Palmetto Air Quality Collaborative (PAQC)

Kickoff Meeting
Interagency and Intergovernmental Coordination
October 23, 2023

SOUTH CAROLINA
OFFICE OF
RESILIENCE

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

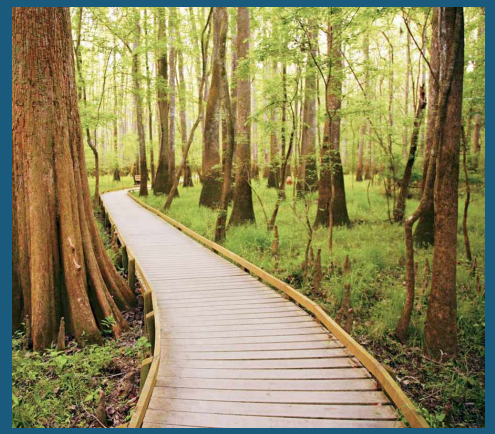
Why Reduce Emissions?

<u>Provide Benefits:</u>

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

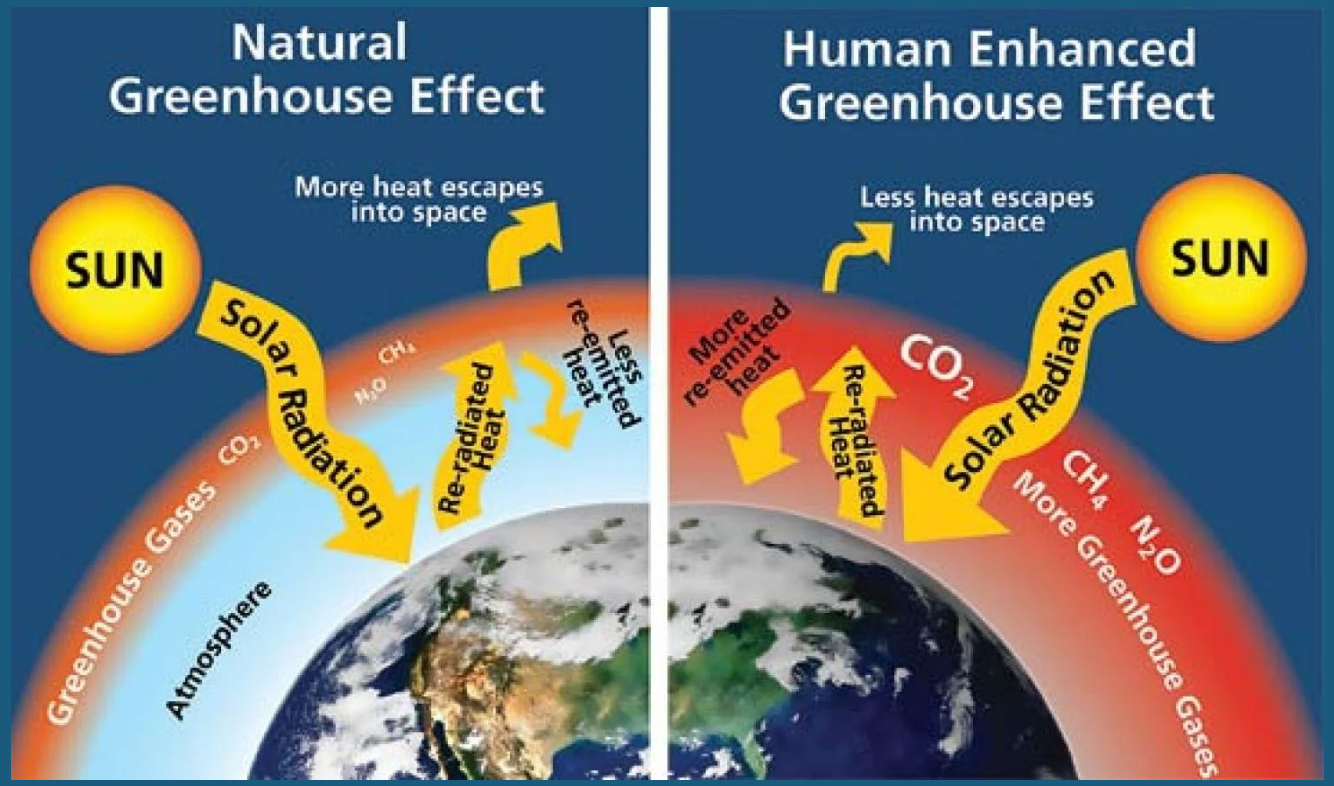
<u>Reduce Harm:</u>

- 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

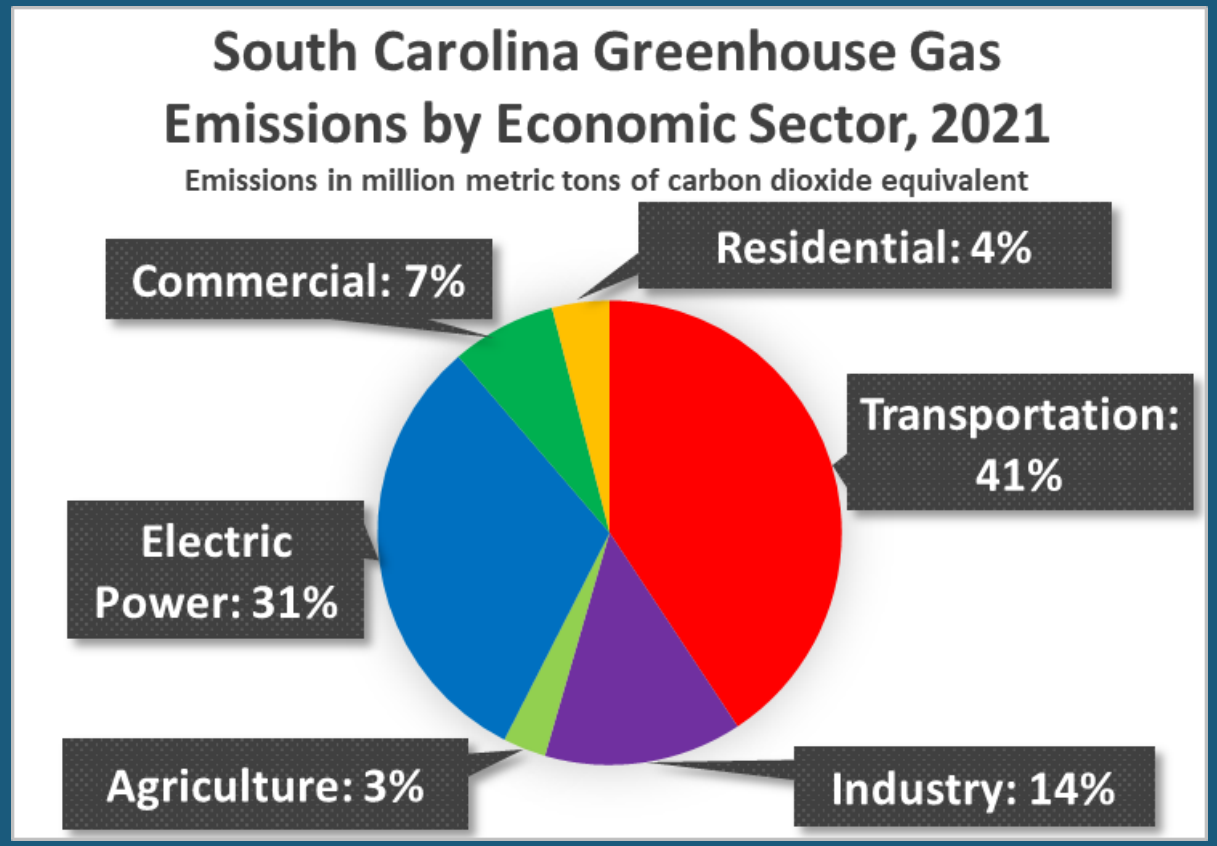


Source: UC Boulder

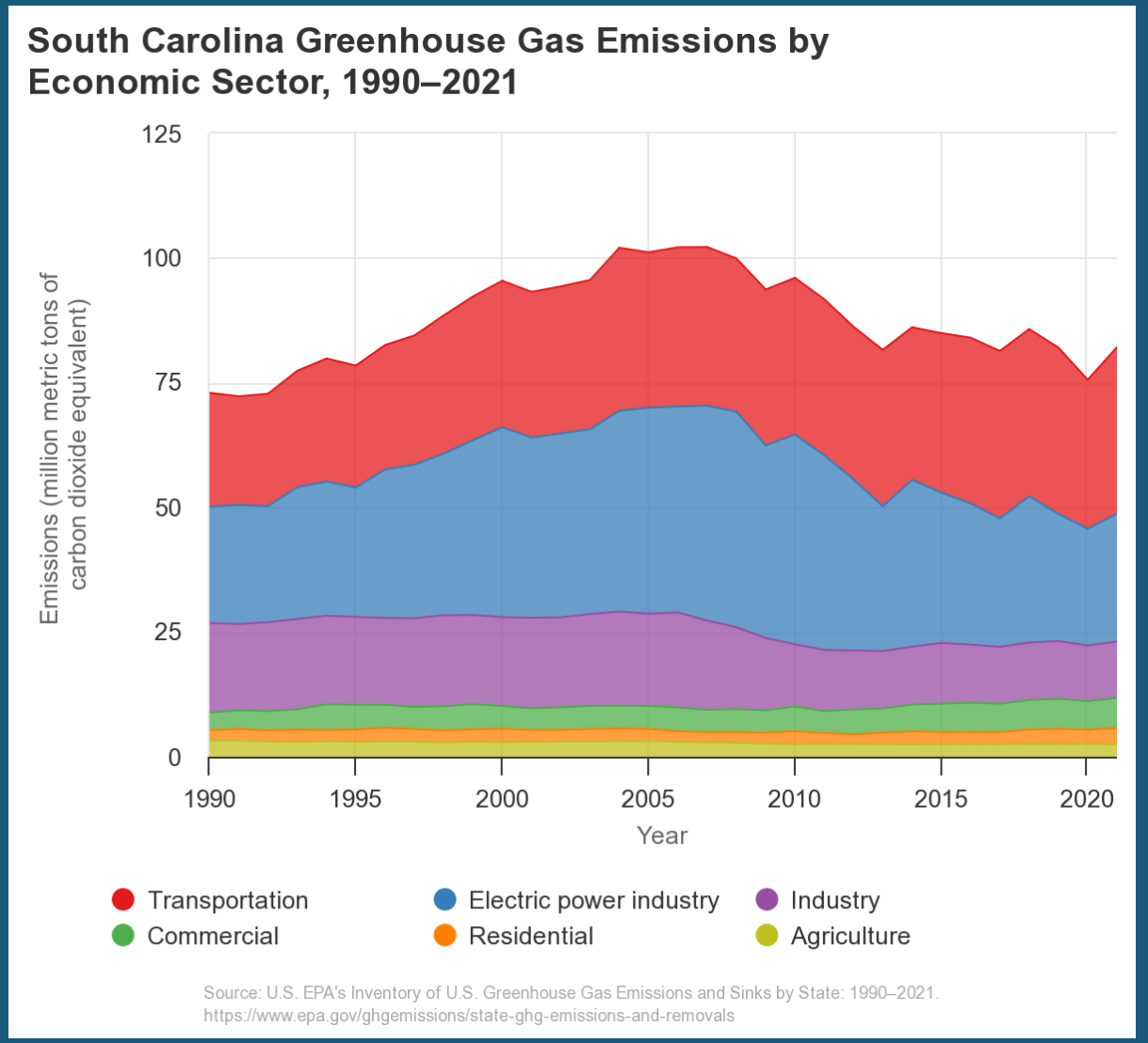
Greenhouse Gases

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_2O	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



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



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
  - Led bySC Office of Resilience (SCOR)
  - 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

