURE:

Expanding Renewable Electricity Generation



Goals:

- Increase installations of solar, wind, geothermal, combined heat and power, and other **renewable energy** generation and storage systems.
- Reduce costs by making **bulk purchases** or combining program administration.

REGIONAL PRIORITY MEASURE:

Managing Waste Materials Sustainably

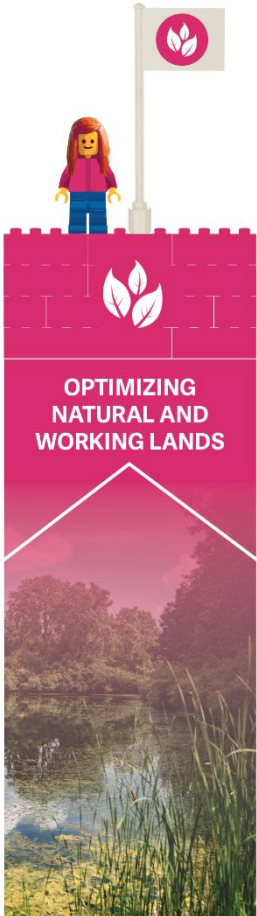


Goals:

- Divert food and **food waste** into meals and compost.
- Eliminate emissions from **wastewater processing** through anaerobic digestion.
- Significantly increase or improve **composting collection**.
- Replace **vehicles** used for transportation of organic waste.

REGIONAL PRIORITY MEASURE:

