
# South Carolina Climate, Energy & Commerce Advisory Committee

## AFW Technical Working Group Meeting #5

## September 5, 2007

Office of the Governor
The Center for Climate Strategies

# Agenda

- Call to order and roll call
- Review and approval of previous call summary
- Continued Review of Draft South Carolina Emissions Inventory & Forecast
- Proposed date, time, & agenda items for next meeting
- Public Input and Announcements

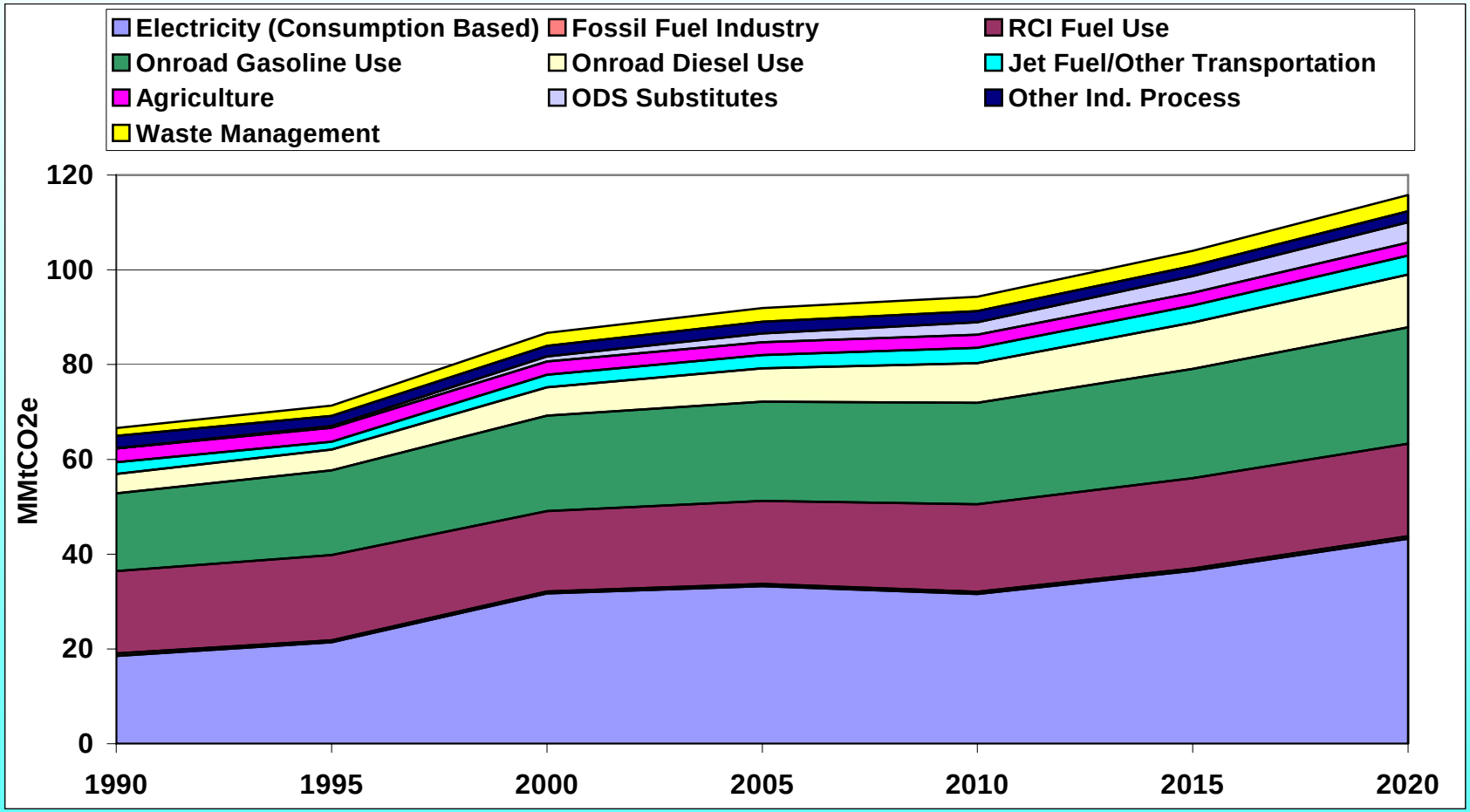
# Stepwise Planning Process

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

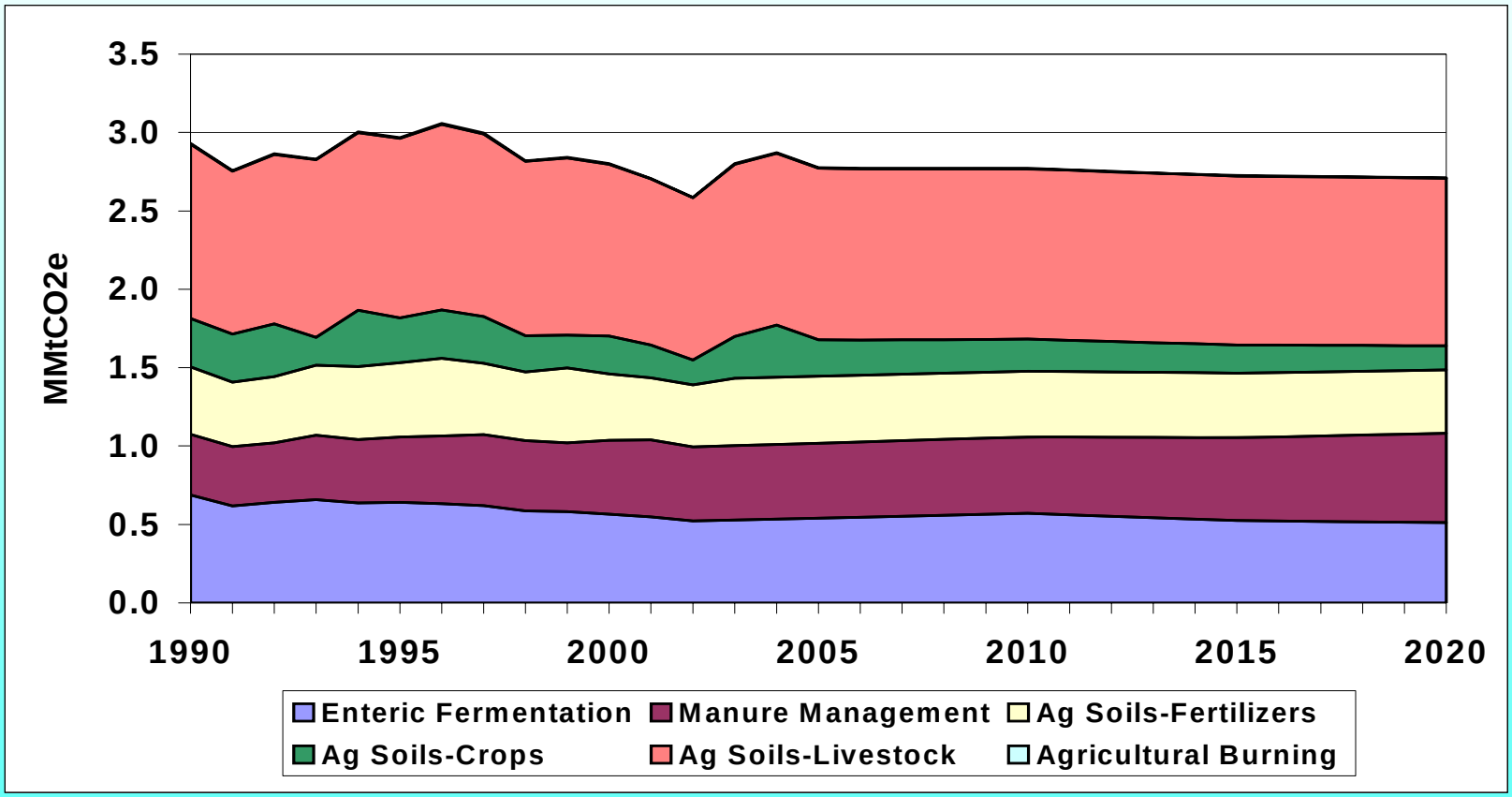
# Draft GHG Inventory & Forecast

- AFW appendices posted on website

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



# Agriculture



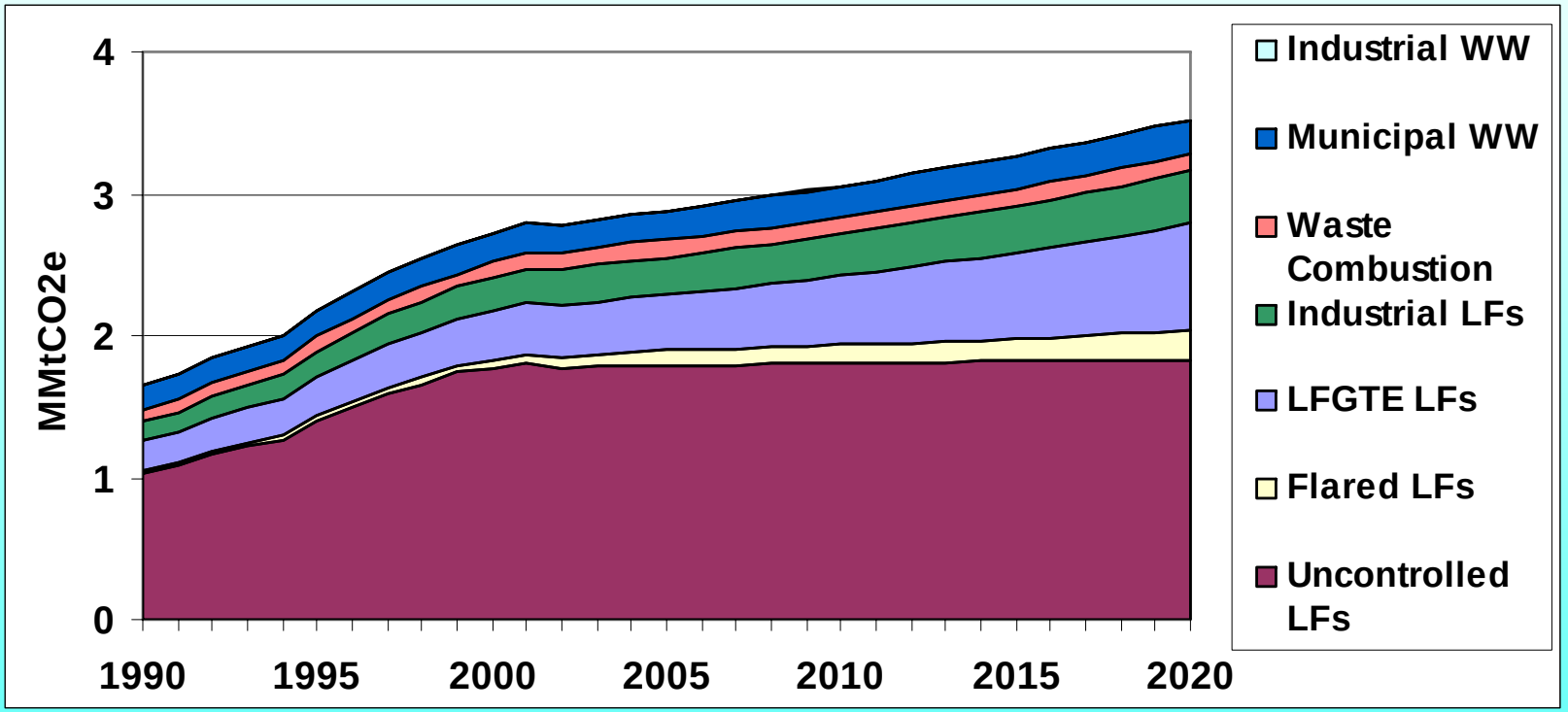
# Agriculture

- 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

# Waste Management



# Waste Management

- Data sources
