



MINNESOTA
Climate Change
Advisory Group



Minnesota Climate Change Advisory Group

Cross-Cutting Issues
Technical Work Group Meeting #1
May 22, 2007

Minnesota Department of Commerce
Minnesota Pollution Control Agency
The Center for Climate Strategies

Welcome and Introductions

- State of Minnesota
 - MN Department of Commerce (DOC)
 - MN Pollution Control Agency (PCA)
- Minnesota Technical Work Group (TWG) Members
- Members of the Public
- Center for Climate Strategies

Today's Agenda

- Call to order
- Introductions
- Review of the MCCAG and TWG process and interaction
 - TWG organization, logistics, purpose, and goals
- Brief discussion of the MN Draft Emissions Inventory & Forecast
- Review and Discussion of the Catalog of State Actions
- Discussion of next steps toward identifying priority policy options
- Agenda, Date and Time for Next Meeting
- Call to the public
- Announcements

Part 1

- MCCAG and TWG Process

MCCAG Purpose & Goals

- Purpose
 - Achieve Governor’s “Next Generation Energy Initiative” goal of developing “a comprehensive plan to reduce Minnesota’s emissions of greenhouse gas (GHG) emissions.”
- Goals (may be changed or added to by pending legislation)
 - Review and approval of a current and comprehensive inventory and forecast of GHG emissions in Minnesota from 1990 to 2020;
 - Development of a comprehensive set of specific policy recommendations and associated analyses to reduce GHG emissions and enhance energy and economic policy in Minnesota by 2020 and beyond;
 - Development and recommendation of a set of recommended statewide GHG reduction goals and targets for implementation of these actions; and
 - Issuance of recommendations in the form of a final report to the Governor by February 1, 2008.

MCCAG Roles & Responsibilities

- MCCAG Process convened by Governor Pawlenty
- DOC and PCA oversee and coordinate the MCCAG process
- MCCAG makes recommendations to Governor
- **TWGs provide informal guidance to MCCAG**
- Public input and review for stakeholders
- CCS provides facilitation, technical support, final report

TWVG Roles

- Assist MCCAG
 - Identify potential state actions
 - Identify potential priorities for analysis
 - Suggest straw policy designs
 - Assist with analysis and review of options
 - Assist with development of policy alternatives
 - Assist with input to and review of MCCAG reports
 - Review and assist with the state GHG inventory and forecast

TWG Composition

- Energy Supply
 - Heat and power generation; typical locus for cap and trade or carbon tax policy
- Commercial, Industrial, and Residential
 - Energy efficiency & conservation, industrial process, waste management
- Transportation and Land-Use
 - Including vehicle efficiency, alternative fuels & demand reduction programs, development patterns
- Agriculture, Forestry and Waste
 - Land protection, forest restoration, sustainable forest management, bioenergy, sustainable wood products, waste reduction, recycling
- Cross-Cutting Issues
 - Reporting, registries, public education, goals, lead-by-example

Ground Rules

- Supportive of the process
- Attendance at meetings
- Equal footing
- Stay current with information
- No backsliding
- Do not represent the MCCAG or TWGs
- Make objective contributions

Timing

Date	Action
April 20, 2007	1 st MCCAG meeting
June 14, 2007	2 nd MCCAG meeting
August 2, 2007	3 rd MCCAG meeting
September 27, 2007	4 th MCCAG meeting
November 8, 2007	5 th MCCAG meeting
January 10, 2008	6 th MCCAG meeting
February 1, 2008	MCCAG Report Due
Between CCAG Meetings	2 TWG conference calls and or meetings for each TWG between MCCAG meetings

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

Building Consensus

- Comprehensive
- Stepwise
- Fact based
- Transparent
- Inclusive
- Collaborative
- Consensus driven



Coverage Of Issues



- All GHG's
- All sectors
- All potential implementation mechanisms
- State and multi-state actions
- Short and long term actions

Decision Criteria

- GHG Reduction Potential (MMTCO₂e)
- Cost or Cost Saved Per Ton GHG Removed
- Co-benefits
- Feasibility Issues

Catalog of States Actions

- Over 300 actions taken by US states
- Existing, planned and proposed state level actions
- Wide variety of US states
- All sectors
- Wide variety of implementation mechanisms
- Includes key MN actions
- MCCAG may add new potential actions
- Starting place for identification of MCCAG priorities

