



MINNESOTA'S  
CLIMATE CHANGE ACTION  
PLAN

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**"We cannot, as a strategic plan for the future, just . . . experience the cost crisis, the environmental impacts, and the supply questions that flow from just embracing the status quo. We need a different and better energy future."**

*- from November 29, 2005 address to UofMN Renewable Energy Symposium*



“We should also take further steps to reduce greenhouse gas emissions. But it is important that our efforts ensure jobs are not lost as a result and Minnesota does not place itself at a competitive disadvantage.”

--Governor Tim Pawlenty  
State of the State Speech  
February 13, 2008



## **Sources of MN's GHGs in 2005**

- 35% from electricity production
- 24% from transportation
- 20% from fossil fuel use by residences, commercial and industries
- 13% from agriculture
- 3% from landfills & wastewater treatment
- 2% from transmission & distribution of natural gas
- 1% from industrial processes
- 2% for other activities



## **216H.02 GREENHOUSE GAS EMISSIONS CONTROL.**

### **Subdivision 1. Greenhouse gas emissions reduction goal.**

It is the goal of the state to reduce statewide greenhouse gas emissions across all sectors producing those emissions to a level at least 15 percent below 2005 levels by 2015, to a level at least 30 percent below 2005 levels by 2025, and to a level at least 80 percent below 2005 levels by 2050.

