

Chapter 3

Cross-Cutting Issues

Overview of Cross-Cutting Issues

Some issues relating to climate policy cut across multiple, or even all, sectors. The Climate, Energy, and Commerce Advisory Committee (CECAC) addressed such issues explicitly in a separate Cross-Cutting Issues (CC) Technical Work Group (TWG). Cross-cutting recommendations typically encourage, enable, or otherwise support emission mitigation activities and/or other climate actions. The types of policies considered for this sector are not readily quantifiable in terms of greenhouse gas (GHG) reductions and costs or cost savings. Nonetheless, if successfully implemented, they would most likely contribute to GHG emission reductions and implementation of the CECAC's policy recommendations described in Chapters 4–7 of this report.

The CC TWG developed recommendations for each of six policies (see Table 3-1) that were then reviewed, revised, and ultimately adopted unanimously by the CECAC members present and voting. Five of the recommendations are focused on enabling GHG emission reductions; the sixth addresses adaptation to the changes expected from the effects of gases that will remain in the atmosphere for decades. These recommendations include: (1) inventorying and forecasting South Carolina's GHG emissions; (2) voluntary reporting and registration of GHG emissions and emission reductions by companies, the state, and other entities; (3) developing a state plan to address a wide variety of public education and outreach opportunities regarding climate change and healthy life styles; (4) establishing a "Blue Ribbon" Commission to develop a state Climate Change Adaptation Plan to identify and address potential climate change impacts on South Carolina's citizens, public health, and natural and wildlife resources; (5) a "lead-by-example" initiative by state government agencies and school districts to control GHG emissions associated with their own facilities and activities; and (6) an initiative for local government agencies to develop plans, with assistance from the state, to control GHG emissions in part by implementing the CECAC's recommendations at the local level.

Some initiatives are already under way in South Carolina for voluntarily reporting and registering GHG emissions. South Carolina is also leading by example through its participation in The Climate Registry, which will help ensure that South Carolina's interests are adequately represented in the development of broader regional and national initiatives that are likely to ultimately frame national climate change policy outcomes.

Key Challenges and Opportunities

Establishing a GHG inventory and forecast function within state government is an essential element of understanding where emission reduction opportunities lie, identifying what emission trends are developing, and tracking the effectiveness of policies that the state adopts and implements to reduce GHG emissions. The preparation of periodic inventories and forecasts will most likely require additional resources. These resources are minimized but not eliminated by adding implementation of this recommendation to the existing emissions inventory duties

currently assigned to the South Carolina Department of Health and Environmental Control (DHEC).

Table 3-1 Cross-Cutting Issues Policy Recommendations

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

GHG = greenhouse gas; MMtCO_{2e} = million metric tons of carbon dioxide equivalent; \$/tCO_{2e} = dollars per metric ton of carbon dioxide equivalent.

The numbering used to denote the above policy recommendations is for reference purposes only; it does not reflect prioritization among these policy recommendations.

South Carolina has joined The Climate Registry as a charter member.¹ Being a charter state in this effort will help ensure that South Carolina’s needs and priorities are addressed in the course of The Climate Registry’s development. The CECAC recommends that GHG sources (e.g., state and local governments, academic and nonprofit institutions, and businesses and regulated industries) in South Carolina volunteer to participate in The Climate Registry, but also recommends that the state avoid duplication of reporting requirements on sources of GHG emissions.

The CECAC further recommends that all South Carolina state agencies, authorities, quasi-state entities, and school districts lead by example by reducing their own GHG emissions by at least an amount consistent with the voluntary, economy-wide GHG emission reduction goal recommended by the CECAC. State agencies and school districts are currently required under

¹ The Climate Registry (<http://www.theclimateregistry.org/>) is a collaboration between states, provinces, and tribes aimed at developing and managing a common GHG emissions reporting system with high integrity that is capable of supporting various GHG emission reporting and reduction policies for its member states and tribes and reporting entities. It will provide an accurate, complete, consistent, transparent, and verified set of GHG emissions data from reporting entities, supported by a robust accounting and verification infrastructure. As of June 2008, 40 U.S. states, three Tribal Authorities, seven Canadian Provinces, and six Mexican states have joined The Climate Registry.

state law to report their energy use to the state.² This provides the opportunity for these entities to use this information to evaluate opportunities for reducing energy use and associated GHG emissions.

