



**MINNESOTA**  
Climate Change  
Advisory Group



# Minnesota Climate Change Advisory Group

Meeting #7

January 10, 2008

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

# Welcome and Introductions

- State of Minnesota
- Minnesota Climate Change Advisory Group (MCCAG)
- Members of the Public
- Center for Climate Strategies

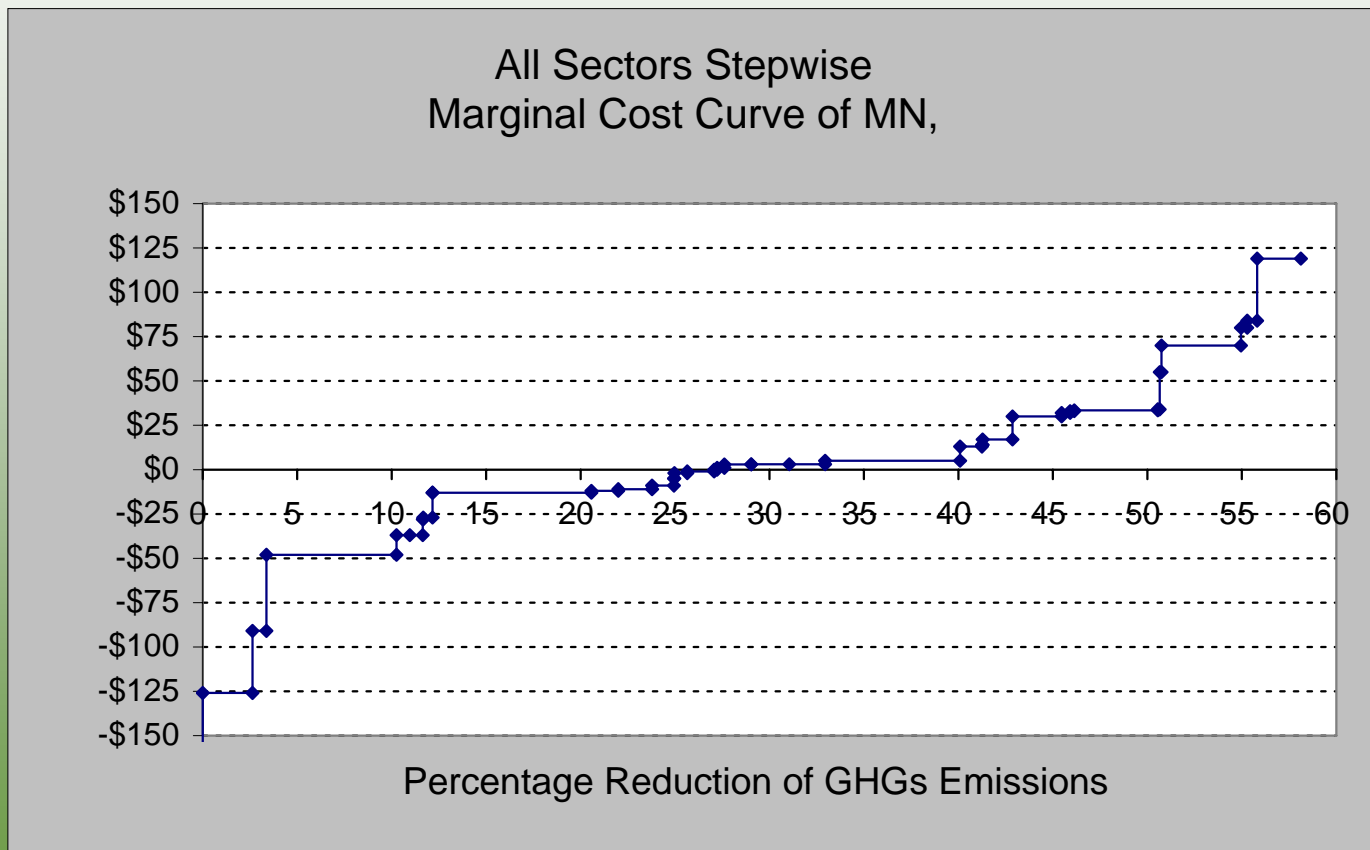
# Agenda

9:00 am	Introductions and Review of Day's Agenda
9:05	Review and Approval of Draft Summary of MCCAG Meeting #6
9:10	Review of MCCAG Progress and Results
9:25	Public Comment
9:35	Review and Approval of Residential, Commercial and Industrial Draft Policy Options
10:35	Coffee Break
10:40	Review and Approval of Energy Supply Draft Policy Options
12:00	Lunch Break
12:30 pm	Review and Approval of Transportation and Land Use Draft Policy Options
1:50	Coffee Break
2:00	Review and Approval of Agriculture and Waste Management Draft Policy Options
2:30	Review and Approval of Cross Cutting Issues Draft Policy Options
3:00	Review and Approval of Cap and Trade Draft Policy Options
3:30	Review and Approval of Minnesota's Draft GHG Inventory and Forecast
3:45	Next Steps for MCCAG and Technical Work Groups (TWGs)
3:50	Agenda, Time and Date for Next Meeting(s)
3:55	Public Input and Announcements
4:00	Adjourn

