



Palmetto Air Quality Collaborative (PAQC)

Action Team
Round 2 Meetings



January 8 - 10, 2024





Welcome!

Please enter in chat: name, organization, specific interests

Today's Agenda



1 Action Team Overview

2 Stakeholder Survey

3 GHG Inventory

4 GHG Reduction Measures:
Themes and Ideas

5 Discussion

6 Final Thoughts and
Next Steps

Action Team Roles and Responsibilities

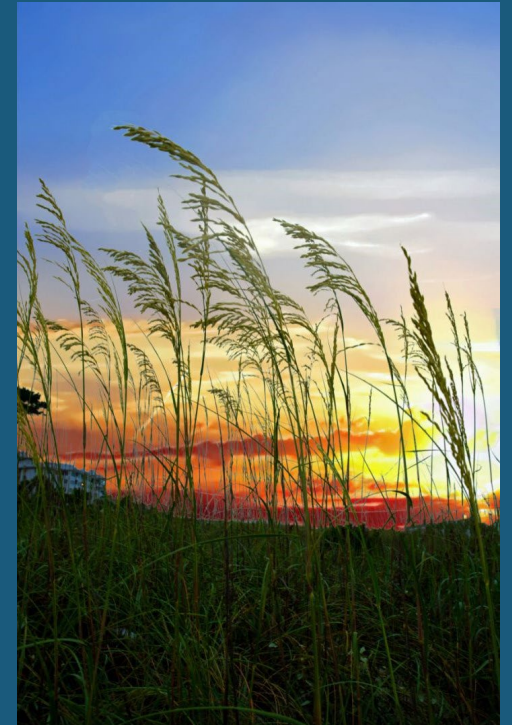
Objectives

- Provide subject-matter expertise and insight of member's organization/community priorities.
- Assist SCOR in identifying, developing, and prioritizing quantifiable, implementable GHG reduction measures for inclusion in the PCAP.
- Provide input on the draft PCAP to create a robust and strong plan that is inclusive of all communities in South Carolina.
- Promote participation in a statewide Implementation Grant application.

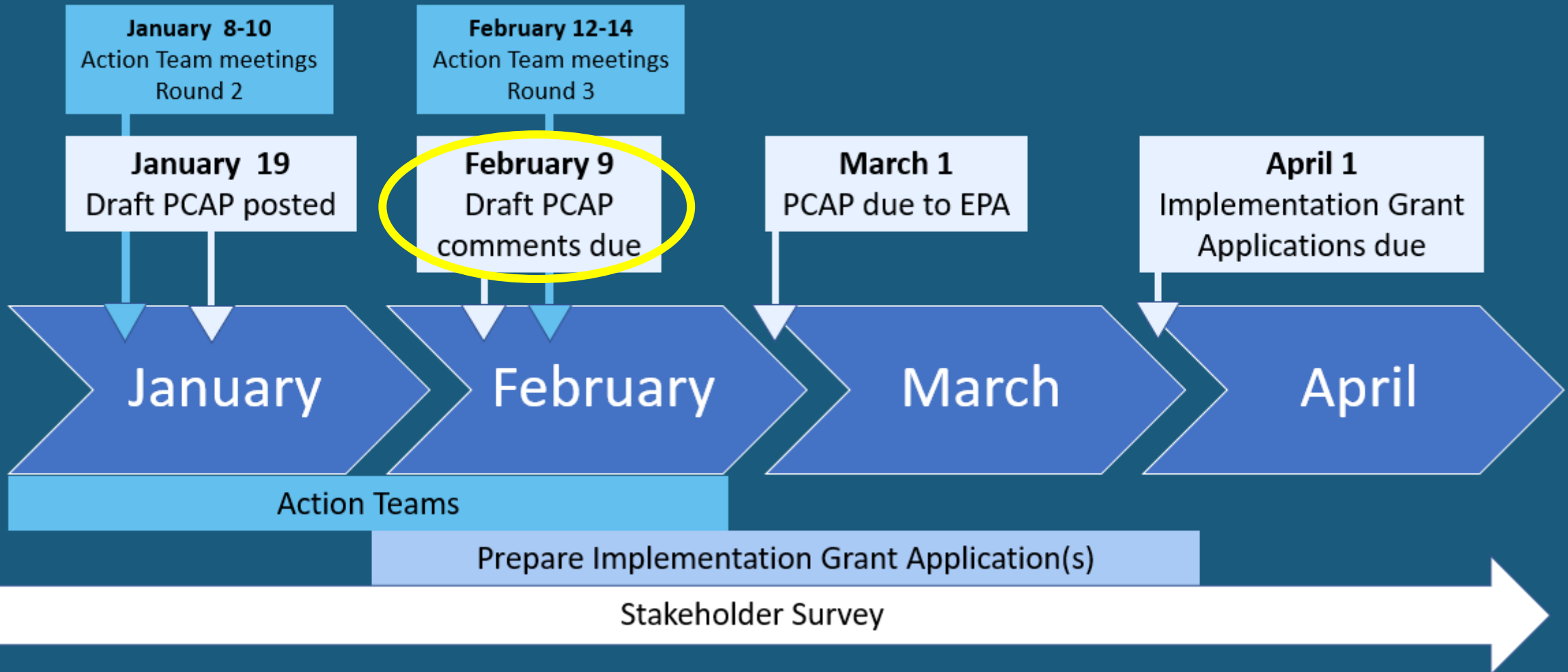
Expectations and Responsibilities

- Respectfully promote interests and concerns of your organization/community as it relates to GHG and co-pollutant reduction measures and climate planning.
- Attend PAQC Action Team meetings as scheduled, or send a representative if unavailable.
- Provide information about efforts your organization/community is working on or developing.
- Review GHG inventories and related information developed by SCOR.
- Provide recommendations for specific measures to include in the PCAP.
- Share engagement opportunities, such as surveys or public meetings, to broaden PAQC's reach.
- Supply additional information or data as available.

Respond to specific action items, such as reviewing materials and providing timely feedback to PAQC.