Screening of Potential Actions

- Agriculture Sample

Option No.	Climate Mitigation Option	Priority for Analysis	Potential GHG Emissions Reduction	Potential Cost or Savings	Additional Impacts, Feasibility Considerations	Notes
AFW-1	AGRICULTURE'S PRODUCTION OF FUELS AND ELECTRICITY					
1.1	Manure Digesters/Other Waste Energy Utilization**					
1.2	Biodiesel Production (incentives for feedstocks and production plants)					
1.3	Biomass Feedstocks for Electricity or Steam Production**					
1.4	Ethanol Production					

Policy Design Proposals

- TWGs start with Catalog of states' actions, screen options, and recommend priorities for MN
- MCCAG identifies about 50 draft potential priority options for further development
- TWGs develop initial policy option designs (“straw proposals”)
 - Goals
 - Timing
 - Coverage
- CCS quantifies and presents for review
- MCCAG revisits list of potential priorities, as needed

Policy Option Template

- **Policy Description (Concept)**
- **Policy Design (Goals, Timing, Coverage)**
- **Implementation Methods**
- **Related Programs and Policies (BAU)**
- **Estimated GHG Savings and Costs Per MMTCO_{2e}**
 - **Data Sources, Methods and Assumptions**
 - **Key Uncertainties**
- **Additional (non-GHG) Benefits and Costs, as Needed**
- **Feasibility Issues, if Needed**
- **Status Of Group Approval**
- **Level of Group Support**
- **Barriers to Consensus, if any**

Final Report

- Executive Summary
- Background, Purpose And Goals
- MN Emissions Inventory & Forecast
- MCCAG Recommendations & Results
 - Agriculture
 - Forestry
 - Energy Supply
 - Residential, Commercial, Industrial
 - Transportation & Land Use
 - Waste Management
 - Cross-Cutting Issues
- Appendices



TWG Next Steps

- Review and revision of MN draft GHG inventory & forecast
- Identify “priorities for analysis” from catalog of state actions
 - Add existing and new MN options as needed
 - Rank and screen options as needed
 - Suggest initial “priorities for analysis” to the MCCAG

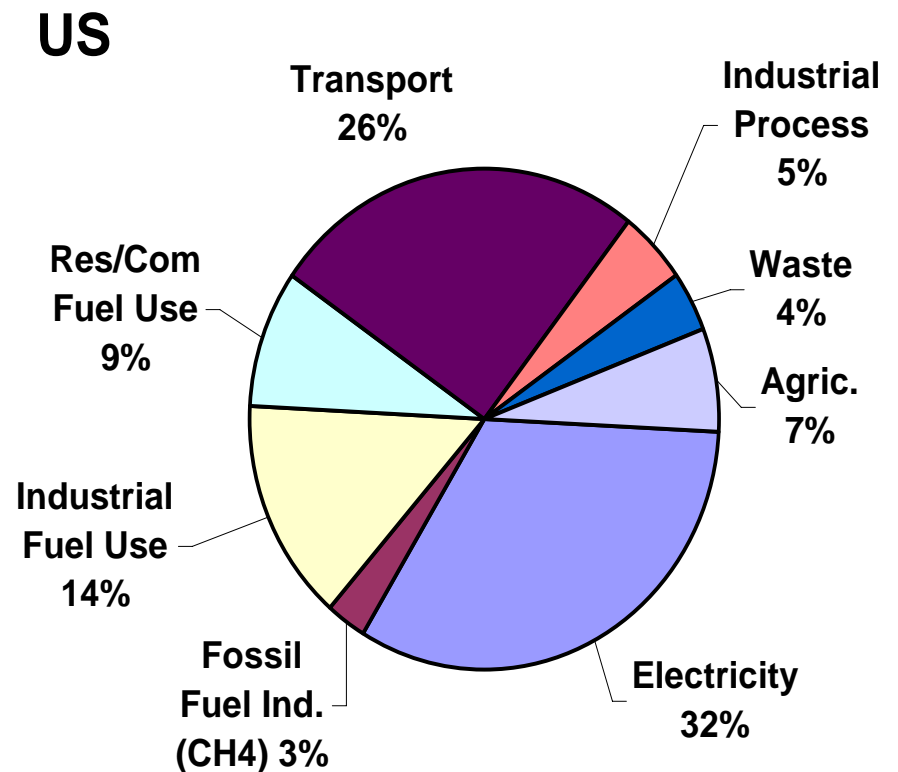
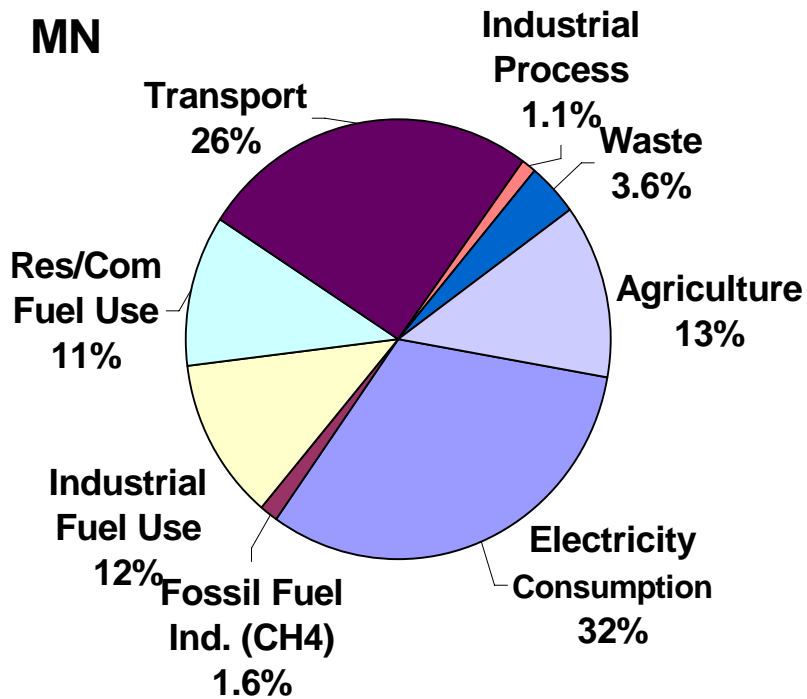
Part 2