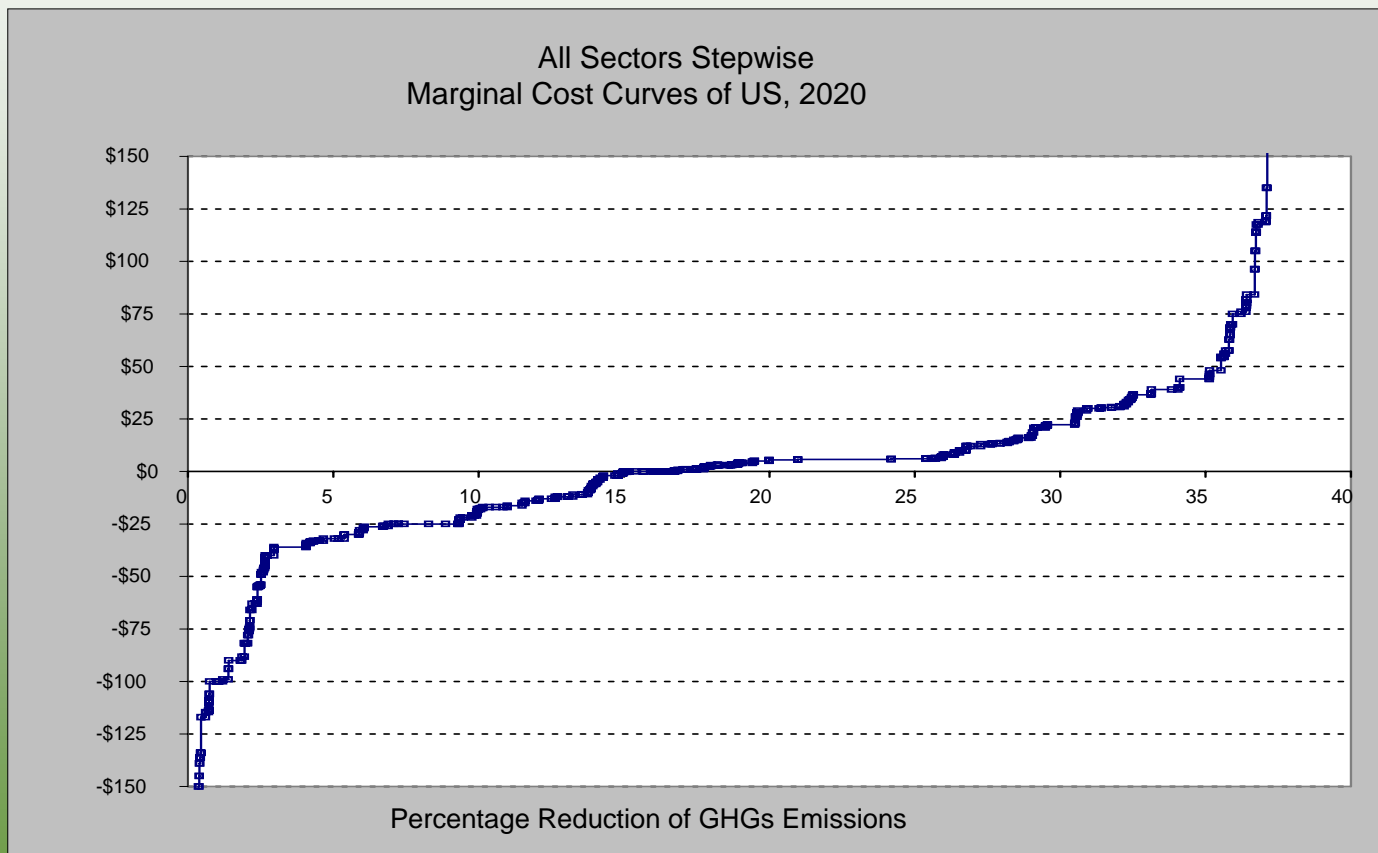
# MCCAG Schedule

- January 10, 2008 MCCAG #7
  - Final TWG meetings
- January 24, 2008 MCCAG #8
  - Final report production, review
- February 1, 2008 Final report complete