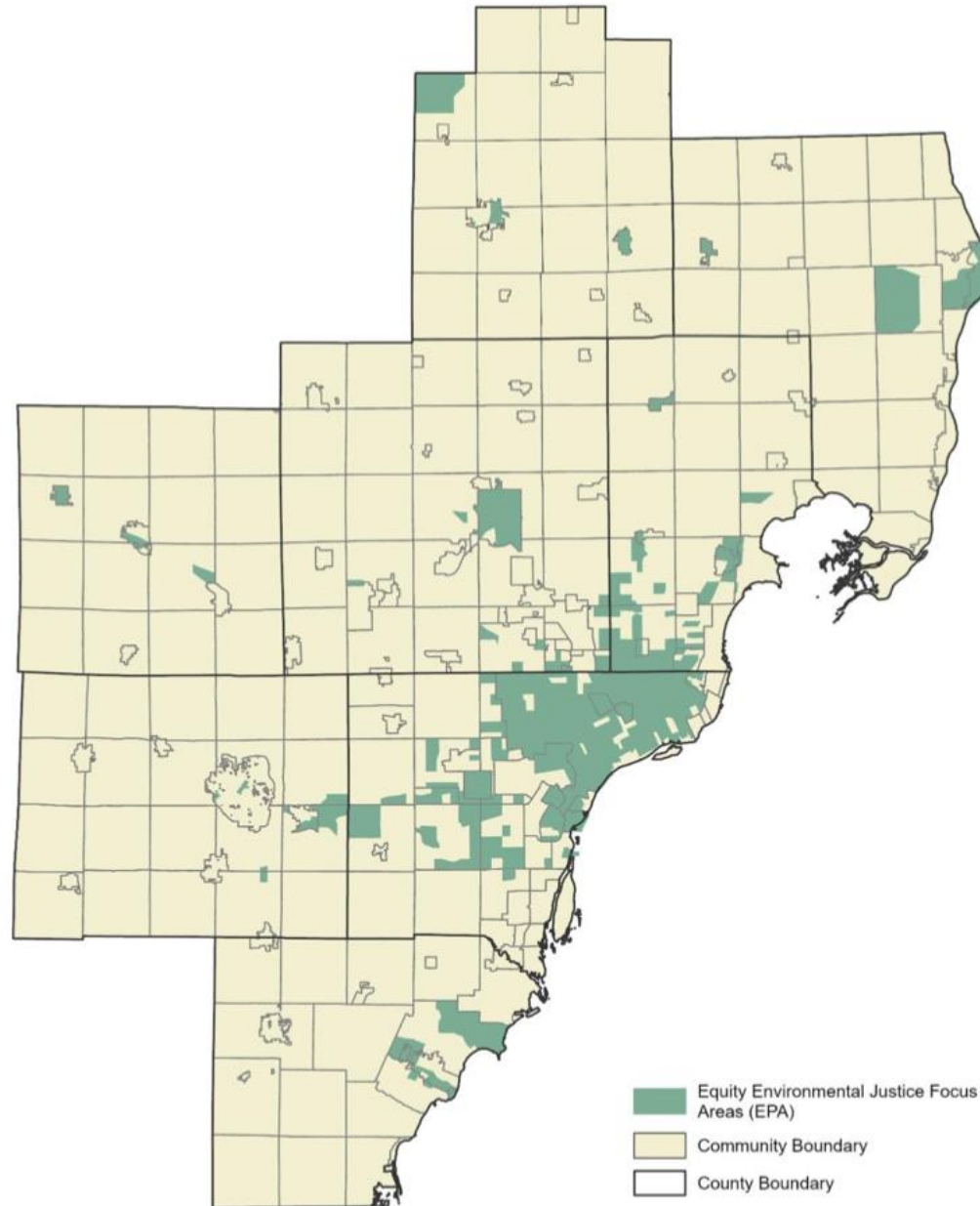
Optimizing Natural and Working Lands



Goals:

- Increase the coverage and health of trees, wetlands, and other **vegetation**.
- Build and maintain green **stormwater infrastructure** like bioswales, rain gardens, and green roofs.
- Enhance **climate-smart agricultural** practices.

Understanding Equity and Environmental Justice

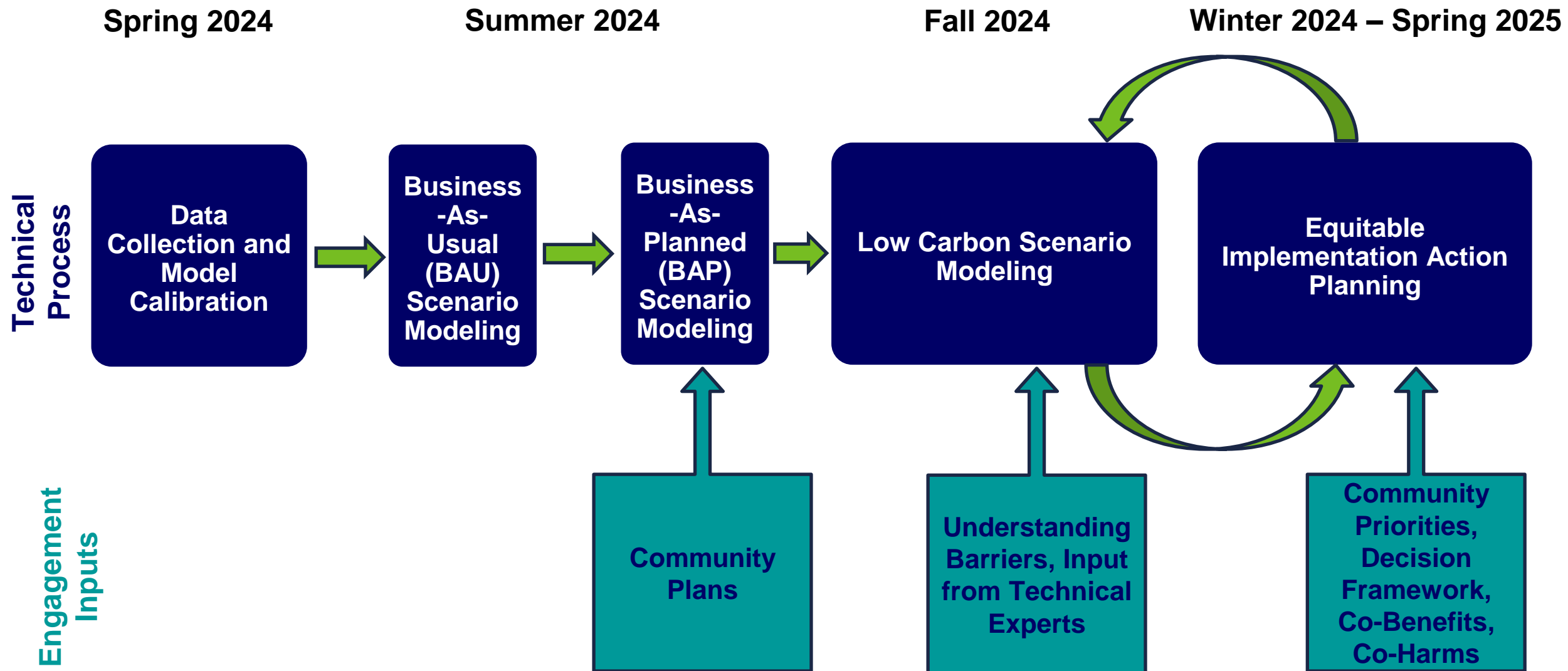


- Climate and Economic Justice Screening Tool
 - Nearly 500 census tracts
 - ~1.4 million people