Review of Dates and Deadlines

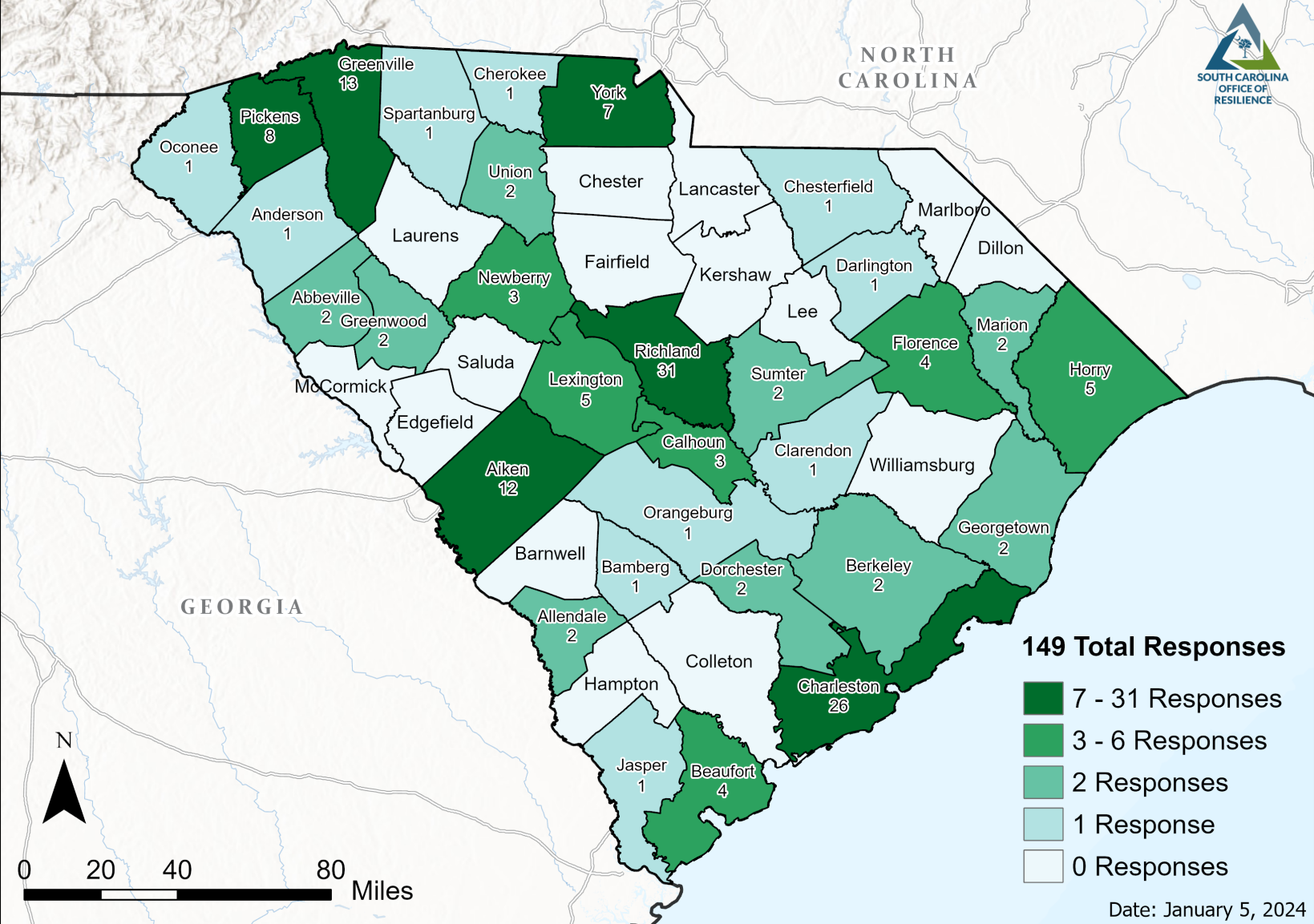


A scenic landscape photograph of a large lake at sunset, with mountains in the background and a forest of trees in the foreground. The sky is filled with colorful clouds in shades of orange, pink, and purple. The water reflects the warm light of the setting sun. The foreground shows a rocky outcrop and dense foliage with some autumn-colored leaves.

Stakeholder Survey

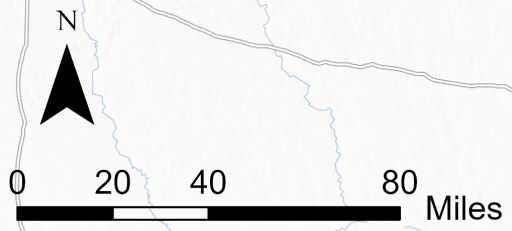
- Opened November 27
 - Encouraged submissions by Dec 22
- As of December 28, 145 responses
 - Organization Responses:
 - 56 Local government
 - 35 Non-Profits
 - 16 Private Citizens
 - 9 COGs
 - 8 Business/Private Sector
 - 8 Community-Based
 - 8 Academia
 - 5 State government
 - 31 Counties

Palmetto Air Quality Collaborative (PAQC) Survey Responses by County



149 Total Responses

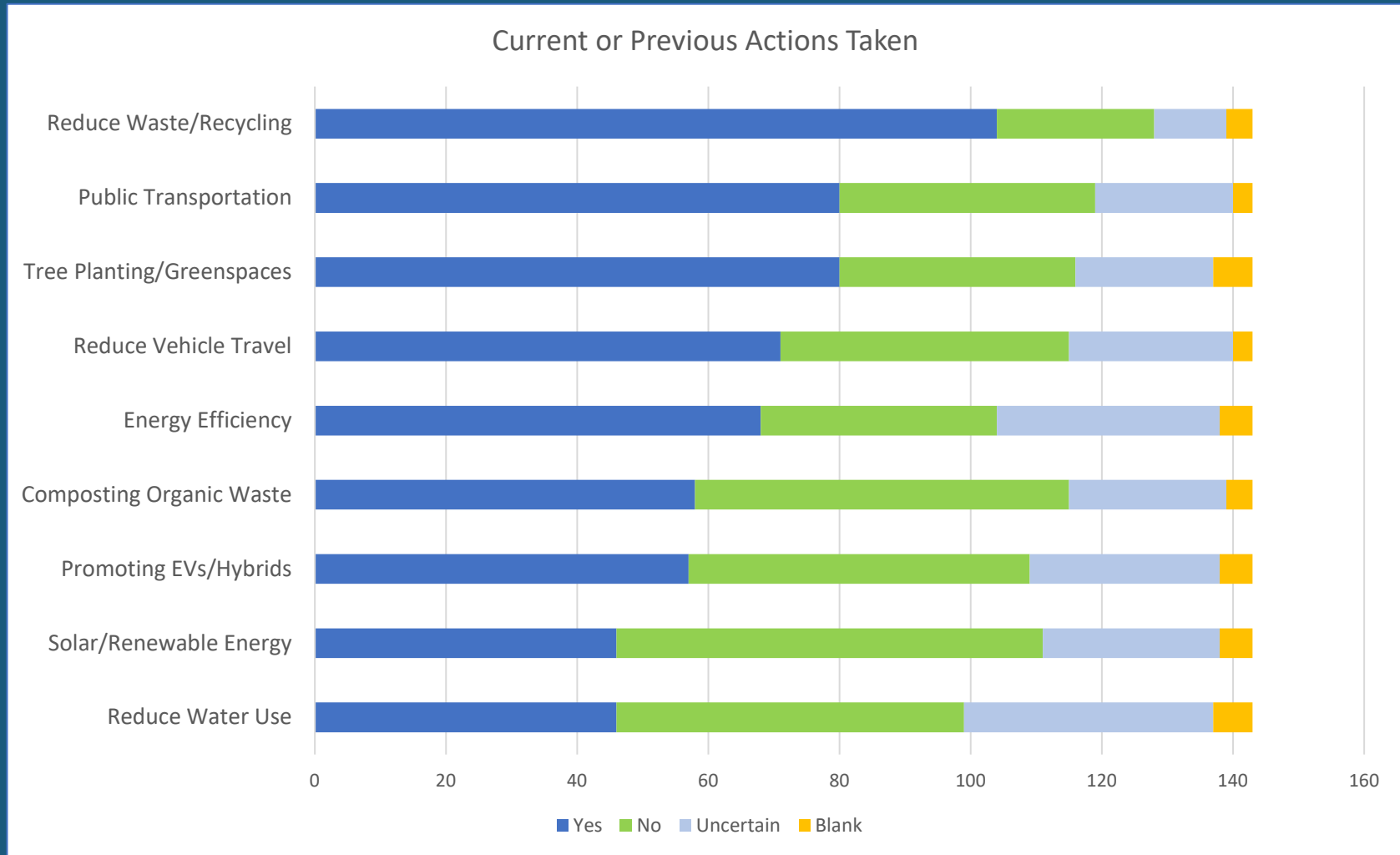
- 7 - 31 Responses
- 3 - 6 Responses
- 2 Responses
- 1 Response
- 0 Responses