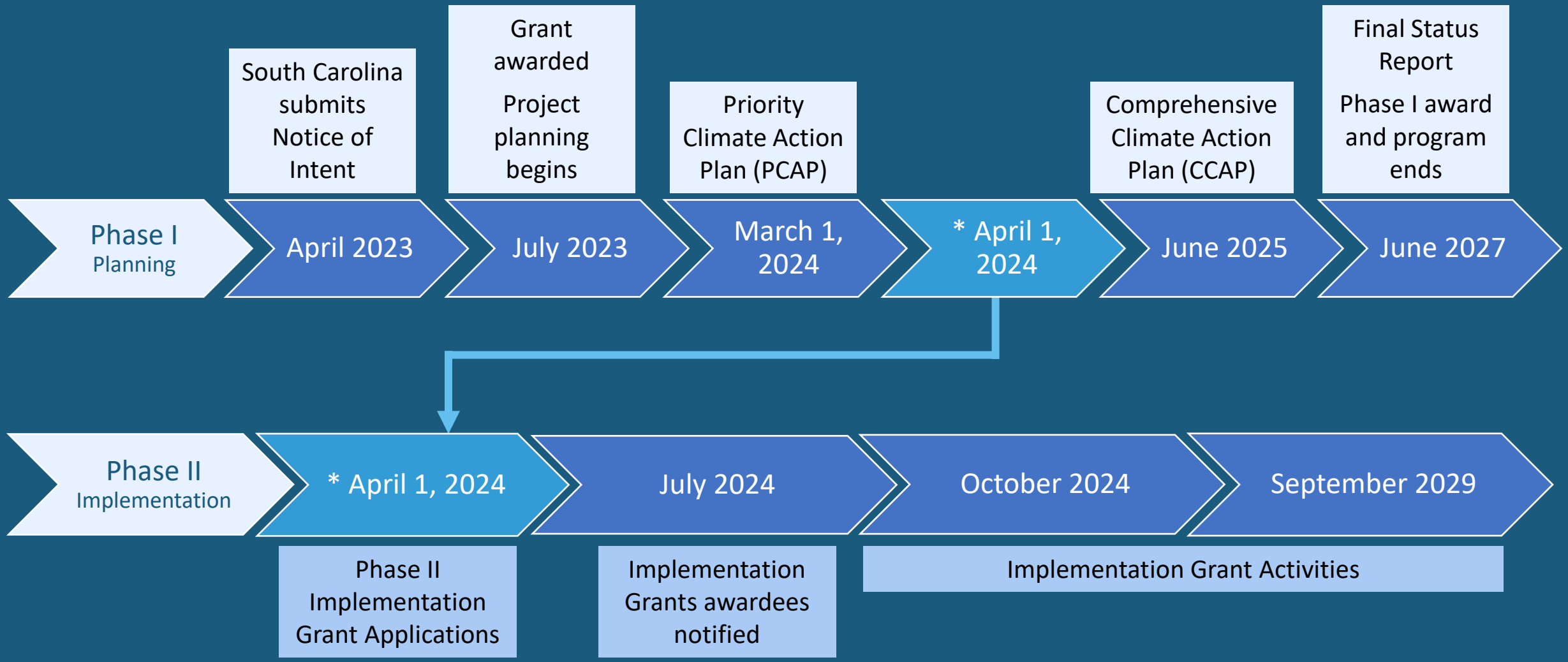
Applications due April 1, 2024

- 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

Coordination Teams

Interagency Coordination

State agencies, Catawba Indian Nation, COGs, municipalities

Public & Stakeholder Engagement

SCOR, other state agencies

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

Deliverables

PCAP:
March 1, 2024

Implementation Grant
April 1, 2024

CCAP:
June 2025

Status Report:
June 2027

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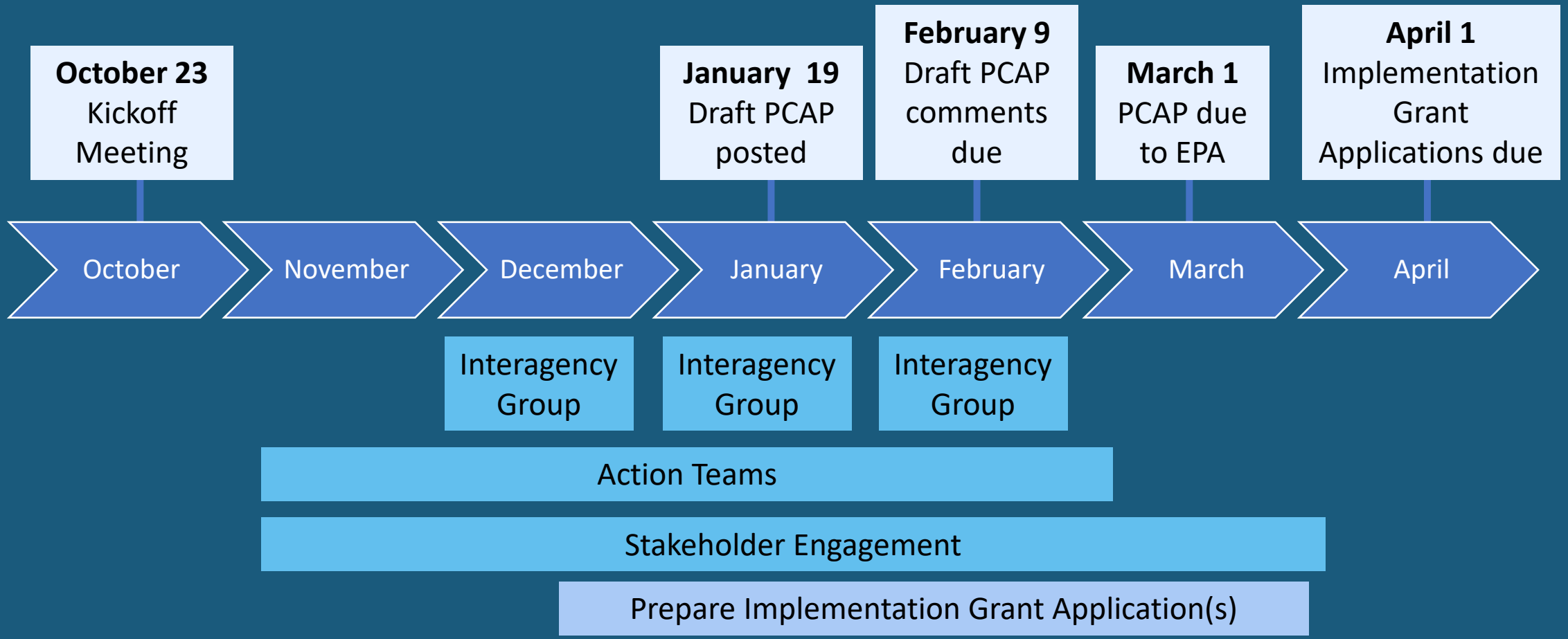
Deliverables