- MN Draft Greenhouse Gas Inventory & Forecast

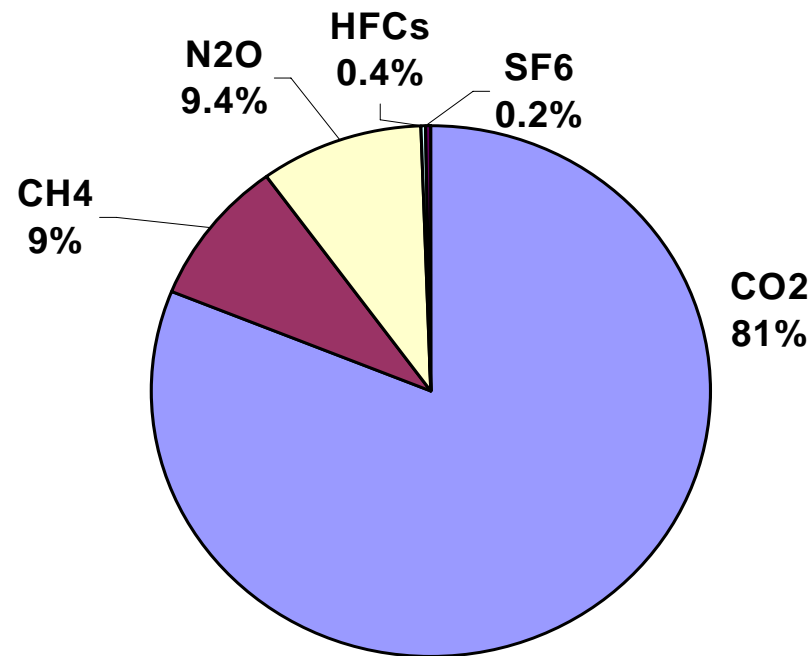
Minnesota GHG Emissions

- Inventory and Reference Case Projections
- Initial analysis by CCS for further discussion and final revision
 - Inventory of historical emissions from 1990 to most recent data year (2000-2004, depending on sector)
 - Projection of emissions to 2020