The levels shall be reviewed based on the climate change action plan study.



Subd. 2. **Climate change action plan.** By February 1, 2008, the commissioner of commerce....shall submit to the legislature a climate change action plan that meets the requirements of this section.

Subd. 3. **Stakeholder process.** The plan required by subdivision 2 must be developed through a structured, broadly inclusive stakeholder-based review of potential policies and initiatives that will reduce statewide greenhouse gas emissions from a broad range of sources and activities. The commissioner shall engage a nationally recognized independent expert entity to conduct the stakeholder process. The report of the stakeholder process must form the basis for the plan submitted by the commissioner under subdivision 2.



- Minnesota Climate Change Advisory Group (MCCAG)
  - Announced by Gov. Pawlenty 12/12/06.
  - 56 Members on MCCAG; another 50+ on the Technical Work Groups (TWGs)
  - Selected to represent widely diverse perspectives
  - MOES/DOC and PCA coordinate process



## **Six Technical Work Groups--**

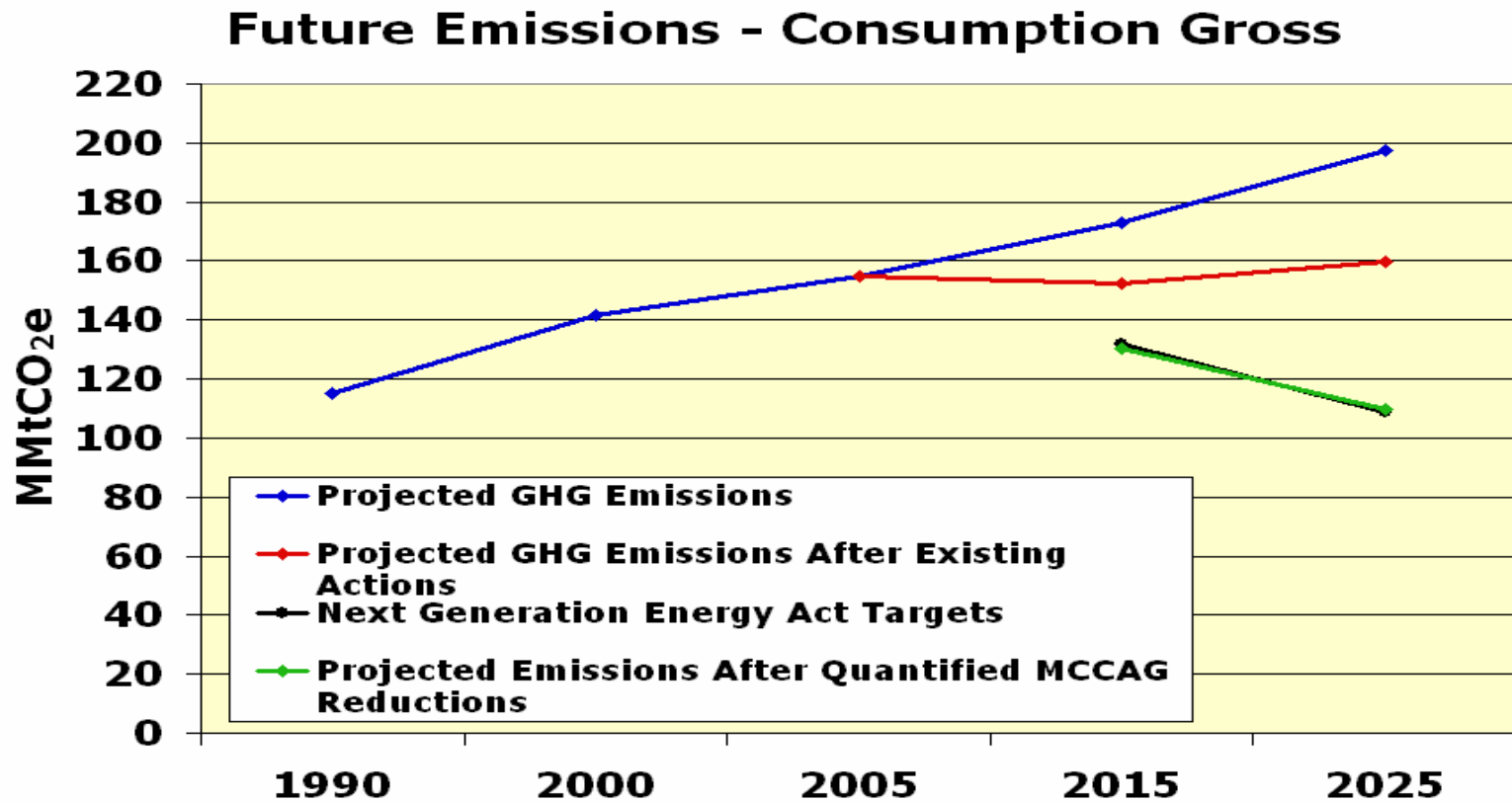
- Energy Supply
- Commercial, Industrial, and Residential
- Transportation and Land-Use
- Agriculture, Forestry and Waste
- Cross-Cutting Issues
- Cap and Trade