- 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

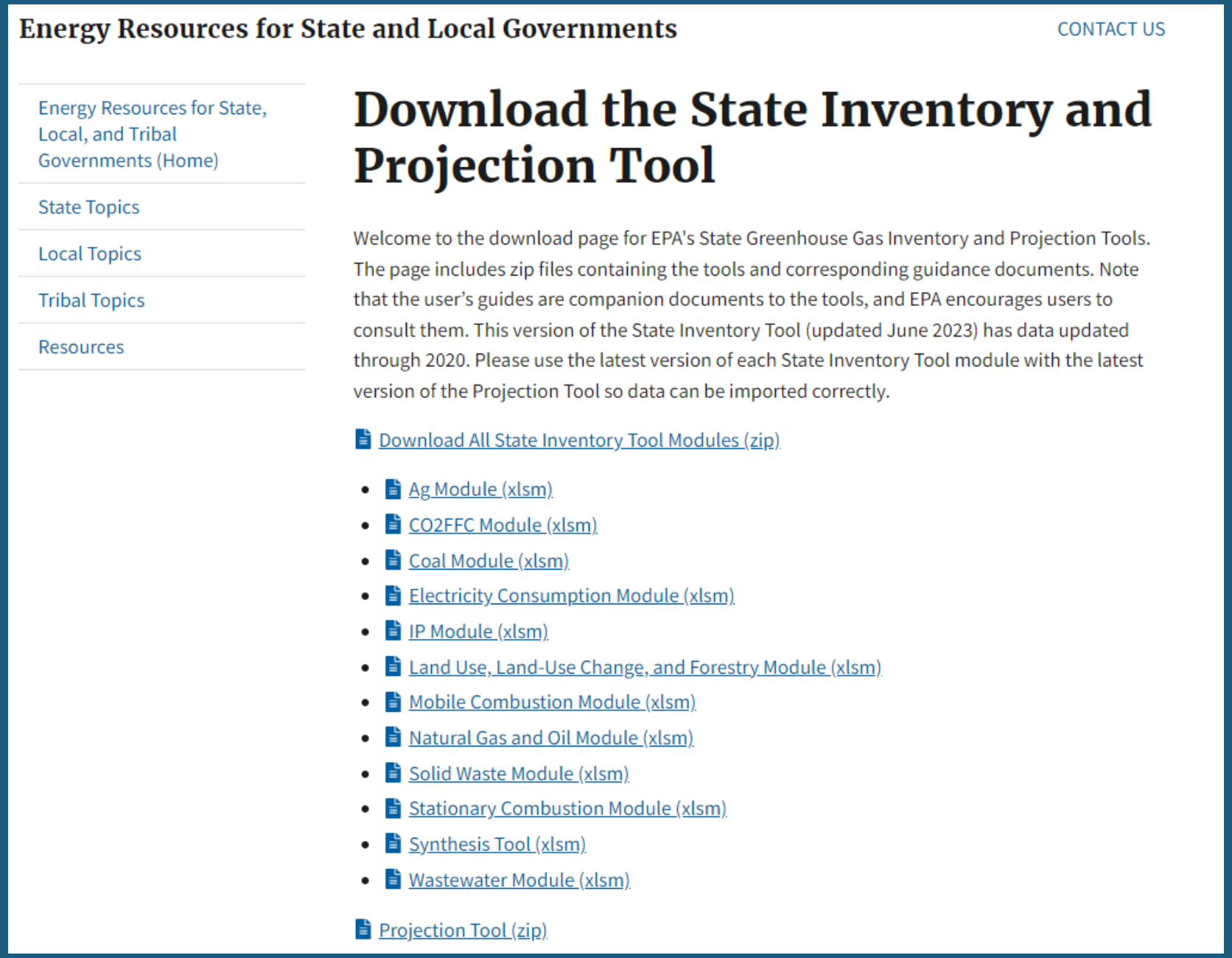
- Website (https://scor.sc.gov/paqc)
- 1-pager (posted on website; others as needed)
- Public interest/project input form (available via website)
- Public webinar
- Leverage and coordinate with existing efforts, networks, and meetings
- Interagency and intergovernmental coordination group

