



Energy Supply (ES) Technical Work Group Teleconference Meeting #5

February 15, 2007

Today's Agenda

- Roll Call
- Review and approval of TWG call #4 summary (Jan 25, 2007)
- Updates to the emissions inventory & forecast
- Review initial Draft Options developed by TWG volunteers, and continue process of developing further concepts and text
- Next steps for TWGs
- Agenda, time and date for next meeting
- Public input and announcements

Updates to Montana GHG Inventory and Forecast

- High Fossil Fuel Case
 - Electricity supply – 3000 MW of new capacity (coal and wind) by 2020, compared with 500 MW in reference case
 - New fossil fuel production by 2020
 - Coal-to-liquid refinery - 44,000 barrels per day
 - Conventional refinery – 150,000 barrels per day
 - Coal bed methane – 1690 MMcf/day
 - Coal mining – 6.4 million short tons annually

Fossil Fuel Industry Emissions

Figure E1. Fossil Fuel Industry Reference Case Emission Trends (Million metric tons CO₂e)

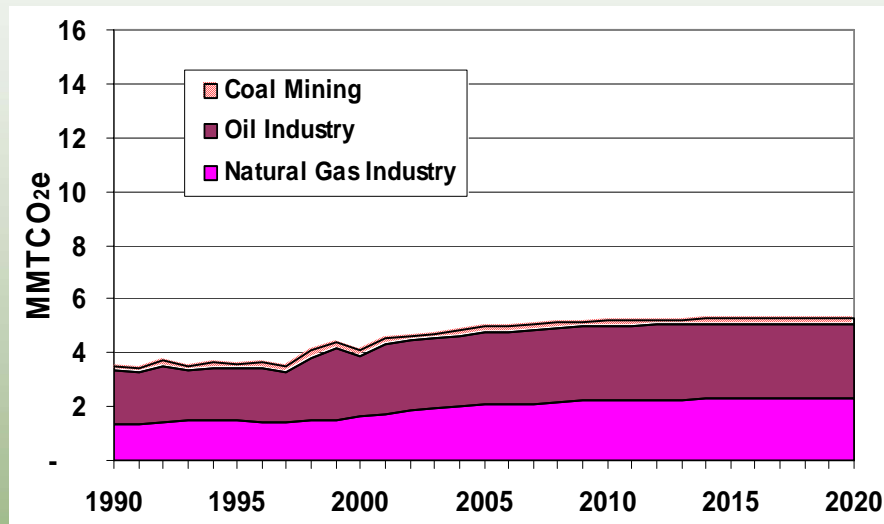
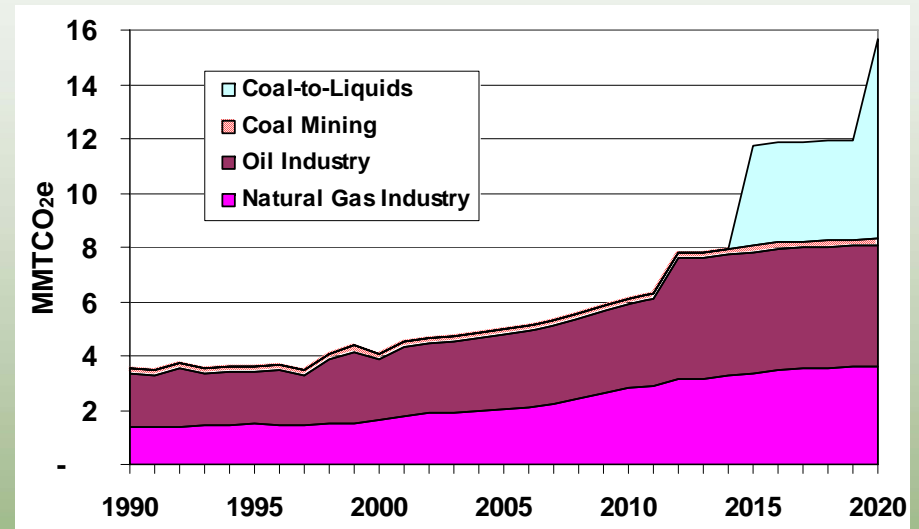


Figure E2. Fossil Fuel Industry High Fossil Fuel Scenario Emission Trends (Million metric tons CO₂e)



- High fossil fuel scenario adds about 10 MMtCO₂e in 2020 (production-basis), 7 MMtCO₂e from coal-to-liquids production
- Fuel use at refineries accounts for about 90% of oil industry emissions shown
- Transmission and distribution accounts for roughly half of natural gas GHG emissions shown

Electricity Emissions

Table A7. Summary GHG Emissions for Montana Electric Sector

(Million Metric Tons CO₂e)	1990	2000	2005	2010	2020
Production-based					
Reference case	15.8	17.1	19.3	21.3	23.6
High Fossil Fuel Scenario	15.8	17.1	19.3	21.3	34.0
Consumption-based	8.8	9.8	10.3	10.3	11.3

Energy Supply Options as Confirmed by CCAC

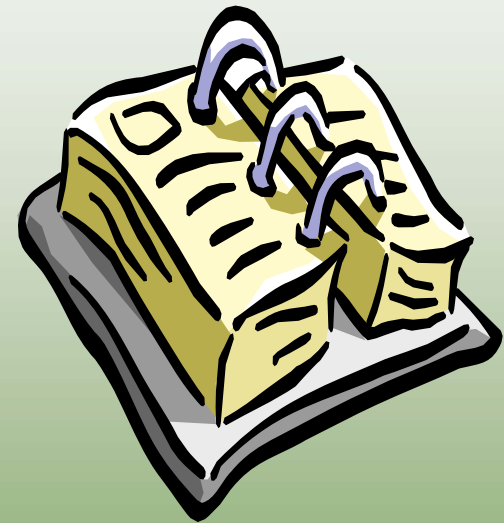
- Bin A Renewable Energy and Energy Efficiency
 - **ES-1** Environmental portfolio standard
 - **ES-2** Renewable energy incentives
 - **ES-4** Incentives and barrier removal for combined heat and power (CHP) and clean distributed generation (DG)
 - **ES-7** Demand-side management (RCII TWG will take lead)
- Bin B Advanced fossil fuel and other technologies
 - **ES-3** Research and development (R&D)
 - **ES-5** Incentives for advanced fossil fuel generation and carbon capture and storage (CCS)
 - **ES-6** Efficiency improvements and repowering of existing plants

Energy Supply Options as Confirmed by CCAC

- Bin C Direct GHG policies
 - **ES-8** CO₂ tax (to be considered jointly with RCII TWG)
 - **ES-9** GHG cap and trade
 - **ES-10** Generation performance standards or GHG mitigation requirements for new (and/or existing) generation facilities, with/without GHG offsets
- Bin D Fossil fuel production and processing
 - **ES-11** Methane and CO₂ reduction in oil & gas operations,
 - **ES-12** GHG reduction in refinery operations, including in future coal-to-liquids refineries
 - **ES-13** CO₂ capture and storage or reuse (CCSR) in O&G operations, including refineries and coal-to-liquids operations

Next steps for ES TWG

- TWG review of Draft Options reflecting today's call (to be posted in the coming week)
- CCAC review of Draft Options at March 1 meeting
- TWG continues option designs and begins option analyses in March
- Next TWG meeting in late March/early April



Public Input, Announcements