

Alaska Climate Change Mitigation Advisory Group

FAW Technical Working Group
Meeting #12

April 21, 2009

Office of the Governor

The Center for Climate Strategies

Agenda

- Call to order and roll call
- Review and Approval of Prior Call Summary
- Review Next Steps for TWG
- Review Results of MAG Meeting
- Review any POD Changes from TWG
- Final Review of Alaska Draft Emissions Inventory & Forecast
- Agenda, Time and Date 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

Next Steps for TWG

- Complete quantification process
 - TWG and MAG input on FAW-1 and FAW-2
 - MAG consensus on FAW-3
- Finalize updates to AK GHG I&F
 - Any final comments on text?

Research Needs Work Group

- Update from RNWG member

Quantification Process – CCMAG Input

- FAW-1
 - Objection to counting biomass in different manner than fossil fuels.
- FAW-2
 - Same objection as FAW-1
- FAW-3
 - MAG Consensus
- General
 - Insert comment that location has a major effect on cost and feasibility of implementation

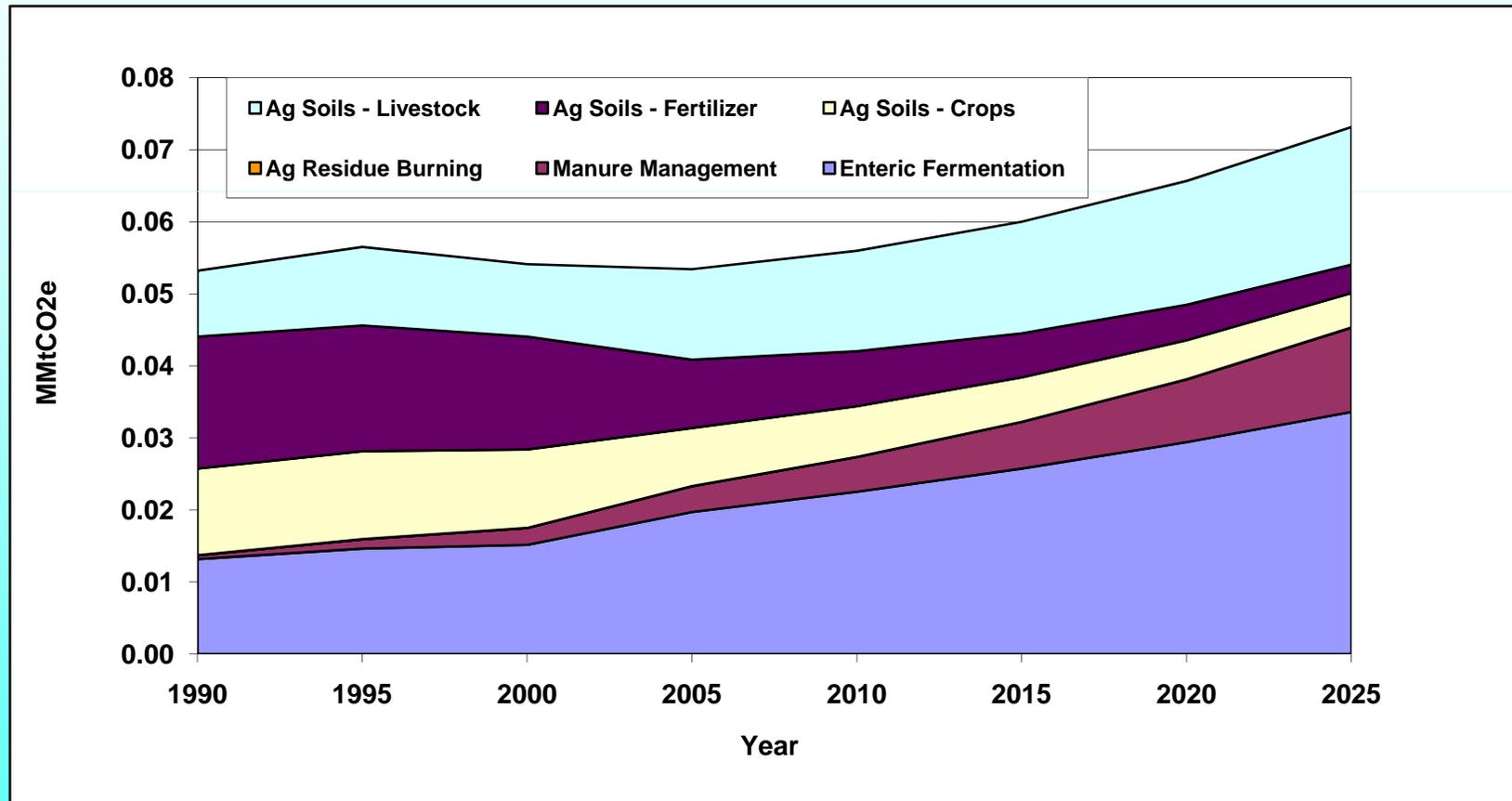
Quantification Process

- See Policy Options Document
 - Posted on the FAW TWG webpage

GHG Inventory & Forecast

- Updated Appendices (posted under Call #11):
 - Agriculture
 - Updated Appendix to reflect extension of forecast to 2025
 - Waste Management
 - Updated emission Inventory and Forecast to reflect changes to waste disposal data provided by TWG.
 - Updated Appendix to reflect extension of forecast to 2025
 - Forestry
 - Inserted brief discussion of uncertainties regarding permafrost and carbon flux
 - Updated Appendix to reflect extension of forecast to 2025