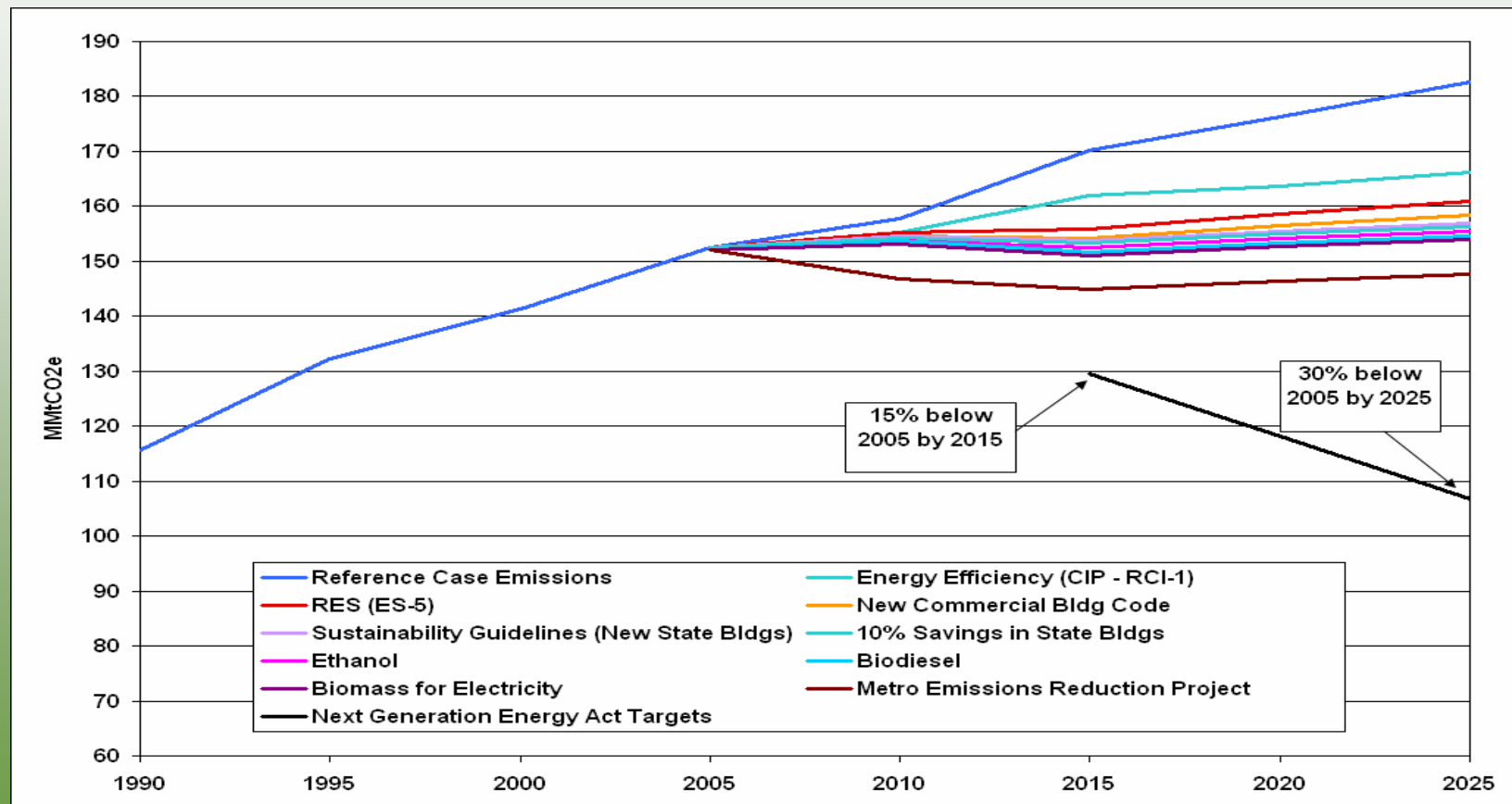
# Draft MN GHG Supply Curve (completed & pending options)



