



Palmetto Air Quality Collaborative (PAQC)

Kickoff Meeting
Interagency and Intergovernmental Coordination
October 23, 2023



A blue flag with a white crescent moon and a white palmetto tree, flying against a blue sky with white clouds. The flag is attached to a pole on the left side. The text "Welcome and Introductions" is overlaid in white on the flag.

Welcome and Introductions

Today's Agenda

Welcome and Introductions

The Palmetto Air Quality Collaborative (PAQC)

The Climate Pollution Reduction Grant (CPRG)

Priority Climate Action Plan (PCAP)

Recap

Discussion and Next Steps

The Palmetto
Air Quality
Collaborative
(PAQC)



The Palmetto Air Quality Collaborative (PAQC)



- Innovation
 - Innovate strategies to reduce greenhouse gases and other air pollutants in South Carolina



- Multiple Benefits
 - Engage communities, capitalize on workforce and economic development opportunities, and advance resilience initiatives



- Coordination and Collaboration
 - Develop actionable pollution reduction measures through interagency and intergovernmental collaboration, public and stakeholder engagement, and action team input

Why Reduce Emissions?

Provide Benefits:

- Cleaner air
- Improved public health
- Economic growth and development
- Enhanced resilience

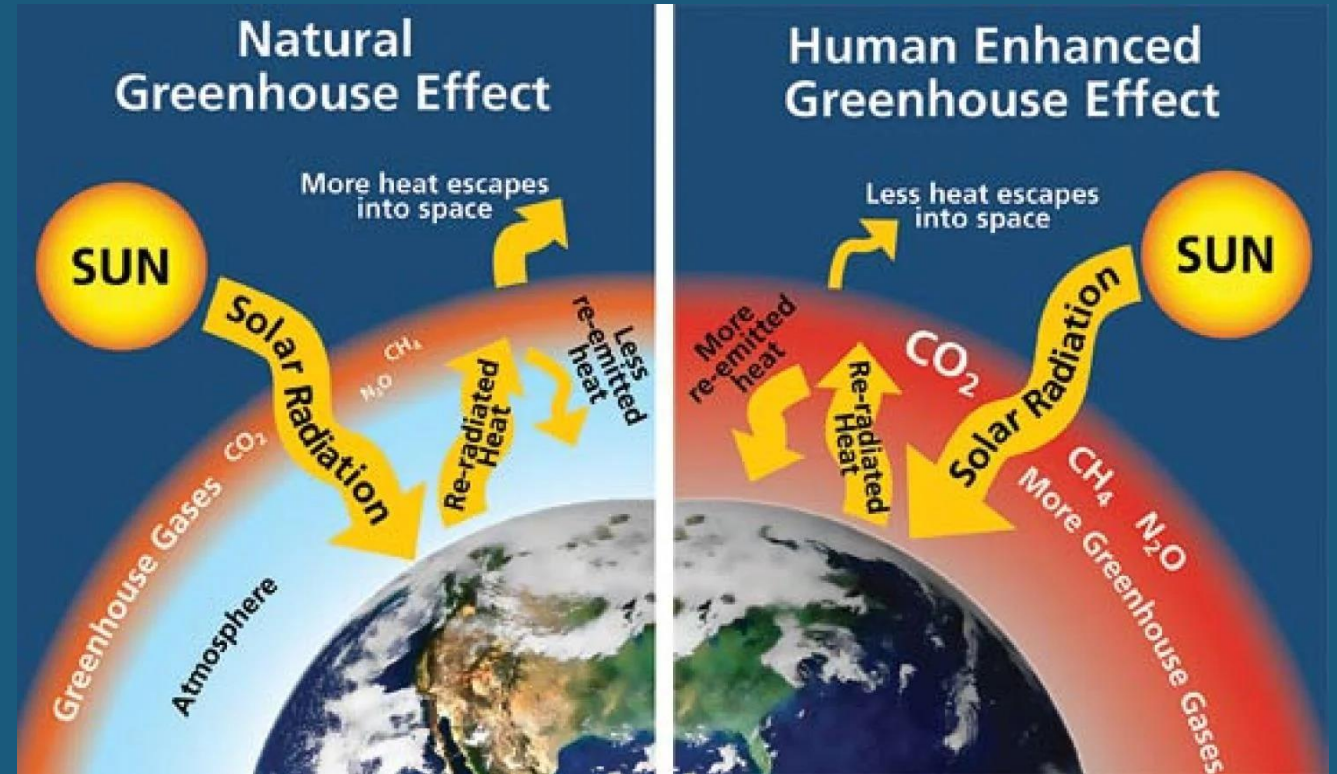
Reduce Harm:

- Lessening of impacts from extreme weather events and natural hazards
- Deceleration of sea level rise and coastal erosion



Greenhouse Effect

- Greenhouse Gases (GHGs): Gases in the atmosphere that **trap heat** in Earth's system
- Without GHGs, Earth would be uninhabitable (~33 degrees C cooler than it is)
- More GHGs mean less heat escapes to space and Earth gets warmer