Ultimately, many strategies for reducing GHG emissions will need to be developed and implemented by local communities. Thus, the CECAC has included in its set of CC recommendations a policy to encourage and support local governments and communities in efforts to develop plans to address GHG emissions. In so doing, these local governments and communities are encouraged to consider including the CECAC's recommendations in their planning efforts. This recommendation provides the state with the opportunity to support building capacity at the local level through education and outreach efforts, developing a model plan for local governments to follow, and organizing an annual workshop for sharing information and success stories.

Public education and outreach will be the foundation for the long-term success of many efforts to reduce GHGs. The CECAC recommends that South Carolina adopt and implement a Public Education and Outreach Plan for Climate Change and Public Health as soon as possible. The goals of this plan should be to inform, motivate, and simulate citizens of South Carolina to join together to protect the environment and the health of present and future generations by helping to mitigate GHG emissions. To achieve this goal, the state should appoint a statewide coordinator and a committee for public education and outreach to address climate change and related issues. In addition, the CECAC recommends that the state legislature provide funding for the basic operations of the committee and the coordinators. Funding should be structured in such a way as to take maximum advantage of established mechanisms for education of each of eight target audiences. Arrangements can be made on behalf of the committee with one of the state institutions of higher education or the Commission for Higher Education for financial management of grants, awards, and private funding of specific programs.

The changes South Carolina will face in the long term will be more manageable if it begins now to reduce emissions, but now is also the time to begin preparing to deal with the changes that are already underway and likely to become more dramatic. Recognizing that these adaptation efforts are urgent and essential, the CECAC recommends that the state empanel a "Blue Ribbon" commission to develop a state Climate Change Adaptation Plan within one year of establishment of the commission. The commission should also enlist the expertise of all appropriate state and local agencies, organizations, and institutions in developing and implementing measures for mitigating these impacts. Recognizing that this is a significant planning effort, the CECAC recommends that the state legislature provide funding to support development and ongoing revision to the state Climate Change Adaptation Plan, including funds to support the analyses needed to guide and inform the development and implementation of the plan and to cover expenses incurred by the commission and its members.

² The 1992 South Carolina Energy Efficiency Act requires state agencies and public school districts to consider energy efficiency and report on energy consumption (South Carolina Code of Laws Section 48-52-10 et seq. (<http://www.scstatehouse.net/code/t48c052.htm>)).

Overview of Policy Recommendations and Estimated Impacts

Cross-cutting issues include policies that apply across the board to all sectors and activities. Cross-cutting recommendations typically encourage, enable, or otherwise support emissions mitigation activities and/or other climate actions. The CECAC recommends that six such policies be adopted and implemented by South Carolina. All are enabling policies that are not quantified in terms of tons of GHG reduction or costs.

Detailed descriptions of the individual CC policy recommendations as presented to and approved by the CECAC can be found in Appendix F of this report.

Cross-Cutting Issues Policy Descriptions

CC-1. Inventories and Forecasting

GHG emissions inventories and forecasts are essential to understanding the magnitude of all emission sources and sinks (both natural and those resulting from human endeavors), the relative contribution of various types of emission sources and sinks to total emissions, and the factors that affect trends over time. Inventories and forecasts help to inform state leaders and the public on statewide trends, opportunities for mitigating emissions or enhancing sinks, and verifying GHG reductions associated with implementation of the CECAC's policy recommendations.

The CECAC recommends that the state implement an inventory and forecast function as soon as possible, as allowed by funding, that includes all GHG emission sources and sinks (both man-made and natural). The function should be integrated with existing related functions, such as those carried out by DHEC, which develops inventories for the criteria air pollutants. The state should develop consistent protocols for preparing the inventory and forecast that clearly define emission source sectors and sinks, methods for estimating emissions, data sources, and uncertainties. The GHG inventory and forecast should be prepared on a periodic and consistent basis. GHG forecasts, built on solid inventories, help to predict likely impact scenarios, identify the factors that affect trends over time, and highlight opportunities for mitigating emissions or enhancing sinks. South Carolina's forecast should be prepared for 5-year increments extending at least 20 years into the future. The GHG forecast should reflect projected growth, as well as the implementation of scheduled mitigation measures, and should, through differences year to year, provide a basis for documenting and illuminating trends in state GHG emissions.

