



# South Carolina Climate, Energy & Commerce Advisory Committee

AFW Technical Working Group  
Meeting #8

December 13, 2007

Office of the Governor  
The Center for Climate Strategies

# Agenda

- Call to order and roll call
- Review and approval of previous call summary
- Review comments from the November 30 CECAC Meeting
- Next steps for the AFW TWG – Quantification of actions
- Discussion and Recommendations for the Draft South Carolina Emissions Inventory & Forecast
- Date, time, & agenda items for next meeting
- Public Input and Announcements

# Stepwise Planning Process

1. Develop inventory and forecast of emissions
2. Identify a full range of possible actions
3. Identify initial priorities for analysis
4. Develop straw proposals
5. Quantify GHG reductions and costs/savings
6. Evaluate externalities, feasibility issues
7. Develop alternatives to address barriers
8. Aggregate results
9. Iterate to final agreements
10. Finalize and report recommendations

# Straw Proposal Status Update: Workgroup Volunteers

- Straw proposals reviewed by CECAC.
  - Set to move forward with quantification of all options
  - Update on status of AFW-6(b) – Terrestrial Carbon Management (Forestry)

# Notes from CECAC Meeting #4

- AFW-2: CECAC thought the goal might be on the low side. The initial quantification will allow for adjustment based on estimated costs/benefits.
- AFW-3: Need in-state baseline. Has been difficult to quantify in other states.
- AFW-4: CECAC requests that the costs and benefits be assessed at two different levels of implementation – one based on the current goals; and the other at the level that the TWG feels is the upper-bound of potential feedstock availability.

# Notes from CECAC Meeting #4

- AFW-5: Include the use of woody energy crops, as well as residues.
- AFW-6(a): CECAC would like to see more baseline information. Consider separate goal for manure management.
- AFW-6(b): Need reforestation/afforestation goal. Need urban forestry goal. Define management strategy under implementation mechanisms.

# Next Steps: Development of Priority Policy Options

- Design Template / Matrix
  - Policy description
  - Policy design (derived from design options matrix)
  - Potential implementation mechanisms
  - Related policies/programs in place
  - Type(s) of GHG reductions
  - Estimated GHG savings and cost per MTCO<sub>2e</sub>
  - Key uncertainties
  - Types of additional (non-GHG) benefits and or costs
  - Description of feasibility issues, if needed
  - Status of group approval
  - Level of group support
  - Barriers to consensus

# Next Steps: Dates for Remaining CECAC and TWG Meetings

## **Scheduled CECAC Meetings:**

- Meeting #5: Friday, February 22, 2008
- Meeting #6: Friday, May 9, 2008
  - Meeting Time: 10:00 am – 5:00 pm

## **Scheduled TWG Meetings:**

- Meeting #9: Tuesday, January 22, 2008
- Meeting #10: Thursday, March 6, 2008
- Meeting #11: Thursday, April 17, 2008 (if necessary)
  - Meeting Time: 10:00 am – 11:00 am (Waste Management)
  - Meeting Time: 2:00 pm – 4:00 pm (Agriculture and Forestry)

# Next Steps: Quantification of Options

- Review of general methodology
- See AFW Policy Options Document
  - Posted online and distributed via e-mail