Source: UC Boulder

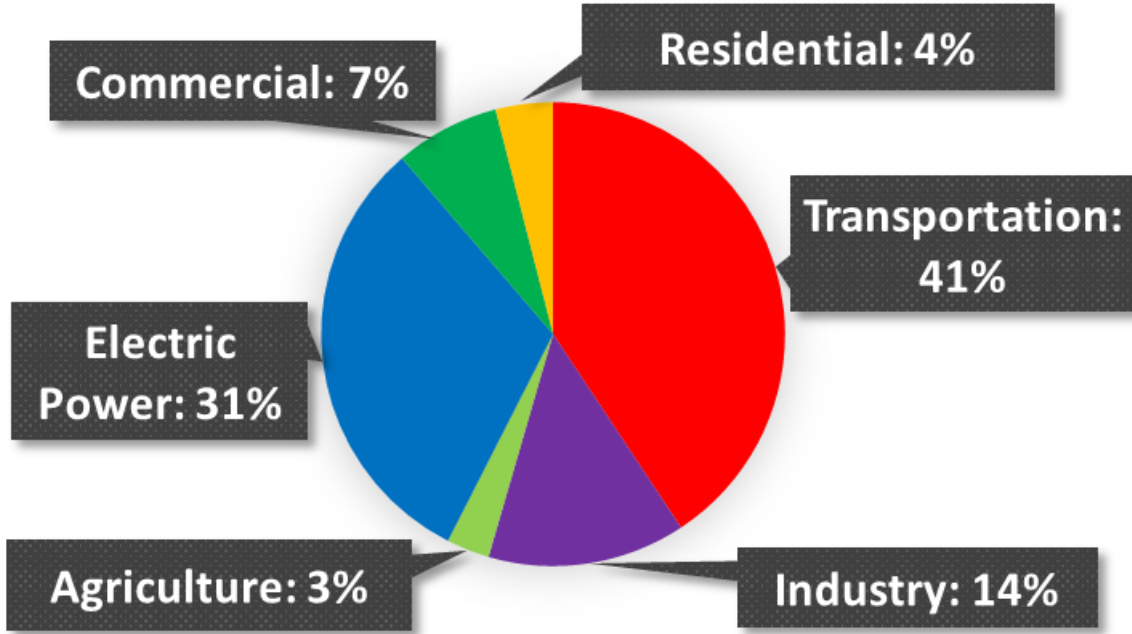
Greenhouse Gases

Common Name	Chemical Formula	Common Sources and Uses
Carbon Dioxide	CO ₂	Combustion (burning fossil fuels) Land cover change
Methane	CH ₄	Combustion Agriculture (livestock and rice) Waste and landfill decomposition
Nitrous Oxide	N ₂ O	Combustion (burning fossil fuels)
Sulphur Hexafluoride	SF ₆	Electrical Insulator (gas used to fill spaces to insulate)
Hydrofluorocarbons	HFCs	Refrigerants (coolant)
Perfluorocarbons	PFCs	Aluminum production Industrial processes

South Carolina GHG Emissions

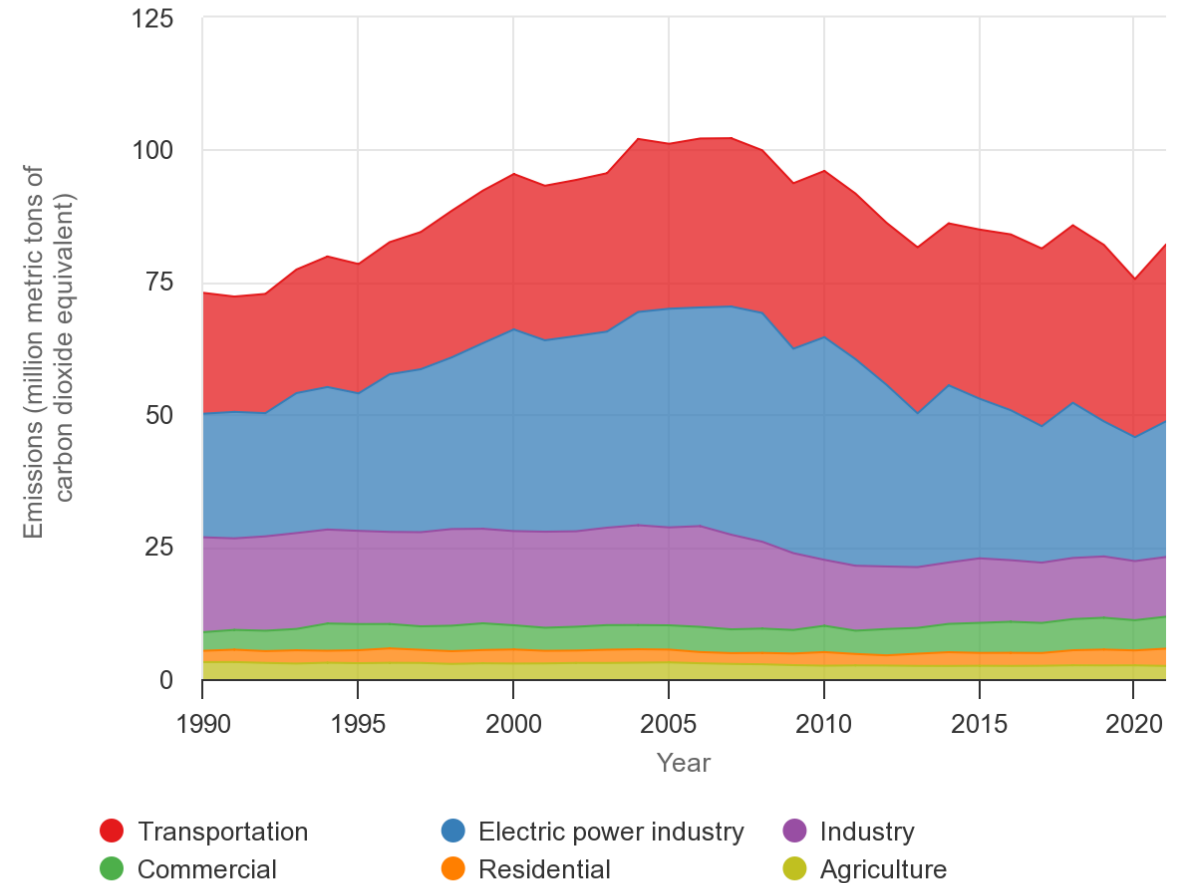
South Carolina Greenhouse Gas Emissions by Economic Sector, 2021

Emissions in million metric tons of carbon dioxide equivalent



<https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks>

South Carolina Greenhouse Gas Emissions by Economic Sector, 1990–2021



Source: U.S. EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks by State: 1990–2021.
<https://www.epa.gov/ghgemissions/state-ghg-emissions-and-removals>

Climate Pollution Reduction Grant (CPRG)

- Established by the Inflation Reduction Act on August 16, 2022
- Focuses on developing state, tribal, and metropolitan climate plans that include GHG reduction measures

Phase I: Planning Grants

- \$3 million for the statewide effort
 - Co-leads: SC DHEC and SC Office of Resilience
 - Sub-awardee: SC Ports Authority
- \$1 million for Columbia and Greenville-Spartanburg MSAs
- PCAP due March 1, 2024

Phase II: Implementation Grants

- Competitive; \$4.6 billion available
- Due: April 1, 2024
- 30 to 115 expected awards, ranging from \$2 million to \$500 million