Agriculture



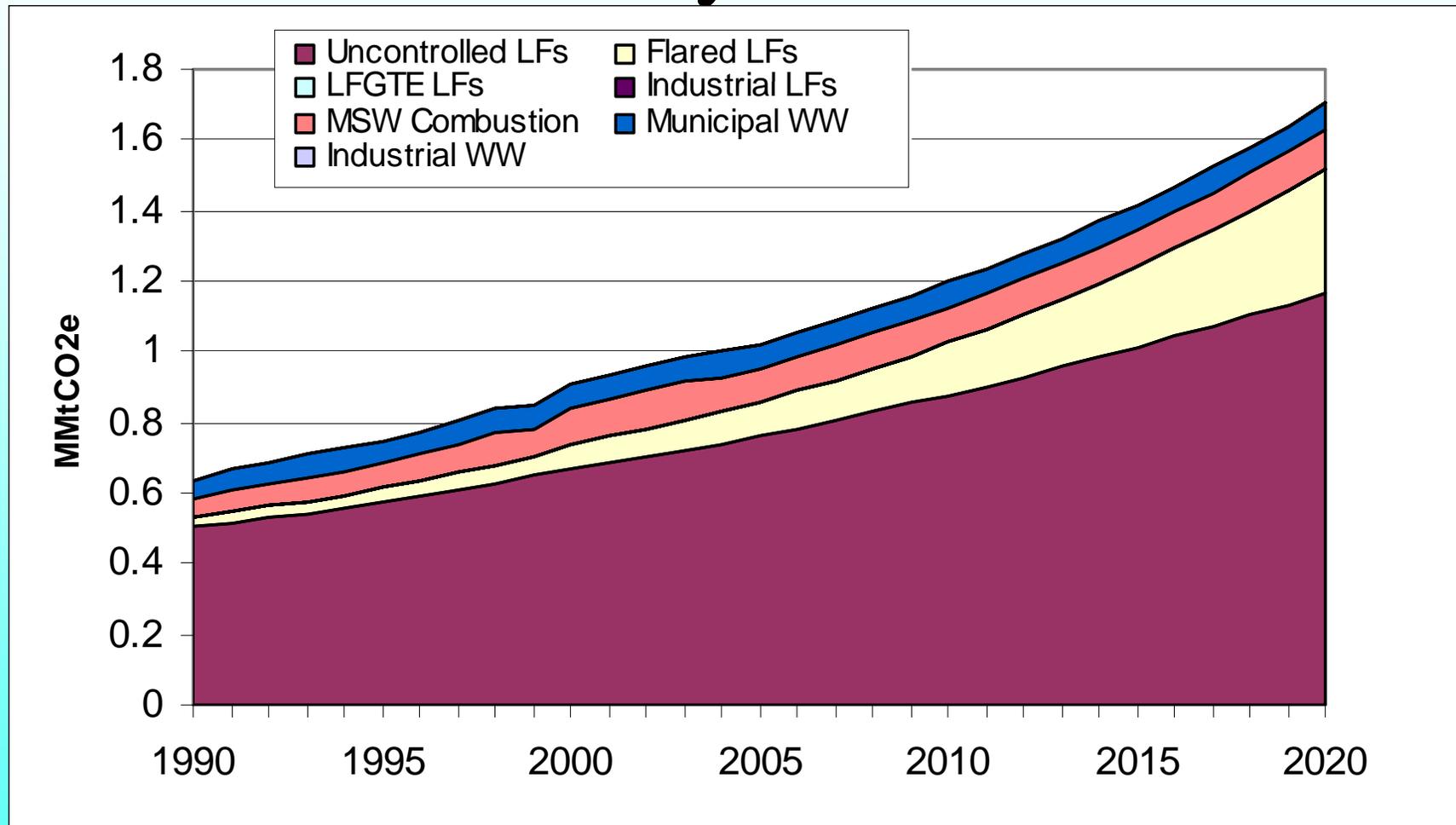
Agriculture

- 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
 - Projections for other categories based on historical growth trends

