Alaska Climate Change
Mitigation Advisory Group

FAW Technical Working Group
Meeting #2
June 24, 2008
Office of the Governor
The Center for Climate Strategies
Agenda

• Call to order and roll call
• Review and approval of previous call summary
• Review goals for CCMAG meeting #2
• Review next steps for TWG
• Continued Review of the Catalog of State Actions
• Review of the AK 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
TWG Goals for CCMAG Meeting #2

• Complete Catalog of Actions for CCMAG Review
  – Changes and additions to options and descriptions
  – Add recent and related actions to Catalog and Descriptions Document
Next Steps for TWG

- Complete Catalog for review by the CCMAG on July 15.
- CCS incorporates comments from the CCMAG
- TWG fills in nominal ratings for GHG reductions, costs, and additional information
- TWG recommends priorities for analysis
- CCMAG reviews and approves TWG priorities
- TWG develops straw proposals for policy design
FAW Catalog of State Actions

• *Please see separate Catalog handout.*
Alaska Gross GHG Emissions By Sector, 1990-2020

![Graph showing Alaska Gross GHG Emissions By Sector, 1990-2020](image-url)
Agriculture

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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 – 2020.

• 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

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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

• 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 – AK 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

<table>
<thead>
<tr>
<th>Source</th>
<th>CO\textsubscript{2}e Flux (MMtCO\textsubscript{2}e)&lt;sup&gt;a&lt;/sup&gt;</th>
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<td><strong>State-Level Forest Flux</strong></td>
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<tr>
<td>CO\textsubscript{2} Flux</td>
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<tr>
<td>Non-\text{CO}_2 Gases from Fire</td>
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<tr>
<td>CH\textsubscript{4} Flux&lt;sup&gt;b&lt;/sup&gt;</td>
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<tr>
<td><strong>Total State-Level</strong></td>
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<tr>
<td><strong>Flux for Managed Forests</strong>&lt;sup&gt;c&lt;/sup&gt;</td>
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</tr>
<tr>
<td>CO\textsubscript{2} Flux</td>
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</tr>
<tr>
<td>Non-\text{CO}_2 Gases from Fire</td>
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<tr>
<td>CH\textsubscript{4} Flux</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Total – Managed Forests</strong></td>
<td>-0.3</td>
</tr>
</tbody>
</table>

Positive values represent net CO\textsubscript{2}e emissions. Non-\text{CO}_2 gases are methane and nitrous oxide.

<sup>a</sup> 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.

<sup>b</sup> UAF estimate for the 1980-1996 period used for 1990. UAF growth rate of 0.5 MMtCO\textsubscript{2}e/yr used for forecast years. See Section on CH\textsubscript{4} emissions from Alaskan ecosystems.

<sup>c</sup> Managed forests are the coastal maritime forests of the state. CH\textsubscript{4} 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 2020
Forestry

• Key Assumptions (managed forests)
  – 2001-2005 carbon stock change representative of current conditions
  – No significant change in carbon flux from 2006-2020

• 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:
  – Incorporate revisions to catalog from CCMAG
  – Establish nominal ratings for Catalog
  – Review TWG suggested updates to the Alaska emissions inventory and projection
  – Prepare to identify initial priorities for analysis

• Time and Date: TBD
Public Input, Announcements