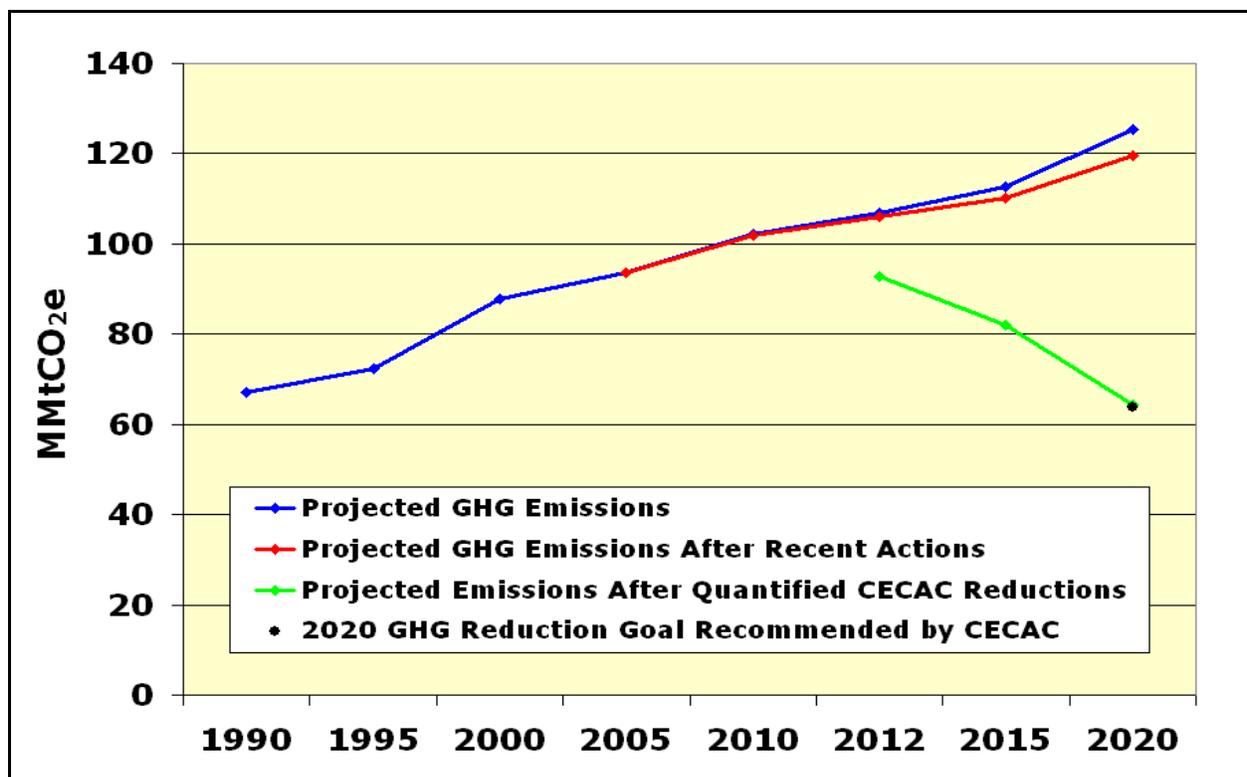


South Carolina Climate, Energy and Commerce Plan Summary

In February 2007, South Carolina Governor Mark Sanford issued the Executive Order establishing the Governor's [Climate, Energy, and Commerce Advisory Committee \(CECAC\)](#) to develop an Action Plan to reduce greenhouse gas (GHG) emissions. Led by Chairman and South Carolina Representative Ben Hagood, this broad-based group of 28 South Carolina citizens and leaders considered the potential benefits, costs and, savings across the economy as well as related energy policy and economic opportunities as they crafted a state climate action plan.

The South Carolina CECAC Plan recommends a comprehensive set of 51 specific policies to address climate, energy, and commerce related issues at the state, regional and national levels. The CECAC formally approved 46 policy actions unanimously, and 5 by a super majority (four objections or fewer). They also recommended a voluntary, economy-wide goal for South Carolina to reduce gross GHG emissions to 5% below 1990 levels by 2020, equal to successful implementation of the 33 policy recommendations that were quantified. (See attached Tables.)

