

# CLEVELAND-ELYRIA METROPOLITAN STATISTICAL AREA COMPREHENSIVE CLIMATE ACTION PLAN

Policy Committee

July 11, 2025



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# INTRODUCTION BY ED/CEO

- **The United States Environmental Protection Agency (US EPA) provided \$1 million to NOACA and the City of Cleveland through the Climate Pollution Reduction Grants (CPRG) Program.**
- **US EPA requires NOACA and the City of Cleveland to incorporate a variety of measures (i.e., actions) to reduce GHG emissions from key sectors of Northeast Ohio's economy (electricity generation, industry, transportation, buildings, agriculture/natural and working lands, and waste management).**
- **US EPA requires the following CPRG Program deliverables:**
  - Priority Climate Action Plan (PCAP) – US EPA approved March 7, 2024
  - Comprehensive Climate Action Plan (CCAP) – due December 1, 2025
  - Status Report – due at the end of the four-year grant period (mid-2027).

# ACTION REQUESTED

Recommend this item to the Executive Committee for placement on the September 2025 Board of Directors agenda:

- Approve the Cleveland-Elyria MSA Comprehensive Climate Action Plan (CCAP)

## PREVIOUS ACTION

Policy Committee reviewed 2022 Regional Greenhouse Gas (GHG) Emissions Inventory and approved regional GHG emissions reduction targets at October 11, 2024, meeting



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# OVERVIEW



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Northeast Ohio Areawide Coordinating Agency

# BACKGROUND

Priority Climate Action Plan

- **Lead:** NOACA
- **Support:** City of Cleveland
- **Approved by US EPA:** March 7, 2024

Comprehensive Climate Action Plan

- **Lead:** City of Cleveland
- **Support:** NOACA, Cuyahoga County, Cleveland Regional Decarbonization Framework Team
- **Due:** December 1, 2025

Status Report

- **Lead:** NOACA
- **Due:** July 2027



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# CCAP KEY MESSAGES



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# CCAP KEY MESSAGES

- **Climate action already in Cleveland-Elyria MSA**
- **Real barriers remain to achieve region's targets**
- **Need to start with leadership, vision, partnerships, and multi-sectoral strategies**
- **CCAP is centered on widespread electrification, clean energy, transforming industry, and emissions removal**



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# CCAP – BUILDING OFF THE PCAP

- **PCAP:** initial plan centered on near-term, high-priority, implementation ready measures
  - Laid groundwork for CPRG Implementation grants
  - Not required to be comprehensive in nature
- **CCAP:** detailed plan that addresses all sources of emissions, provides plan to achieve region's targets
  - Builds off PCAP but does not need to be 1:1
  - Adds several elements not required for PCAP

# CCAP REQUIRED ELEMENTS



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# CCAP REQUIRED ELEMENTS

Plan Element	Priority Climate Action Plan	Comprehensive Climate Action Plan	Status Report
GHG Inventory	Required	Required	Update Encouraged
GHG Emissions Projections	Not Required	Required	Update Encouraged
GHG Reduction Targets	Not Required	Required	Not Required
Quantified GHG Reduction Measures	Required (priority measures only)	Required (comprehensive)	Status and Updates Required
Benefits Analysis	Encouraged	Required	Required