Priority vs. Comprehensive Measures

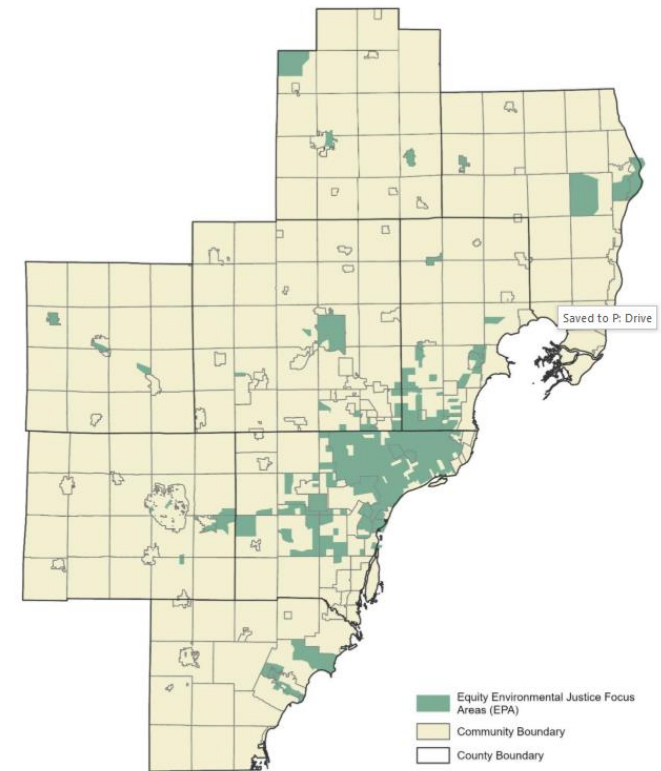
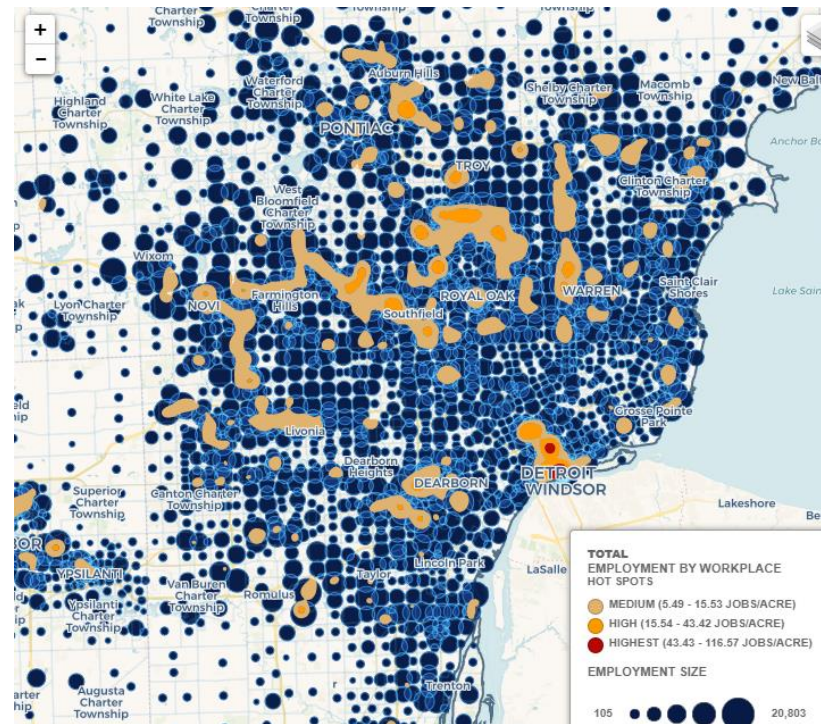
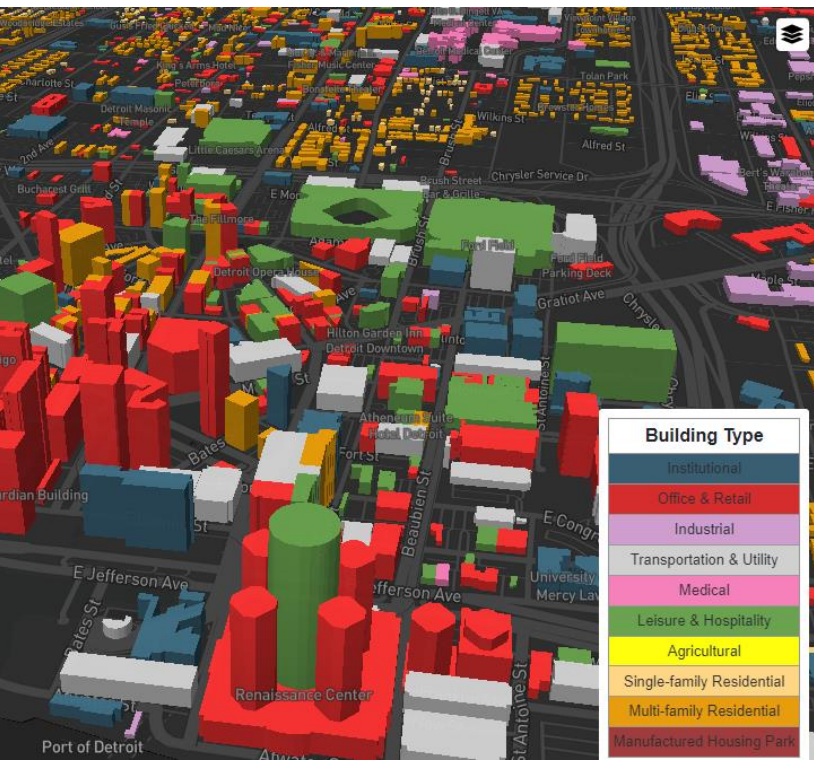
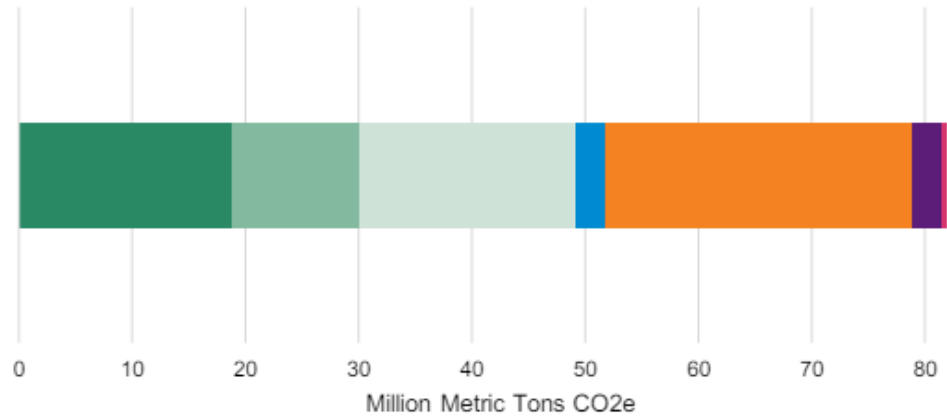
Priority Plan	Comprehensive Plan
<p>Addresses high-priority emissions sectors</p>	<p>Addresses all GHG sources/ sinks and sectors in the region</p>
<p>Identifies implementation-ready projects</p>	<p>Establishes near and long-term goals for reducing emissions</p>
<p>Quantifies near-term impacts (by 2030)</p>	<p>Quantifies impacts from projects and policies to achieve those goals</p>
<p><i>“Reducing the most GHG pollution as quickly as possible”</i></p>	<p><i>“Identifying pathways to net-zero GHG emissions by 2050”</i></p>