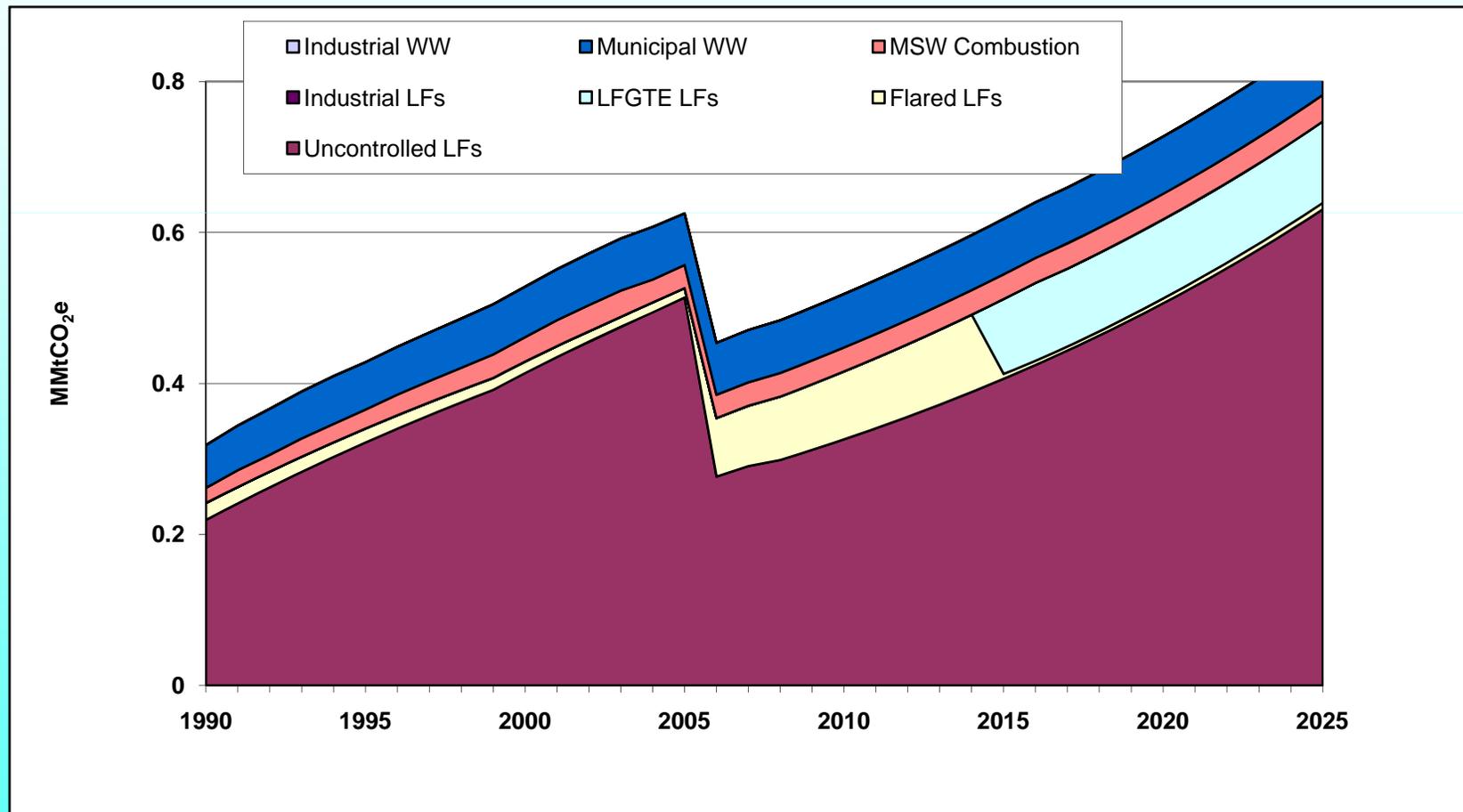
Agriculture

- Key Assumptions
 - Future growth for agricultural soils will follow historical trends
 - Livestock population growth will follow five-year growth rate from 1997 – 2025.
- 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 – Initial Draft Inventory and Forecast



Waste Management – Updated Draft Inventory and Forecast



Waste Management

- Data sources
 - EPA Landfill Methane Outreach Program Database
 - Additional landfill data provided by DEC
 - DEC data on waste combustion
 - State population and SGIT default data for municipal WW treatment
 - FAW TWG data on landfill disposal
- Methods
 - SGIT with data sources above
 - CCS post-processing to account for controls and growth

Waste Management

- Key Assumptions
 - Growth Rates
 - Uncontrolled Landfills – based on historic emissions growth (1995-2005)
 - Controlled Landfills – assumes continuation of current emplacement rates through 2025
 - Waste Combustion and Municipal WW – AK population projections
- Key Uncertainties
 - Methods do not account for landfill controls that will be required during period of analysis
 - Many small landfills may be frozen for as much as half the year.
 - Data was not available to estimate industrial wastewater, treatment of fish processing waste, and ballast water.

Forestry

| Source | CO ₂ e Flux (MMtCO ₂ e) ^a | | | | | |
|---|--|-------------|-------------|-------------|-------------|-------------|
| | 1990 | 2000 | 2005 | 2010 | 2020 | 2025 |
| <i>State-Level Forest Flux</i> | | | | | | |
| CO ₂ Flux | 4.6 | 12 | 12 | 12 | 12 | 12 |
| Non-CO ₂ Gases from Fire | 4.5 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 |
| CH ₄ Flux ^b | 16 | 21 | 24 | 26 | 31 | 36 |
| Total State-Level | 25 | 38 | 41 | 43 | 48 | 53 |
| <i>Flux for Managed Forests^c</i> | | | | | | |
