



BREATHE

Reducing Emissions For A Resilient Region

Knoxville MSA Comprehensive Climate Action Plan (CCAP)

Workforce Requirements & Approach

JUNE 16, 2025

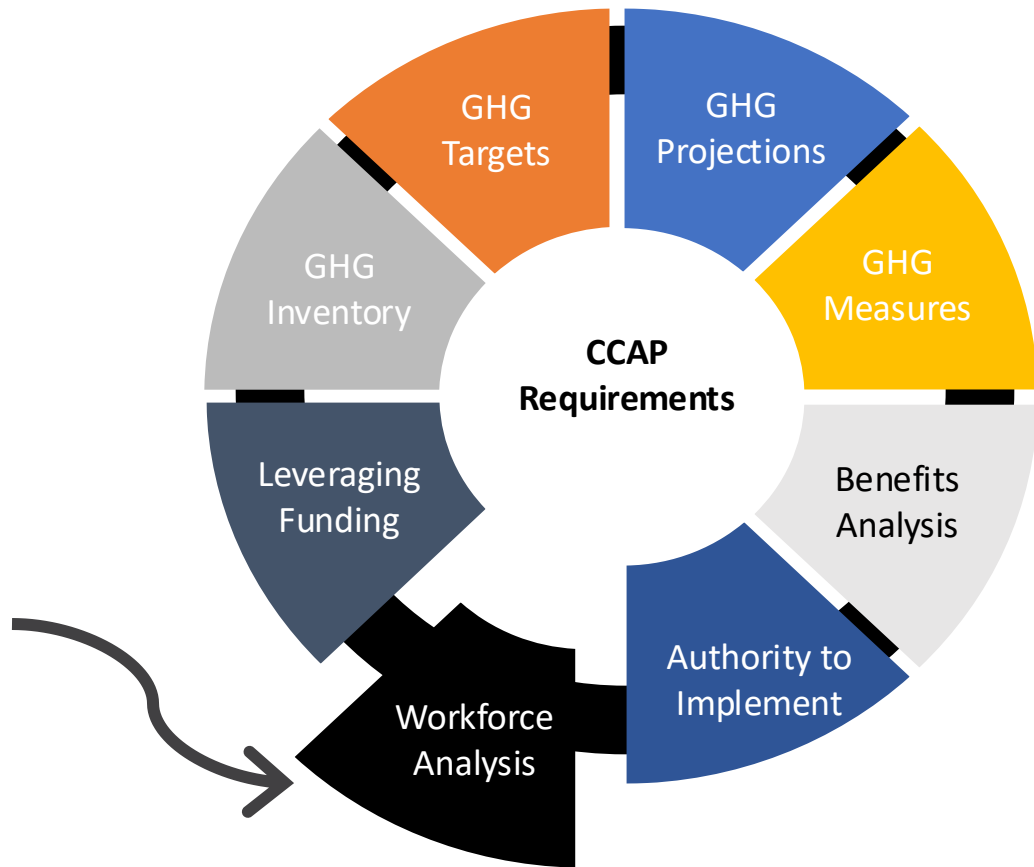


Agenda

- Overview of CCAP Requirements
- GHG Reduction Measures List
- Workforce Planning Requirements & Goals
- Approach to Workforce Strategies
 - Step 1: Identify Workforce Shortages – Gap Analysis Results
 - Step 2: Develop Solutions & Partnerships
- Next Steps

Overview of CCAP Requirements

- Due December 1, 2025
- Requires technical, outreach, engagement, and communications workstreams
- ICF is starting to compile a Draft version of the CCAP, which will include a draft workforce analysis



GHG Reduction Measure List

The key sectors of CCAP measures:

- Commercial, Residential, and Industrial Buildings
- Energy Generation
- Transportation
- Agriculture
- Natural and Working Lands
- Solid Waste and Wastewater

Many measures within the CCAP aim to support the development of new industries in the Knoxville MSA such as clean and renewable energy in buildings and expanding electric/alternative fuel vehicle usage.