Implementation Grants

Applications due April 1, 2024

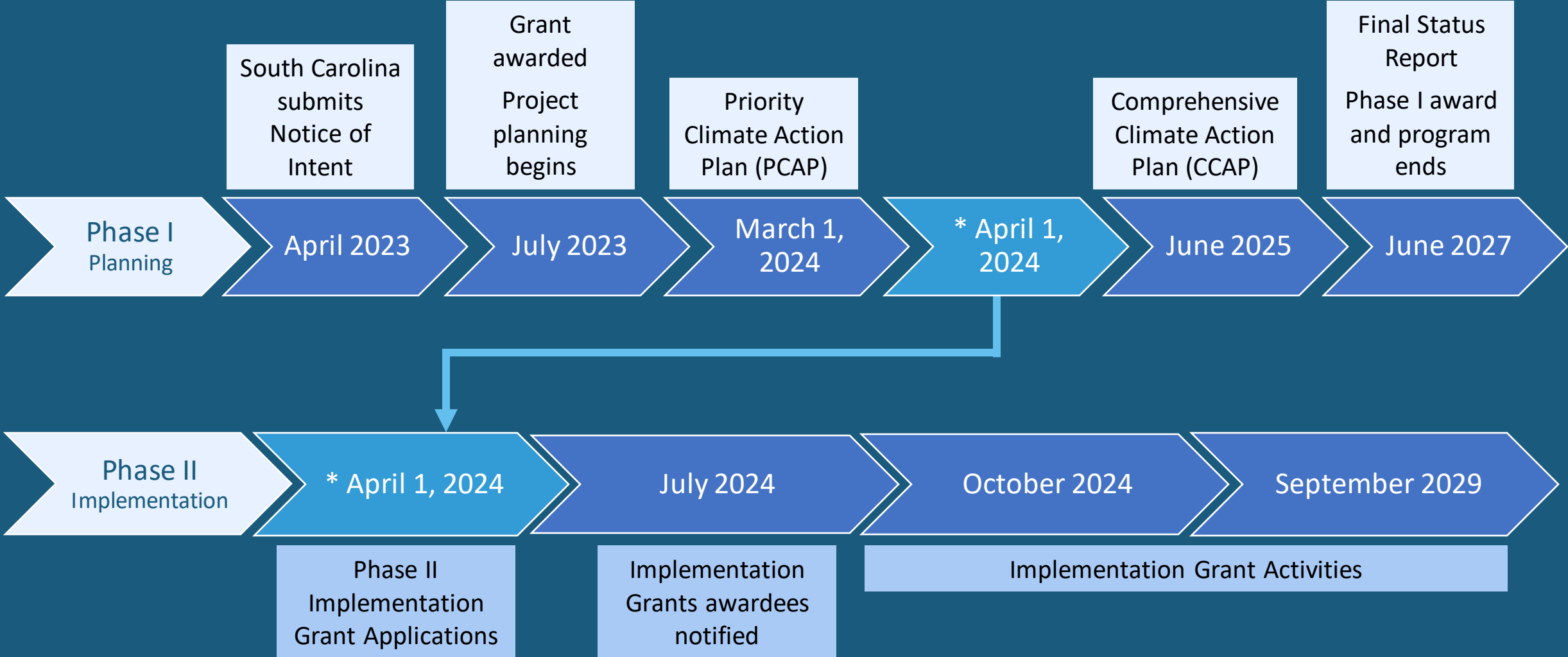
- Measures **MUST** be included in a PCAP
- Eligible applicants: state and local government agencies, regional Councils of Government, federally recognized tribes
- Coalitions, sub-awardees, and sub-contracts allowed

EPA Priorities

- Actionable, quantifiable emissions reduction measures
- Community benefits
- Complement other funding sources



CPRG Timeline



Palmetto Air Quality Collaborative

Process

Interagency Coordination

State agencies, Catawba Nation
COGs, MASC, SCAC

Public & Stakeholder Engagement

SCOR, DHEC, Energy Office

Transportation and Mobile Sources

Waste and Materials Management Recycling

Agriculture/ Natural and Working Lands

Climate / GHG Inventories and Analyses

Residential and Commercial Buildings / Energy Efficiency

Industry, Commerce, and Sustainability

Deliverables

PCAP:
March 1, 2024

Implementation Grant
April 1, 2024

CCAP:
June 2025

Status Report:
June 2027

Coordination Teams

Action Teams

Palmetto Air Quality Collaborative

Process

Deliverables

Coordination Teams

Interagency Coordination

State agencies, Catawba Nation
COGs, MASC, SCAC

Public & Stakeholder Engagement

SCOR, DHEC, Energy Office

Action Teams

Transportation and Mobile Sources

Waste and Materials Management Recycling

Agriculture/ Natural and Working Lands

Climate / GHG Inventories and Analyses

Residential and Commercial Buildings / Energy Efficiency

Industry, Commerce, and Sustainability

PCAP:

March 1, 2024

Implementation Grant

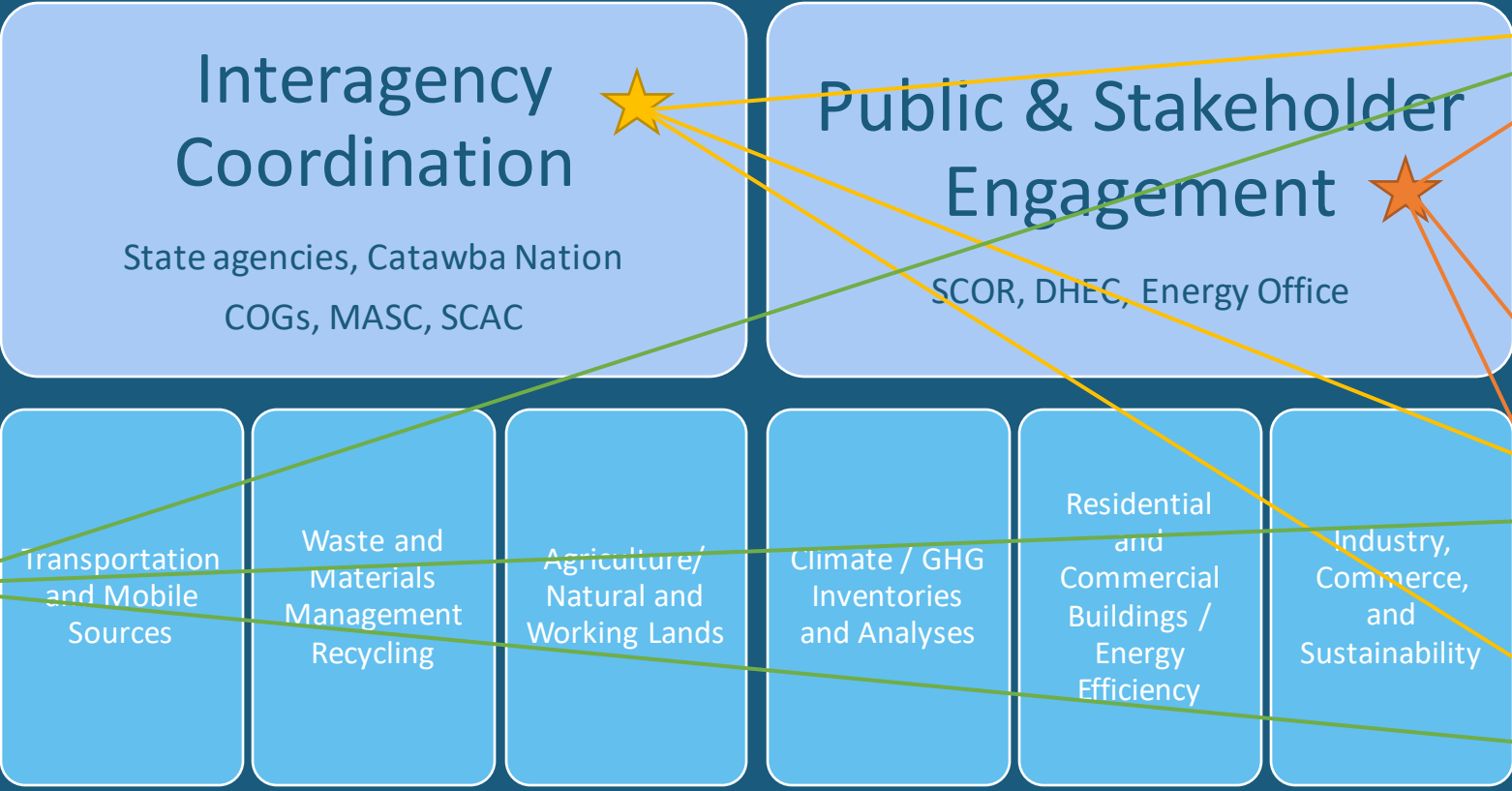
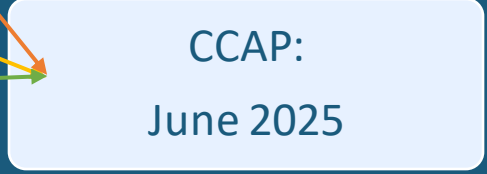
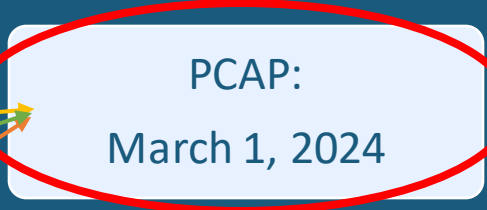
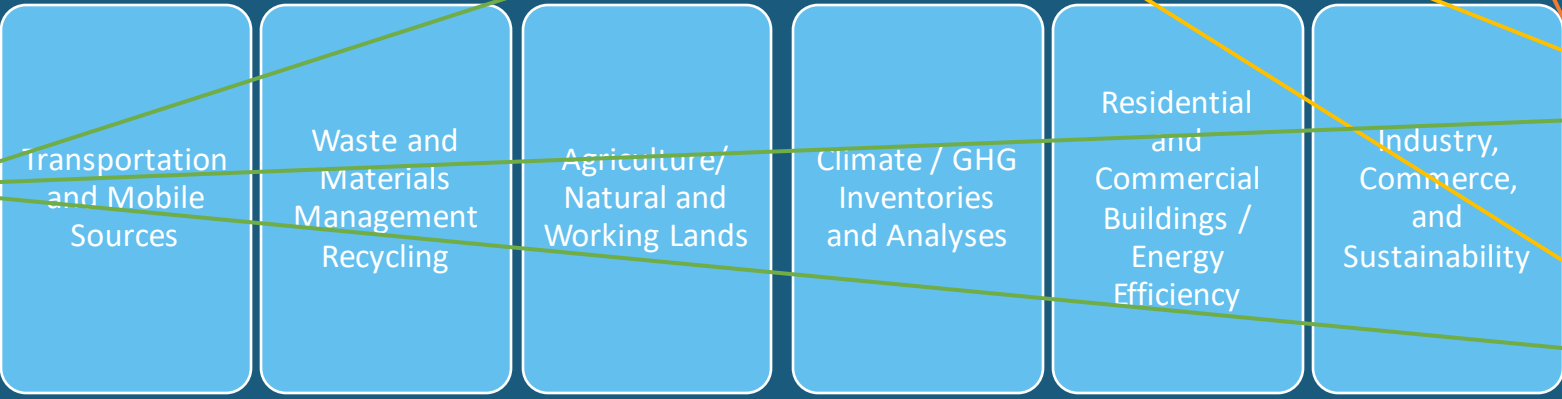
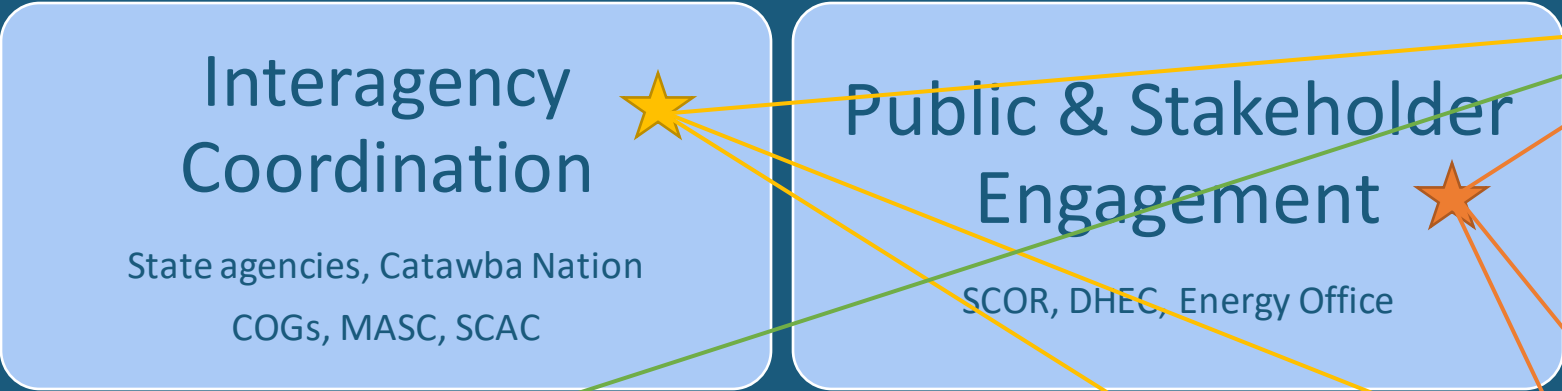
April 1, 2024

CCAP:

June 2025

Status Report:

June 2027

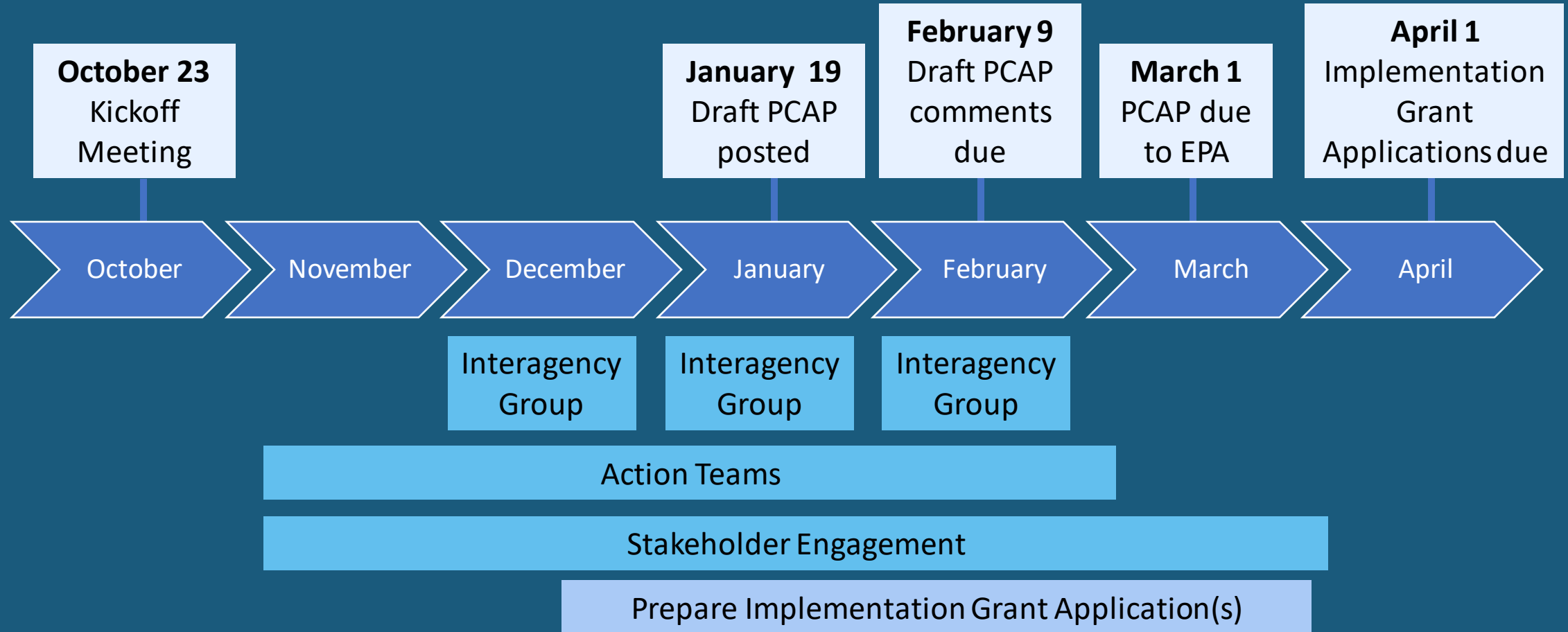


Required Elements

Priority Climate Action Plan (PCAP): March 1, 2024	Comprehensive Climate Action Plan (CCAP): June 2025	Status Report: June 2027
GHG Inventory	GHG Inventory	Update encouraged
	GHG Emissions Projections	Update encouraged
	GHG Reduction Targets	
Quantified GHG Reduction Measures	Quantified GHG Reduction Measures	Status and updates required
Benefits Analysis	Benefits Analysis	Benefits Analysis
Review of Authority to Implement	Review of Authority to Implement	Update required
	Intersection with Other Funding Availability	Intersection with Other Funding Availability
	Workforce Planning Analysis	Workforce Planning Analysis
		Next Steps Future Budget and Staffing Needs

Monitor and Measure Program Performance: Outputs and Outcomes

PCAP Timeline and Targets



Interagency and Intergovernmental Coordination

1

Represent

- Respectfully represent your organization's interests and concerns relating to GHG and air pollution emissions reductions and climate planning

2

Participate in Action Teams

- Identify, assess, and make recommendations for priority, quantified GHG reduction measures
- Identify data gaps and needs that could be addressed at all PAQC stages

3

Communicate

- Share communications with your organization and networks
- Advise on effective and transparent mechanisms for public and stakeholder engagement

4

Implement

- Review and provide feedback on the PCAP drafts
- Participate/promote participation in the Implementation Grant phase

PCAP Public and Stakeholder Engagement

- Website (<https://scor.sc.gov/paqc>)
- 1-pager (posted on website; others as needed)
- Public interest/project input form (available via website)
- Public webinar
- Leverage and coordinate with existing efforts, networks, and meetings
- Interagency and intergovernmental coordination group



PCAP Required Elements

1

Greenhouse gas inventory

2

Quantifiable GHG reduction measures

3

Review of authority

4

Benefits analyses

1

Greenhouse gas inventory

[Energy Resources for State, Local, and Tribal Governments \(Home\)](#)

[State Topics](#)

[Local Topics](#)













[Tribal Topics](#)

[Resources](#)

Download the State Inventory and Projection Tool

Welcome to the download page for EPA's State Greenhouse Gas Inventory and Projection Tools. The page includes zip files containing the tools and corresponding guidance documents. Note that the user's guides are companion documents to the tools, and EPA encourages users to consult them. This version of the State Inventory Tool (updated June 2023) has data updated through 2020. Please use the latest version of each State Inventory Tool module with the latest version of the Projection Tool so data can be imported correctly.

 [Download All State Inventory Tool Modules \(zip\)](#)

-  [Ag Module \(xls\)](#)
-  [CO2FFC Module \(xls\)](#)
-  [Coal Module \(xls\)](#)
-  [Electricity Consumption Module \(xls\)](#)
-  [IP Module \(xls\)](#)
-  [Land Use, Land-Use Change, and Forestry Module \(xls\)](#)
-  [Mobile Combustion Module \(xls\)](#)
-  [Natural Gas and Oil Module \(xls\)](#)
-  [Solid Waste Module \(xls\)](#)
-  [Stationary Combustion Module \(xls\)](#)
-  [Synthesis Tool \(xls\)](#)
-  [Wastewater Module \(xls\)](#)

 [Projection Tool \(zip\)](#)

<https://www.epa.gov/statelocalenergy/state-inventory-and-projection-tool>

2

Quantifiable GHG reduction measures

- Voluntary
- Incentive-based
- Complementary

What is a measure?