| CO ₂ Flux | -0.3 | -1.4 | -1.4 | -1.4 | -1.4 | -1.4 |
| Non-CO ₂ Gases from Fire | 0.0 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| CH ₄ Flux | n/a | n/a | n/a | n/a | n/a | n/a |
| Total – Managed Forests | -0.3 | -1.4 | -1.4 | -1.4 | -1.4 | -1.4 |

Positive values represent net CO₂e emissions. Non-CO₂ gases are methane and nitrous oxide.

^a Values reported are ten year averages of annual data surrounding the year reported (e.g., 1990 average is the average of data for 1985-1994). For 2000, data only available through 2002. After 2000, flux estimates are assumed to remain constant.

^b UAF estimate for the 1980-1996 period used for 1990. UAF growth rate of 0.5 MMtCO₂e/yr used for forecast years. See Section on CH₄ emissions from Alaskan ecosystems.

^c Managed forests are the coastal maritime forests of the state. CH₄ flux estimates were not available for managed forests.

Forestry

- Data Sources
 - University of Alaska carbon flux estimates, wildfire acreages
 - WRAP 2002 Wildfire Inventory
- Methods
 - Forestry: UA study used to develop estimates and projections of anthropogenic emissions and sinks
 - Carbon flux data for the 2001-2005 time-period assumed to remain constant through 2025

Forestry

- Key Assumptions (managed forests)
 - 2001-2005 carbon stock change representative of current conditions
 - No significant change in carbon flux from 2006-2025
- Key Uncertainties (managed forests)
 - Effects of future development on forested acreage
 - Effects of near-term climate change on forest sequestration levels
- Key Uncertainties (unmanaged forests) –
 - Many, including impacts of early thaw (see Forestry appendix)

Next TWG Meeting

- Agenda:
 - No meeting currently scheduled



Time and Date: N/A

CCMAG Meeting: Teleconference on May 14, 2009.

Public Input, Announcements