

# Comprehensive Climate Action Plan

Miami Valley Region

**Modelling approach and  
assumptions**

September 19th 2024



# Agenda

1. Updates on the Engagement Process
2. IRA incentive opportunities
3. Local decarbonization pathway for your community from our regional Comprehensive Climate Action Plan (CCAP)
4. Regional decarbonization scenarios/pathways for the CCAP

**Update**

Engagement

SSG

# Engagement Activities

- Events: Lebanese Festival, EcoFest
- Outreach: Hotcards for library branches, and other events
- Contents: Keeping up with Miami Valley CCAP, IRA incentives, educational and communication channels, inviting people to answer the survey
- Communication Guide aligned with the modelling work
- Survey/Questionnaire

# Survey Summary

## Preliminary Results(through 9-12-2024):

- Total Responses (through 9/12/2024): 26
  - 81% Residents
  - 12% Businesses
  - 4% Do not live in Miami Valley
  - 4% Work in Greene County, live in Franklin County
- Ages
  - 33% (Ages 35-44)
  - 24% (Ages 45-54)
  - 14% (Ages 65-74)
  - 10% (Ages 75-84)
  - 10% (Ages 55-64)
- Race or Ethnicity
  - 100% (White)

# Survey Summary

## What we heard

# IRA incentives

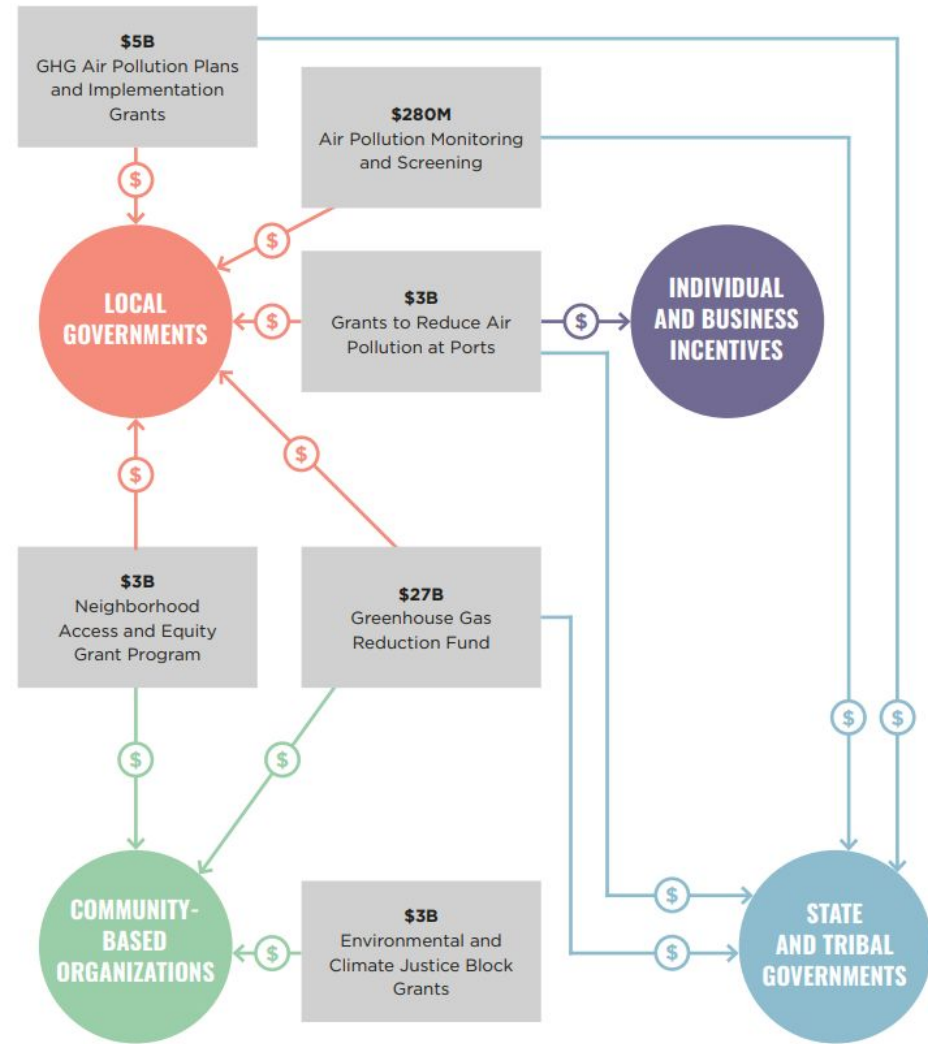
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# STRATEGIC ROLES FOR LOCAL GOVERNMENTS