- “...programs, policies, measures, and projects that will achieve or facilitate the reduction of greenhouse gas air pollution.”

2

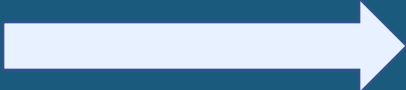
Quantifiable GHG reduction measures

Coordination Teams

Interagency & Intergovernmental Coordination
State agencies, Catawba Nation
COGs, MASC, SCAC

Public & Stakeholder Engagement
SCOR, DHEC, Energy Office

Sector-specific teams of experts and engaged stakeholders to help identify and evaluate quantifiable GHG reductions measures



Action Teams

Transportation and Mobile Sources

Agriculture / Natural and Working Lands

Waste and Materials Management

Residential and Commercial Buildings / Energy Efficiency

Climate / GHG Inventories and Analyses

Industry, Commerce, and Sustainability

2

Quantifiable GHG reduction measures

Residential and Commercial Buildings / Energy Efficiency

- Energy efficiency incentives
- Weatherization retrofits
- Building energy codes
- Building performance

Industry, Commerce, and Sustainability

- CO2 capture, transportation, storage; related technologies
- CO2 monitoring, reporting, verification; markets
- Clean hydrogen
- Low carbon materials and procurement
- Energy and material efficiency in industrial processes
- Clean industrial hubs or clusters

2

Quantifiable GHG reduction measures

Agriculture / Natural and Working Lands

- Soil health
- Climate-smart agricultural, forestry, and livestock practices
- Ecosystem restoration and protection; reduction of land use conversion
- Carbon storage measuring and monitoring
- Urban forests, green spaces
- On-farm renewable energy and energy efficiency
- Wildfire risk management

Waste and Materials Management

- Increase recycling, composting, waste diversion
- Optimize energy recovery from landfills
- Product stewardship

2

Quantifiable GHG reduction measures

Transportation and Mobile Sources

- Zero Emission Vehicles: Incentives for light, medium and heavy-duty electric vehicles; state fleets
- Ports, Airports, Freight, Rail: Increase of electrified or less carbon intense transportation, including vessels, truck transport, port equipment, etc.
- Charging infrastructure deployment
- Clean infrastructure investments; reduce vehicle miles traveled
- Planning and zoning: transit, land use, and housing

3

Review of authority

“Plans will need to identify for each measure whether the relevant state or local governments already have existing statutory or regulatory authority to implement the measure, or whether such authority still must be obtained.”

Transportation Example

Zero Emission Vehicles

Alternative Fuel Vehicle Revolving Loan Program (SC Energy Office)

EV charging station incentives and rebates (electric utilities)

Alternative Fuel Vehicle Fee (S.C. Code of Laws 56-3-645 and 12-28-110(39))

State Agency Preference for Alternative Fuel and Advanced Vehicles (S.C. Code of Laws 1-11-310)

Electric Transportation Stakeholder Group (S.C. Code of Laws 58-27-270)

EV Deployment Support (Executive Order 2022-31)

Ports, Airports, Freight, Rail

Diesel Emissions Reduction Grants (EPA/SC DHEC funding program)

Idle Reduction Requirement (S.C. Code of Laws 56-35-10 to 56-35-80)

Charging Infrastructure Deployment

National Electric Vehicle Infrastructure (NEVI) Planning (U.S. DOT Formula Grant Program)

Electric Transportation Impact Studies (S.C. Code of Laws 58-27-260)

Transportation Electrification Utility Impact Study (S.C. Code of Laws 58-27-265)

EV Infrastructure Deployment Support and EV Working Group (Executive Order 2022-31)

4 Benefits analyses

Justice40 Initiative:

- Federal government goal: 40% of overall federal investment benefits flow to communities that are marginalized, underserved, and overburdened by pollution
- <https://www.epa.gov/environmentaljustice/justice40-epa>

PCAP Requirements:

- Identify communities that experience disproportionate burdens using the Climate and Economic Justice Screening Tool (CEJST)
 - <https://screeningtool.geoplatform.gov/en/>
- Engage with identified communities to understand community priorities and inform PCAP development and implementation
- Estimate potential benefits of GHG emission reduction measures for the communities

Category and Indicator	Data Source
Census tract information/demographics	<ul style="list-style-type: none"> U.S. Census
Low Income <ul style="list-style-type: none"> Percent of a census tract's population in households where household income is ≤ 200% of the Federal poverty level 	<ul style="list-style-type: none"> U.S. Census
Climate Change	
<ul style="list-style-type: none"> Expected agricultural loss rate Expected building loss rate Expected population loss rate Projected flood risk Projected wildfire risk 	<ul style="list-style-type: none"> FEMA National Risk Index First Street Foundation
Energy	
<ul style="list-style-type: none"> Energy cost PM 2.5 in the air 	<ul style="list-style-type: none"> Department of Energy (DOE) EPA
Health	
<ul style="list-style-type: none"> Low life expectancy Asthma Diabetes Heart disease 	<ul style="list-style-type: none"> Centers for Disease Control and Prevention (CDC)
Housing	
<ul style="list-style-type: none"> Historical underinvestment Housing cost Lack of indoor plumbing Lack of green space Lead paint 	<ul style="list-style-type: none"> National Community Reinvestment Coalition Department of Housing and Urban Development (HUD) Multi-Resolution Land Characteristics Consortium U.S. Census

CEJST environmental and socioeconomic burden categories and indicators

Category and Indicator	Data Source
Legacy Pollution	
<ul style="list-style-type: none"> Abandoned mine land Formerly used defense sites Proximity to hazardous waste facilities Proximity to Superfund sites Proximity to Risk Management Plan facilities 	<ul style="list-style-type: none"> Department of the Interior (DOI) U.S. Army Corps of Engineers EPA
Transportation	
<ul style="list-style-type: none"> Diesel particulate matter exposure Transportation barriers Traffic proximity and volume 	<ul style="list-style-type: none"> EPA Department of Transportation (DOT)
Water and wastewater	
<ul style="list-style-type: none"> Underground storage tanks and releases Wastewater discharge 	<ul style="list-style-type: none"> EPA
Workforce development	
<ul style="list-style-type: none"> Linguistic isolation Low median income Poverty Unemployment High school education 	<ul style="list-style-type: none"> U.S. Census