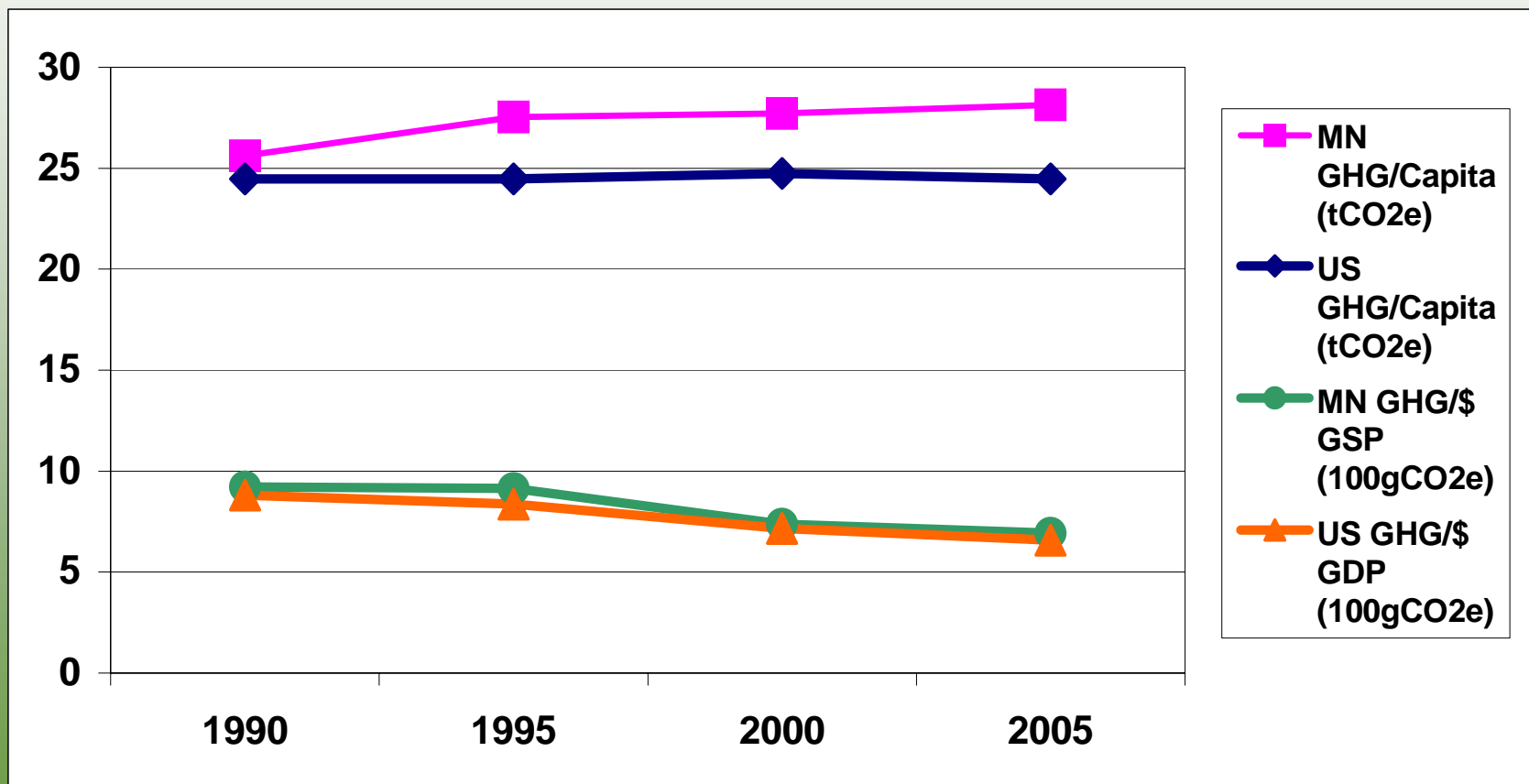
MN & US Gross Emissions By Sector, Year 2000