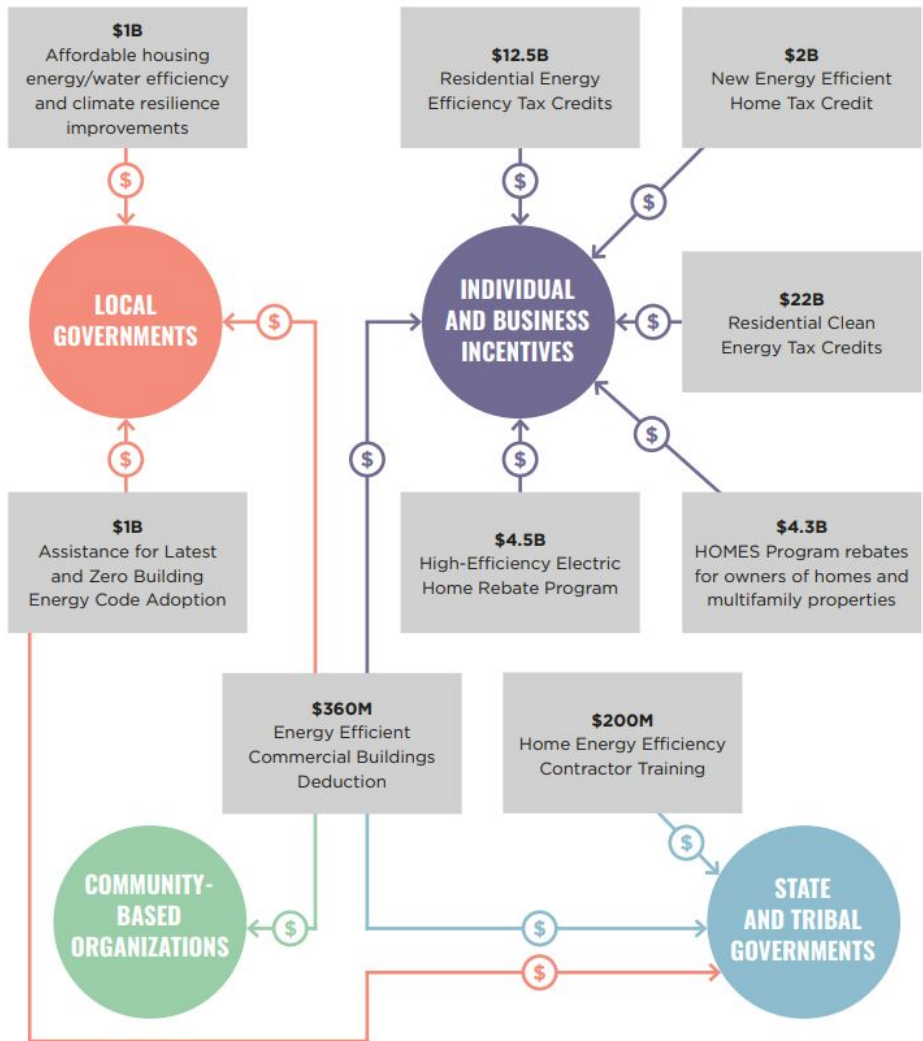
- 
- APPLY** for funding that is directly available to local governments.
  - PROTECT** against detrimental impacts of new or continuing fossil-fuel facilities.
  - SUPPORT & PARTNER** with frontline communities and community-based organizations to center their priorities and secure resources.
  - ASSIST** businesses and individuals to access new tax credits and higher incentives by fostering economic inclusion and workforce development.
  - STREAMLINE** permitting processes and train staff to remove obstacles to installation of renewable energy systems, vehicle charging infrastructure, and highly efficient equipment.
  - ENGAGE & COORDINATE** across jurisdictions regionally and with states, tribes, utilities, and ports.



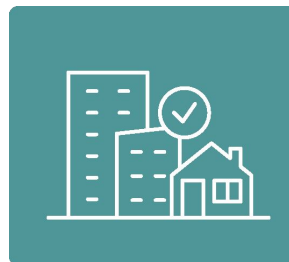
# AIR QUALITY & GREENHOUSE GAS REDUCTION



Source: C40, 2022. Climate Action and the Inflation Reduction Act: A Guide for Local Government Leaders.  
[https://www.c40knowledgehub.org/s/article/Climate-action-and-the-Inflation-Reduction-Act-A-guide-for-local-government-leaders?language=en\\_US](https://www.c40knowledgehub.org/s/article/Climate-action-and-the-Inflation-Reduction-Act-A-guide-for-local-government-leaders?language=en_US)