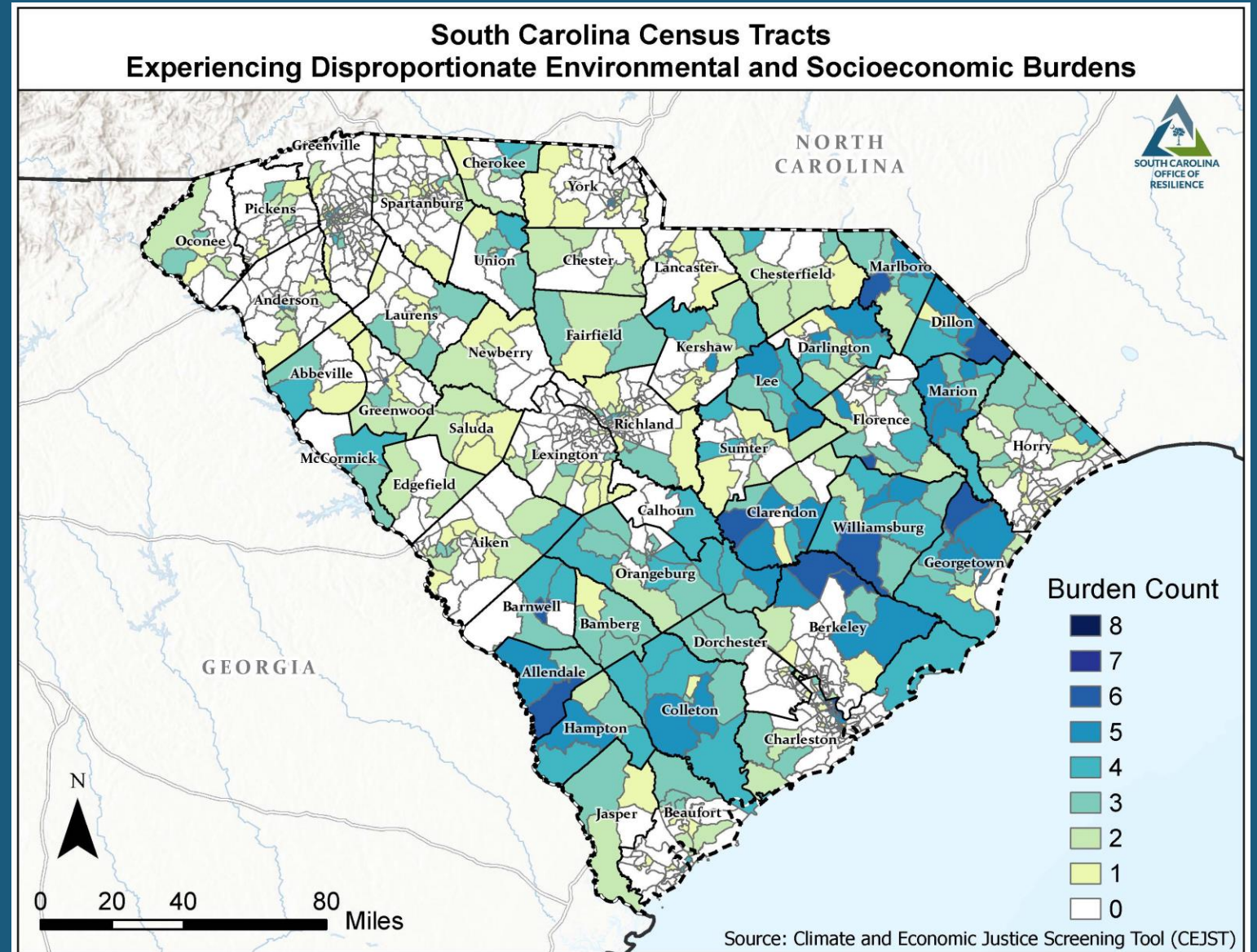
CEJST environmental and socioeconomic burden categories

Indicators include:

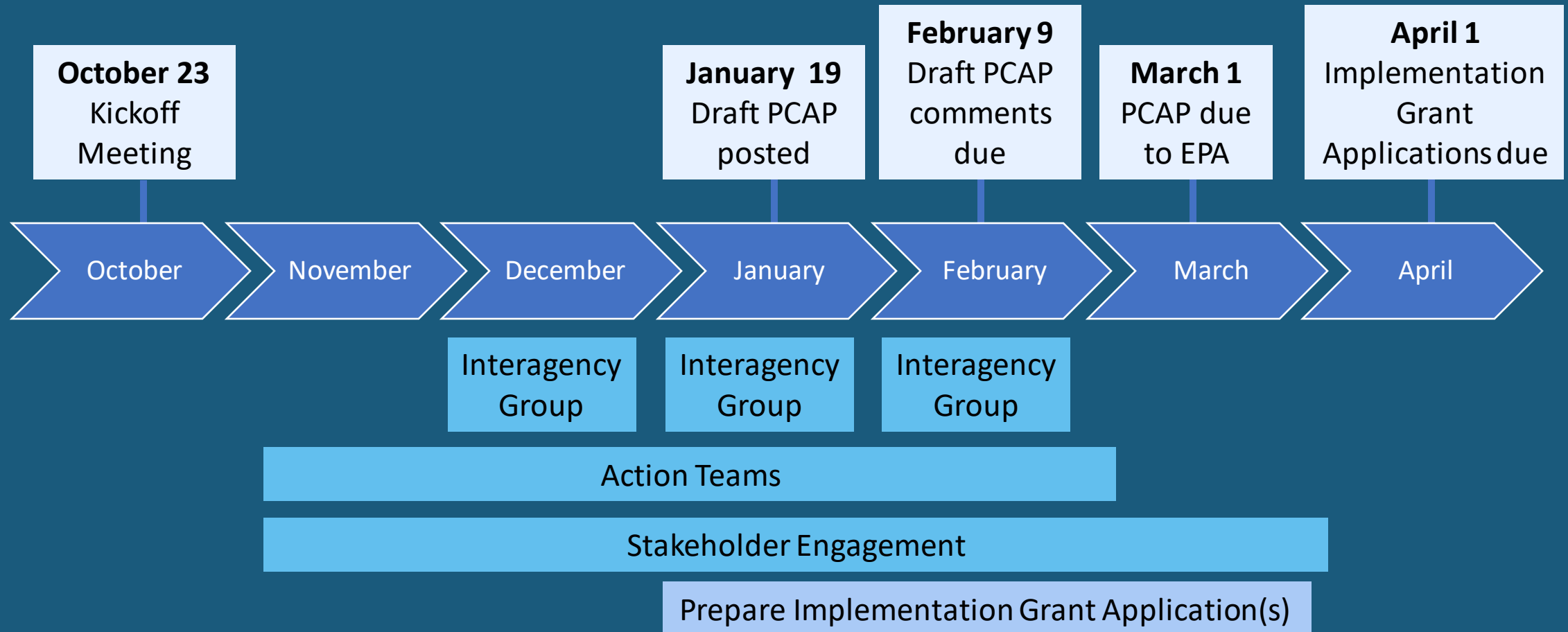
Low income (% of census tract's population where household income is \leq 200% of the Federal poverty level)