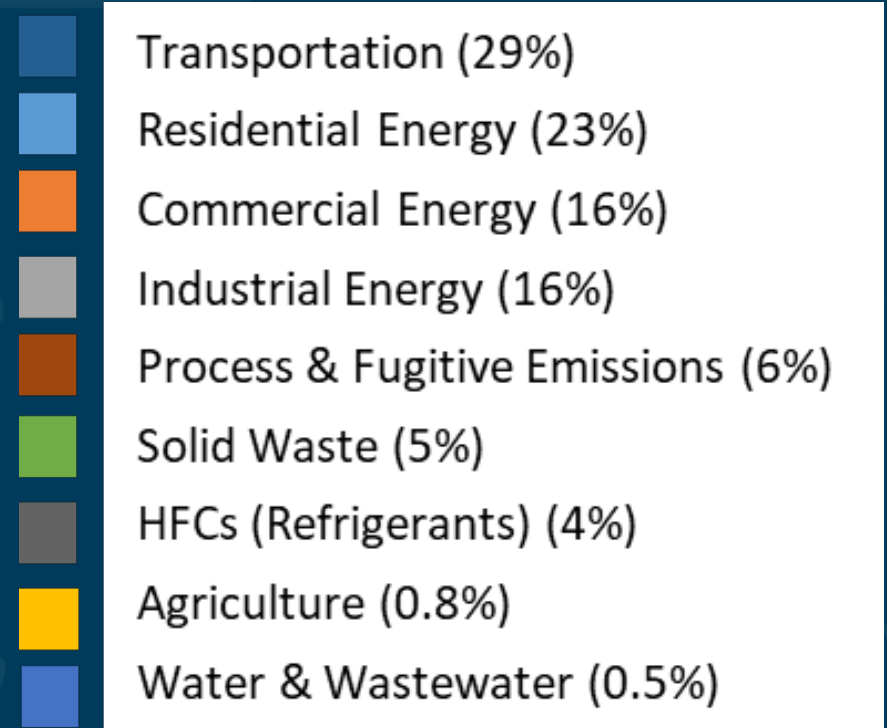
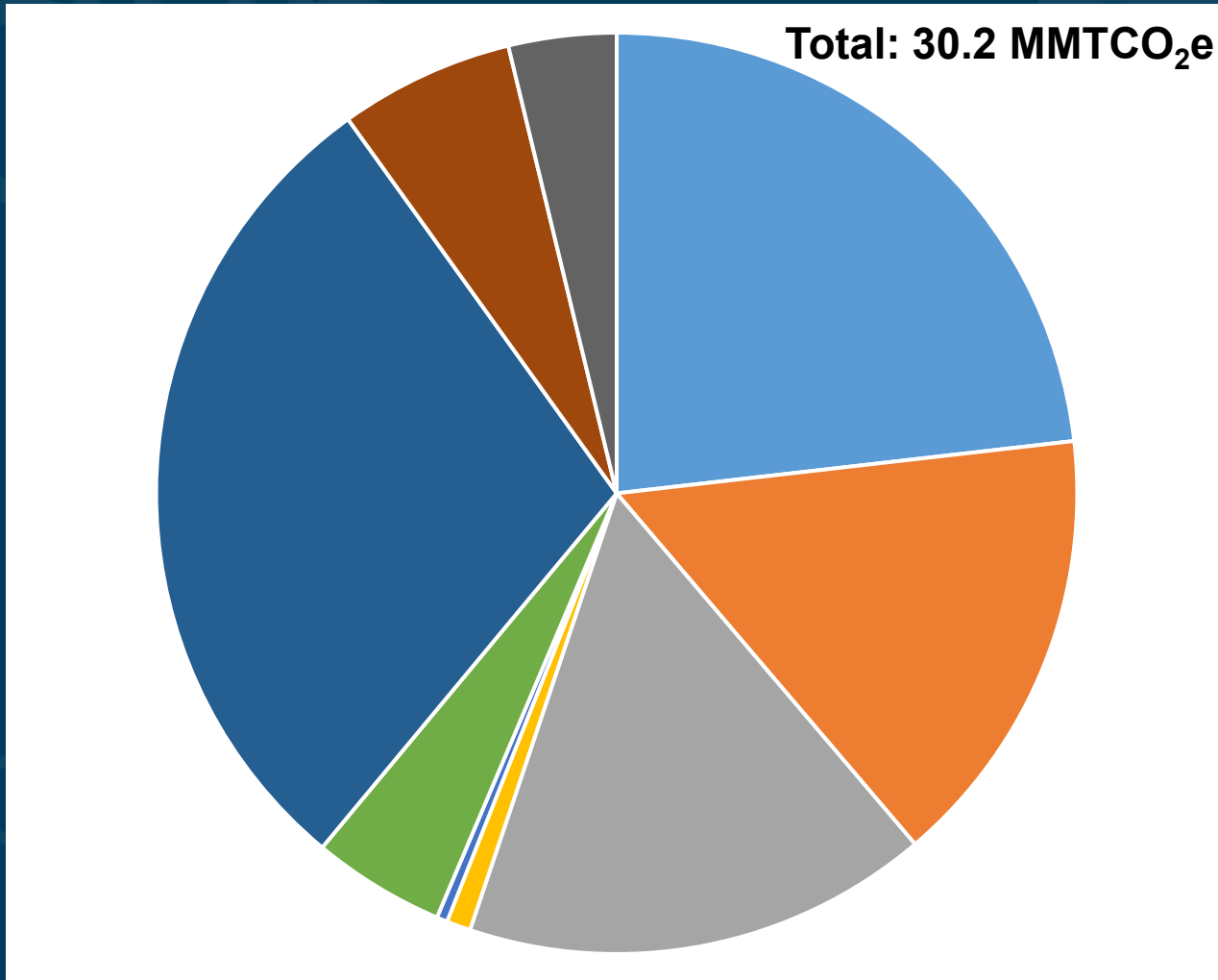