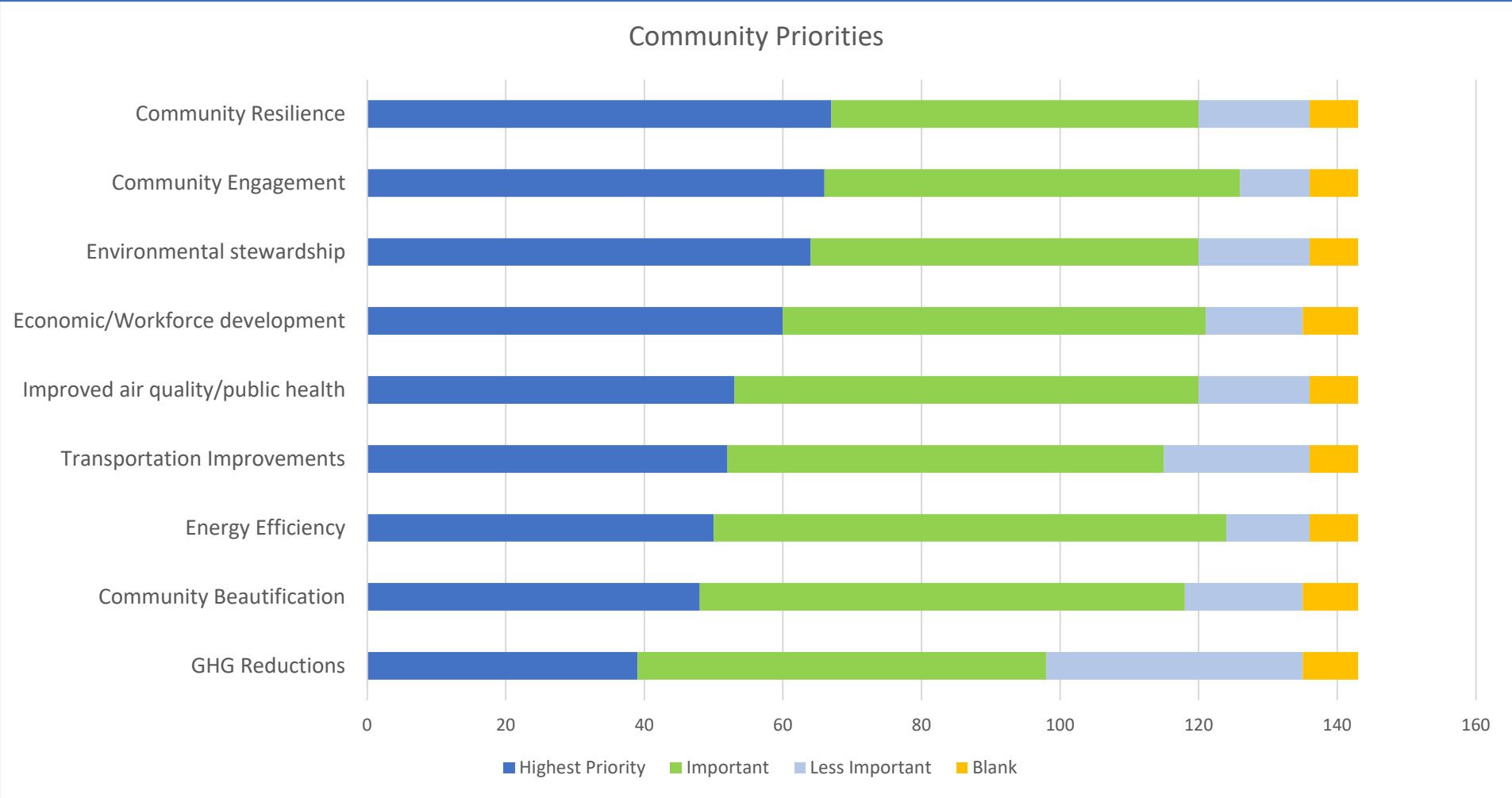
Date: January 5, 2024



Please indicate if your community or organization has taken or is taking any of these actions, many of which may help reduce greenhouse gas emissions.

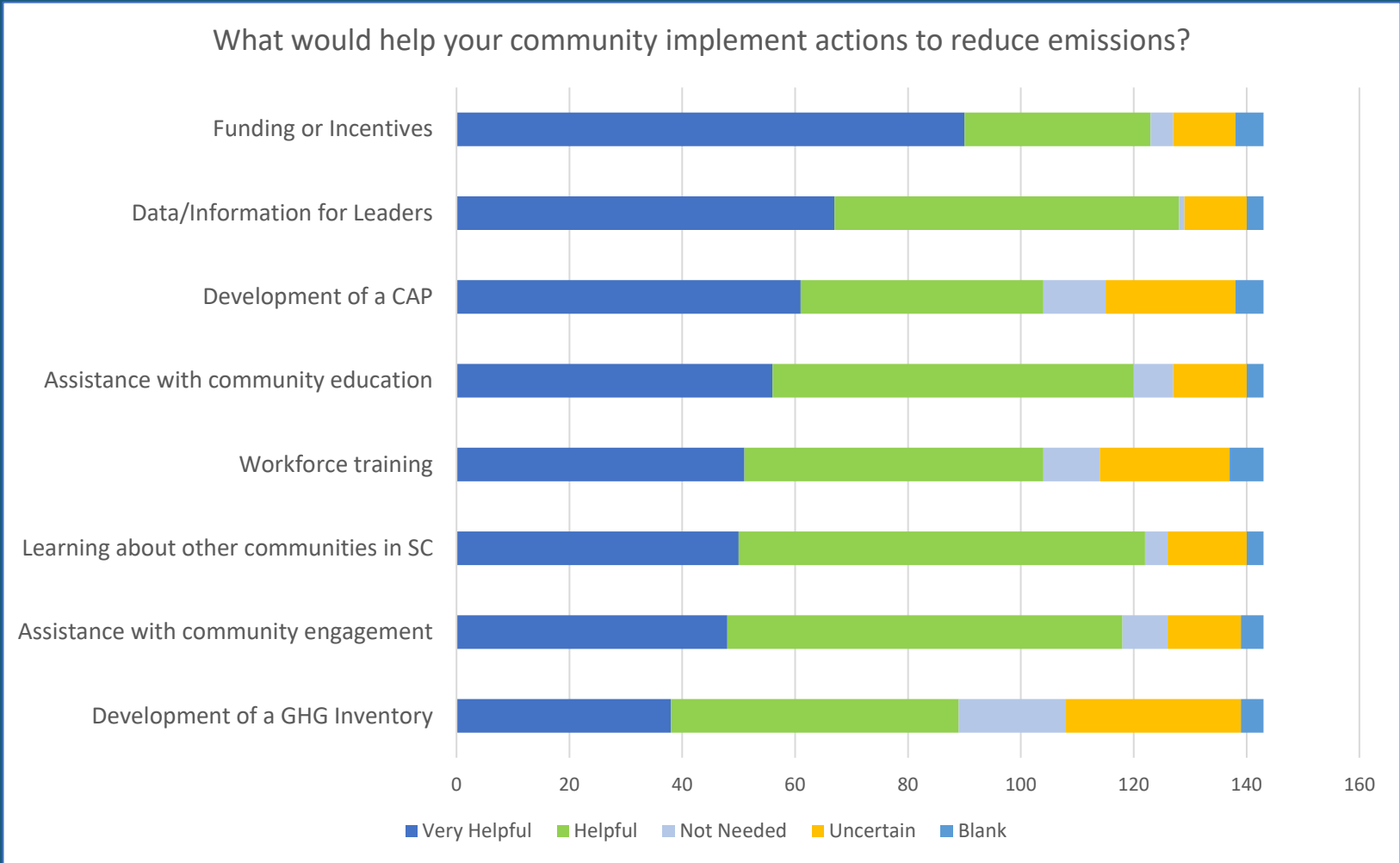


How does your community or organization prioritize the following economic, health, and environmental benefits?





