Transportation & Land Use TWG
Teleconference Meeting #2

June 24, 2008, 2:00 – 4:00 pm

Governor’s Climate Change Sub-Cabinet
Center for Climate Strategies
Today’s Agenda

• Roll call
• Review and approval of TWG Call #1 summary
• Review and comments on the draft GHG emission inventory & forecast
• Discussion of process for identifying priority options for analysis
• Review and discussion of the Catalog of State Actions
• Public input and announcements
• Agenda, time, and date for next meeting
Draft GHG Emission Inventory & Forecast
Inventory Approach

- Standard US EPA and UN methodologies, guidelines, and tools
- Emphasis on transparency, consistency, and significance
- Preference for Alaska data, where available
- Consumption and production-basis emissions from electricity generation
  - Very simplified approach used for initial analysis
Projection Approach

• Reference case assumes no major changes from business-as-usual (BAU)
  – Includes approved policies and actions to the extent possible
• Growth assumptions from existing sources
  – State population and employment forecasts
  – US Census and Bureau of Labor & Statistics
  – US Energy Information Administration
Coverage

• Six gases per USEPA and UNFCCC guidelines
  – Carbon Dioxide (CO$_2$), Methane (CH$_4$), Nitrous Oxide (N$_2$O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulfur Hexafluoride (SF$_6$)

• All major emitting sectors
  – Electricity Supply & Demand (Consumption Based)
  – Residential, Commercial, Industrial (RCI) Fuel Use
  – Industrial Non-Fuel Use Processes
  – Transportation (onroad and nonroad)
  – Natural gas pipeline transmission & distribution
  – Agriculture, Forestry, and Waste

• Emissions expressed as CO$_2$ equivalent
  – 100-year global warming potentials
    • CO$_2$ = 1; CH$_4$ = 21; N$_2$O = 310; HFC-23 = 11,700; SF6 = 23,900
Alaska & US Gross Emissions by Sector, Year 2000

Alaska

Transport 35%
Res/Com Fuel Use 9%
Industrial Fuel Use 41%
Industrial Process 0.4%
Waste 2%
Agric. 0.1%
Electricity 7%
Fossil Fuel Ind. (CH4) 7%

US

Transport 26%
Res/Com Fuel Use 9%
Industrial Fuel Use 14%
Fossil Fuel Ind. (CH4) 3%
Electricity 32%
Industrial Process 5%
Waste 4%
Agric. 7%
Per Capita and GSP/GDP Gross GHG Emissions, 1990-2005

- **US GHG/Capita (tCO2e)**
- **AK GHG/Capita (tCO2e)**
- **US GHG/$ (100gCO2e)**
- **AK GHG/$ (100gCO2e)**
Alaska Gross GHG Emissions By Sector, 1990-2020

[Graph showing emissions by sector from 1990 to 2020, with categories including Electricity (in-state), Fossil Fuel Industry, Transport Aviation, Transport Onroad, Agriculture, Other Ind. Process, Waste Management, ODS Substitutes, Transport Marine, and Transport Other.]
Alaska Gross Emissions Growth (MMtCO2e Basis)
Transportation Inventory & Forecast

• Data Sources
  – Onroad Diesel and Gasoline: Western Region Air Partnership (WRAP) Mobile Source Inventory and EIA AEO2006
  – Other Onroad Fuels: EIA
  – Aviation: jet fuel prime supplier sales volumes in Alaska from EIA
  – Marine Vessels: ADEC commercial marine inventory, Commission for Environmental Cooperation in North America inventory, EIA, EPA’s National Emissions Inventory, Waterborne Commerce Statistics Center (Army Corps)
  – Rail and Other: SGIT and fuel consumption from EIA
Transportation Inventory & Forecast

• Projection Methods
  – Onroad Diesel and Gasoline: Total VMT projections from WRAP, distributed to vehicle types by AEO2006 figures, adjusted by AEO2006 fuel efficiency projections.
  – Other Onroad fuels: regional fuel consumption projections from AEO2006 apportioned by population
  – Aviation: FAA aircraft operations forecasts by facility, adjusted by aviation fuel efficiency forecasts from AEO2006
  – Marine Vessels: projected using historical growth factors from ADEC inventory
  – Rail and Other: Historical trends and USDOE regional projections
Transportation Inventory & Forecast

• Key Assumptions
  – Ethanol consumption assumed to remain at the 2002 level. Biodiesel and other biofuels not considered.
  – No growth in rail emissions, consistent with historical pattern

• Key Uncertainties
  – Future year vehicle mix
  – Future biofuel consumption
  – Aviation fuel for international travel
  – Aviation fuel efficiency forecasts
  – Consistency of multiple sources for marine fuels
Identifying Priorities for Analysis
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• TWG reviews and revises catalog of options (today)
• MAG reviews, amends, and approves catalog (July 15)
• TWG identifies a preliminary set of priority options for further analysis by voting process (via email, weeks of July 28 – August 8)
  – Ballot sent by CCS to TWG members
  – Each TWG member identifies a number of priority options, adds comments as needed (for example, with regard to possible consolidation of policies, rationale for priorities, etc.)
• CCS compiles results for discussion at next TWG call (August 26)
Catalog of State Actions

• See separate catalog documents (catalog and descriptions)
• Updated based on TWG input
Public Input and Announcements
Next TWG Call

• Agenda:
  – Report back from MAG on catalog
  – Discuss approach for choosing priority options for analysis
  – Further review of the emissions inventory and projection if/as needed

• Proposed date/time for Call #3:
  – Thursday, July 24, 2:00 pm – 4:00 pm

• Proposed date/time for Call #4:
  – Tuesday, Aug 26, 2:00 pm – 4:00 pm