CC-2. State GHG Reporting and Registry

GHG reporting reflects the measurement and reporting of GHG emissions to support tracking and management of emissions. GHG reporting can help sources identify emission reduction opportunities and reduce the risks associated with possible future GHG mandates by moving “up the learning curve.” Tracking and reporting of GHG emissions can also help in the construction of periodic state GHG inventories. GHG reporting is typically a precursor for sources to participate in GHG reduction programs, opportunities for recognition, and a GHG emission reduction registry, as well as to secure “baseline protection” (i.e., credit for early reductions).

A GHG registry enables recording of GHG emission reductions in a central repository with “transaction ledger” capacity to support tracking, management, and “ownership” of emission reductions; establishes baseline protection; enables recognition of environmental leadership; and/or provides a mechanism for regional, multistate, and cross-border cooperation. Properly designed registry structures also provide a foundation for possible future trading programs.

South Carolina has joined the effort to develop a national GHG registry through The Climate Registry.³ The Governor delegated DHEC to act on his behalf as a founding member of The Climate Registry and as a member of the Board of Directors. DHEC's leadership role will help ensure that South Carolina's needs and priorities are addressed during The Climate Registry's development. Accordingly, the CECAC recommends that the state implement a program to facilitate and encourage South Carolina GHG reporting through The Climate Registry as quickly as possible, with supplemental reporting protocols developed if necessary to meet South Carolina's needs, particularly with regard to carbon sequestration and offsets. GHG-emitting entities include state and local governments, academic and nonprofit institutions, and businesses and industries. To the extent that South Carolina's needs may not be fully met by The Climate Registry, the state may consider developing supplemental or ancillary registry capacity or opportunities. This may be particularly true for the state's agricultural and forestry sectors.

The state should make every effort to avoid duplication of reporting requirements on owners or operators of emission sources or sinks by relying on the use of data that emission sources already report under existing state and federal programs, and seek opportunities to participate with the U.S. Environmental Protection Agency in developing federal requirements for reporting of GHG emissions.

CC-3. State Government GHG Emissions (Lead by Example)

State government agencies are responsible for providing a multitude of public services that are delivered through very diverse operations and result in wide-ranging GHG emission activities. Because of this role, they have the opportunity to model a diverse array of GHG emission reduction activities for a wide variety of clients. State government can also encourage and/or provide incentives to reduce GHG emissions by others in a variety of ways. One of the most important is to link GHG reductions to energy expenditures, and demonstrate that reduction in one leads to reduction in the other.

Recognizing the state's responsibility to lead by example, the CECAC recommends that the state government agencies and school districts control their GHG emissions by at least an amount consistent with the voluntary, economy-wide GHG emission reduction goal recommended by the CECAC. Adopting this goal will be helpful in setting an example for nongovernmental entities and will help agencies to focus on doing the necessary analysis. Reductions should be reported at the agency level. The state's efforts to lead by example in reducing its own GHG emissions should start immediately. The first annual report by agencies should be due one year from approval by the CECAC, and will necessarily reflect initial agency-level emission inventories. The second annual report should reflect initial progress in reducing GHG emissions, as agencies begin to plan and implement operational changes. Agency and/or department reports could be aggregated into a summary report reflecting state GHG emissions.

All state agencies and school districts should make continual progress toward the goal, regardless of their starting point. The CECAC recommends that the South Carolina Budget and Control Board coordinate implementation of this recommendation through the South Carolina Energy

³ See <http://www.theclimateregistry.org/>.

Office. DHEC should assist the South Carolina Budget and Control Board and South Carolina Energy Office in developing a consistent design and methodology for measurement.

CC-4. Comprehensive Local Government Climate Action Plans (Counties, Cities, etc.)

The CECAC recommends that South Carolina promote adoption of community climate action plans by all local government entities to set and achieve local GHG reductions and to help achieve the voluntary, economy-wide GHG emission reduction goal recommended by the CECAC. These locally adopted plans should be used to stimulate equivalent GHG reduction initiatives by the private sector and nongovernmental entities in each community. These initiatives can be considered economic development opportunities, as well as adaptation-oriented strategies. The CECAC recommends that local climate action plans include an assessment of opportunities for reducing GHG emissions at the community scale, specific goals or target values and a timeline for the emission reductions, and adoption of local strategies to adapt to climate change. The CECAC believes that community plans will be an effective mechanism for implementing recommendations that the CECAC approves for inclusion in the statewide Action Plan for South Carolina, and encourages communities to consider and include, to the extent possible, the CECAC's recommendations.