What would help your community or organization plan and implement actions and strategies to reduce greenhouse gas emissions?



Review of PCAP Requirements

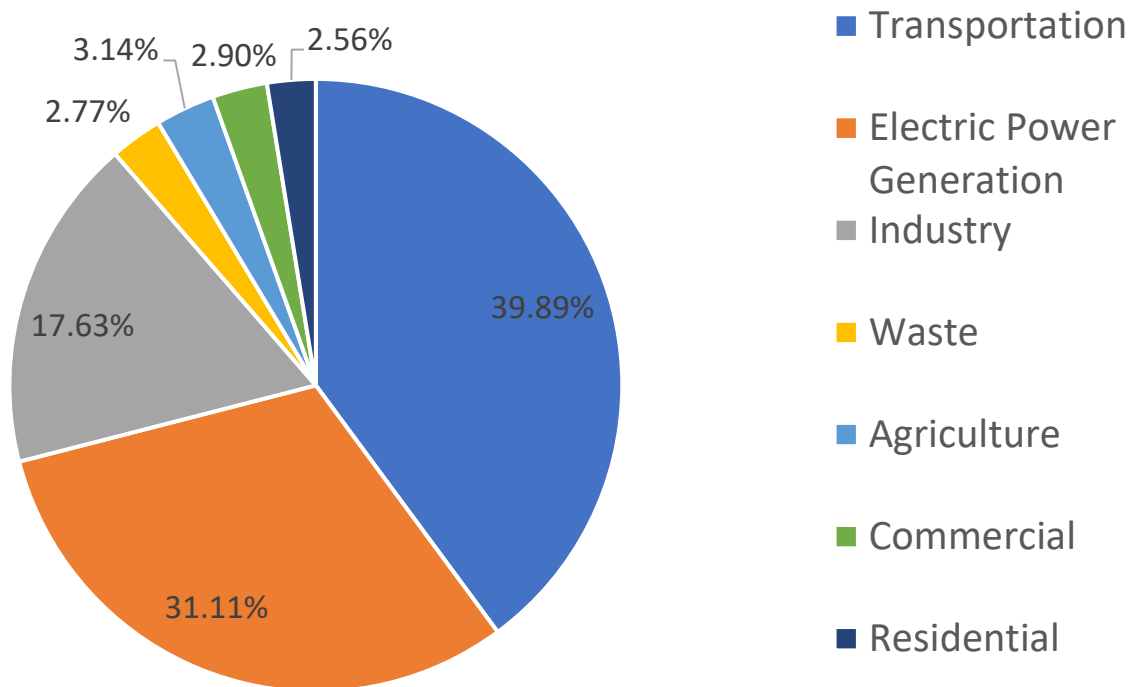
- GHG Inventory
- Priority Measures
 1. Impact on GHG reductions
 2. *Implementation Readiness
 3. *Benefits
- Review of Authority
- Community benefits analysis



SCOR and SC DHEC Goal: *Establish a framework and process for the next 3 ½ years of the CPRG / PAQC planning grant.*

SC GHG Inventory – 2020 Summary

SC GHG Emissions by Source, 2020



Total SC Emissions (MMTCO ₂ e) by Source, 2020		
Sector	Amount	Percentage
Transportation	29.406	39.89%
Electric Power Generation	22.935	31.11%
Industry	13.002	17.63%
Waste	2.039	2.77%
Agriculture	2.318	3.14%
Commercial	2.139	2.90%
Residential	1.888	2.56%
Total:	73.727	

Under review. Please do not cite or distribute.

SC GHG Inventory – Summary by Source and GHG

All units are measured in million metric tons CO₂ equivalent (MMTCO₂e)

Under review. Please do not cite or distribute.

Source	GHG	1990	2005	2019	2020	Module (Relevant Worksheet)
Transportation						
Highway and Non-Highway	CO ₂	21.649	29.753	32.288	29.144	CO ₂ Fossil Fuel Combustion
Highway and Non-Highway	CH ₄ , N ₂ O	0.752	0.663	0.302	0.262	Mobile Combustion
Transportation Total		22.400	30.416	32.590	29.406	
Electric Power Generation						
Coal	CO ₂	21.976	37.511	14.960	12.812	CO ₂ Fossil Fuel Combustion (CO ₂ FFC)
Petroleum	CO ₂	0.054	0.436	0.061	0.055	
Natural Gas	CO ₂	0.379	2.470	9.931	9.976	
Additional Emissions from Fuel Combustion	CH ₄ , N ₂ O	0.099	0.182	0.103	0.092	Stationary Combustion (Stationary)
Electric Power Generation Total		22.508	40.600	25.056	22.935	
Industry						
Fossil Fuel Combustion	CO ₂	12.911	13.158	7.230	6.827	CO ₂ Fossil Fuel Combustion (CO ₂ FFC)
Additional Emissions from Fuel Combustion	CH ₄ , N ₂ O	0.170	0.165	0.169	0.160	Stationary Combustion (Stationary)
Industrial Wastewater	CH ₄ , N ₂ O	0.006	0.008	0.005	0.006	Wastewater (Wastewater)
Cement manufacture	CO ₂	1.433	2.950	2.508	2.409	Industrial Processes (IP)
Lime manufacture						
Limestone and dolomite use						
Soda ash						
Aluminum production						
Iron and steel production	HFC, PFC, NF ₃ , SF ₆	0.853	2.372	3.495	3.599	Industrial Processes (IP)
Urea consumption						
Ozone depleting substances (ODS) substitutes						
Semi conductor manufacturing						
Electric power transmission and distribution systems						
Aluminum production						
Industry Total		15.373	18.654	13.407	13.002	
Waste						
Landfill Emissions	CH ₄	1.830	3.603	1.559	1.402	Waste
Waste Combustion	CO ₂	0.058	0.150	0.129	0.129	
Municipal Wastewater	CH ₄	0.247	0.301	0.364	0.368	Wastewater
Municipal Wastewater	N ₂ O	0.091	0.116	0.138	0.140	
Waste Total		2.225	4.170	2.190	2.039	

SC GHG Inventory – Summary by Source and GHG

All units are measured in million metric tons CO₂ equivalent (MMT CO₂e)

Under review.
Please do not cite or distribute.