# CCAP REQUIRED ELEMENTS

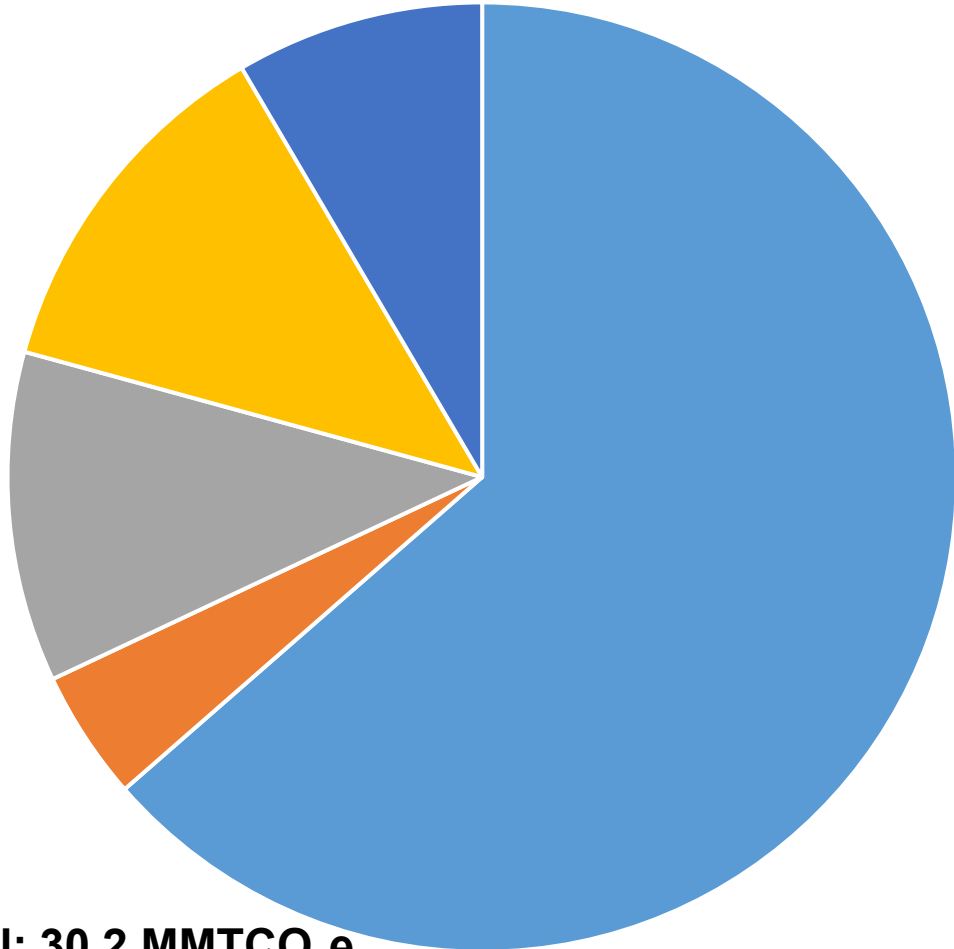
Plan Element	Priority Climate Action Plan	Comprehensive Climate Action Plan	Status Report
Low Income/Disadvantaged Communities Benefits Analysis	Required	Encouraged	Encouraged
Review of Authority to Implement	Required	Required	Update Required
Intersection with Other Funding Availability	Encouraged	Required	Required
Workforce Planning Analysis	Encouraged	Required	Required
Next Steps/Future Budget and Staffing Needs	Not Required	Not Required	Required