GHG Reduction Potential from South Carolina's Recent and Proposed Actions (CCS analysis, 2008)



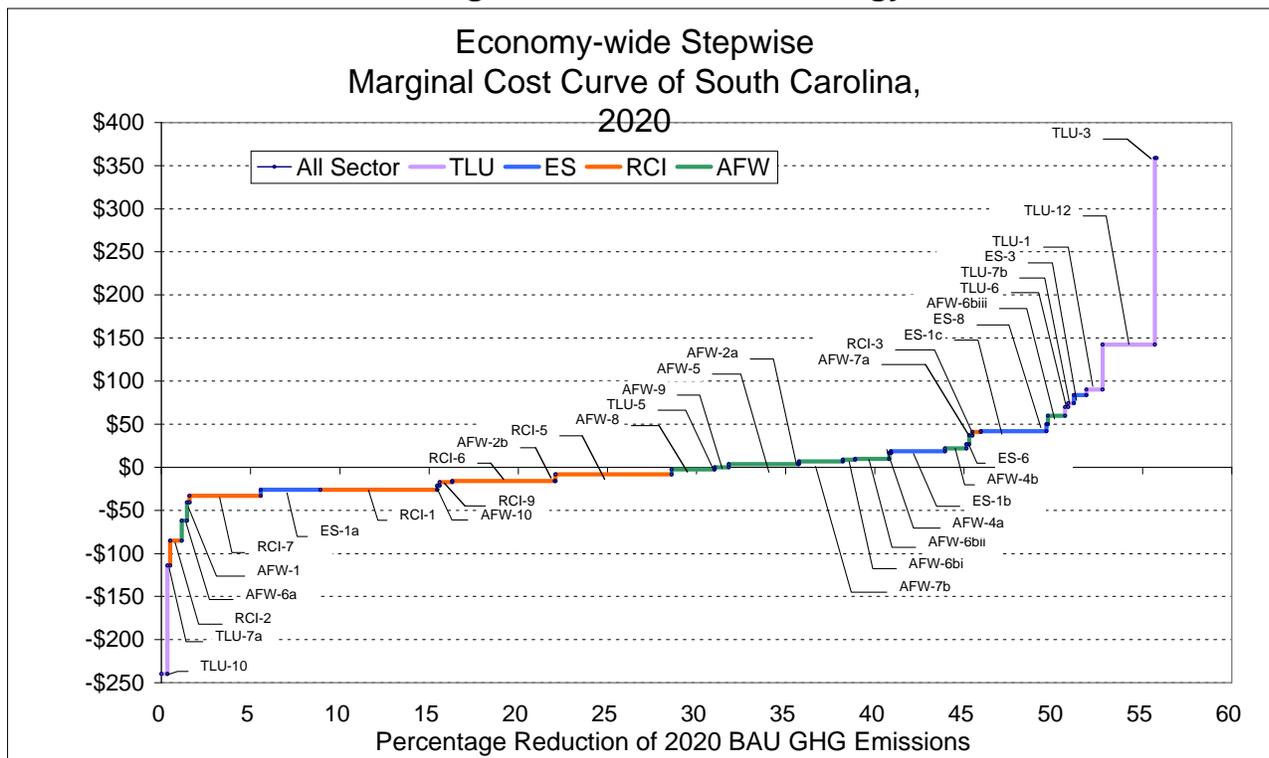
MMtCO₂e = million metric tons of carbon dioxide equivalent; GHG = greenhouse gas;
CECAC = Climate, Energy, and Commerce Advisory Council.