## Ten Step MCCAG /TWG Process

- Develop inventory and forecast of emissions
- Identify a full range of possible actions
- Identify initial priorities for analysis
- Develop straw proposals
- Quantify GHG reductions and costs/savings
- 1. Evaluate externalities, feasibility issues
- 2. Develop alternatives to address barriers
- 3. Aggregate results
- 4. Iterate to final agreements
- 5. Finalize and report recommendations

# Summary of Draft MCCAG Analysis



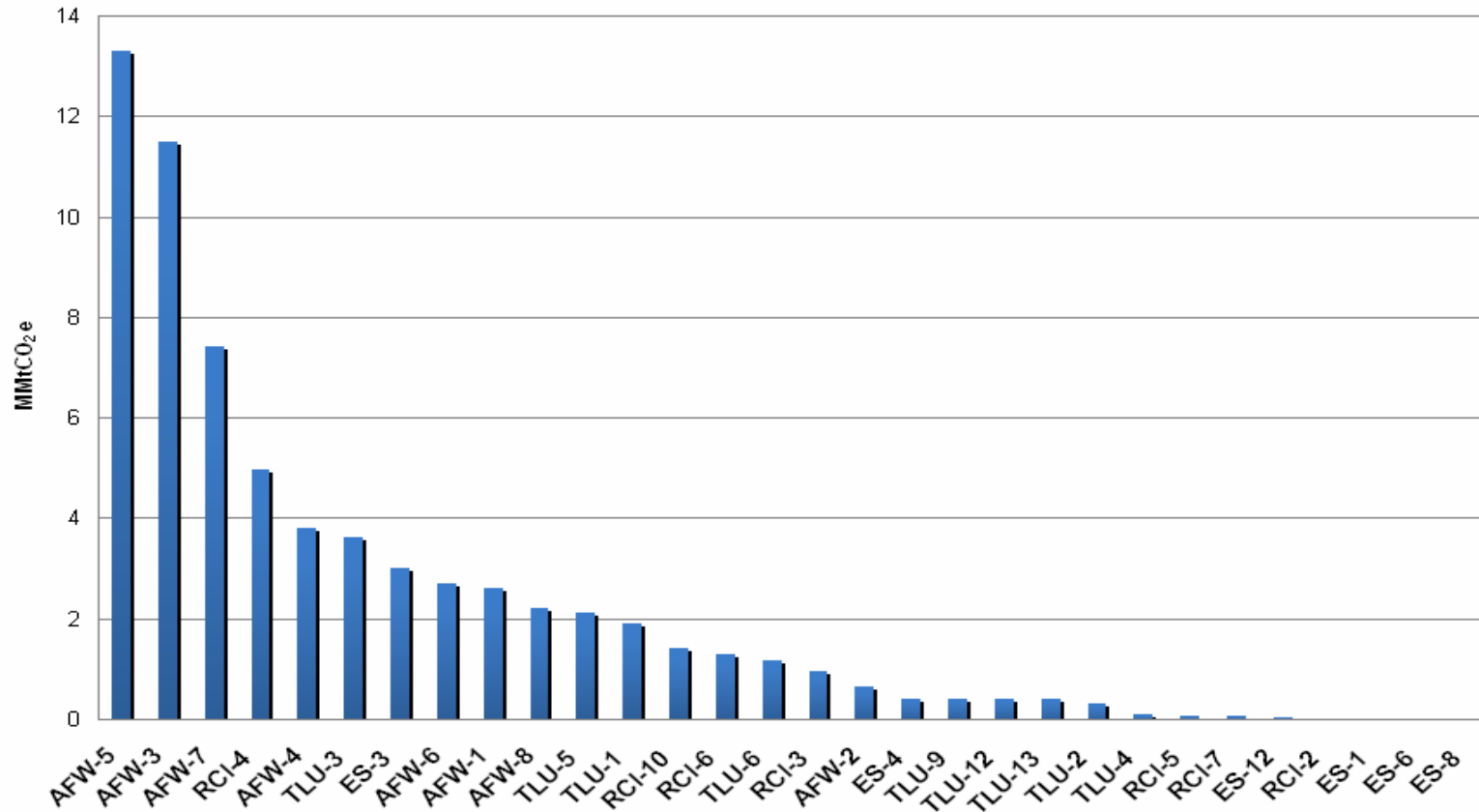
# Summary of Draft MCCAG Analysis

<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	115.3	141.6	155.0	173.0	197.6
Reductions from Existing Actions	0.0	0.4	0.4	20.8	37.8
Projected GHG Emissions After Existing Actions			154.6	152.3	159.8
Next Generation Energy Act Targets (NGEA)				131.8	108.5
Total GHG Reductions from MCCAG				22.2	50.3
Difference Between MCCAG Reductions & NGEA Targets				-1.7	1.0
Projected Emissions After Quantified MCCAG Reductions				130.1	109.6
<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	110.3	133.2	138.2	151.9	161.7
Reductions from Existing Actions	0.0	0.4	0.4	20.8	37.8
Projected GHG Emissions After Existing Actions			137.8	131.1	123.9
Next Generation Energy Act Targets (NGEA)				117.5	96.7
Total GHG Reductions from MCCAG				22.2	50.3
Difference Between MCCAG Reductions & NGEA Targets				-8.5	-23.1
Projected Emissions After Quantified MCCAG Reductions				108.9	73.7

# MCCAG Actions: Cumulative Results (Draft)

<b>Planned Actions</b>	<b>2015 MMtCO<sub>2</sub>e</b>	<b>2025 MMtCO<sub>2</sub>e</b>	<b>2008-2025 MMtCO<sub>2</sub>e</b>	<b>Million\$ NPV 2008-2025</b>	<b>\$/MTCO<sub>2</sub>e</b>
RCI (Fuels; Non-electricity)	0.76	0.69	10.4	-\$464	-\$44.6
RCI/ES (Adjusted Overlaps)	1.56	7.34	51.1	-\$1,098	-\$21.5
ES	1.97	3.43	37.5	\$462	\$12.3
TLU	4.70	9.30	91.2	-\$264	Not Available
AFW	13.20	29.50	279.0	\$2,090	\$7.0
CC	Not Quantified				
<b>Subtotal</b>	<b>22.2</b>	<b>50.3</b>	<b>469</b>	<b>\$726</b>	<b>\$1.5</b>