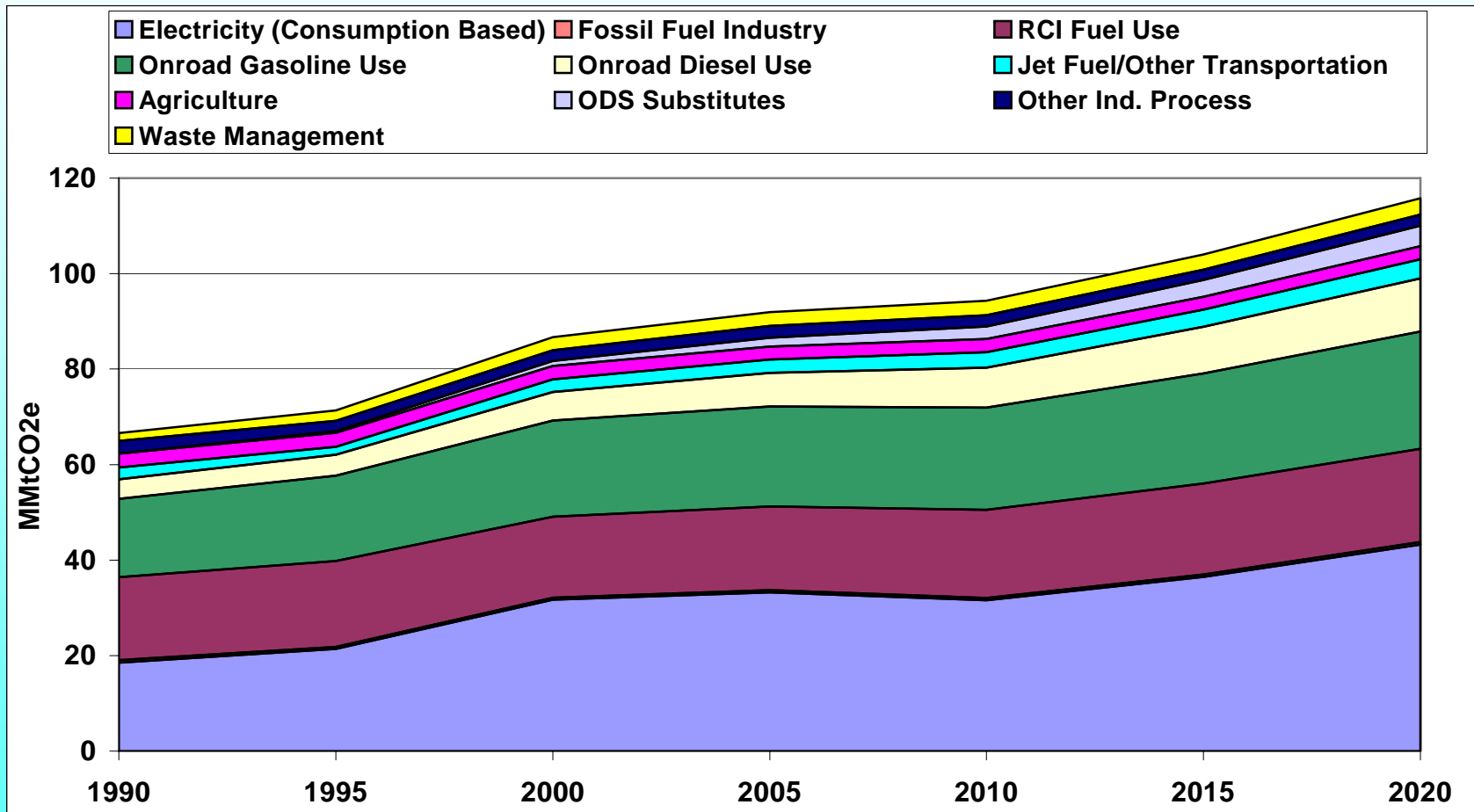
# Next Steps: TWG Input

- TWG Members asked to provide text for the following sections:
  - **\*\*Implementation Mechanisms\*\***
  - Related Policies/Programs in Place
  - Key Uncertainties
  - Additional Benefits and Costs
  - Feasibility Issues
- Please provide text by December 28, 2007