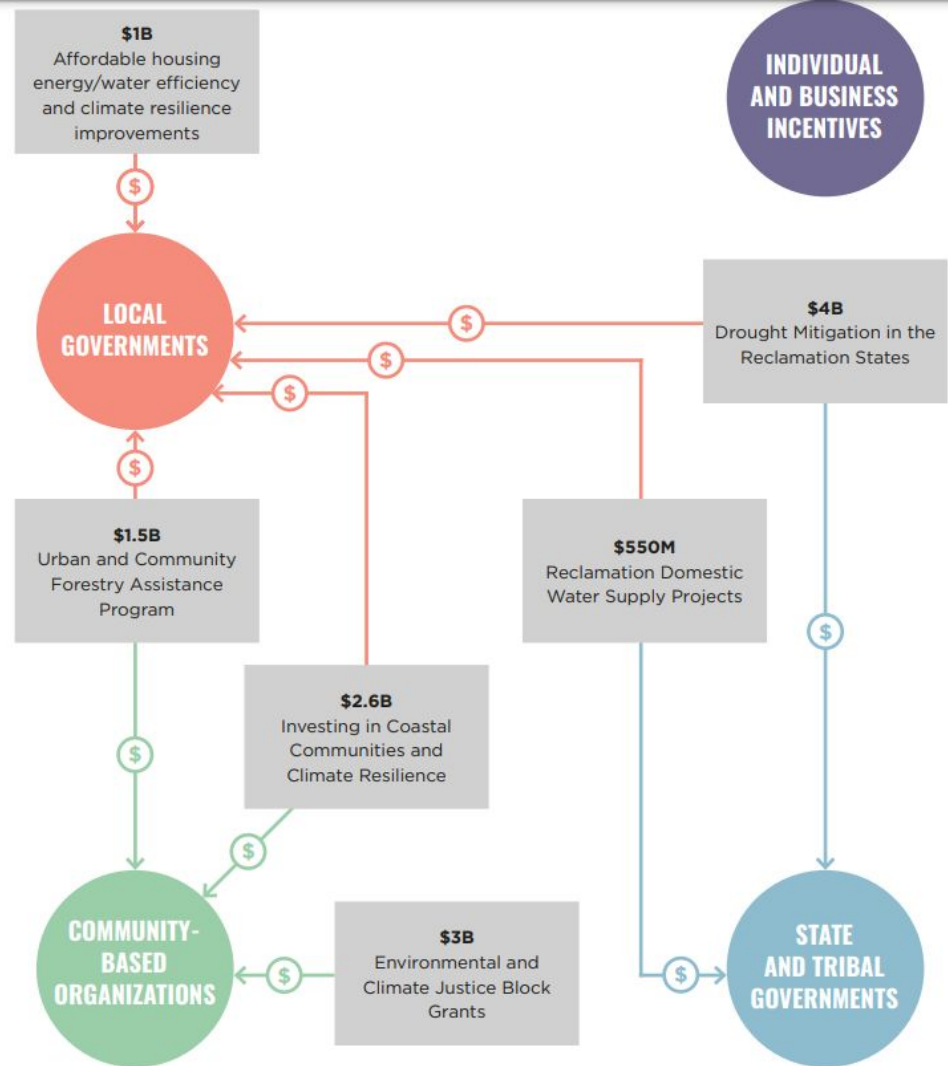


# HOUSING AND COMMERCIAL BUILDINGS

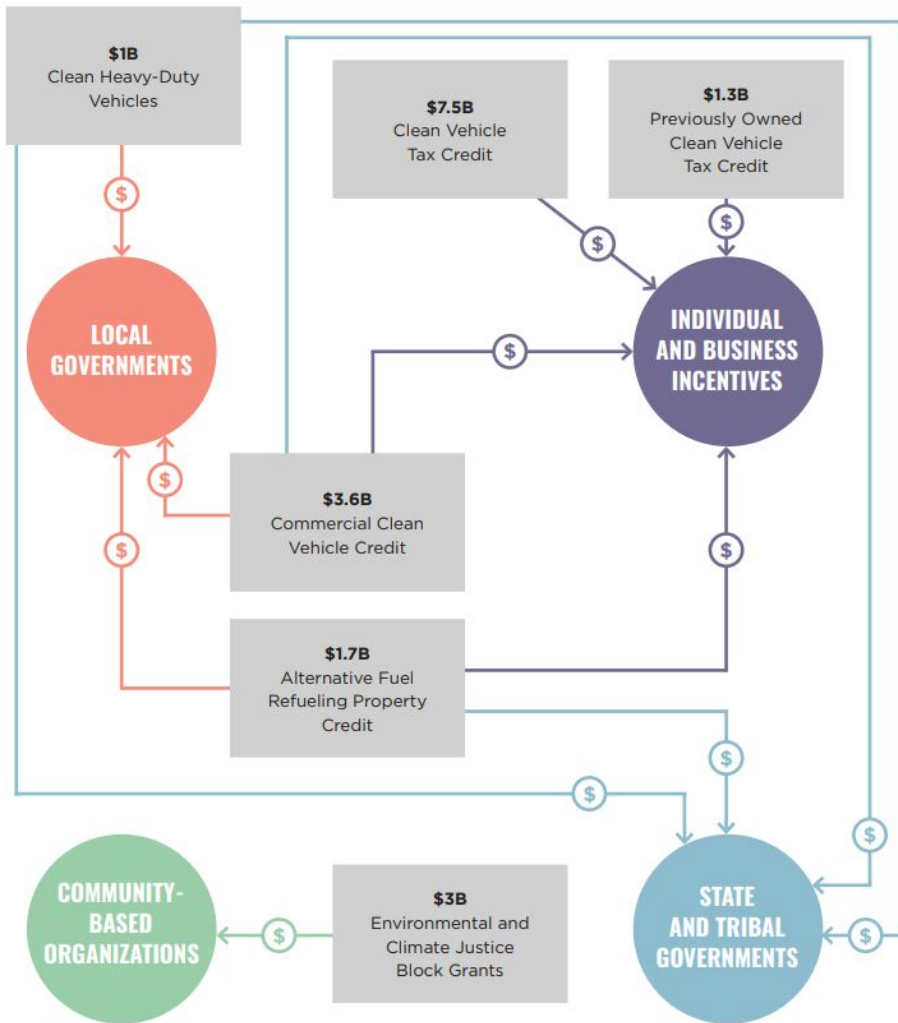


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# RESILIENCE



Source: C40, 2022. Climate Action and the Inflation Reduction Act: A Guide for Local Government Leaders.  
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# CLEAN VEHICLES

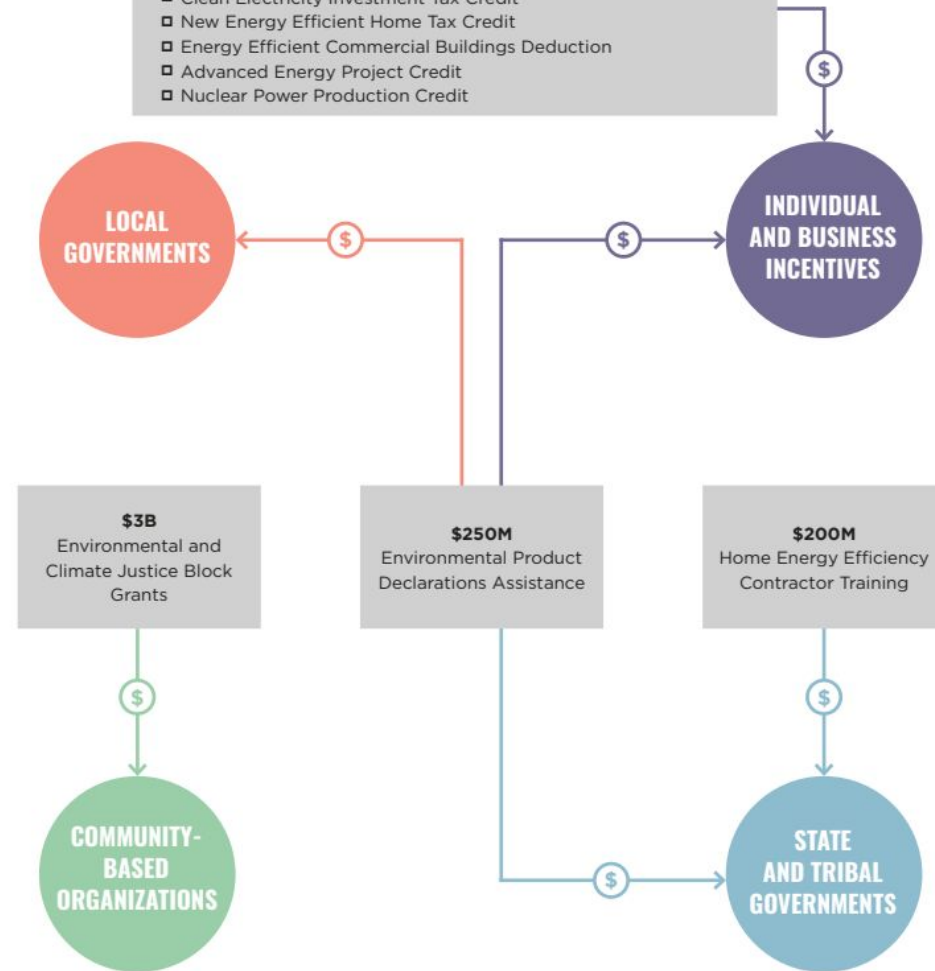


Source: C40, 2022. Climate Action and the Inflation Reduction Act: A Guide for Local Government Leaders. [https://www.c40knowledgehub.org/s/article/Climate-action-and-the-Inflation-Reduction-Act-A-guide-for-local-government-leaders?language=en\\_US](https://www.c40knowledgehub.org/s/article/Climate-action-and-the-Inflation-Reduction-Act-A-guide-for-local-government-leaders?language=en_US)