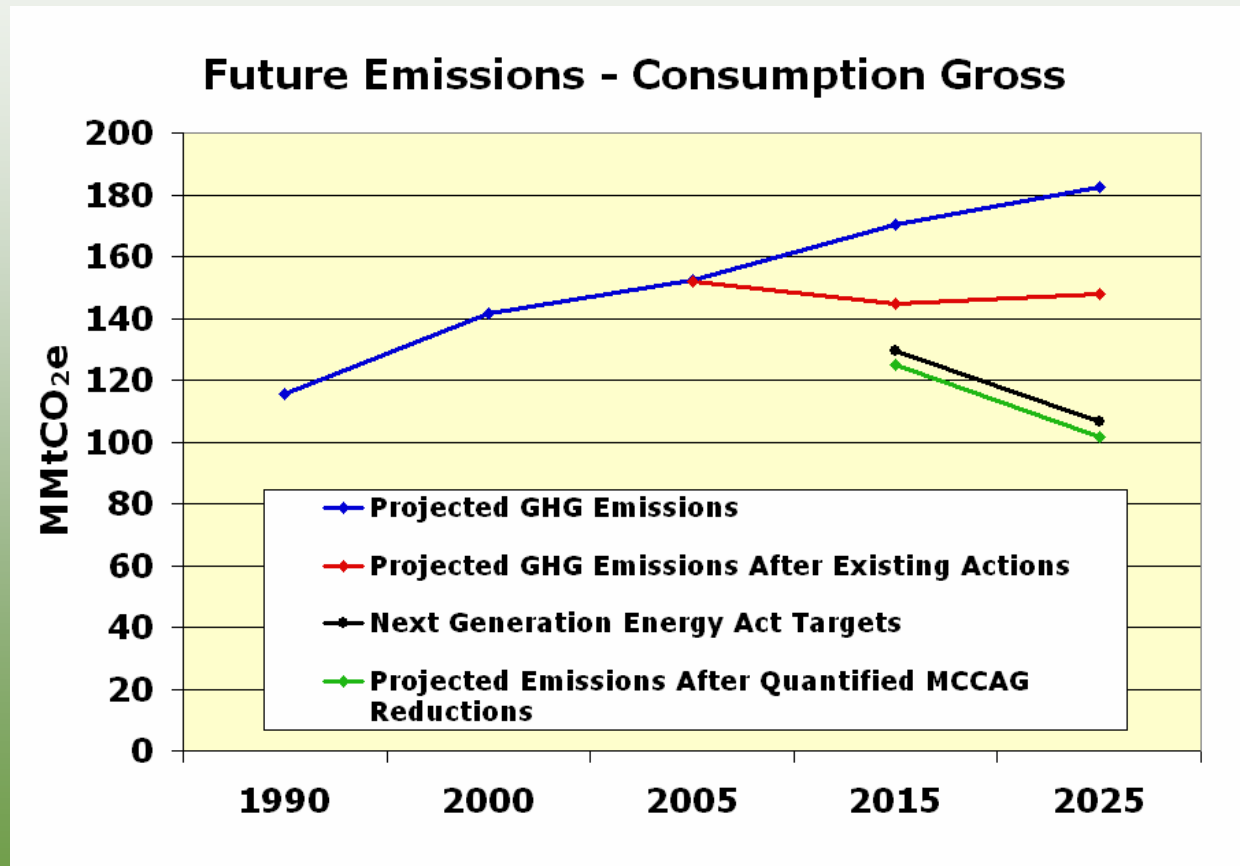
# 12 States GHG Supply Curve (from climate action plans)