## MN Options Ranked by 2025 Annual GHG Reduction Potential

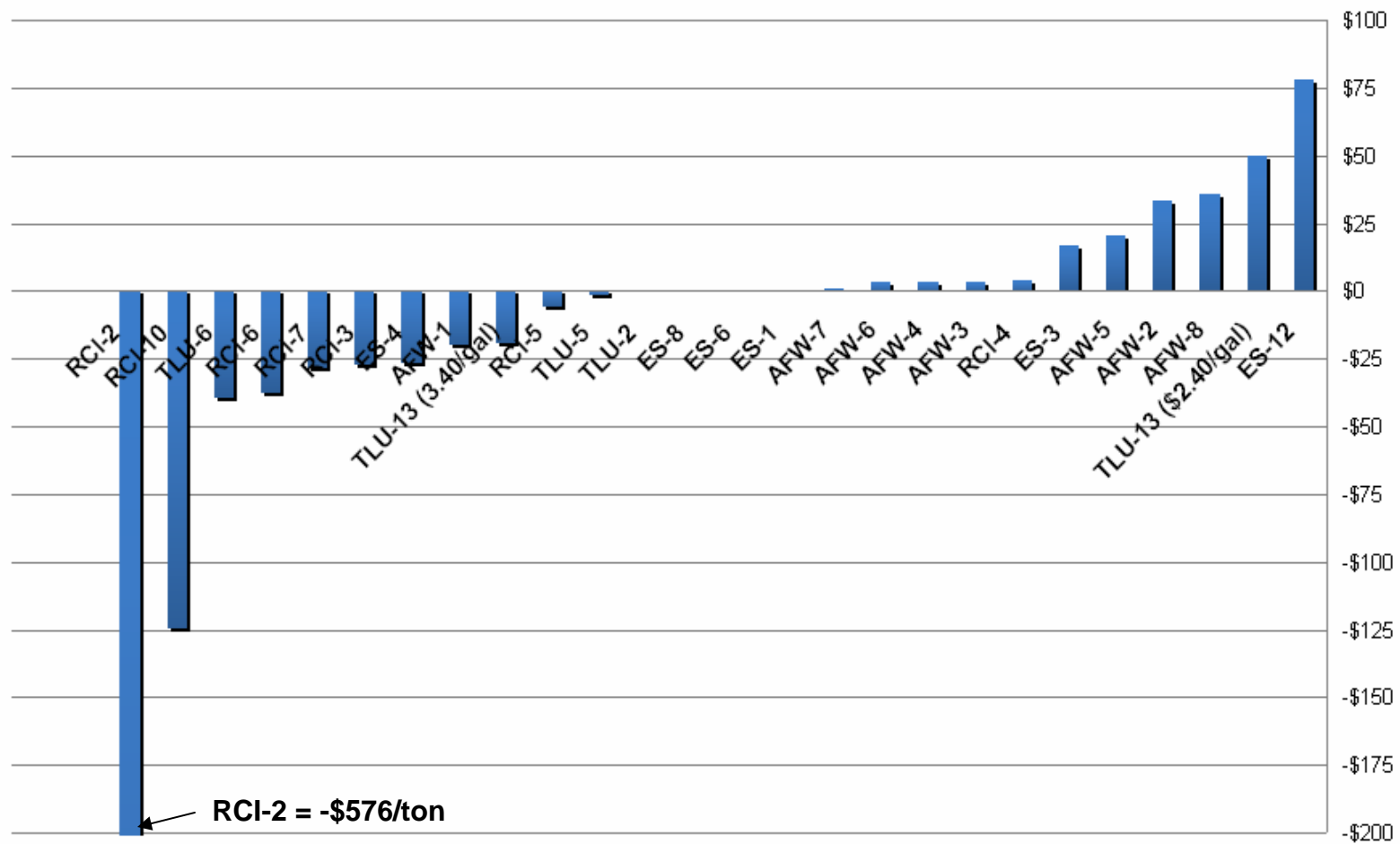


AFW-5 Forestry Management

AFW-3 Biofuels

AFW-7 Waste management

## MN Options Ranked by Cost/ Cost Savings Per Ton GHG Removed





## **MN Climate Change Action Plan Principles:**

- Achieve the reduction goals
- Based on MCCAG work
- Implement existing actions
- Pursue actions thoughtfully, deliberatively and incrementally
- Tailor actions for Minnesota
- Provide opportunities for all peoples and communities
- Actions must be compatible with regional, national and global actions



## MCCAG Report Process—

- First draft on website 2/14/08;  
MCCAG/TWG comments due by 2/27/08
- Second draft available by 3/5/08;  
MCCAG/TEG comments due by 3/12/08
- MCCAG conference call week of 3/17/08
- Draft available for public comment  
between 3/24/08 and 4/11/08
- Final MCCAG Report by 4/25/08



- NEXT STEPS—
  - Finish MCCAG Process
  - Implement existing actions
  - Work to get regional and national efforts going
  - Next areas of reductions:
    - Enhance forestry management (AFW-5)
    - Expand biofuels (AFW-3)
    - Better waste management (AFW-7)
  - Take thoughtful, incremental & deliberative actions to reduce greenhouse gas emissions



# THANK YOU

## QUESTIONS & COMMENTS

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