# WORKFORCE DEVELOPMENT

Incentives are increased five-fold if prevailing wage and apprenticeship requirements are met for various IRA provisions, including:

- ▣ Clean Electricity Production Tax Credit
- ▣ Clean Electricity Investment Tax Credit
- ▣ New Energy Efficient Home Tax Credit
- ▣ Energy Efficient Commercial Buildings Deduction
- ▣ Advanced Energy Project Credit
- ▣ Nuclear Power Production Credit



Source: C40, 2022. Climate Action and the Inflation Reduction Act: A Guide for Local Government Leaders.  
[https://www.c40knowledgehub.org/s/article/Climate-action-and-the-Inflation-Reduction-Act-A-guide-for-local-government-leaders?language=en\\_US](https://www.c40knowledgehub.org/s/article/Climate-action-and-the-Inflation-Reduction-Act-A-guide-for-local-government-leaders?language=en_US)

# CCAP

Local decarbonization pathways

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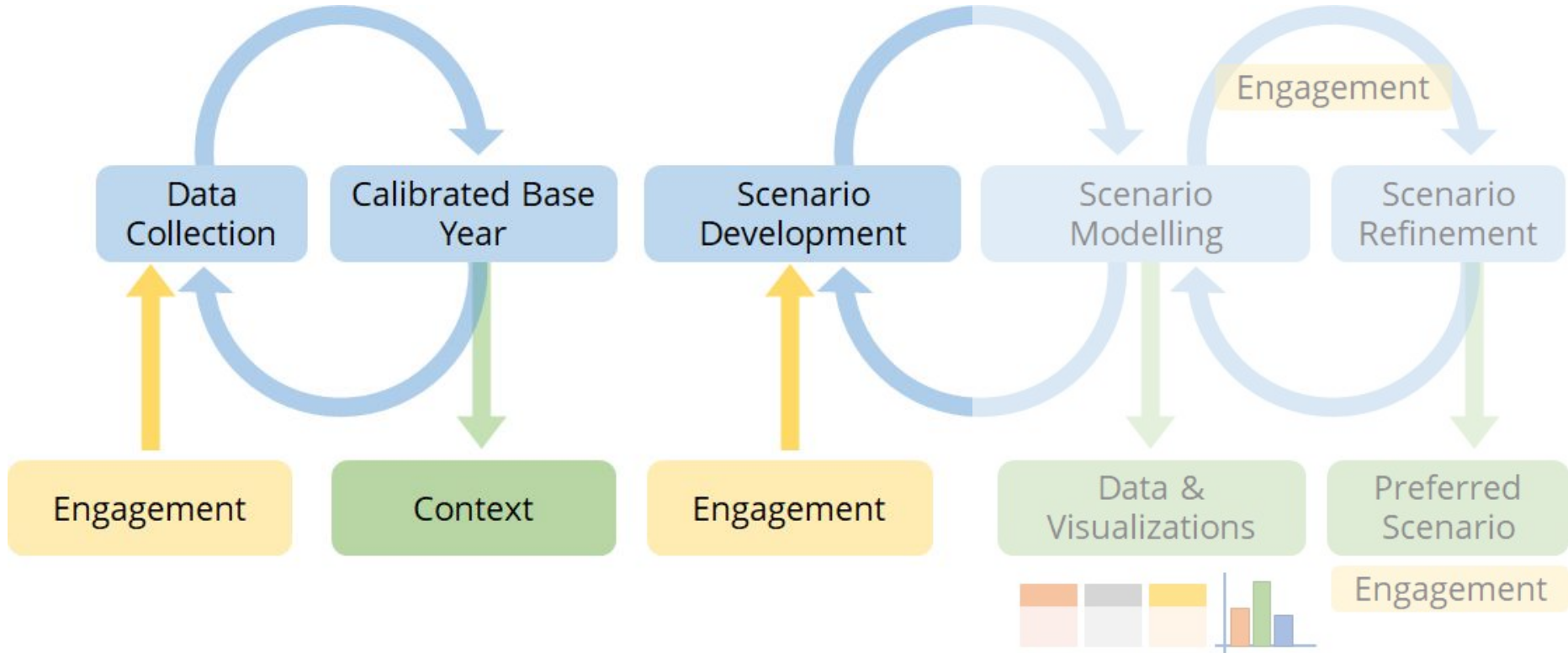
**Local decarbonization pathway for your  
community from our regional  
Comprehensive Climate Action Plan  
(CCAP)**