The Governor asked the Center for Climate Strategies (CCS) to work in partnership with his office and agencies of the state to provide facilitation and technical support throughout the process. CCS assisted five Technical Work Groups (TWGs), which included 73 diverse citizens who supported the CECAC, state agencies, and members of the public. The TWGs include:

- [Agriculture, Forestry and Waste Conservation](#)
- [Energy Supply and Demand \(Heat and Power Generation\)](#)
- [Residential Commercial and Industrial Conservation and Efficiency \(Heat and Power Consumption\)](#)
- [Transportation and Land Use Improvements](#)

The cost curve below shows the cost effectiveness of many of the specific policy options in each sector (represented by each color coded and labeled line segment) in terms of their financial savings or costs and their contribution to reducing GHGs.

Estimated Costs and Savings for South Carolina Energy & Climate Actions



BAU = business as usual; GHG = greenhouse gas; tCO₂e = metric tons of carbon dioxide equivalent; AFW = Agriculture, Forestry, and Waste Management; RCI= Residential, Commercial and Industrial [Energy Efficiency and Conservation]; TLU = Transportation and Land Use. Negative values represent net cost savings and positive values represent net costs associated with the policy option. Results were adjusted to remove overlaps between policies.

The [South Carolina Action Plan](#) is one of [30 such state plans](#) that have been completed or are underway by U.S. states. It includes an emissions target, and a comprehensive set of sector-based policies and measures. Its design is consistent with the national climate proposal passed in the [U.S. House of Representatives](#) and supported by the Administration.

Summary Tables of Sector-Based Recommendations

The tables below list South Carolinas’s recommended policies by sector/TWG and show results of analyses conducted by CCS according to specifications approved by the CECAC and TWGs. Some policies were not quantified due to data limitations or other factors.

Key to Table Acronyms: GHG = greenhouse gas, MMtCO₂e = million metric tons of carbon dioxide equivalent, \$/tCO₂e = dollars per metric ton of carbon dioxide equivalent, N/Q = not quantified; CO₂e/MWh = carbon dioxide equivalents per megawatt-hour; NPV = net present value

Note: Negative dollar values indicate *cost savings*. All costs are reported in 2005 U.S. dollars, net present value as of January 1, 2009. Totals in some columns may not add to the totals shown due to rounding. The numbering of policies does not reflect prioritization among the options.

Energy Supply (ES)						
Policy No.	Policy Recommendation	GHG Reductions (MMtCO ₂ e)			Net Present Value 2008–2020 (Million \$)	Cost-Effectiveness (\$/tCO ₂ e)
		2012	2020	Total 2008–2020		
ES-1	Efficiency and Renewable Portfolio Standard and Statement of Support for Nuclear Energy	1.9	12.6	66.5	\$689	\$10
ES-1a	Energy Efficiency: 5% of energy met with energy efficiency resources by 2020	0.8	4.2	22.4	–\$586	–\$26
ES-1b	Renewables: 5% of energy served by new renewable resources by 2020	1.1	3.8	25.3	489	\$19
ES-1c	Nuclear: 6% of energy served by new nuclear resources by 2020	0.0	4.6	18.9	\$786	\$42
ES-2	Technology Research and Development, Including State Funding	Not quantified				
ES-3	Renewable Energy Financing, Tax Incentives, Loans	0.4	0.9	7.1	\$591	\$84
ES-4	Regulatory Model To Equalize Utility Earnings on Energy Efficiency With Earnings on Traditional Power Supply	Not quantified				
ES-5	Nuclear Fuel Reprocessing	Not quantified				
ES-6	Green Power Purchases and Marketing, 1% Participation by 2012	0.2	0.2	1.7	\$46	\$27
ES-7	Attract Renewable Energy Technology Businesses to South Carolina	Not quantified				
ES-8	Distributed Renewable Energy Incentives and/or Barrier Removal (Including Interconnection Rules)	0.05	0.1	0.8	\$42	\$50
	Sector Total After Adjusting for Overlaps	0.3	3.0	22.5	\$1,201	\$53
	Reductions From Recent Actions	0.0	0.0	0.0	0	0
	Sector Total Plus Recent Actions	0.3	3.0	22.5	\$1,201	\$53