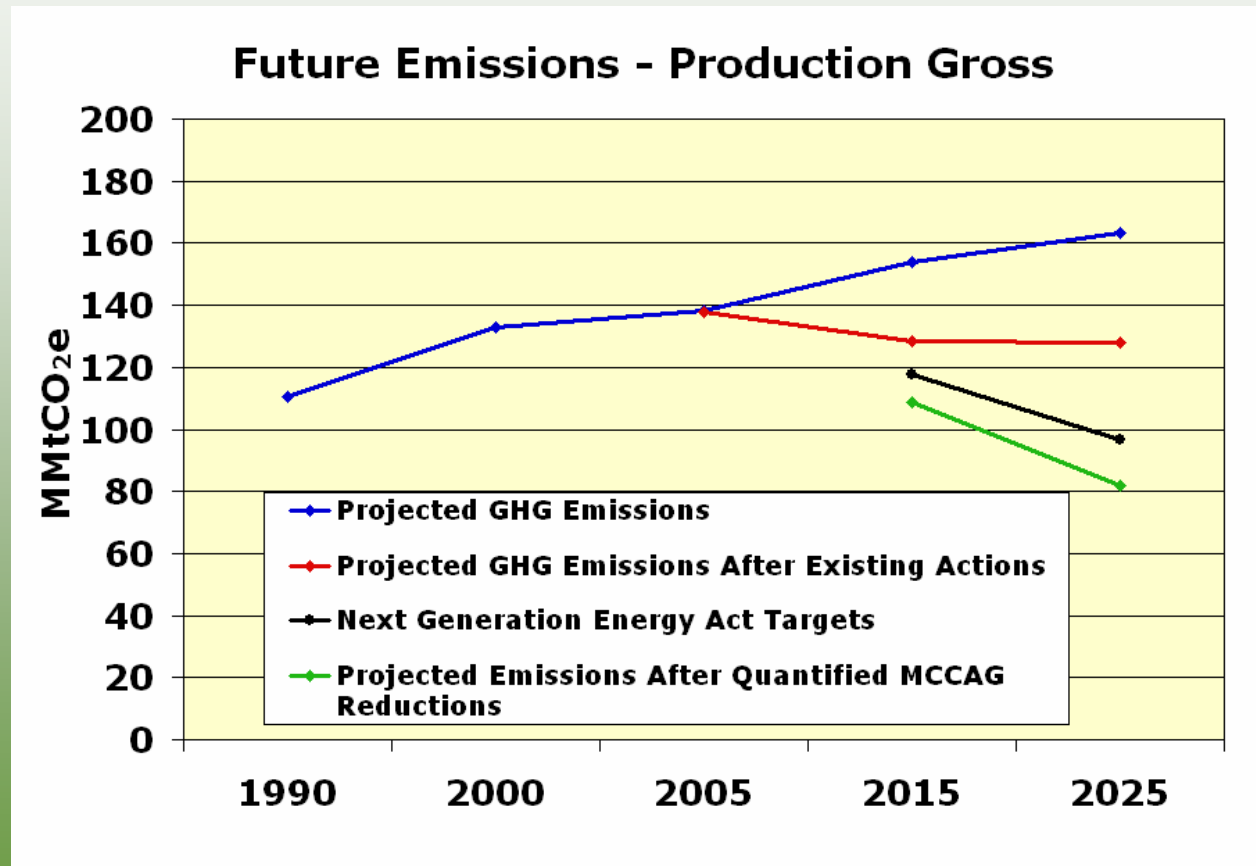
# GHG Reductions – Existing Actions



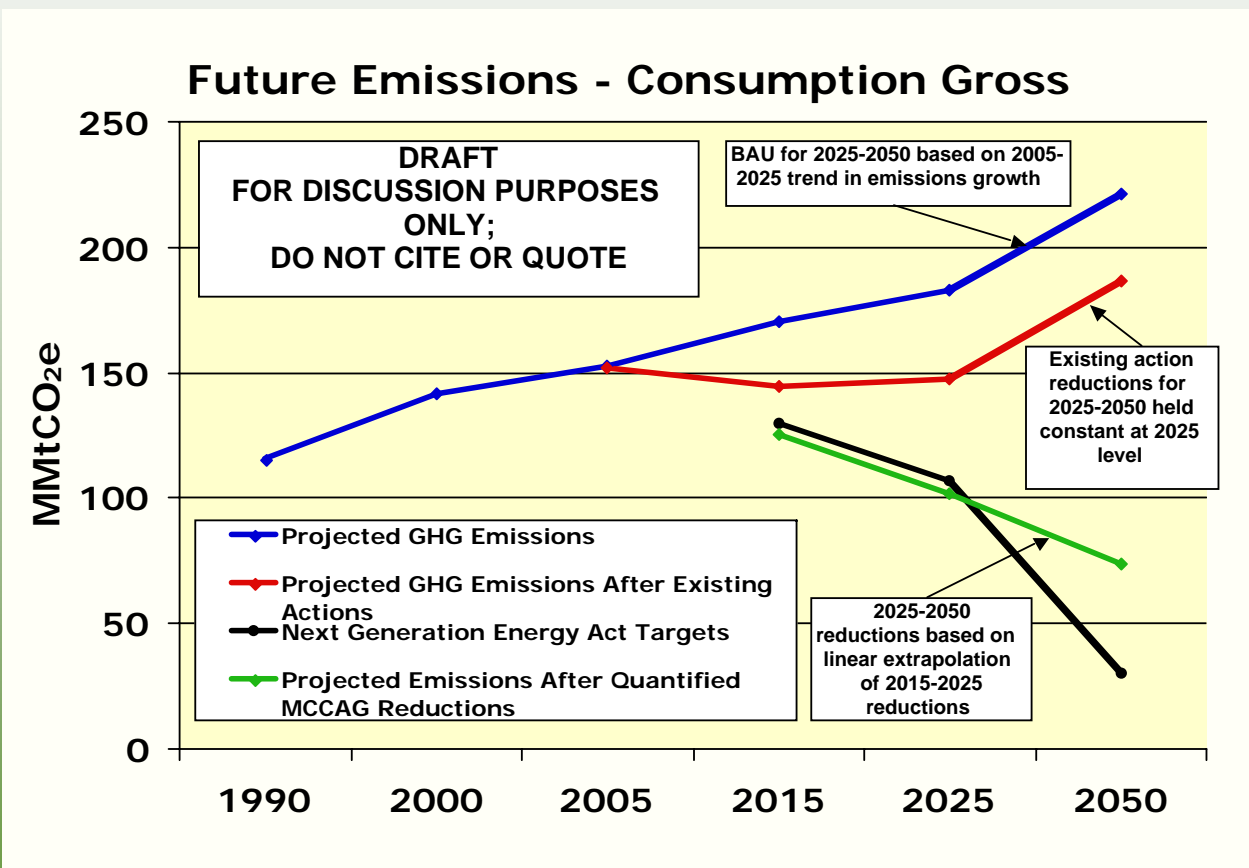
# MN GHG Targets 2025



# MN GHG Targets 2025



# MN GHG Targets 2050



# Draft Results

<b>Consumption Basis - Gross / Net Emissions</b>					
	<b>1990</b>	<b>2000</b>	<b>2005</b>	<b>2015</b>	<b>2025</b>
Projected GHG Emissions	115.7	141.4	152.4	170.2	182.7
Reductions from Existing Actions	0.0	0.4	0.4	25.4	35.0
Projected GHG Emissions After Existing Actions			152.0	144.8	147.7
Next Generation Energy Act Targets (NGEA)				129.6	106.7
Total GHG Reductions from MCCAG				19.8	46.2
Difference Between MCCAG Reductions & NGEA Targets				-4.6	-5.3
Projected Emissions After Quantified MCCAG Reductions				125.0	101.4
<b>Production Basis Gross / Net Emissions</b>					
	<b>1990</b>	<b>2000</b>	<b>2005</b>	<b>2015</b>	<b>2025</b>
Projected GHG Emissions	110.7	133.0	138.2	153.9	163.2
Reductions from Existing Actions	0.0	0.4	0.4	25.4	35.0
Projected GHG Emissions After Existing Actions			137.8	128.5	128.2
Next Generation Energy Act Targets (NGEA)				117.5	96.8
Total GHG Reductions from MCCAG				19.8	46.2
Difference Between MCCAG Reductions & NGEA Targets				-8.8	-14.8
Projected Emissions After Quantified MCCAG Reductions				108.7	81.9

# Policy Option Template

- Policy Description
- Policy Design (Goals, Timing, Coverage)
- Types(s) of GHG Reductions
- Estimated GHG Reductions and Net Costs/Cost Savings
- Key Uncertainties
- Implementation Mechanisms
- Related Policies/Programs in Place (BAU)
- 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

# Public Comment

# RCI

- Incentives & Resources to Promote Combined Heat and Power (CHP)
- Non-utility Strategies and Incentives to Encourage Energy Efficiency and Reduce GHG Emissions
- Conservation Improvement-Type Program for Propane and Fuel Oil Efficiency
- Support Strong Federal Appliance Standards and Require High State Standards in the Absence of Federal Standards

# Break



# ES

- Generation Performance Standard
- Efficiency Improvements, Repowering and other Upgrades to Existing Plants
- Transmission System Upgrading, including reducing transmission line and distribution system loss
- Renewable and/or Environmental Portfolio Standard
- Nuclear Power Support and Incentives
- Advanced Fossil Fuel Technology Incentives, Support or Requirements
- Carbon Capture and Storage and/or Reuse Policies
- Voluntary GHG targets
- Distributed Renewable Energy Incentives and/or Barrier Removal
- Technology-based approaches, including research & development, fuel cells, energy storage, distributed renewable energy technologies, etc.