Technical Modeling Approach



Data Collection and Model Calibration

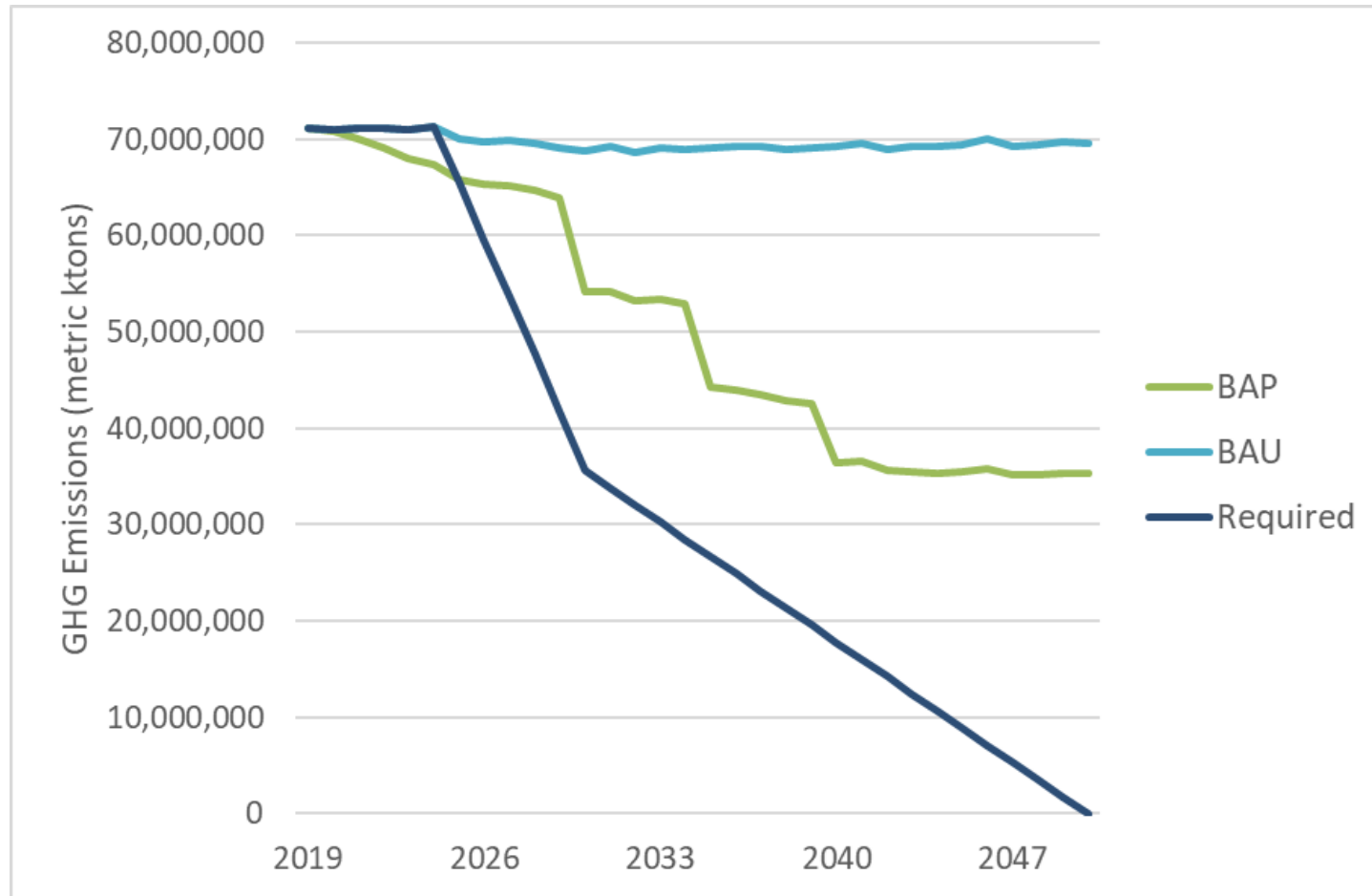
- Building new model using existing data available across all sectors
- Calibrated to GHGI