PCAP Required Elements

1. Greenhouse gas inventory
2. Quantifiable GHG reduction measures
3. Review of authority
4. Benefits analyses

1 Greenhouse gas inventory

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



Energy Resources for State and Local Governments

CONTACT US

- 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 (xlsm)
- CO2FFC Module (xlsm)
- Coal Module (xlsm)
- Electricity Consumption Module (xlsm)
- IP Module (xlsm)
- Land Use, Land-Use Change, and Forestry Module (xlsm)
- Mobile Combustion Module (xlsm)
- Natural Gas and Oil Module (xlsm)
- Solid Waste Module (xlsm)
- Stationary Combustion Module (xlsm)
- Synthesis Tool (xlsm)
- Wastewater Module (xlsm)

Projection Tool (zip)

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

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

Coordination Teams

- **Interagency & Intergovernmental Coordination**
  State agencies, Catawba Indian Nation, COGs, municipalities
- **Public & Stakeholder Engagement**
  SCOR, other state agencies

Action Teams

- Transportation and Mobile Sources
- Residential and Commercial Buildings / Energy Efficiency
- Agriculture / Natural and Working Lands
- Climate / GHG Inventories and Analyses
- Waste and Materials Management
- 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 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

CEJST environmental and socioeconomic burden categories and indicators

Category and Indicator	Data Source
Census tract information/demographics	• U.S. Census
Low Income • Percent of a census tract's population in households where household income is ≤ 200% of the Federal poverty level	• U.S. Census
Climate Change	
• Expected agricultural loss rate • Expected building loss rate • Expected population loss rate	• FEMA National Risk Index
• Projected flood risk • Projected wildfire risk	• First Street Foundation
Energy	
• Energy cost	• Department of Energy (DOE)
• PM 2.5 n the air	• EPA
Health • Low life expectancy • Asthma • Diabetes • Heart disease	• Centers for Disease Control and Prevention (CDC)
Housing	
• Historical underinvestment	• National Community Reinvestment Coalition
• Housing cost • Lack of indoor plumbing	• Department of Housing and Urban Development (HUD)
• Lack of green space	• Multi-Resolution Land Characteristics Consortium
• Lead paint	• U.S. Census

Category and Indicator	Data Source
Legacy Pollution	
• Abandoned mine land	• Department of the Interior (DOI)
• Formerly used defense sites	• U.S. Army Corps of Engineers
• Proximity to hazardous waste facilities • Proximity to Superfund sites • Proximity to Risk Management Plan facilities	• EPA
Transportation	
• Diesel particulate matter exposure	• EPA
• Transportation barriers • Traffic proximity and volume	• Department of Transportation (DOT)
Water and wastewater	
• Underground storage tanks and releases • Wastewater discharge	• EPA
Workforce development	
• Linguistic isolation • Low median income • Poverty • Unemployment • High school education	• U.S. Census

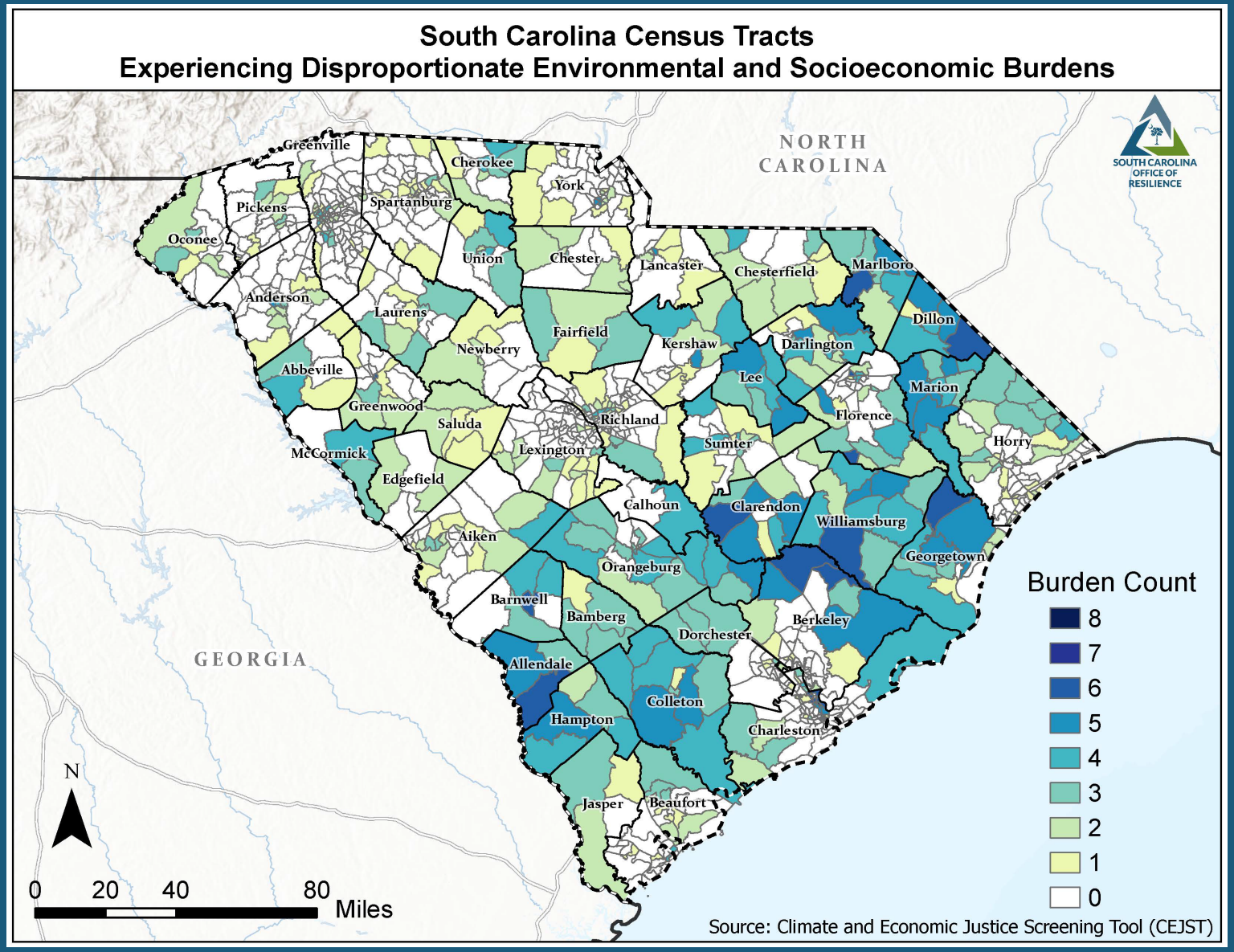
CEJST environmental and socioeconomic burden categories