AND

1. Climate change
2. Energy
3. Health
4. Housing
5. Pollution
6. Transportation
7. Water and wastewater
8. Workforce development



Recap: PCAP Timeline and Targets





Questions, Discussion, and Next Steps

Discussion

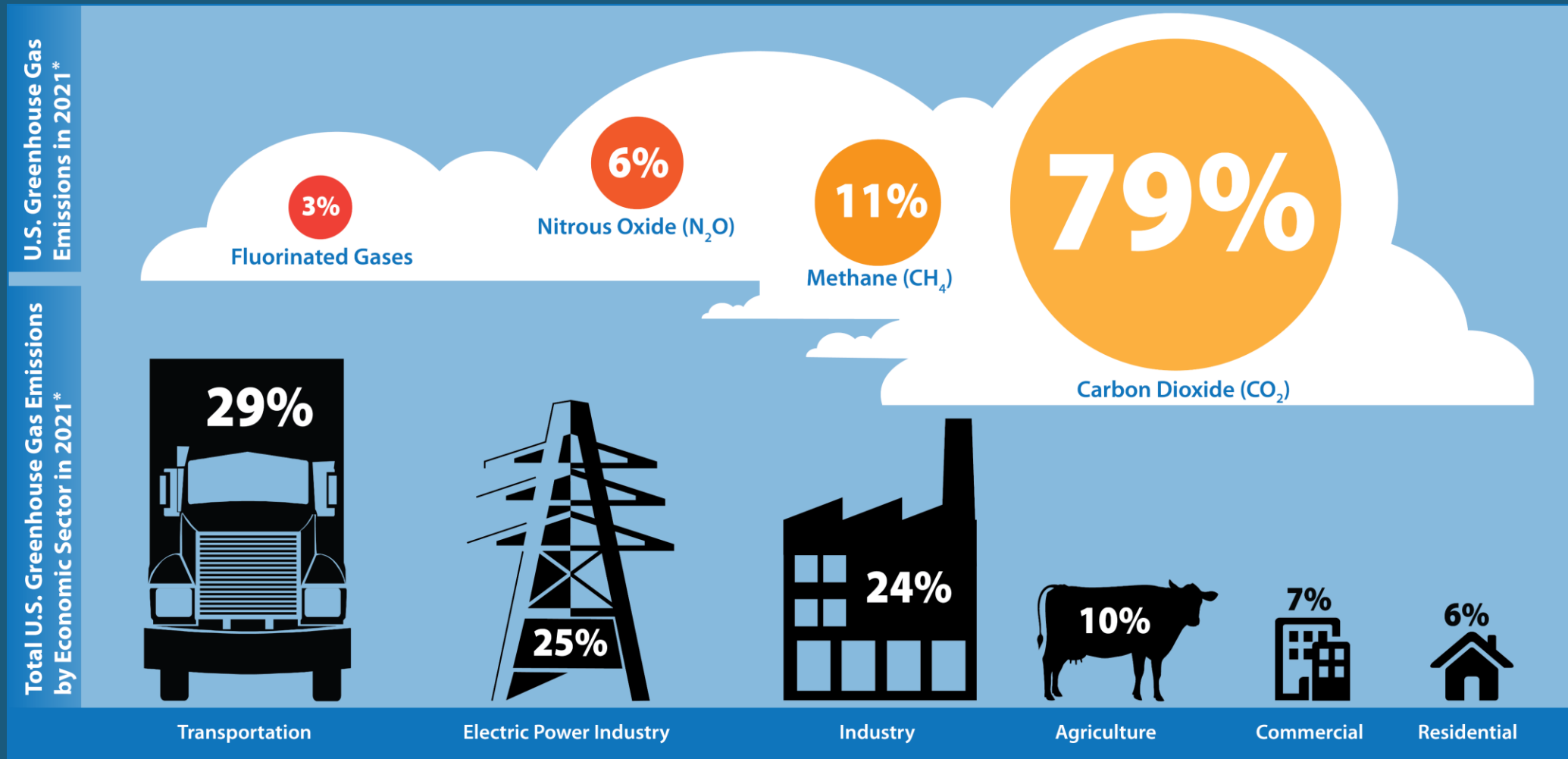
- What is your organization and/or sector doing that relates to the PAQC and CPRG program?
- What are the most effective ways to engage and coordinate with your organization and/or sector?
- Who else needs to be engaged or invited to participate?
- What measures and/or sectors would you recommend prioritizing for the PCAP?

Next Steps

- Survey for Interagency and Intergovernmental Coordination invitees
- Form Action Teams
- Finalize PCAP development schedule
- Disseminate information
 - Website (<https://scor.sc.gov/paqc>)
 - PAQC Listerv
 - Through partners' networks, meetings, newsletters, etc.

Additional Slides

U.S. Greenhouse Gas Emissions by Sector and Gas (2021)



EPA SIT Tool

- “An interactive spreadsheet model designed to help states develop GHG emissions inventories and was developed to lessen the time it takes to develop an inventory (collecting data, identifying emission factors, etc.)”
- Data are gathered by federal agencies
- All modules examine direct GHG emissions
 - Exception: electricity consumption module estimates indirect GHG emissions
- Can use default data pre-loaded for each state, or customize with specific data
- Methods used and sectors covered are the same as those in the Inventory of U.S. Greenhouse Gas Emissions and Sinks (EPA, 2022)

EPA SIT Tool

- 11 estimation models applying a top-down approach, and 1 module to synthesize estimates across all modules
 - Agriculture
 - Direct CO₂ from Combustion of Fossil Fuels
 - Coal
 - Electricity Consumption
 - Industrial Processes
 - Land Use, Land-Use Change, and Forestry
 - Mobile Combustion
 - Natural Gas and Oil
 - Solid Waste
 - Stationary Combustion
 - Synthesis Tool
 - Wastewater
- Methods used and sectors covered are the same as those in the U.S. GHG Inventory
 - Fossil fuels
 - Electricity consumption
 - Agriculture
 - Forestry
 - Waste Management
 - Industry