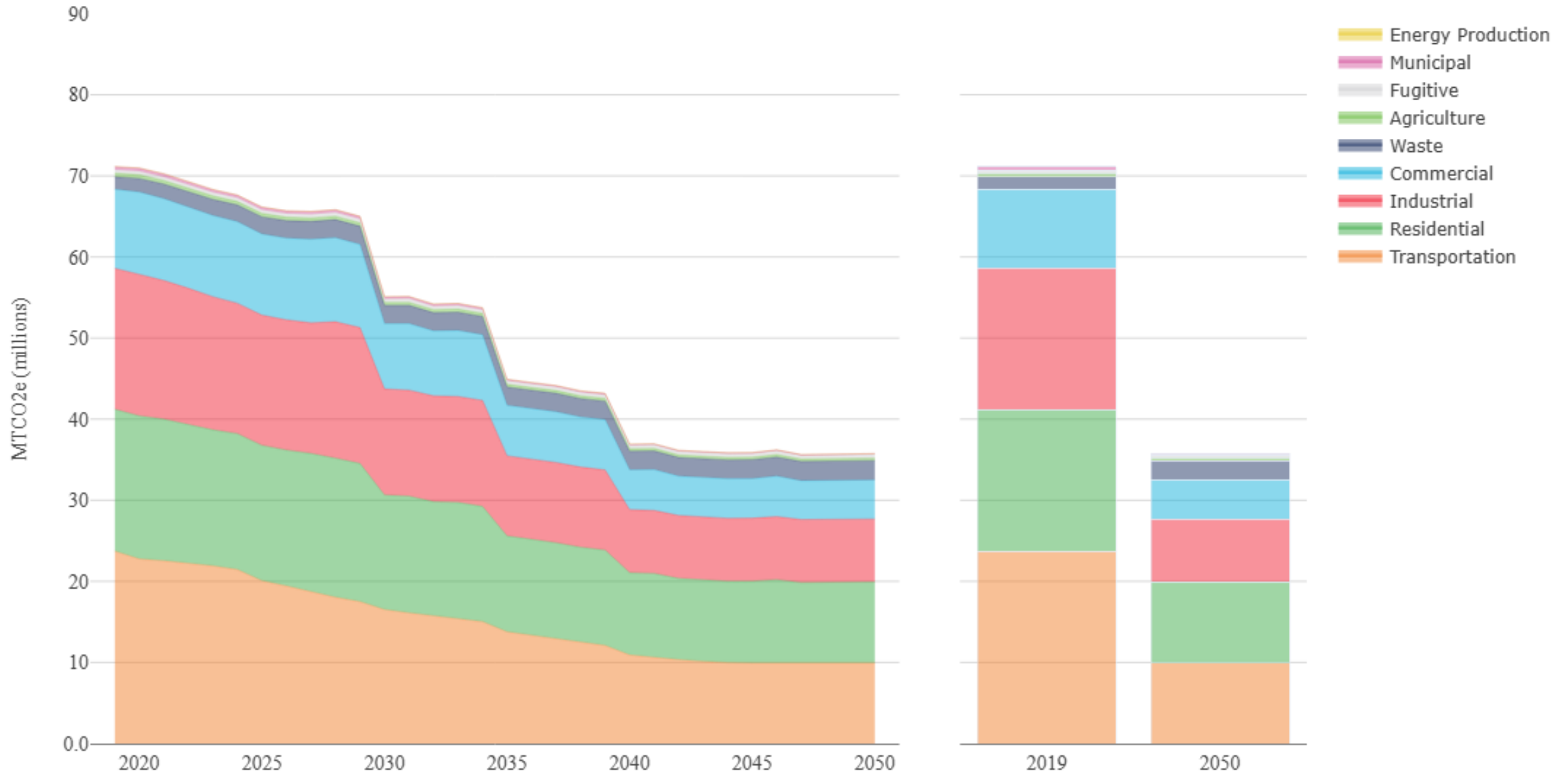
BAU vs BAP Scenarios to 2050

- **Business-As-Usual (BAU)**
 - Basically, includes population growth and continuing existing trends. This is relatively flat for Southeast Michigan.
 - Change is less than one percent
- **Business-As-Planned (BAP)**
 - BAP includes other approved and funded plans and regulations. Largest changes are driven by Michigan Clean Energy and Jobs Act and transition to EVs.
 - Change is ~50% decrease