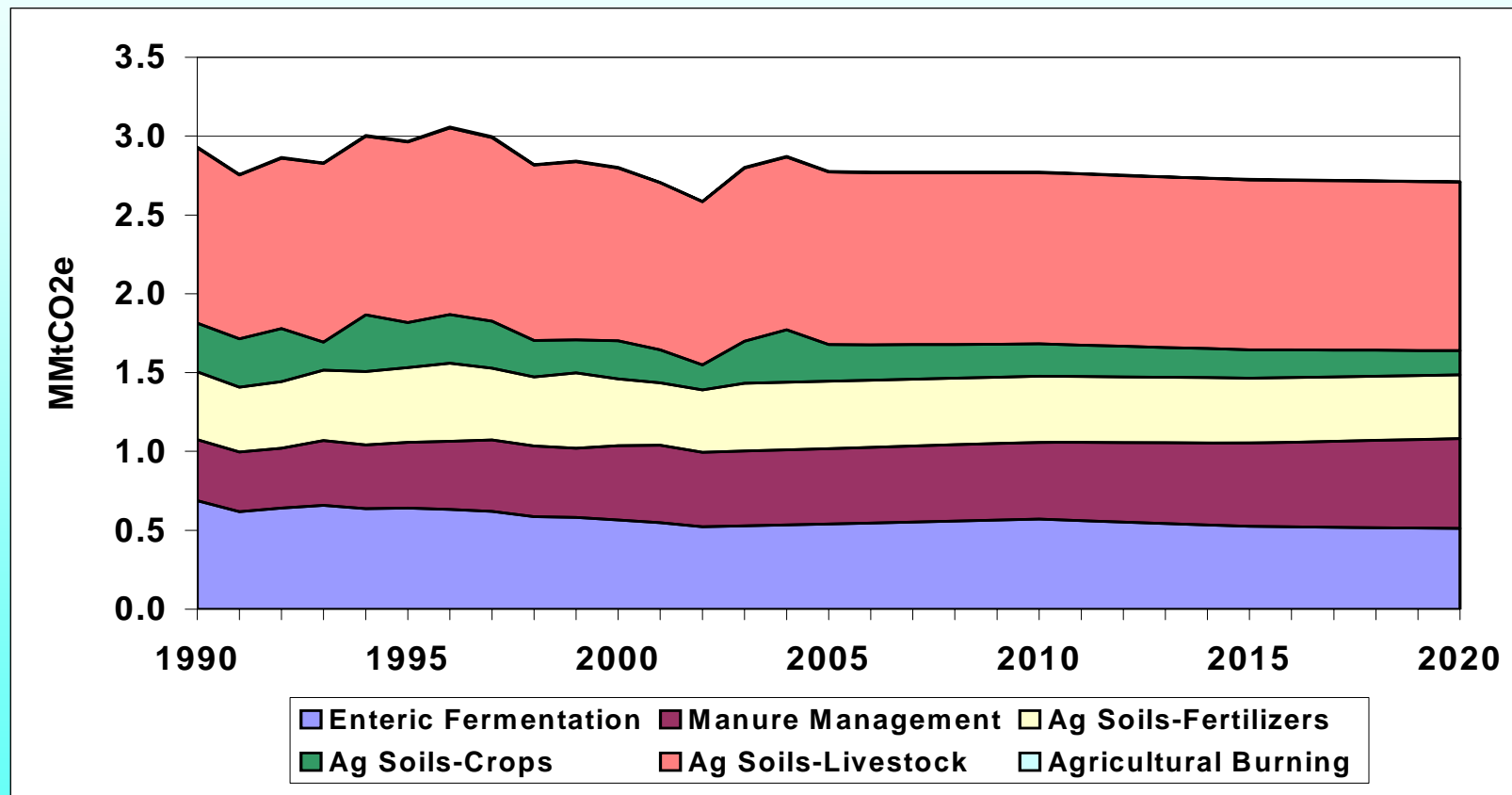
# Draft GHG Inventory & Forecast

- AFW appendices posted on website

# South Carolina Gross GHG Emissions By Sector, 1990-2020



# Agriculture



# Agriculture

- Data Sources
  - Crop Production: USDA/NASS
  - Livestock: USDA/NASS
  - Fertilizer: Fertilizer Institute
- Methods
  - Crops: SGIT emission factors and crop production data
  - Livestock: SGIT emission factors and livestock populations
  - Fertilizer: SGIT fertilizer consumption
  - Livestock population projections based on methods from VISTAS Regional Planning Organization inventory
  - Projections for other categories based on historical growth trends