# 2022 GHG EMISSIONS BY SECTOR



# 2022 GHG EMISSIONS BY COUNTY



Total: 30.2 MMTCO<sub>2</sub>e

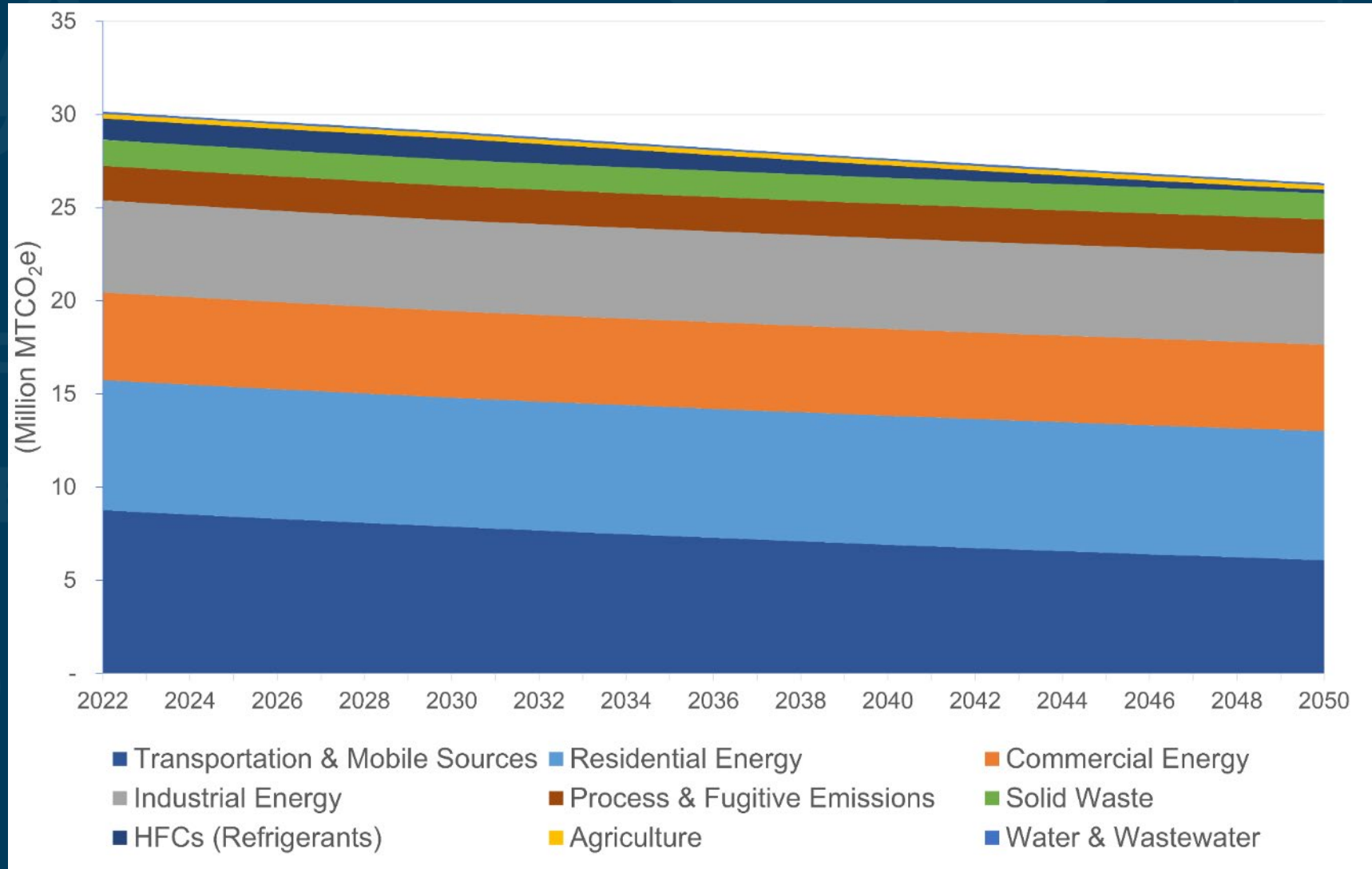
- Cuyahoga County (64%)
- Lorain County (12%)
- Lake County (11%)
- Medina County (9%)
- Geauga County (4%)