# Break



# TLU

- Improved Land Use Planning and Development Strategies
- Expand Transit, Bicycle, and Pedestrian Infrastructure
- Low GHG Fuel Standard (Potential overlap with ES-2 and AFW-7)
- Infrastructure Management
- Climate-Friendly Transportation Fees
- Adopt CA Clean Car Standards
- “Fix-it-First” (Repair before new infrastructure)
- Update Road Standards
- Commuter Choice/Parking Incentives / required employer Travel Demand Management (TCM) plans
- Congestion Pricing (or tolls) with targeted use of revenue towards travel alternatives – Now part of TLU-5
- Truck Stop Electrification
- Mobile Source Emissions Reduction
- Reduced Speed Limits

# Break



# AFW

- In-State Liquid Biofuels Production
- Integrated Waste Management
- End of Use Waste Management Practices

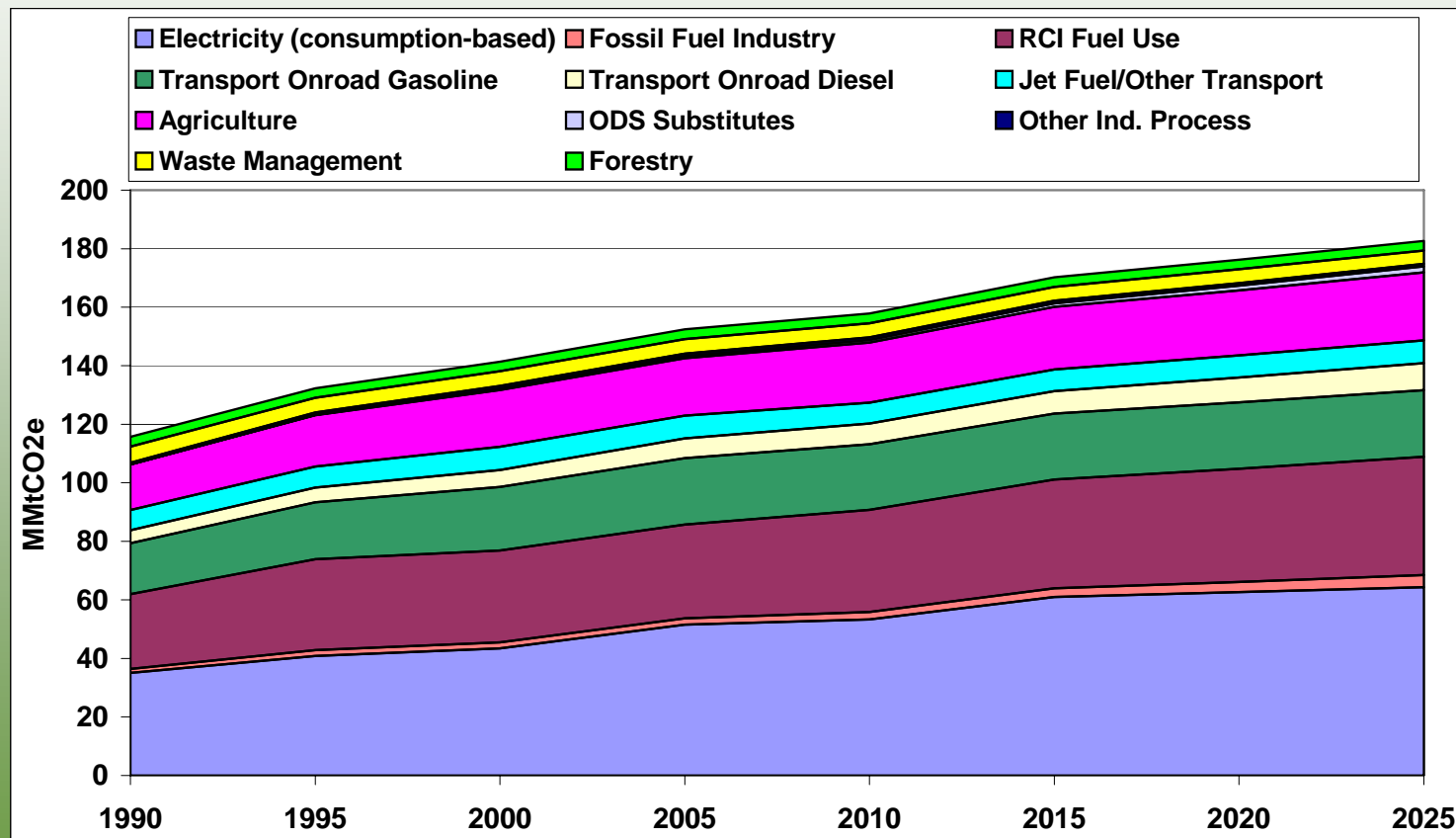
# CC

- GHG Inventories, Forecasting, Reporting, and Registry
- Statewide GHG Reduction Goals and Targets
- State and Local Government GHG Emissions (Lead-by-Example)
- Public Education and Outreach
- Participate in Regional and Multi-State GHG Reduction Efforts
- Encourage the Creation of a Business-Oriented Organization to Share Information and Strategies, Recognize Successes, and Support Aggressive GHG Reduction Goals
- Dedicate Greater Public Investment to Climate Data and Analysis
- Facilitate the Development of an Effective Carbon Credit System for MN (Coordinate with Cap and Trade TWG)