# Miami Valley Region CCAP

Regional decarbonization pathways



# Project overview



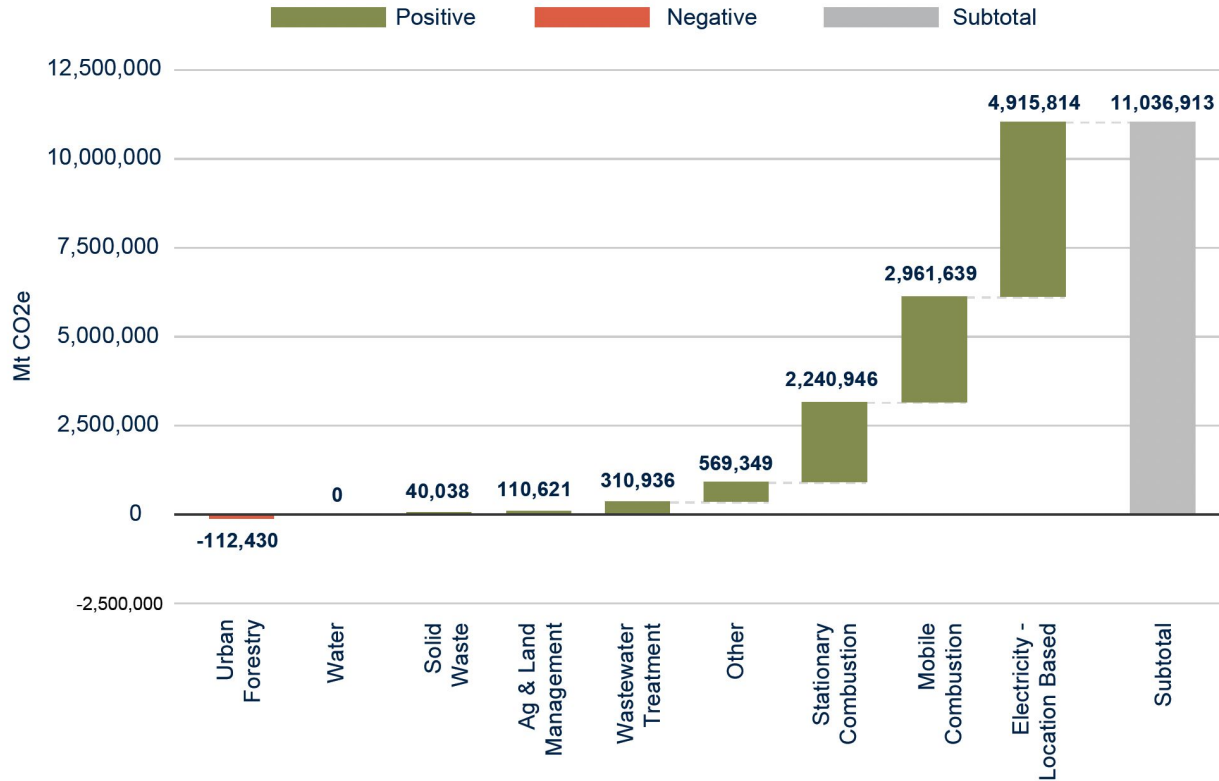
## Key Terms

**Low Carbon:** Energy that is generated using lower amounts of carbon emissions such as, wind and solar.

**Greenhouse Gas Emissions:** Carbon pollution primarily from burning fossil fuels such as coal, oil, and natural gas.

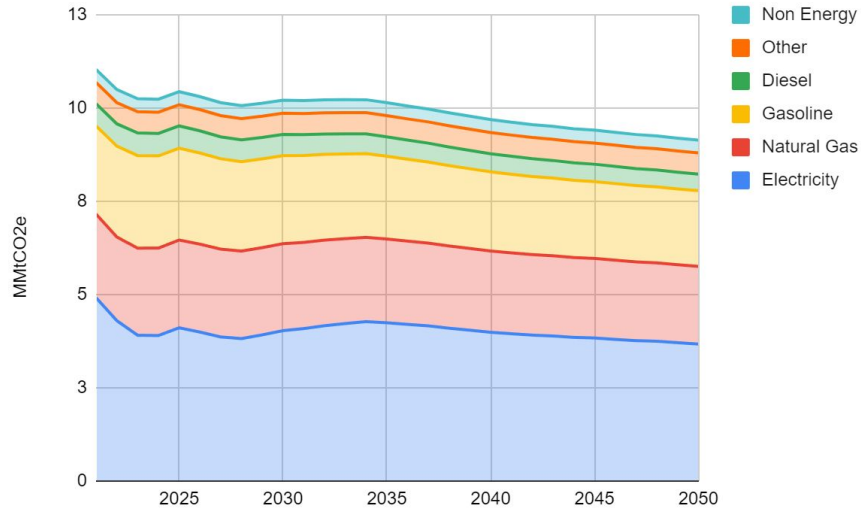
# MV Context

## Emissions by Subsector

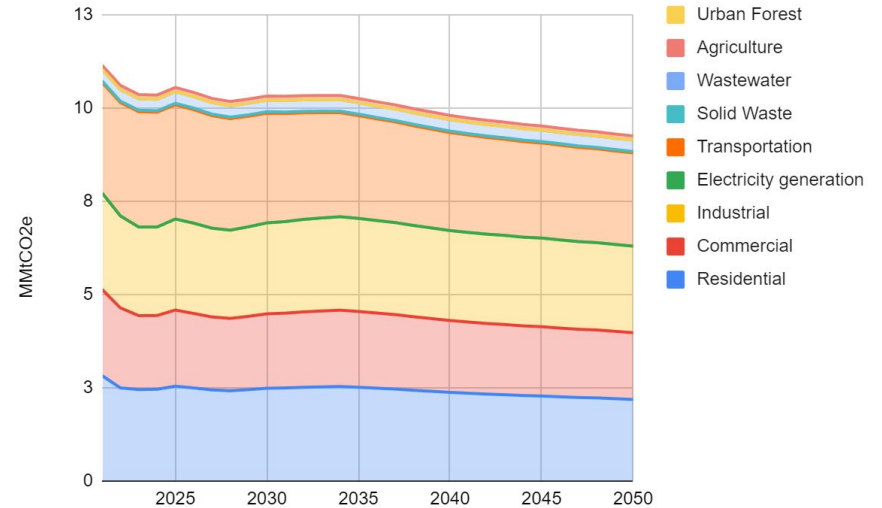


# Business as usual scenario

## Emissions by Fuel



## Emissions by Sector



# Developing a LC scenario

**Step 1:** Refine the base year (2021)

**Step 2:** **Business-as-Usual** (BAU) scenario

- 2022-2050
- No change in current policies and additional actions than the ones we have done already