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# GHG EMISSIONS PROJECTIONS



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# EMISSIONS REDUCTION TARGETS

- **NOACA Board adopted targets in December 2024**
  - 2030: 49% reduction from 2018 levels
  - 2050: Net zero emissions
- **2030 target comes directly from PCAP**
- **Emissions need to decline by:**
  - 6.4% per year through 2030
  - 5% per year from 2030-2050



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# GO BIG STRATEGIES

1. Expand nuclear generation at Perry Nuclear Power Plant
2. Develop offshore wind on Lake Erie
3. Net-Zero steelmaking
4. Expand passenger rail & light-rail
5. Develop a regional Direct Air Capture (DAC) facility
6. Implement “Headwaters Forests Initiative” to reforest 10 square miles



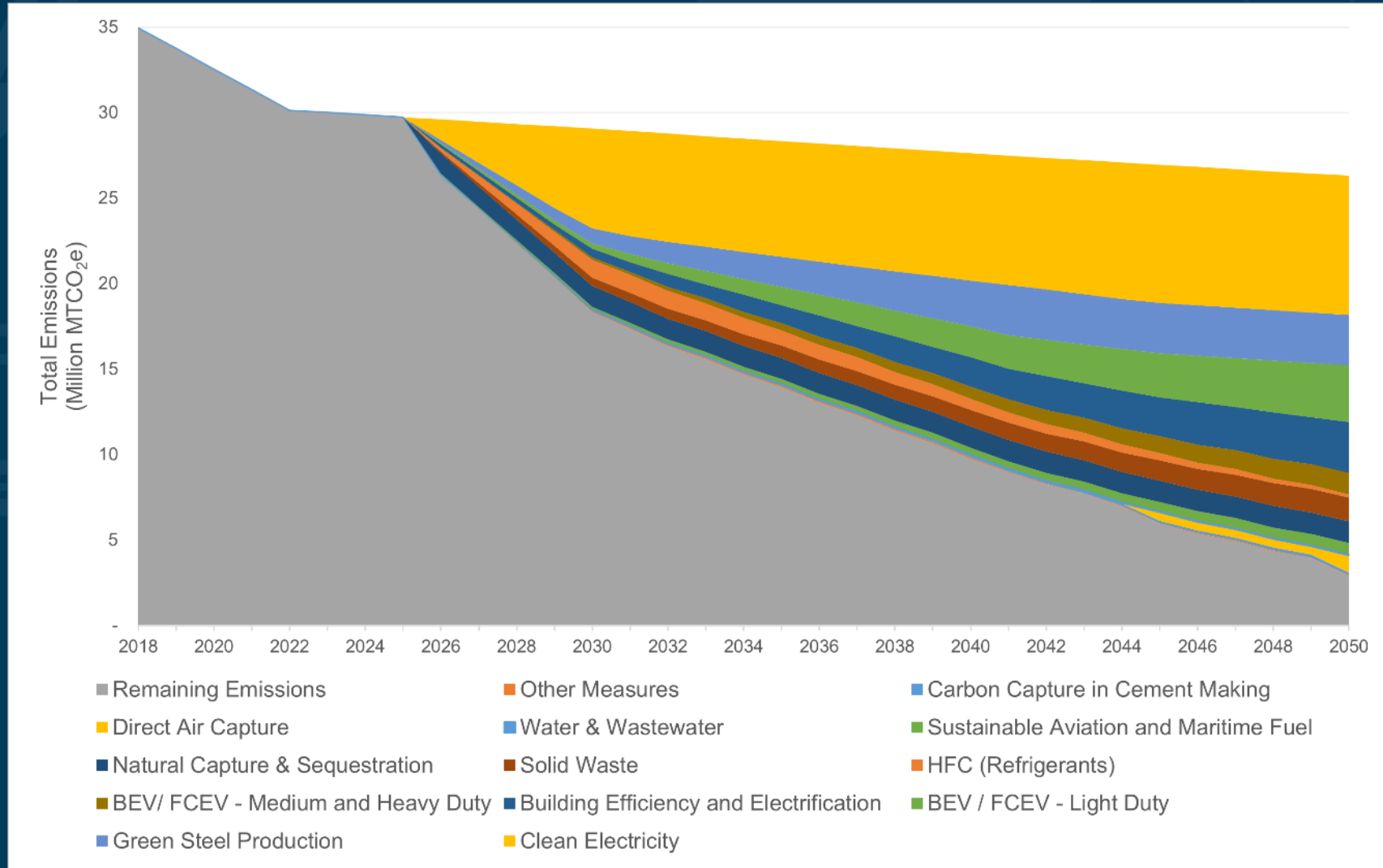
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# EMISSIONS REDUCTION MEASURES