# Cap & Trade

- Cap-and-Trade Program. Cap and Trade TWG recommends:
  - Geographic Region: Midwest Region as defined by MGA Initiative (MN, WI, IL, IA, KS, MI and Manitoba) with possible connection to Western Climate Initiative (WA, OR, AZ, NM, CA, British Columbia and Manitoba)
  - Coverage of Sectors: Electric power, large industrial boilers and processes, transportation fuels, landfills, municipal waste incinerators and fossil fuel for residential and commercial use (no consensus on last sector)
  - Point of Regulation: Varies by sector; electric power regulated downstream of generation to capture out-of-(C&T) region sources; industrial boilers, processes and waste incinerators regulated at stack or with fuels; transportation and fossil fuels for residential and commercial use regulated through fuel distribution.
  - Targets and timing: TBD; Sector coverage may be phased.
  - Flexibility mechanisms (offsets, banking, borrowing, price caps, safety valves, etc.): TBD
  - Allocation mechanisms (free v. auction; state v. sectors): TBD
- Carbon Tax - TBD
- Develop a Market Advisory Group - TBD
- Participate in regional and multi state GHG reduction efforts - TBD
- Develop a system for emissions credits for MN - TBD

# Gross MN GHG Emissions By Sector, 1990-2025



# Recommended Revisions to I&F

- ES/RCI
  - Electricity sales forecast (2005-2025)
    - Pre-CIP: Change from 1.72%/yr to 2.04%/yr
    - Post-CIP: Change from 0.5%/yr to 0.82%/yr
- TLU
  - VMT forecast (2005-2025)
    - MDOT provided revised forecast
    - Change VMT annual growth from 1.9%/yr to 0.8%/yr
    - Lowers BAU emissions by:
      - 2015: 2.7 MMtCO<sub>2</sub>e
      - 2025: 4.9 MMtCO<sub>2</sub>e

# Next Steps

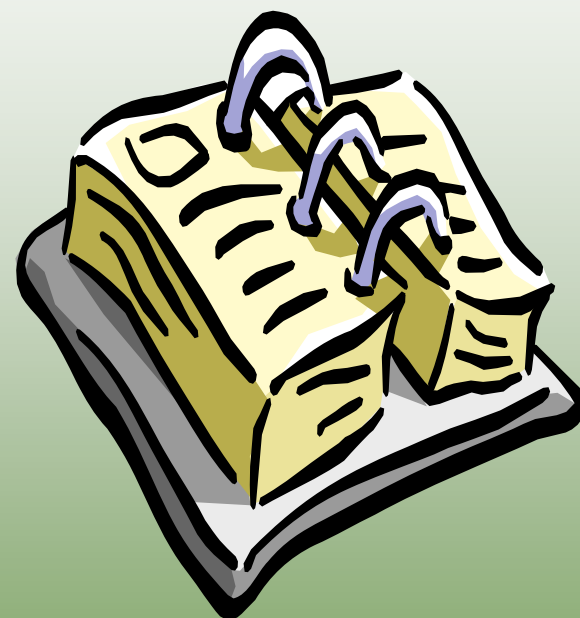
- TWGs
  - Update policy templates if/as needed
  - Update the draft inventory and forecast if/as needed
- MCCAG
  - Review and approve final draft pending policy options
  - Review and approve final proposed revisions to the inventory and forecast if/as needed

# Final Report Process

- Production of first draft of full report and appendices by CCS for MCCAG review and comment
  - Technical appendices from TWG policy option templates
  - Other technical appendices
  - Summary chapters based on these
  - Executive summary
- Final draft completed by CCS for final review and comment
- Report transmitted by CCS to DOC and PCA on behalf of MCCAG

# Next MCCAG Meeting

- Date: January 24, 2007
- Agenda:
  - Review and approval of remaining draft pending MCCAG policy options
  - Identify alternatives for further consideration of remaining options
  - Review and approval of updates to the inventory and forecast



# Public Input, Announcements