# Agriculture

- Key Assumptions
  - Future growth for agricultural soils will follow historical trends
  - Livestock population growth will follow national trends (VISTAS inventory uses USDA projections for most livestock categories)
- Key Uncertainties
  - Manure management emission factors derived from limited data sets
  - Livestock numbers based on point estimates for each year to represent populations that fluctuate throughout the year
  - Projection assumptions

# Forestry

| <b>Forest Pool</b>   | <b>Carbon Flux<br/>(MMtC)</b> | <b>Carbon Flux<br/>(MMtCO<sub>2</sub>)<br/>(negative number = net<br/>sink)</b> |
|--|-------------------------------|---|
| Live Tree  | -4.7                          | -17   |
| Understory   | -0.2                          | -0.8  |
| Standing Dead & Down Dead  | -0.4                          | -1.5  |
| Forest Floor   | -0.04                         | -0.15   |
| Soil Carbon* (data subject to change)  | 7.6                           | 28  |
| Harvested Wood Products  | -2.5                          | -9.0  |
| <b>Totals</b>  | <b>-0.3</b>                   | <b>-1.0</b>   |
| <b>*Totals (excluding soil carbon)</b>   | <b>-7.8</b>                   | <b>-28.5</b>  |
| <p>Totals may not sum exactly due to independent rounding.<br/>           Data source: Jim Smith, USFS, personal communications with S. Roe, CCS, November 2006 and February 2007.</p> |                               |   |

# Forestry

- Data Sources
  - USFS carbon stock data for 2001-2005 based on FORCARB2 model
  - USFS also provides modeled estimates for harvested wood products
- Methods
  - Forestry: USFS FORCARB2 carbon stock change model provides carbon pools for each inventory cycle
  - Flux calculated for each pool based on difference in time between inventory cycles
  - Carbon pool data for the 2001-2005 time-period

# Forestry

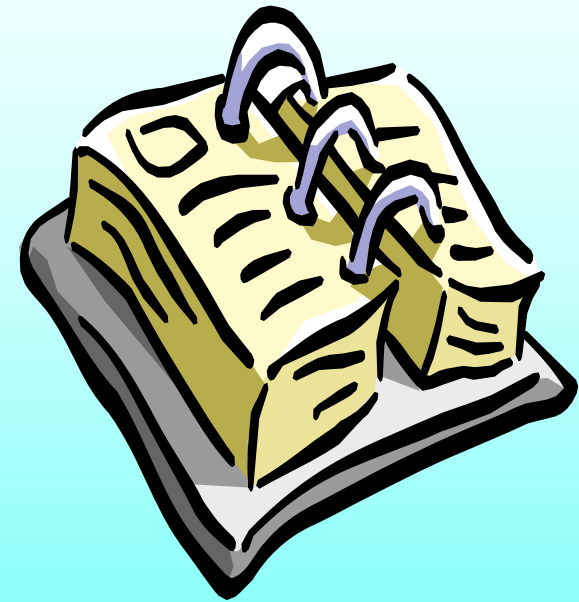
- Key Assumptions
  - 2001-2005 carbon stock change representative of current and historical conditions
  - No significant change in sequestration from 2006-2020
- Key Uncertainties
  - Effects of future development on forested acreage
  - Effects of near-term climate change on forest sequestration levels

# Next Steps

- Work with CCS to develop baseline data and establish quantification methodology.
- Submit text for Policy Options Document.

# Next TWG Meeting

- Date and Time
  - Next Scheduled: January 22, 2007; 2:00PM to 4:00 PM.
- Future Meetings
  - CECAC: Feb. 22, May 9
  - AFW TWG: Jan. 22, March 6, April 17
- Agenda:
  - Review initial quantification of costs and benefits.



# Public Input, Announcements