CCAP Measure	PCAP Measure	GHG Reduced in 2030 (MMTCO <sub>2</sub> e)	GHG Reduced in 2050 (MMTCO <sub>2</sub> e)
Clean Electricity	Clean Electricity	5.84	8.13
BEV / FCEV - Light Duty	Light-Duty Vehicle Electrification	0.33	3.32
Building Efficiency and Electrification	Building Efficiency & Electrification	0.51	2.97
Green Steel Production	Green Steel Production	0.89	2.94
Solid Waste	Solid Waste Diversion	0.51	1.40
BEV/ FCEV - Medium and Heavy Duty	Heavy-Duty Vehicle Electrification	0.14	1.28
Natural Capture & Sequestration	Nature-Based Solutions	1.20	1.26
Direct Air Capture	N/A	0	1.00
Sustainable Aviation and Maritime Fuel	Heavy-Duty Vehicle Electrification	0.13	0.63
Carbon Capture in Cement Making	Green Steel Production	0	0.18
HFCs	Refrigerants Capture	1.02	0.17
Water & Wastewater	Solid Waste Diversion	0.10	0.10
Other Measures	Building Efficiency & Electrification, VMT Reduction, Refrigerants Capture	0.08	0.05
<b>Total Emissions Reduced</b>		<b>10.74</b>	<b>23.44</b>

# EMISSIONS REDUCTION MEASURES



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# EMISSIONS REDUCTIONS BY SECTOR

Emissions Sector	2018 Emissions (MMTCO <sub>2</sub> e)	2030 Emissions (MMTCO <sub>2</sub> e)	2050 Emissions (MMTCO <sub>2</sub> e)
Residential Energy	7.95	3.87	2.57
Commercial Energy	6.16	3.72	0.50
Industrial Energy	6.79	1.80	0.00
Transportation & Mobile Sources	9.14	7.24	0.80
Process and Fugitive	2.06	1.64	1.00
Solid Waste	1.44	0.90	0.00
Water & Wastewater	0.12	0.01	0.01
Refrigerants (HFCs)	1.01	0.11	0.00
Agriculture	0.30	0.25	0.25
Total Emissions Produced	34.97	19.55	5.13
Reductions and Sequestrations	-1.17	-1.20	-2.26
<b>Net Emissions</b>	<b>33.80</b>	<b>18.35</b>	<b>2.87</b>
<b>Percent Emissions Reduction</b>		<b>-45.7%</b>	<b>-91.5%</b>

# AIR QUALITY BENEFITS OF CCAP MEASURES

County	SO <sub>2</sub> reduced	NO <sub>x</sub> reduced	VOCs reduced	PM <sub>2.5</sub> reduced
Cuyahoga	1,515.45	9,266.61	2,542.91	2,962.80
Geauga	127.54	963.30	433.59	518.40
Lake	1,662.22	1,937.01	559.54	554.78
Lorain	310.77	2,064.79	804.04	908.83
Medina	196.25	1,575.69	625.85	646.78
<b>Total</b>	<b>3,765.92</b>	<b>12,729.20</b>	<b>4,871.33</b>	<b>5,578.68</b>



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# AIR QUALITY BENEFITS OF CCAP MEASURES