  - EPA Landfill Methane Outreach Program Database
  - Additional landfill data provided by SCDHEC
  - SCDHEC data on waste combustion and wastewater (WW) flows for fruit/vegetable processing
  - State population and SGIT default data for municipal WW treatment
- Methods
  - SGIT with data sources above
  - CCS post-processing to account for controls and growth

# Waste Management

- Key Assumptions
  - Growth Rates
    - Landfills – based on historic emissions growth (2000-2005)
    - Industrial WW – based on historic emissions growth (1990-2005)
    - Municipal WW – SC population projections
- Key Uncertainties
  - Future controls applied to uncontrolled landfills
  - Industrial landfills
    - SGIT default of 7% of municipal landfills
  - Industrial WW
    - Growth for food/vegetable processing

# Forestry

| Forest Pool | Carbon Flux (MMtC) | Carbon Flux ($MMtCO_2$) (negative number = net sink) |
|---|---|---|
| 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 |
| **Totals** | **-0.3** | **-1.0** |
| ***Totals (excluding soil carbon)** | **-7.8** | **-28.5** |

Totals may not sum exactly due to independent rounding.
Data source: Jim Smith, USFS, personal communications with S. Roe, CCS, November 2006 and February 2007.

# 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

- Review Comments from CECAC on Priorities for Analysis
- Assign Volunteer Groups to Design Straw Proposals for CECAC review
- Continued review and revision of Draft GHG Inventory & Forecast

# Next TWG Meeting

- Date and Time
  - October 3, 2007; 2:00PM to 4:00 PM.
  - CECAC Meeting on September 21 (Friday)
- Agenda:
  - Review Comments from CECAC
  - Assign Volunteer Groups
  - Continued review and revision of Draft GHG Inventory & Forecast

# Public Input, Announcements