Source	GHG	1990	2005	2019	2020	Module (Relevant Worksheet)
Agriculture						
Liming, urea fertilization	CO ₂	0.004	0.006	0.015	0.017	Agriculture
Enteric fermentation, manure management, agricultural residue burning	CH ₄	1.400	1.287	1.002	0.976	
Manure management, agricultural soils	N ₂ O	1.892	1.460	1.479	1.325	
Agriculture Total		3.296	2.754	2.497	2.318	
Residential						
Fossil Fuel Combustion	CO ₂	2.071	2.275	1.935	1.888	CO ₂ Fossil Fuel Combustion Stationary Combustion
Additional Emissions from Fuel Combustion	CH ₄ , N ₂ O	0.063	0.044	0.022	0.019	
Residential Total		2.071	2.275	1.935	1.888	
Commercial						
Fossil Fuel Combustion	CO ₂	1.428	1.721	2.237	2.128	CO ₂ Fossil Fuel Combustion Stationary Combustion
Additional Emissions from Fuel Combustion	CH ₄ , N ₂ O	0.012	0.012	0.012	0.011	
Commercial Total		1.440	1.733	2.249	2.139	
SUBTOTAL		69.314	100.602	79.924	73.727	
Source or Sink						
Natural Working Lands and Forestry						
Net Forest Carbon Flux						Land Use-Land Use Change-Forestry (LULUCF)
<i>Forest Land Remaining Forest</i>		(20.865)	(21.637)	(22.277)	(21.687)	
<i>Land Converted to Forest Land</i>		(2.320)	(2.300)	(2.280)	(2.280)	
<i>Forest Land Converted to Land</i>		2.210	2.620	3.060	3.060	
Urban Trees		(1.647)	(2.467)	(3.306)	(3.366)	Note: Forest Fire data provided by SC Forestry Commission; data available beginning in 2006.
Landfilled Yard Trimmings, Food Scraps		(0.264)	(0.074)	(0.107)	(0.109)	
Forest Fires (CH ₄ , N ₂ O)				0.028	0.056	
N ₂ O from Settlement Soils		0.030	0.025	0.025	0.025	
Agricultural Soil Carbon Flux		1.108	0.998	0.832	0.734	
Natural Working Lands and Forestry Total		(21.748)	(22.835)	(24.026)	(23.567)	
TOTAL NET EMISSIONS		47.566	77.767	55.899	50.160	

SC GHG Inventory – Electric Power Generation

All units are measured in
million metric tons CO₂
equivalent (MMTCO₂e)

GHG Emissions by Sources and Gases (Electric Power Generation)						
Source	GHG	Amounts of MMTCO ₂ E				Module/Worksheet
		1990	2005	2019	2020	
CO₂		22.409	40.418	24.953	22.843	Fossil Fuel Combustion CO ₂
Coal	CO ₂	21.976	37.511	14.960	12.812	(CO ₂ FFC)
Petroleum	CO ₂	0.054	0.436	0.061	0.055	
Natural Gas	CO ₂	0.379	2.470	9.931	9.976	
Other	CO ₂	0.000	0.000	0.000	0.000	
CH₄		0.007	0.018	0.021	0.020	Stationary Combustion
Coal	CH ₄	0.006	0.011	0.004	0.004	
Petroleum	CH ₄	0.000	0.000	0.000	0.000	
Natural Gas	CH ₄	0.000	0.001	0.005	0.005	
Wood	CH ₄	0.000	0.005	0.012	0.011	
Other	CH ₄	0.000	0.000	0.000	0.000	
N₂O		0.092	0.164	0.082	0.072	Stationary Combustion
Coal	N ₂ O	0.092	0.156	0.062	0.053	
Petroleum	N ₂ O	0.000	0.001	0.000	0.000	
Natural Gas	N ₂ O	0.000	0.001	0.004	0.004	
Wood	N ₂ O	0.000	0.006	0.015	0.014	
Other	N ₂ O	0.000	0.000	0.000	0.000	
TOTAL		45.016	81.199	50.113	45.871	

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SC GHG Inventory – Transportation (Fuel Type)

All units are measured in million metric tons CO₂ equivalent (MMTCO₂e)

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GHG Emissions by Fuel Type (Transportation)						
Source	GHG	Amounts of MMTCO ₂ E				Module (Worksheet)
		1990	2005	2019	2020	
Transportation		21.649	29.753	32.288	29.144	CO2 Fossil Fuel Combustion (CO2FFC)
Coal	CO2	-	-	-	-	
Petroleum	CO2	21.493	29.619	32.162	29.035	
Natural Gas	CO2	0.156	0.134	0.126	0.109	
Other	CO2	-	-	-	-	
Highway and Alternative Fuel Vehicles		19.121	24.268	27.013	23.250	Mobile Consumption, CO2
Gasoline	CO2	14.861	18.928	19.733	16.282	
Distillate Fuel Oil	CO2	4.255	5.326	7.257	6.947	
CNG	CO2	0.000	0.010	0.022	0.020	
LNG	CO2	0.000	0.000	0.000	0.000	
LPG	CO2	0.005	0.004	0.001	0.001	
Off-road by Fuel Type		5.309	4.893	4.849	4.471	
Jet Fuel, Kerosene	CO2	0.397	0.659	1.492	1.135	
Jet Fuel, Naphtha	CO2	0.757	0.000	0.000	0.000	
Aviation Gasoline	CO2	0.035	0.034	0.023	0.020	
Gasoline	CO2	1.899	1.304	1.621	1.747	
Diesel	CO2	1.983	2.158	1.650	1.554	
Residual Fuel Oil	CO2	0.237	0.738	0.063	0.015	

SC GHG Inventory – Transportation (Vehicle Type)

All units are measured in million metric tons CO₂ equivalent (MMTCO₂e)

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Summary (Mobile Consumption Module)																														
Vehicle Type	GHG	Amounts of MMTCO ₂ e																												
		1990	2005	2019	2020																									
Gasoline Highway	CO ₂	14.86	18.93	19.73	16.28																									
Diesel Highway	CO ₂	4.41	5.49	7.70	7.29																									
Non-Highway	CO ₂	5.31	4.89	4.85	4.47																									
Alternative Fuel Vehicles	CO ₂	0.01	0.01	0.02	0.02																									
Gasoline Highway	CH ₄	0.094	0.041	0.016	0.012																									
Diesel Highway	CH ₄	0.000	0.000	0.002	0.002																									
Non-Highway	CH ₄	0.022	0.024	0.027	0.028																									
Alternative Fuel Vehicles	CH ₄	0.000	0.000	0.001	0.001																									
Gasoline Highway	N ₂ O	0.530	0.495	0.125	0.094																									
Diesel Highway	N ₂ O	0.003	0.005	0.052	0.050																									
Non-Highway	N ₂ O	0.102	0.097	0.080	0.074																									
Alternative Fuel Vehicles	N ₂ O	0.000	0.000	0.000	0.000																									
		<table border="1"> <thead> <tr> <th colspan="5">Amounts of MMTCO₂e</th> </tr> <tr> <th>GHG</th> <th>1990</th> <th>2005</th> <th>2019</th> <th>2020</th> </tr> </thead> <tbody> <tr> <td>CO₂</td> <td>24.58</td> <td>29.33</td> <td>32.31</td> <td>28.07</td> </tr> <tr> <td>CH₄</td> <td>0.117</td> <td>0.066</td> <td>0.046</td> <td>0.043</td> </tr> <tr> <td>N₂O</td> <td>0.635</td> <td>0.597</td> <td>0.256</td> <td>0.219</td> </tr> </tbody> </table>				Amounts of MMTCO ₂ e					GHG	1990	2005	2019	2020	CO ₂	24.58	29.33	32.31	28.07	CH ₄	0.117	0.066	0.046	0.043	N ₂ O	0.635	0.597	0.256	0.219
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SC GHG Inventory – Industry

All units are measured in million metric tons CO₂ equivalent (MMTCO₂e)

Under review. Please do not cite or distribute.