Future Regional Emissions Scenarios



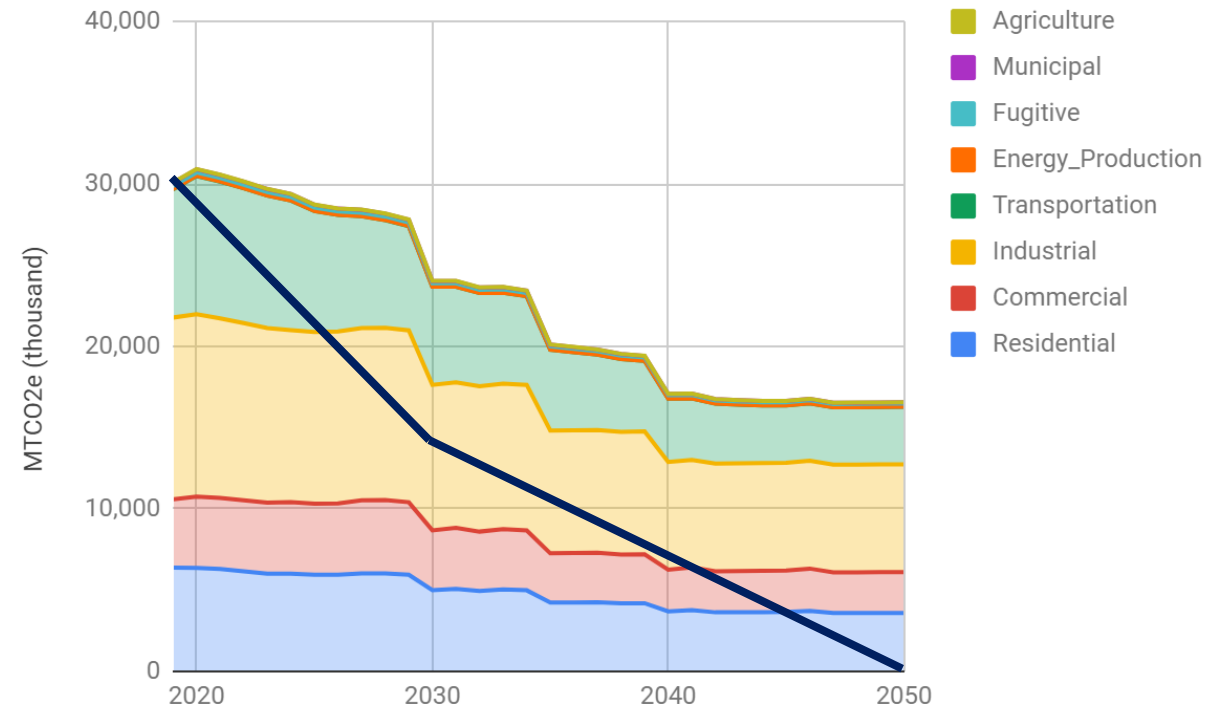
BAP by Sector



Next Steps: Low Carbon Scenario

- Consider largest levers for reduction rather than small measures
- Technical modeling exercise that doesn't consider implementation
- Develop actions for the sources in each county/community
- Model the actions, in the correct order, interacting over time