**Step 3:** **Business-as-Planned** (BAP) scenario

- 2022-2050
- Current policies and plans *implemented*

**Step 4:** **Low-Carbon** scenarios

- How to achieve our GHG emissions goals

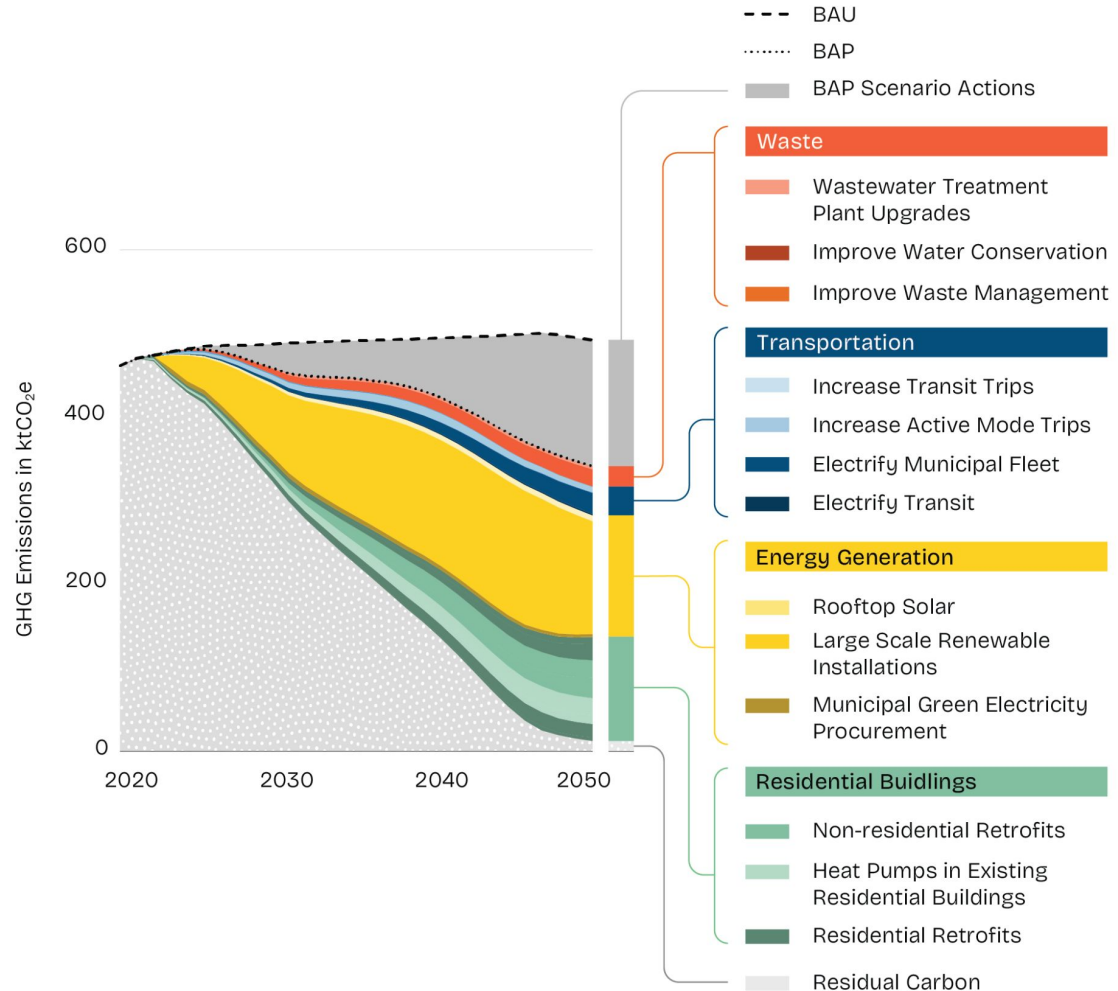
# Climate mitigation Targets

**GHG reduction milestones:** Targets for 2030, 2040 and 2050.

Low-carbon pathways based on:

- National Goals
- Ohio Goals
- Paris Agreement 1.5°C aligned

# Developing a LC scenario



# Developing a LC scenario

We can evaluate multiple scenarios for each policy,  
exploring **timing, ambition, scope**

Example Policy: Building Performance Standard		
Scenario 1	Scenario 2	Scenario 3
The energy intensity is reduced in new homes beginning in 2023 by 25% and by 50% by 2028 and by 100% by 2035.	Energy intensity of existing buildings reduced by 50% by 2040.	New construction is net zero beginning in 2030.



# BAP and LC assumptions

## Scenario Parameters

	A	B	C	D	E	F	G	H	I
1									
2									
3					LOW CARBON #1	LOW CARBON #2	LOW CARBON #2		LOW CARBON #4
4					WITHOUT LAND USE	WITH LAND USE			
5					Carbon neutral 2050	Carbon neutral 2050			Carbon neutral 2040
6					80x50	80x50			80x50
7					80% reduction by 2050 from 2016 baseline > no offsets	Carbon neutral by 2050 > min. 85x50, ie. limiting offsets to 15 in 2050% > interim 60x30 & 75x40	same as LC#2 without LU		Carbon neutral by 2040 > follow as close to a 1.5C/2C pathway to 2050 + start offsetting in 2040
8					-	More ambitious with min. of 85x50, and interim targets that bend the reduction curve earlier. Offsets start in 2050 to get to neutral.	Same technical scenario, except that alternate land use [that focuses on densification] is applied first		Most ambitious, following 1.5C pathway. Offsets start in 2040.
9					Notes	Aligns with many Canadian & international cities targets, including Toronto, Vancouver (also incl. 100% renewable), Ottawa, Montreal, Victoria BC, Calgary, Portland OR, NYC, LA, Chicago, Houston (baseline years differ by city)	Aligns with "net-zero" target from HRM council through climate emergency declaration.		More aggressive targets from only a few cities. Targetting carbon neutral, but earlier than 2050.