GHG Emissions by Sources and Gases (Industry Summary)						
Source	GHG	1990	2005	2019	2020	Module (Relevant Worksheet)
Fossil Fuel Combustion – Total	CO₂	12.911	13.158	7.230	6.827	CO ₂ Fossil Fuel Combustion (CO ₂ FFC)
Coal		5.367	3.442	0.357	0.295	
Petroleum		3.151	5.892	1.984	1.762	
Natural Gas		4.393	3.824	4.889	4.769	
Other		0.000	0.000	0.000	0.000	
Additional Emissions from Fuel Combustion – Total		0.170	0.165	0.169	0.160	Stationary Combustion (Stationary)
Industrial –Stationary	N ₂ O	0.097	0.095	0.095	0.090	
Industrial –Stationary	CH ₄	0.073	0.070	0.074	0.070	
Industrial Wastewater – Total	CH₄	0.006	0.008	0.005	0.006	Wastewater (Wastewater)
Industrial Production – Total	CO₂	1.433	2.950	2.508	2.409	Industrial Processes (IP)
Cement Manufacture		1.106	1.627	1.475	1.388	
Lime Manufacture		-	-	-	-	
Limestone and Dolomite Use		-	0.009	0.034	0.033	
Soda Ash		0.038	0.037	0.031	0.029	
Aluminum Production (CO ₂)		0.288	0.242	0.150	0.138	
Iron & Steel Production		-	1.034	0.817	0.817	
Ammonia Production		-	-	-	-	
Urea Consumption		0.001	0.001	0.002	0.003	
Industrial Production – Total	HFC, PFC, NF₃, SF₆	0.853	2.372	3.495	3.599	Industrial Processes (IP)
ODS Substitutes		0.003	1.884	3.069	3.185	
Semiconductor Manufacturing		0.082	0.059	-	-	
Magnesium Production		-	-	-	-	
Electric Power Transmission and Distribution Systems		0.490	0.191	0.092	0.081	
HCFC-22 Production		-	-	-	-	
Aluminum Production (PFCs)		0.279	0.238	0.334	0.334	
TOTAL		15.373	18.654	13.407	13.002	

SC GHG Inventory – Industry Energy Consumption by Use Type

Energy Consumption by Use Types (Industry Summary)						
Energy Use		1990	2005	2019	2020	Module/Relevant Worksheet
Industry (TOTAL)		10.704	13.902	6.917	6.172	IndirectCO2
Indirect Uses-Boiler Fuel Totals		0.052	0.413	0.096	0.086	
	Conventional Boiler Use	0.036	0.408	0.096	0.086	
	CHP and/or Cogeneration Process	0.016	0.005	0.000	0.000	
Direct Uses-Process Totals		8.590	11.151	5.739	5.121	
	Process Heating	1.234	1.418	0.626	0.559	
	Process Cooling and Refrigeration	0.770	0.947	0.558	0.498	
	Machine Drive	5.503	7.206	3.682	3.285	
	Electro-Chemical Processes	1.048	1.440	0.748	0.668	
	Other Process Use	0.034	0.140	0.124	0.111	
Direct Uses-Nonprocess Totals		1.750	2.125	1.009	0.900	
	Facility HVAC	0.946	1.094	0.522	0.465	
	Facility Lighting	0.630	0.742	0.324	0.289	
	Other Facility Support	0.149	0.231	0.118	0.105	
	Onsite Transportation	0.014	0.029	0.026	0.023	
	Other Nonprocess Use	0.010	0.029	0.019	0.017	
Other		0.312	0.212	0.073	0.065	

All units are measured in million metric tons CO₂ equivalent (MMTCO₂e)

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SC GHG Inventory – Residential & Commercial

All units are measured in million metric
tons CO₂ equivalent (MMTCO₂e)

GHG Emissions by Fuel Type (Resid. & Comm. Summary)					
Source	GHG	Amounts of MMTCO ₂ E			
		1990	2005	2019	2020
Residential - Totals		2.134	2.319	1.957	1.907
Coal	CO ₂	0.003	-	-	-
Natural Gas		1.003	1.570	1.648	1.588
Other		-	-	-	-
Petroleum		1.066	0.705	0.287	0.299
Coal	CH ₄	0.000	-	-	-
Natural Gas		0.003	0.004	0.004	0.004
Other		-	-	-	-
Petroleum		0.004	0.003	0.001	0.001
Wood		0.047	0.031	0.013	0.011
Coal	N ₂ O	0.000	-	-	-
Natural Gas		0.000	0.001	0.001	0.001
Other		-	-	-	-
Petroleum		0.002	0.002	0.001	0.001
Wood		0.006	0.004	0.002	0.001
Commercial - Totals		1.440	1.733	2.249	2.139
Coal	CO ₂	0.012	-	-	-
Natural Gas		0.839	1.213	1.397	1.303
Other		-	-	-	-
Petroleum		0.577	0.508	0.840	0.825
Coal	CH ₄	0.000	-	-	-
Natural Gas		0.002	0.003	0.004	0.003
Other		-	-	-	-
Petroleum		0.002	0.002	0.003	0.003
Wood		0.005	0.005	0.002	0.002
Coal	N ₂ O	0.000	-	-	-
Natural Gas		0.000	0.001	0.001	0.001
Other		-	-	-	-
Petroleum		0.001	0.001	0.002	0.002
Wood		0.001	0.001	0.000	0.000

Under review. Please do not
cite or distribute.

SC GHG Inventory –
Residential &
Commercial
(Energy Consumption
by Use Type)

All units are
measured in million
metric tons CO₂
equivalent
(MMTCO₂e)

GHG Emissions by Energy Use Type (Residential and Commercial Summary)					
		Amounts of MMTCO2E			
Source	GHG	1990	2005	2019	2020
Residential - Totals		7.912	12.426	8.019	7.588
Space Heating	CO2	0.857	0.921	1.274	1.205
Air Conditioning		1.771	3.398	1.820	1.722
Water Heating		0.857	1.433	1.235	1.168
Refrigeration		0.971	1.187	0.442	0.418
Other Appliances and Lighting		3.456	5.486	3.249	3.074
Commercial - Totals		5.500	8.883	5.705	5.128
Space Heating	CO2	0.183	0.259	0.086	0.077
Cooling		1.071	1.747	1.160	1.043
Ventilation		0.633	1.077	0.817	0.734
Water Heating		0.170	0.225	0.032	0.029
Lighting		1.935	2.754	0.935	0.840
Cooking		0.049	0.102	0.118	0.106
Refrigeration		0.596	1.054	0.881	0.792
Office Equipment		0.073	0.170	0.226	0.203
Computers		0.207	0.427	0.483	0.435
Other		0.584	1.068	0.967	0.869
TOTAL		13.412	21.309	13.724	12.716

Under review. Please do not cite or distribute.