Health Measure	Annual Impact	Total Annual Health Benefit
Avoided Premature Deaths (Low)	219	\$3.2 billion
Avoided Premature Deaths (High)	423	\$6.2 billion
Avoided Heart Attacks	119	\$10 million
Avoided Cases of Lung Cancer	12	\$518,000
Avoided Cases of Alzheimer's Disease	84	\$1.9 million
Avoided Cases of Parkinson's Disease	12	\$280,000
Avoided Strokes	10	\$641,000
Avoided Cases of Asthma	562	\$42.9 million
Avoided Asthma Attacks	99,469	\$12.4 million
Avoided Work Loss Days	20,048	\$5.9 million
Avoided Lost School Days	110,217	\$34 million
<b>Total Health Benefits (Low)</b>		<b>\$3.3 billion</b>
<b>Total Health Benefits (High)</b>		<b>\$6.3 billion</b>



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# AUTHORITY TO IMPLEMENT MEASURES

- CCAP must include review of whether MSA has authority to implement measures
- Focused first on measures where governments have authority to act, or authority that enables others to act
- There are a few key measures that require additional authority, particularly from State of Ohio
  - Expansion of Perry Nuclear Power Plant
  - Offshore wind on Lake Erie
  - Carbon capture, sequestration, and utilization
  - Intercity passenger rail



# WORKFORCE PLANNING ANALYSIS

- CCAP assesses key occupations where MSA has existing workforce shortages
  - Foresters -17%
  - Building Inspectors -15%
  - Maintenance Workers, Machinists -5%
  - Quality Engineers -4%
  - Electrical Engineers -1%



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# WORKFORCE PLANNING ANALYSIS

- Recommendations for overcoming potential workforce shortages:
  1. Align training with high-growth occupations
  2. Increase access to training for underserved populations
  3. Create regional coordinating entity for workforce development
  4. Engage employers in scalable workforce models
  5. Pilot & scale sector-based training programs



# CCAP IMPLEMENTATION PLAYBOOK

- Created *Implementation Playbook* to help communities take action on CCAP measures
- Identified measures most appropriate for different kinds of communities, using *Vibrant NEO 2040* typology



City Architecture

**Legacy City**  
(Pre 1910)

Akron, Canton, Cleveland, Elyria, Lorain, Warren, Youngstown



City Architecture

**1<sup>st</sup> Ring Suburbs**  
(1910-1959)

Cleveland Heights, Wickliffe, Sheffield, Parma, Mogadore, East Canton, Howland, etc.



City Architecture

**2<sup>nd</sup> Ring Suburbs**  
(1950-1969)

Orange, Eastlake, Norton, Fairlawn, Boardman, Liberty, North Olmsted, etc.



City Architecture

**Outer Ring Suburbs**  
(1970-present)

Bainbridge, Avon, Westlake, Twinsburgh, Bazetta, etc.



Sasaki Associates

**Established Cities & Towns**  
(varies)

Medina, Painesville, Ravenna, Wooster, Niles, Ashtabula, Kent, Oberlin, etc.



Ken Lund,  
<http://www.flickr.com/photos/kenlund/7984528214/>

**Rural Townships**  
(varies)

Parkman, Wellington, Westfield, Hiram, Wyndham, Saybrook, Jackson, Gustavus



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# CCAP IMPLEMENTATION PLAYBOOK

- **Implementation Playbook includes:**
  - Information on low-income and disadvantaged communities (LIDACs) within the MSA
  - Best practices on engaging LIDACs for climate action
  - Community Benefits Rubric to assess potential actions
  - List of emissions reduction measures by community type
  - Overview of No- and Low-Regret measures
  - Information on policies and funding sources to support implementation



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# FINANCIAL IMPACTS

There is no financial impact of this action.



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# NEXT STEPS

- **NOACA will hold public comment period on CCAP**
  - July 15-August 29
  - Mid-August virtual public engagement session
- **City of Cleveland and NOACA will coordinate with firm to create designed drafts of CCAP and Implementation Playbook**
- **Pending Board approval, NOACA and the City of Cleveland will finalize and submit CCAP to US EPA by December 1**



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# ACTION

Recommend this item to the Executive Committee for placement on the September 2025 Board of Directors agenda:

- Approve the Cleveland-Elyria MSA Comprehensive Climate Action Plan (CCAP)



Motion  
Second  
Discussion  
Put the Question





# NOACA

Northeast Ohio Areawide Coordinating Agency

NOACA will **strengthen** regional cohesion, **preserve** existing infrastructure, and **build** a sustainable multimodal transportation system to **support** economic development and **enhance** quality of life in Northeast Ohio.