10					Baseline years differ by city	Barcelona, Boston, Berlin, Washington DC, Seattle, London (UK), San Francisco, Sydney, Oslo, Moncton NB, Markham ON	Baseline years N/A for target (absolute target)		Copenhagen & Adelaide by 2025, Helsinki by 2035, Stockholm by 2040.
11						Baseline years N/A for target (absolute target)	Baseline years N/A for target (absolute target)		Baseline years N/A for target (absolute target)
12						Scopes (per GPC or other accounting framework) vary across all cities.			
13					<b>DEMOGRAPHICS</b>				
14					<b>Population &amp; employment</b>				
15					Population & employment projections unchanged/held constant.	Population & employment projections unchanged/held constant.	Population & employment projections unchanged/held constant.		Population & employment projections unchanged/held constant.
16					<b>LAND USE</b>				
17					Spatial distribution	No change from BAU [which is based on Centre Plan: 45% regional centre, 45% suburbs, 10% rural]	No change from BAU [which is based on Centre Plan: 45% regional centre, 45% suburbs, 10% rural]	Intensification scenario: 75% regional centre 20% suburbs 5 rural ask Bas re BAU employment - how did we allocate?	SAME LU projection as LC#2 WITH LAND USE  Intensification scenario: 75% regional centre 25% suburbs 5 rural
18					<b>BUILDINGS</b>				
19					<b>New buildings energy performance (building codes &amp; standards)</b>				
20					<b>New single-family residential homes</b>				
21					Efficiency	Standard:	Standard:	same as LC#2 without LU	Standard:

Example of scenario parameters

**BAP and LC  
assumptions**

**In-person  
fun activities**

# THANK YOU

Vist [www.mvrpc.org](http://www.mvrpc.org) for more information and to submit comments.

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Deryn Crockett  
Coby Williams  
Francisca Cid