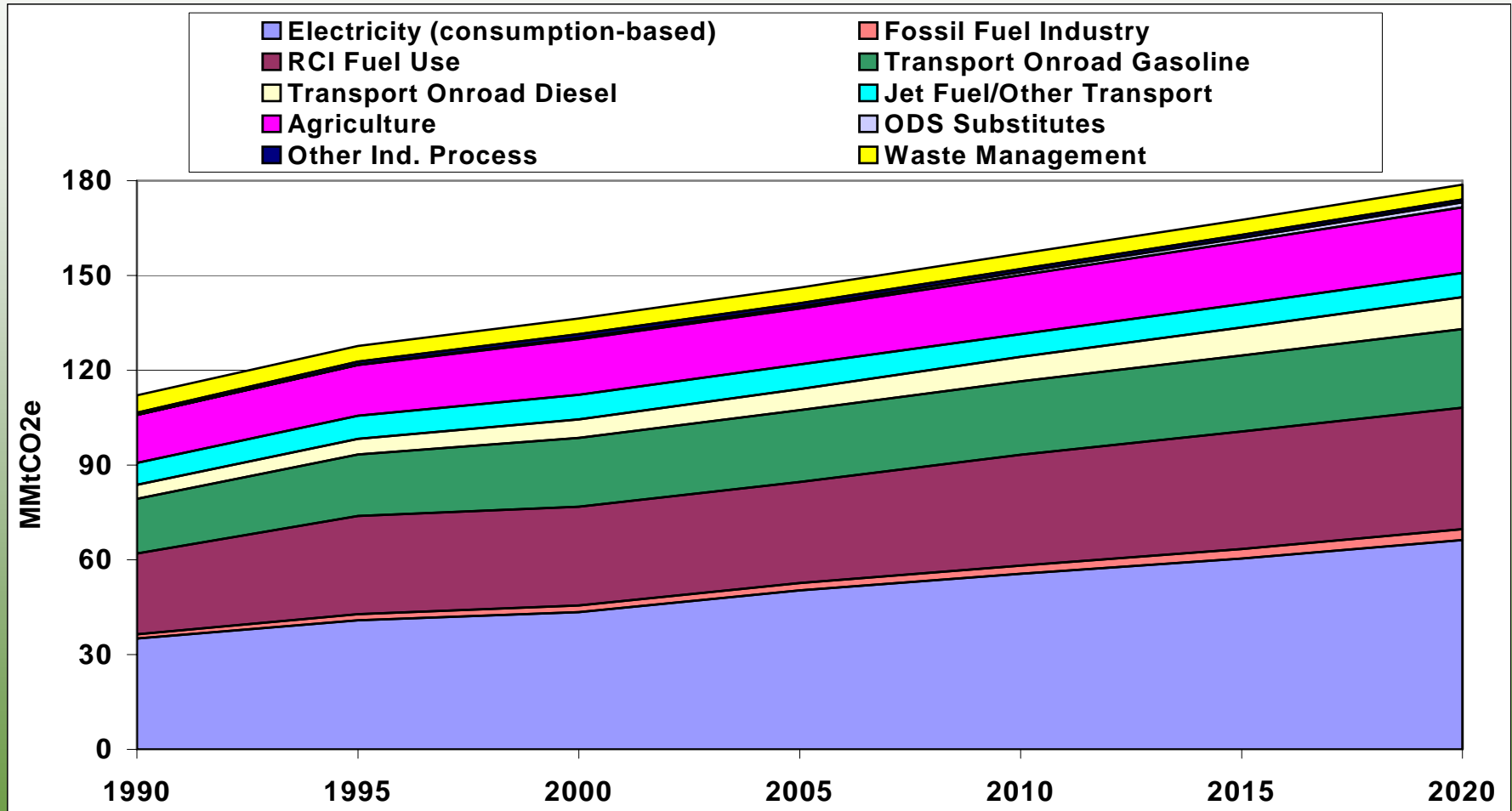
MN Gross Emissions By GHG, Year 2000 (MMtCO₂e Based)