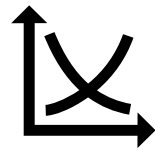
CPRG Workforce Planning Analysis Requirements

Step 1

Develop Solutions & Partnerships to Address Shortages

Conduct an analysis of anticipated workforce shortages that could prevent them from achieving the goals described in the CCAP

- Focus for the CCAP

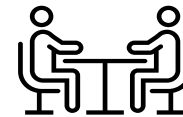


Step 2

Develop Solutions & Partnerships to Address Shortages

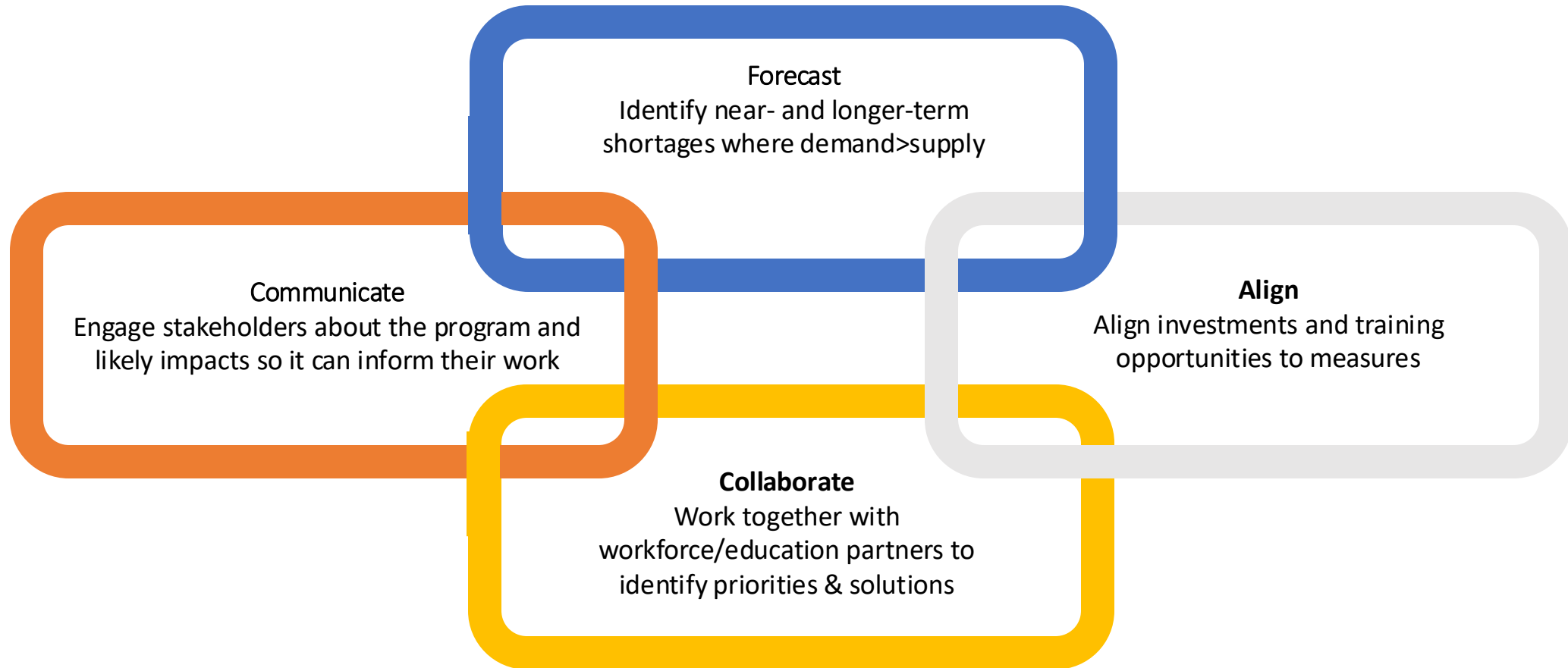
Identify potential solutions and partners at the state, regional, and/or local level that are equipped to help address those challenges.

- Ongoing post-CCAP



Engage with stakeholders, understand underserved community needs

CPRG Workforce Planning Analysis Goals



Step 1: Identify Workforce Shortages

Mapping

- ICF mapped CCAP measures to occupations using the Standard Occupational Classification (SOC) system.

Data Collection

- ICF pulled labor market data from Lightcast for each occupation for the Knoxville MSA.

Gap Calculation

- **Workforce Gap** = Supply (hires) - Demand (growth + separations)
 - **Supply** = Number of Hires.
 - **Demand** = Growth + separation.
 - Represents the number of workers needed to fill new positions from projected growth and from separations.
 - Separation = Number of workers estimated to leave an occupation (ex: retirement, leaving the occupation for another)
 - A negative gap means demand is greater than supply, indicating a **shortage** of workers.
 - A positive gap means supply is greater than demand, indicating a **surplus** of workers.