	1990	2005	2019	2020	Module
CH ₄	1.830	3.604	1.559	1.402	Solid Waste
CO ₂	0.056	0.147	0.127	0.127	
N ₂ O	0.002	0.003	0.002	0.002	
Total	1.887	3.753	1.689	1.531	
CH₄ Emissions from Landfills (MMTCO₂E)					
	1990	2005	2019	2020	Module
Potential CH₄	2.033	4.975	4.533	4.507	Solid Waste
<i>MSW Generation</i>	1.900	4.650	4.237	4.212	
<i>Industrial Generation</i>	0.133	0.325	0.297	0.295	
CH₄ Avoided	-	(0.972)	(2.801)	(2.949)	
<i>Flare</i>	-	(0.478)	(0.920)	(1.068)	
<i>Landfill Gas-to-Energy</i>	-	(0.493)	(1.880)	(1.880)	
Oxidation at MSW Landfills	0.190	0.368	0.144	0.126	
Oxidation at Industrial Landfills	0.013	0.033	0.030	0.029	
Total CH₄ Emissions	1.830	3.603	1.559	1.402	
CO₂, N₂O, and CH₄ Emissions from Waste Combustion (MMTCO₂E)					
Gas/Waste Product	1990	2005	2019	2020	Module
CO₂	0.056	0.147	0.127	0.127	Solid Waste
<i>Plastics</i>	0.038	0.102	0.083	0.083	
<i>Synthetic Rubber in MSW</i>	0.008	0.015	0.013	0.013	
<i>Synthetic Fibers</i>	0.010	0.030	0.031	0.031	
N₂O	0.002	0.003	0.002	0.002	
CH₄	0.000	0.000	0.000	0.000	
Total CO₂, N₂O, CH₄ Emissions	0.058	0.150	0.129	0.129	

SC GHG Inventory – Waste and Wastewater Sources

All units are measured in million metric tons CO₂ equivalent (MMTCO₂e)

Source	GHG	1990	2005	2019	2020	Module
Municipal	CH ₄	0.247	0.301	0.364	0.368	Wastewater
Municipal	N ₂ O	0.091	0.116	0.138	0.140	
Industrial						
<i>Fruits & Vegetables</i>	CH ₄	n/a	n/a	n/a	n/a	n/a=default data not available
<i>Red Meat</i>	CH ₄	0.006	0.008	0.005	0.006	
<i>Poultry</i>	CH ₄	n/a	n/a	n/a	n/a	n/a=default data not available
<i>Pulp & Paper</i>	CH ₄	n/a	n/a	n/a	n/a	n/a=default data not available
Total		0.344	0.425	0.507	0.514	

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SC GHG Inventory – Agriculture

All units are measured in million metric tons CO₂ equivalent (MMTCO₂e)

GHG Emissions by Sources and Gases (Agriculture Summary)						
Source	GHG	Amounts of MMTCO ₂ e				Module/Worksheet
		1990	2005	2019	2020	
CO₂		0.004	0.006	0.015	0.017	Agriculture
Liming	CO ₂	-	-	-	-	
Urea Fertilization	CO ₂	0.004	0.006	0.015	0.017	
CH₄		1.400	1.287	1.002	0.976	
Enteric Fermentation	CH ₄	1.029	0.867	0.664	0.653	
Manure Management	CH ₄	0.369	0.420	0.338	0.323	
Rice Cultivation	CH ₄	-	-	-	-	
Agricultural Residue Burning	CH ₄	0.002	0.001	0.000	0.001	
N₂O		1.892	1.460	1.479	1.325	
Manure Management	N ₂ O	0.104	0.152	0.177	0.169	
Ag Soils	N ₂ O	1.787	1.308	1.303	1.156	
Agricultural Residue Burning	N ₂ O	0.000	0.000	0.000	0.000	
TOTAL		3.296	2.754	2.497	2.318	

SC GHG Inventory – Land Use, Land-Use Change (LULUCF)

All units are measured in
million metric tons CO₂
equivalent (MMTCO₂e)

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South Carolina Land Use, Land-Use Change, and Forestry (LULUCF) Emissions and Sequestration (Summary, Selected Years)				
Emissions* (MMTCO ₂ E) * Note that parentheses indicate net sequestration.				
	1990	2005	2019	2020
Total	(21.75)	(22.84)	(24.03)	(23.57)
Net Forest Carbon Flux	(20.98)	(21.32)	(21.50)	(20.91)
Forest Land Remaining Forest Land	(20.87)	(21.64)	(22.28)	(21.69)
<i>Aboveground Biomass</i>	(9.64)	(9.46)	(9.59)	(9.14)
<i>Belowground Biomass</i>	(2.08)	(1.98)	(1.94)	(1.84)
<i>Deadwood</i>	(0.76)	(0.94)	(1.26)	(1.25)
<i>Litter</i>	0.31	0.09	(0.04)	(0.02)
<i>Soil (Mineral)</i>	(0.05)	(0.29)	(0.40)	(0.39)
<i>Soil (Organic)</i>	-	-	0.01	0.01
<i>Drained Organic Soil</i>	-	-	-	-
<i>Total wood products and landfills</i>	(8.65)	(9.06)	(9.06)	(9.06)
Land Converted to Forest Land	(2.32)	(2.30)	(2.28)	(2.28)
<i>Aboveground Biomass</i>	(1.43)	(1.42)	(1.41)	(1.41)
<i>Belowground Biomass</i>	(0.28)	(0.28)	(0.28)	(0.28)
<i>Deadwood</i>	(0.19)	(0.18)	(0.18)	(0.18)
<i>Litter</i>	(0.40)	(0.40)	(0.40)	(0.40)
<i>Soil (Mineral)</i>	(0.02)	(0.02)	(0.01)	(0.01)
Forest Land Converted to Land	2.21	2.62	3.06	3.06
<i>Aboveground Biomass</i>	1.54	1.81	2.12	2.12
<i>Belowground Biomass</i>	0.30	0.36	0.42	0.42
<i>Deadwood</i>	0.10	0.12	0.14	0.14
<i>Litter</i>	0.24	0.28	0.33	0.33
<i>Soil (Mineral)</i>	0.03	0.05	0.05	0.05
Urban Trees	(1.65)	(2.47)	(3.31)	(3.37)
Landfilled Yard Trimmings and Food Scraps	(0.26)	(0.07)	(0.11)	(0.11)
<i>Grass</i>	(0.03)	(0.01)	(0.01)	(0.01)
<i>Leaves</i>	(0.07)	0.03	0.02	0.02
<i>Branches</i>	(0.14)	(0.04)	(0.05)	(0.05)
<i>Landfilled Food Scraps</i>	(0.03)	(0.05)	(0.06)	(0.06)
Forest Fires	-	-	0.03	0.06
<i>CH₄</i>	-	-	0.02	0.05
<i>N₂O</i>	-	-	0.00	0.01
N₂O from Settlement Soils	0.03	0.03	0.03	0.03
Agricultural Soil Carbon Flux	1.11	1.00	0.83	0.73



Questions and Discussion about GHG Inventory



Considerations and Questions for the GHG Inventory Team

1. Data gaps and limitations

- When looking at the GHG Inventory, can you identify any gaps that may be significantly impacting the measurement and monitoring of emissions?
- What would you suggest for addressing these gaps? (e.g., tools, resources, methods, data availability)

2. Assistance with quantifying reduction measures

- How can we quantify the measures being listed in our PCAP?
- Which measures will have the greatest reductions in emissions?

3. Opportunities for future inventories

- How do we increase accuracy while still tracking emissions correctly over time?
- What other entities in the state are tracking GHG emissions? How can we coordinate efforts?

Reviewing and Assessing Reduction Measures



1. Impact on GHG Reductions:

- What can be achieved over different time frames?
- Within 5 years, 10 years, and 25 years?

2. Implementation Readiness:

- Who has “authority to implement”?
- Opportunities and constraints?

3. Benefits:

- For low-income and disproportionately burdened communities?
- Other community and state priorities?

Criteria to Review & Assess Measures

Impact on GHG Emissions

What is the potential impact on reducing GHG emissions?

- High potential reduction amount
- Medium potential reduction amount
- Low potential reduction amount

What are the estimated, quantified GHG reduction amounts?

- Estimated amount(s)
- Method(s) or tool(s) used to estimate

Is this measure implementation-ready (within 5 years)?

- Yes, related activities and/or plans currently in place
- Possible, in development or in a planning process
- No

How quickly could GHG emissions reductions be realized?