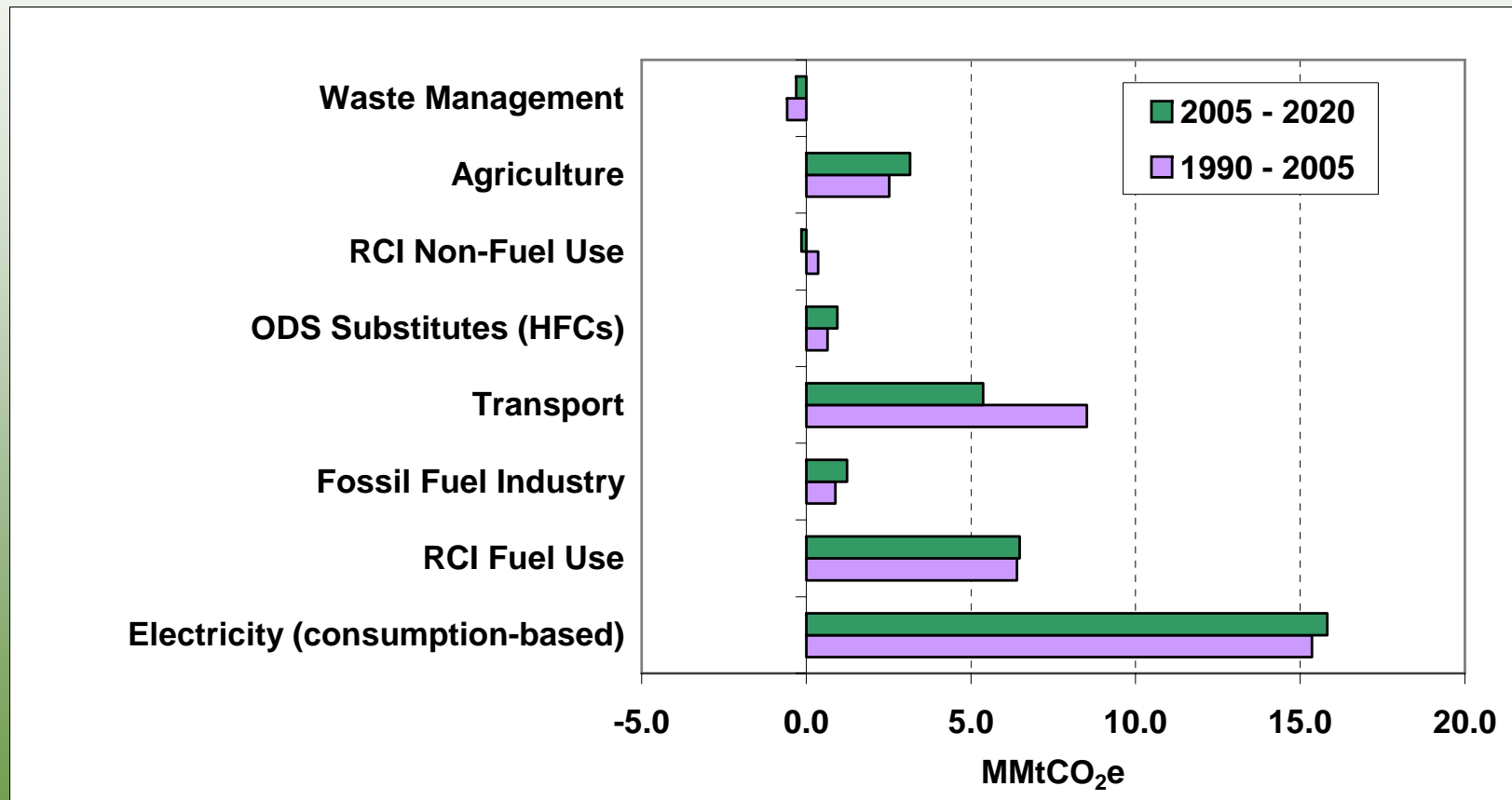
Per Capita and GSP/GDP Gross GHG Emissions, 1990-2005



MN Gross GHG Emissions By Sector, 1990-2020



MN Gross Emissions Growth (MMtCO₂e Basis)



Key Points

- Preliminary draft for TWG review and revision, as needed
- Helpful for diagnosis of GHG emissions, but not a compliance baseline
- Consumption vs. production methods
- Role of carbon storage

Part 3

- Potential GHG Policy Options

CCS Catalog of State Actions

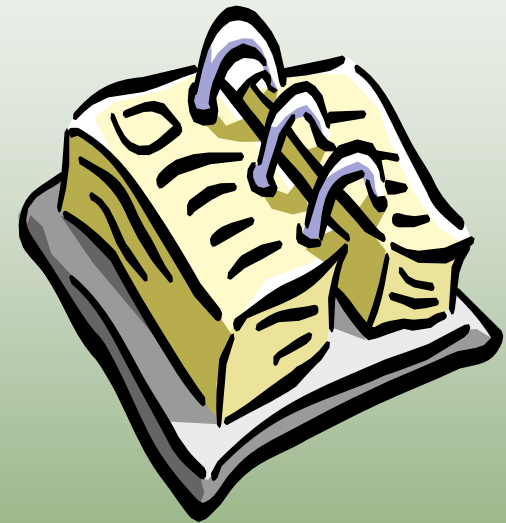
- Actions undertaken or considered by a wide variety of US states
- Many actions provide GHG reductions coincidentally or as a co-benefit
- Cover all economic sectors
- Cover many implementation mechanisms
- Add to or revise as needed for MN

Cross-Cutting Issues Catalog

- *Please see separate Catalog handout.*

Next TWG Call

- Date and Time
 - June 5, 2:00 PM to 3:30 PM
- Agenda:
 - Discuss potential priority policy options for analysis
 - Discuss approaches for consideration



Public Input, Announcements