Agriculture, Forestry and Waste Management (AFW)						
Policy No.	Policy Recommendation	GHG Reductions (MMtCO ₂ e)			Net Present Value 2008–2020 (Million \$)	Cost-Effectiveness (\$/tCO ₂ e)
		2012	2020	Total 2008–2020		
AFW-1*	On-Farm Energy Efficiency	0.052	0.16	1.0	–\$43	–\$41
AFW-2a	On-Farm Waste Energy Recovery—Swine/Dairy	0.006	0.019	0.13	\$0.58	\$5
AFW-2b [†]	On-Farm Waste Energy Recovery—Poultry Litter	0.010	0.031	0.20	–\$3.2	–\$16
AFW-3	Expanded Use of Local Agricultural Products	0.012	0.030	0.21	Not quantified	Not quantified
AFW-4a ^{†,‡}	In-State Liquid Biofuels Production—Biodiesel	0.12	0.13	1.5	\$26	\$17
AFW-4b [†]	In-State Liquid Biofuels Production—Ethanol	0.86	1.5	13	\$281	\$22
AFW-5	Expanded Use of Biomass Feedstocks for Electricity, Heat, or Steam Production	2.7	4.9	41	\$156	\$4
AFW-6a	Terrestrial Carbon Sequestration—Agriculture	0.21	0.39	3.1	–\$191	–\$62
AFW-6bi	Terrestrial Carbon Sequestration—Forestry: Forest Management	0.33	0.85	5.8	\$53	\$9
AFW-6bii	Terrestrial Carbon Sequestration—Forestry: Afforestation/Reforestation	0.81	2.4	16	\$158	\$10
AFW-6biii	Terrestrial Carbon Sequestration—Forestry: Urban Forestry	0.37	1.2	7.5	\$456	\$60
AFW-7a	Conservation and Restoration of Agriculture Lands for Enhanced Carbon Sequestration	0.080	0.21	1.5	\$54	\$37
AFW-7b	Conservation and Restoration of Forestlands for Enhanced Carbon Sequestration	0.42	3.1	16	\$117	\$7
AFW-8	Advanced Recycling and Composting	1.18	3.0	20	–\$44	–\$2
AFW-9	Waste-to-Energy Reclamation	0.41	1.0	7.2	\$0.23	\$0.03
AFW-10*	Water and Wastewater Energy Efficiency Improvements	0.16	0.18	1.6	–\$33	–\$21
	Sector Total After Adjusting for Overlaps**	7.8	19.2	135	\$987	\$7
	Reductions From Recent Actions	—	—	—	—	—
	Sector Total Plus Recent Actions**	7.8	19.2	135	\$987	\$7

Residential, Commercial, and Industrial (RCI)						
No.	Policy Recommendation	GHG Reductions (MMtCO ₂ e)			Net Present Value 2009–2020 (Million \$)	Cost-Effectiveness (\$/tCO ₂ e)
		2012	2020	Total 2009–2020		
RCI-1	Energy Efficiency Programs, Funds, or Goals for Electricity (Residential, Commercial, and Industrial)	1.5	8.2	43.0	–\$1,127	–\$26
RCI-2	Demand-Side Management/Energy Efficiency Programs, Funds, or Goals for Natural Gas, Propane, and Fuel Oil	0.2	0.8	4.5	–\$379	–\$85
RCI-3	Incentives and Regulatory Reform To Promote Implementation of Renewable Energy Systems, Including Solar Hot Water (Residential, Commercial, and Industrial)*	0.2	0.6	4.0	\$164	\$41
RCI-4	Energy Management Training/Training of Building Operators	Not quantified				
RCI-5	Incentives, Resources, and Regulatory Reform To Promote Energy Recycling, Including Combined Heat and Power	1.0	8.2	39.5	–\$332	–\$8
RCI-6	Incentives and Policies for Improving Building Efficiency, Including Building Energy Codes	1.6	7.2	40.4	–\$665	–\$16
RCI-7	Improved Design and Construction in New and Existing State and Local Government Buildings, “Government Lead by Example”	0.5	5.0	24.6	–\$800	–\$33
RCI-8	Participation in Voluntary Industry–Government Partnerships (Including Incentives)	0.0	0.0	0.05	Not quantified*	
RCI-9	Incentives and Policies for Improving Appliance Efficiency, Including Appliance Standards	0.3	0.9	5.6	–\$94	–\$17
	Sector Total After Adjusting for Overlaps (excluding RCI-8)†	4.3	27.7	141.6	–\$2,941	–\$21
	Reductions From Recent Actions††	0.5	2.2	12.6	Not quantified	
	Sector Total Plus Recent Actions	4.9	29.9	154.2	–\$2,941	–\$21