Indicators include:

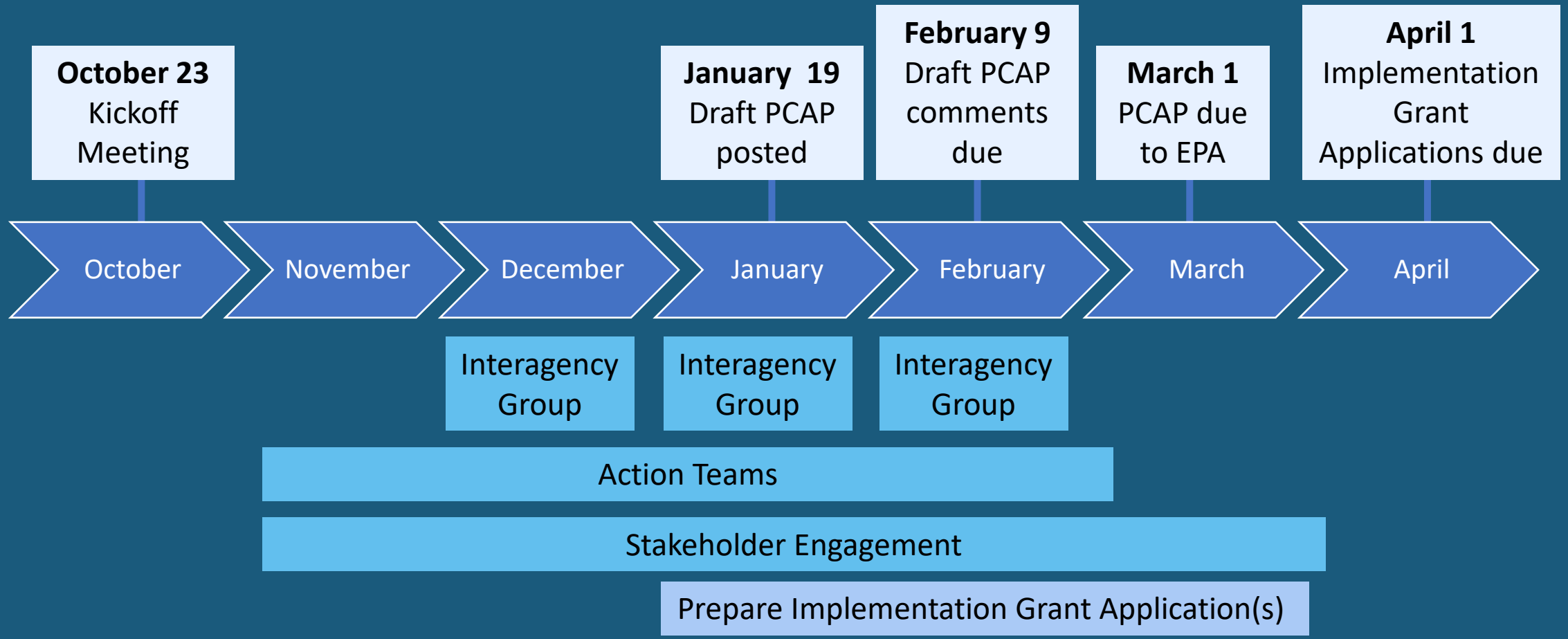
Low income (% of census tract's population where household income is ≤ 200% of the Federal poverty level)