Wayne County – Net Zero by 2050



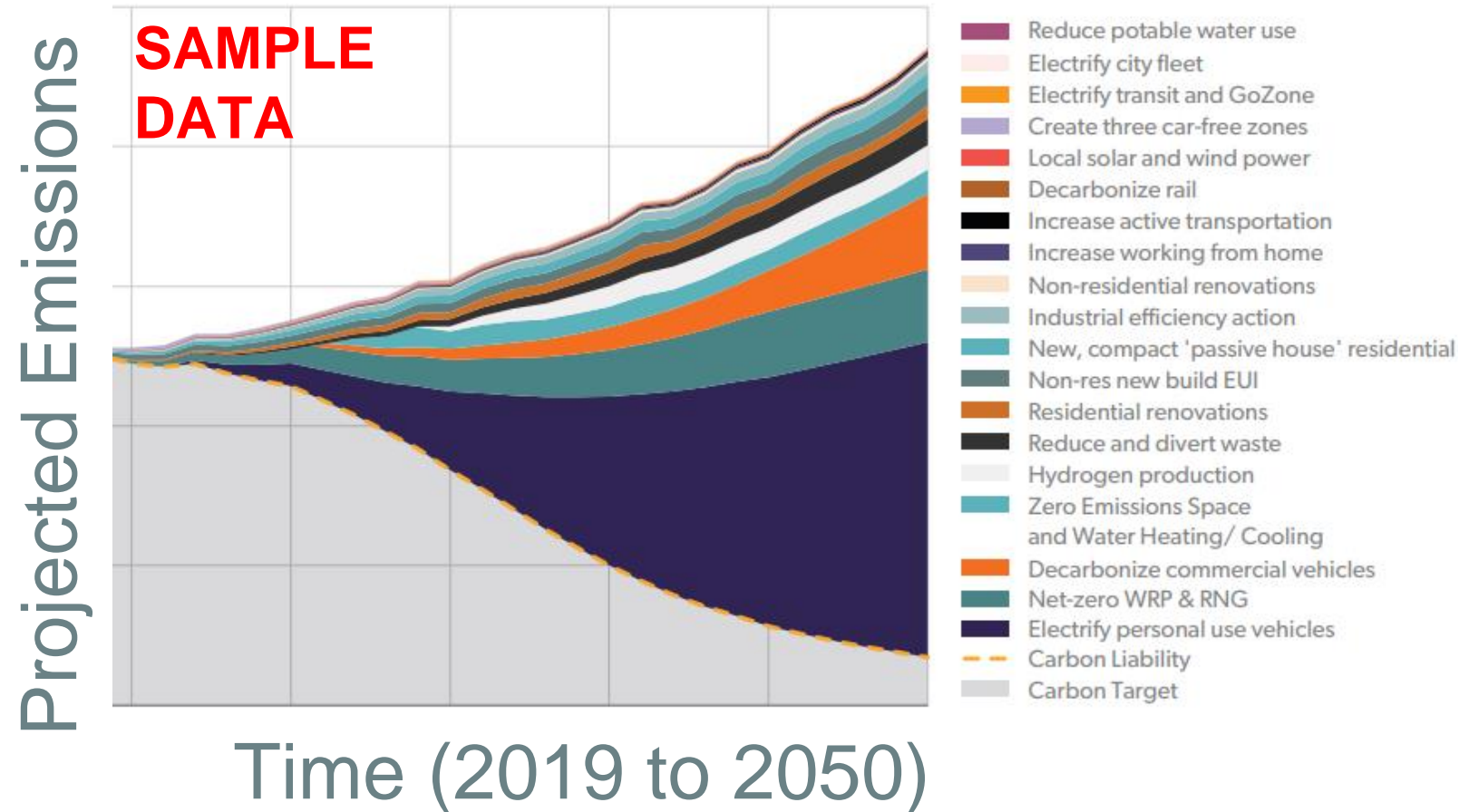
Quantifying Reduction and Air Quality Benefits

- Annual Reduction in Costs
- GHG Emissions Avoided through 2030 and 2050
- Cost per Unit Avoided Emissions (\$/MTCO₂e)
- Air Quality Emissions Reductions
 - VOCs, CO, NO_x, PM_{2.5}, SO₂
 - CO-Benefits Risk Assessment Health Impacts Screening and Mapping Tool (EPA-COBRA)



Implementation Planning

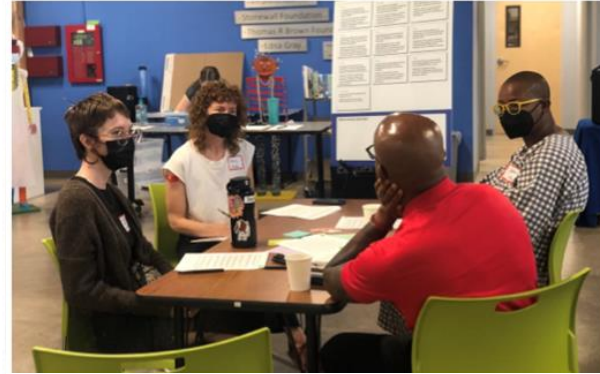
- Financial Analysis
- Workforce Planning
- Co-Benefits & Co-Pollutants
- Level of analysis is based on Low Carbon Scenario action – iterative
- As actions are modeled, the question becomes
 - How fast?
 - Where?
 - What are barriers?



Formats for Public Engagement



Ambassador Outreach



Equity Focus Groups



**Community Discussion Forum
(to be conducted online)**



**Ad Hoc Meetings with
Interest Groups**

+



Community Questionnaire

Healthy Climate Planning Website





Want to get involved?



www.gvmc.org/cprg

Email us anytime at:
CPRG@Keramida.com

Cara Decker
Director of Environmental Programs
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Thank you!

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Southeast Michigan
Healthy Climate Plan