- Within 5 years (2025-2030)
- Within 10 years (2025-2035)
- Within 25 years (2025-2050)

Criteria to Review & Assess Measures

Implementation Readiness	
Who has the authority and ability to implement?	<ul style="list-style-type: none">• State, regional (COGs), and/or local government• Private sector• Other (for example: non-profits, professional associations, academia, community-based organizations)
Who are the potential partners?	<ul style="list-style-type: none">• State, regional (COGs), and/or local government• Private sector• Other (for example: non-profits, professional associations, academia, community-based organizations)
What is the estimated cost of implementing this measure?	<ul style="list-style-type: none">• Dollar amount
What are the potential opportunities and constraints?	<ul style="list-style-type: none">• Cost effectiveness, commercial viability• Funding (including other investments or grant opportunities)• Policy• Public support• Technology• Workforce/staff capacity• Other

Criteria to Review & Assess Measures

Benefits	
How will the measure benefit low income and disproportionately burdened communities?	<ul style="list-style-type: none">• EPA requires use of the Climate and Economic Justice Screening Tool to identify communities
What are the co-benefits?	<ul style="list-style-type: none">• Co-pollutant reductions, air quality improvements• Community resilience• Cost savings, increased efficiency• Economic growth and diversity• Ecosystem and habitat restoration and/or conservation• Historic or cultural preservation• Public and community engagement• Other community priorities

Benefits Analysis

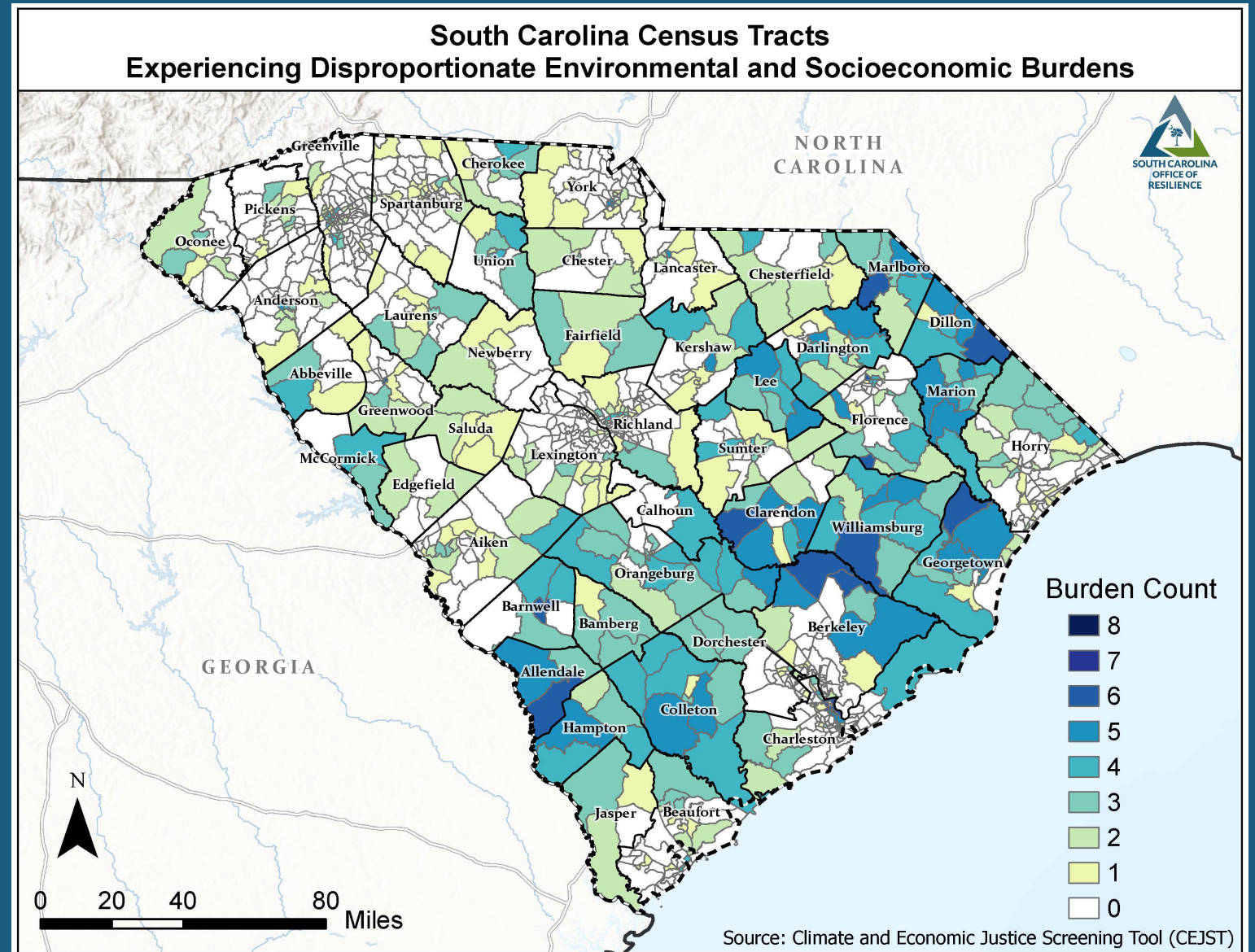
CEJST environmental and socioeconomic burden categories

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



<https://screeningtool.geoplatform.gov/en/>



GHG Reduction Measures

1. Transportation

- Public transit (regional public transportation; rapid transit/trains for intercity travel)
- Alternative transportation (expand biking and walking opportunities)
- Vehicle electrification / alternate fuels (includes supporting charging infrastructure)
- Ports, freight transport, logistics

2. Industry

- Energy efficiency (for process and non-process uses of energy)
- Electrification: strategies to reduce use of fossil-fuel based energy sources (to include renewables, storage systems, new technologies)
- Material efficiency (use of low-carbon materials; circular economy)
- Procurement (purchasing policies to support sustainable goods and services)



GHG Reduction Measures

3. Waste

- Landfill gas to energy / biomass
- Reduce food waste; support regional composting facilities and programs
- Waste reduction and recycling
- Materials (incentivize use of sustainable and carbon-storing products; support new markets)

4. Agriculture and Natural & Working Lands

- Climate-Smart Agriculture and Forestry (practices and products to optimize carbon storage)
- Blue carbon (carbon sequestration in coastal ecosystems)
- Green infrastructure (such as urban forest, greenspace, ecosystem connectivity)



GHG Reduction Measures

5. Residential and Commercial Buildings

- Energy efficiency in residential buildings (energy audits; critical home repairs; weatherization; appliance upgrades; program coordination; encourage energy efficiency standards and/or certifications)
- Energy efficiency in commercial and public buildings (energy audits; energy efficiency upgrades)
- Deployment of renewables, storage systems, and other new technologies in multi-family housing, commercial and public buildings
- Community resilience hubs
- Use of carbon-neutral or carbon-storing materials in new construction
- Demand-side technologies; customer education

Discussion

Measures
GHG Inventory



Next Steps

- Submit comments, ideas, or suggestions by COB Friday, January 12
- Whiteboard notes will be sent out to all Action Team members
- Draft PCAP posted to PAQC website on January 19
 - Please share with your networks
 - Comments due by February 9
- Feb 12-14: Round 3 Action Team webinars
- Implementation Grants
 - January 22 week: SCOR reviews specific project ideas for a statewide application
 - Optional NOIs due February 1 to EPA



Thank you for assisting the PAQC!

Questions? Contact us at PAQC@scor.sc.gov