Transportation and Land Use (TLU)						
Policy No.	Policy Recommendation	GHG Reductions (MMtCO ₂ e)			Net Present Value 2008–2020 (Million \$)	Cost-Effectiveness (\$/tCO ₂ e)
		2012	2020	Total 2008–2020		
TLU-1	Adopt a South Carolina Clean Car Standard	0.21	1.14	7.04	–\$323 to \$1,598	–\$46 to \$227
TLU-2	Transportation System Management	0.01	0.04	0.22	< \$0	< \$0
TLU-3	Tax Credits for Efficient Vehicles	0.02	0.12	0.68	\$244	\$359
TLU-4	Improve Development Patterns	0.41	2.31	14.02	< \$0	< \$0

Transportation and Land Use (TLU), continued							
Policy No.	Policy Recommendation	2012	2020	Total 2008–2020	NPV (Million \$)	(\$/tCO ₂ e)	
TLU-5	Transit & Bike-Pedestrian [Incorporates TLU-11]	0.02	0.02	0.22	–\$1	–\$1	
TLU-6	Alternative-Fuel Infrastructure	0.02	0.24	0.77	\$54	\$70	
TLU-7	Diesel Engine Emission Reductions and Fuel Efficiency Improvements	Efficiency Improvements	0.03	0.19	0.96	–\$110	–\$114
		Biodiesel	0.05	0.38	1.95	–\$291 to \$319	–\$15 to \$164
TLU-8	Stricter Enforcement of Speed Limits	0.10	0.12	1.18	Not quantified	Not quantified	
TLU-9	Make Full Use of CMAQ Funds	Not quantified					
TLU-10	Commuter Choice and Commuter Benefits Programs	0.12	0.43	2.63	–\$631	–\$240	
TLU-12*	Low-GHG Fuel Standard	0.38	3.67	17.89	\$20 to \$3,276	\$1 to \$183	
TLU-14	Rail	Not quantified					
	Sector Total Before Adjusting for Overlaps	1.37	8.64	47.57	Not quantified		
	Sector Total After Adjusting for Overlaps**	0.75	5.53	29.29	\$2,582	\$88	
	Reductions From Recent Actions	0.45	3.51	16.37	Not quantified		
	Sector Total Plus Recent Actions	1.20	9.04	45.66	\$2,582	\$88	

Cross-Cutting (CC) Issues						
Policy No.	Policy Recommendation	GHG Reductions (MMtCO ₂ e)			Net Present Value 2008–2020 (Million \$)	Cost-Effectiveness (\$/tCO ₂ e)
		2012	2020	Total 2008–2020		
CC-1	Inventories and Forecasting	Not quantified				
CC-2	GHG Reporting and Registry	Not quantified				
CC-3	State Government GHG Emissions (Lead by Example)	Not quantified				
CC-4	Comprehensive Local Government Climate Action Plans (Counties, Cities, etc.)	Not quantified				
CC-5	Public Education and Outreach	Not quantified				
CC-6	Adaptation & Vulnerability	Not quantified				
	Sector Total After Adjusting for Overlaps	Not quantified				
	Reductions From Recent Actions	Not quantified				
	Sector Total Plus Recent Actions	Not quantified				

For details on these options, adjustments for overlaps, definitions, etc. see the [compilation of technical appendices](#) of the CECAC report.