Every effort should be made to develop community climate action plans as rapidly as possible. To facilitate development of local plans, the CECAC recommends that an annual workshop be organized and held by the state government, associations of local governments, and/or individual cities that have developed climate action plans to help local governments initiate and strengthen their local climate protection efforts. Development of a model plan by a consortium of state and local agencies and districts could help to facilitate implementation of this recommendation as well as promote consistency and reduce costs to local agencies and districts. The state government should also provide technical assistance to local agencies and districts (specifically, DHEC should be given the resources to assist municipalities with emission inventories and forecasts) and help local agencies and districts secure funding (e.g., grants) to develop their climate action plans.

CC-5. Public Education and Outreach

South Carolina should adopt and implement a Public Education and Outreach Plan for Climate Change and Public Health as soon as possible to accomplish the following goals:

- Inform the citizens of South Carolina about climate change and their critical role in actions to mitigate and adapt to climate change.
- Motivate citizens of South Carolina to actively participate in the process of mitigation of and adaptation to climate change.
- Stimulate citizens of South Carolina to join together to protect the environment and the health of present and future generations by helping to prevent uncontrolled climate change.

The plan must address the CECAC's recommendations, as approved by the state; should be based upon the philosophy and principles of individual responsibility, community action, conservation,

and prevention; and should establish lines of communication with other states to keep abreast of best practices and to create efficiencies. The plan should be designed to accommodate the needs and conditions of the following target audiences: (1) state employees, (2) policymakers, (3) future generations, (4) community leaders and community-based organizations, (5) the general public, (6) industrial and economic sectors, (7) federal agencies, and (8) the media.

To effectively develop and implement this plan, the state should appoint a statewide coordinator and a committee for public education and outreach to address climate change and related issues. The coordinator should be a recognized educator, and appointments to the committee should be credible with each of the target audiences. The coordinator, with the direction and approval of the committee, will draft and implement the detailed plan, appoint coordinators for each of the target audiences, present annual reports to the Governor and legislature, and review and update the plan periodically.

The CECAC recognizes that healthy lifestyles are healthy for the environment and vice versa. Thus, the CECAC recommends integrating climate change and healthy lifestyle issues into educational curricula, post-secondary degree programs, and professional licensing to emphasize the common basis and goals of response to climate change with protecting the environment and achieving optimum health for all people. The CECAC recommends that the state consider creating the South Carolina Health Corps (as outlined in Annex B to Appendix F of this document), to empower younger and future generations to embrace and implement this concept.

CC-6. Adaptation and Vulnerability

While taking action to reduce GHG emissions in South Carolina, the CECAC recommends that the state empanel a “Blue Ribbon” Commission on Adaptation to Climate Change to develop a state Climate Change Adaptation Plan within one year of establishment of the commission. The commission should involve and coordinate with all appropriate state and local agencies, organizations, and institutions (e.g., universities) to ensure that all potential impacts are identified in the plan, including (1) potential short-term, mid-term, and long-term impacts of climate change scenarios likely to affect the state, and (2) implementation mechanisms for addressing these impacts. The commission should also enlist the expertise of all appropriate state and local agencies, organizations, and institutions in developing and implementing measures for mitigating these impacts. At a minimum, the Climate Change Adaptation Plan should include:

- Comprehensive identification of potential short-term, mid-term, and long-term impacts associated with climate change in South Carolina (see Appendix F for list of potential impacts).
- Recommended steps to respond to the identified impacts, so as to minimize risk in South Carolina to humans, natural and economic systems, water resources, temperature-sensitive populations and systems, energy systems, transportation systems, communications systems, vital infrastructure and public facilities, natural lands (such as coastal areas, wetlands, forests, and farmland).
- Coordination of response efforts through the appropriate state, local, and federal agencies, organizations, or other entities or initiatives.

- Characterization of the potential risks and costs of inaction; characterization of the potential costs, benefits, and co-benefits associated with specific policy and program actions; and establishment of time- and program-based goals.
- Periodic, regular review and update of the Adaptation Plan (at least every 5–10 years, or as needed based on increasing understanding of impacts) to expand or refine the plan as necessary, to improve implementation of the plan, and to incorporate new information as it becomes available.