Step 1: Gap Analysis Results

- **Potential Workforce Shortage** = 2025 Hires – (New Jobs 2025 + Projected Separations 2025)

Occupations with greatest projected workforce shortages:

Occupations Impacted by CCAP Measures	Relevant Sector	Total Employment 2024	Projected Employment 2025	Supply	Demand Subtotals		Shortage or Surplus
				2025 Hires	Growth (New Jobs) 2025	Projected Separations 2025	Potential Workforce Shortage
Heavy and Tractor-Trailer Truck Drivers	Transportation (on and off Road), Solid Waste and <u>Waste Water</u>	7,864	8,026	4,507	162	4,578	-233
Laborers and Freight, Stock, and Material Movers, Hand	Solid Waste and <u>Waste Water</u>	9,680	9,927	10,326	247	10,216	-138
Light Truck Drivers	Transportation (on and off Road)	3,641	3,762	2,529	121	2,480	-73
Industrial Truck and Tractor Operators	Solid Waste and <u>Waste Water</u>	1,470	1,519	1,064	49	1,039	-23
Paving, Surfacing, and Tamping Equipment Operators	Buildings, Transportation (on and off Road)	292	298	175	6	182	-13
Electrical Power-Line Installers and Repairers	Energy	357	366	211	9	214	-12

- Total # of occupations projected to have a shortage: **10**
- Key impacted sectors: transportation, waste, energy
- 2035 results on shortages is forthcoming

Step 1: Gap Analysis Results

Occupations with greatest projected workforce surplus:

Occupations Impacted by CCAP Measures	Relevant Sector	Total Employment 2024	Projected Employment 2025	Supply	Demand Subtotals		Shortage or Surplus
				2025 Hires	Growth (New Jobs) 2025	Projected Separations 2025	Potential Workforce Shortage
Construction Laborers	Transportation (on and off Road)	5,273	5,363	3,805	90	3,642	73
Carpenters	Buildings, Transportation (on and off Road)	2,882	2,908	1,290	26	1,195	69
Electricians	Buildings, Transportation (on and off Road)	2,782	2,842	1,522	61	1,396	66
Roofers	Buildings	471	476	342	5	285	51
Helpers--Electricians	Buildings	269	272	571	3	520	48
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	Buildings	1,465	1,510	916	45	825	46

- Total # of occupations projected to have a surplus: **33**
- Key findings to inform future partnerships and engagement:
 - Occupations with the greatest shortages (e.g., truck drivers) should be prioritized in planning and coordination steps.
 - Conversely, Knoxville is already projected to have enough carpenters and construction laborers for implementation.

Step 1: Skills Analysis

Skills with the greatest **shortage**

- Heavy and Tractor-Trailer Truck Drivers
 - Truck driving
 - Pre-trip and post-trip vehicle inspections
 - Flatbed truck operation
 - No-touch freight
- Laborers and Freight, Stock, and Material Movers, Hand
 - Warehousing
 - Palletizing
 - Inventory management

Skills with the greatest **surplus**

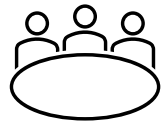
- Construction laborers
 - Hand tools
 - Heavy equipment
 - Trenching
- Carpenters
 - Cabinetry
 - Renovation
 - Power tool operation
- Electricians
 - Electrical wiring
 - Blueprinting
 - Electrical systems

Step 2: Develop Solutions & Partnerships



Identify Existing Stakeholders/Partners and Build New Partnerships

- Reach out to existing Knoxville MSA partners
- Brainstorm additional local and regional partners
 - Examples: employers, utilities, local businesses, educational institutions, labor orgs, training providers, faith-based organizations, youth-serving orgs



Promote Interagency and Intergovernmental Coordination

- Work with Tennessee state and local agencies
 - Coordinate partnerships to prepare for CCAP implementation
 - Provide CCAP updates
 - Share data and information



Set and Refine Goals

- Set quantitative and/or qualitative goals (# of jobs, partnerships, training programs developed, etc.)
- Adjust, update, and change goals as needed throughout

Identification of Knoxville's Needs, Partnerships, and Priorities

Focus on providing alternative job opportunities to construction laborers, carpenters

- Retrain workers and make workforce education programs accessible
 - Support workers during Kingston Energy Complex transition
- Provide high paying jobs
 - Skilled professionals are likely to see highest gains
- Leverage existing resources



Prepare for the impact of the CCAP's implementation on workforce

- Implement early education and awareness programming
 - Develop curriculum materials for training and apprentice opportunities
- Reach out to small businesses, entrepreneurs, and contractors for job needs and openings

Next Steps

- ICF, City of Knoxville, TPO, and Working Groups to continue reviewing partnerships and programs to map how workforce shortages can potentially be addressed
- ICF to develop narrative for a Draft CCAP
- City of Knoxville and TPO to provide feedback
- Working Group review (August/September)

Discussion

- Does the gap analysis presented seem representative of your experience in the region? If not, where does it differ?
- After developing the measures, what opportunities do you see for workforce development through the CCAP implementation?
- What about opportunities for business collaboration and community programs in the region through the CCAP implementation?



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THANK YOU FOR YOUR ATTENTION!

Questions?