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

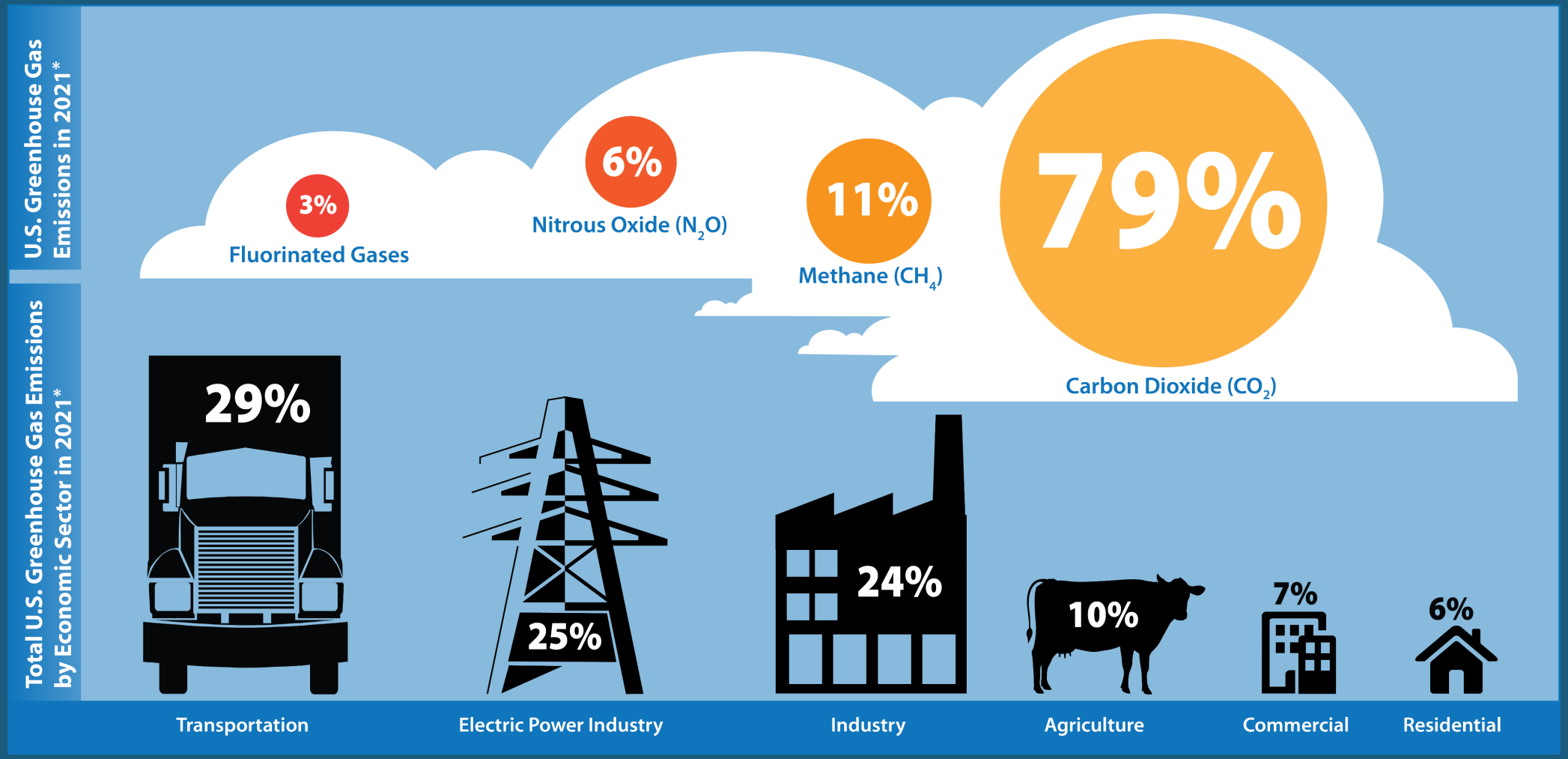
- What is your organization and/or sector doing that relates to the PAQC and CPRG program?
- What are the most effective ways to engage and coordinate with your organization and/or sector?
- Who else needs to be engaged or invited to participate?
- What measures and/or sectors would you recommend prioritizing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



Source: Greenhouse Gas Inventory Data Explorer | US EPA

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 CO_2 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
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  - Forestry
  - Waste Management
  - Industry