Governor's Action Team for Energy and Climate Change
Phase II Process

Meeting #1, February 1, 2008

Welcome and Introductions

- Action Team
- Florida Department of Environmental Protection
- Members of the Public
- Center for Climate Strategies

Purpose and Goals

- To develop a comprehensive Energy and Climate Change Action Plan that will fully achieve or surpass Executive Order targets for statewide greenhouse gas reductions specified in Executive Order 07-127, including:
  - guidance on the design of a market-based emissions allowance trading program,
  - design of programs to further enable energy conservation
  - closer examination of emissions reduction opportunities offered by new technologies
  - an examination of revenue impacts of emissions reduction policies within the transportation sector
  - consideration of a low-carbon fuel standard
  - further consideration of the organization of Florida's state government to foster the development of a low-carbon energy market in Florida, and
  - other emissions reductions actions

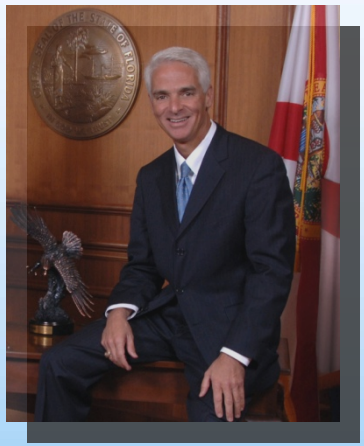
Florida Open Government and Sunshine Law Briefing

Agenda

1. Welcome and Introductions
2. Purpose & Goals
3. Open Government and Sunshine Law Briefing
4. Review of Day's Agenda
5. Review of Phase I Process and Recommendations
6. Review and Results of Analysis of Current Actions in Florida
7. Review of State and National Climate Actions
8. Review of Climate Action Team Phase II Process
9. Next Steps for Action Team and Technical Work Groups
10. Formation of Technical Work Groups
11. Agenda, Time and Date for Next Meeting
12. Public Input and Announcements

Florida Executive Orders

- EO 07-126 Establishes immediate actions to reduce GHG emissions from Florida State Government
- EO 07-127 Establishes immediate actions to reduce greenhouse gas emissions and emissions reduction targets and timelines
- EO 07-128 Establishes the Florida Governor's Action Team on Energy and Climate Change charged with addressing Florida's climate challenge on all fronts
- Phase I Report by November 1, 2007
- Phase II Report by October 1, 2008



Florida Climate Change Initiatives

- Executive Order 07-127
- Sets Emission reduction targets
  - By 2017 – Meet 2000 Levels
  - By 2025 – Meet 1990 Levels
  - By 2050 – 80% Below 1990 levels

Executive Order 07-127

Emissions Cap for utility power generation

- DEP in Rulemaking
- Held 2 informational workshops
- Taken public comments and met with stakeholders
- Planning for a future workshop

Executive Order 07-127

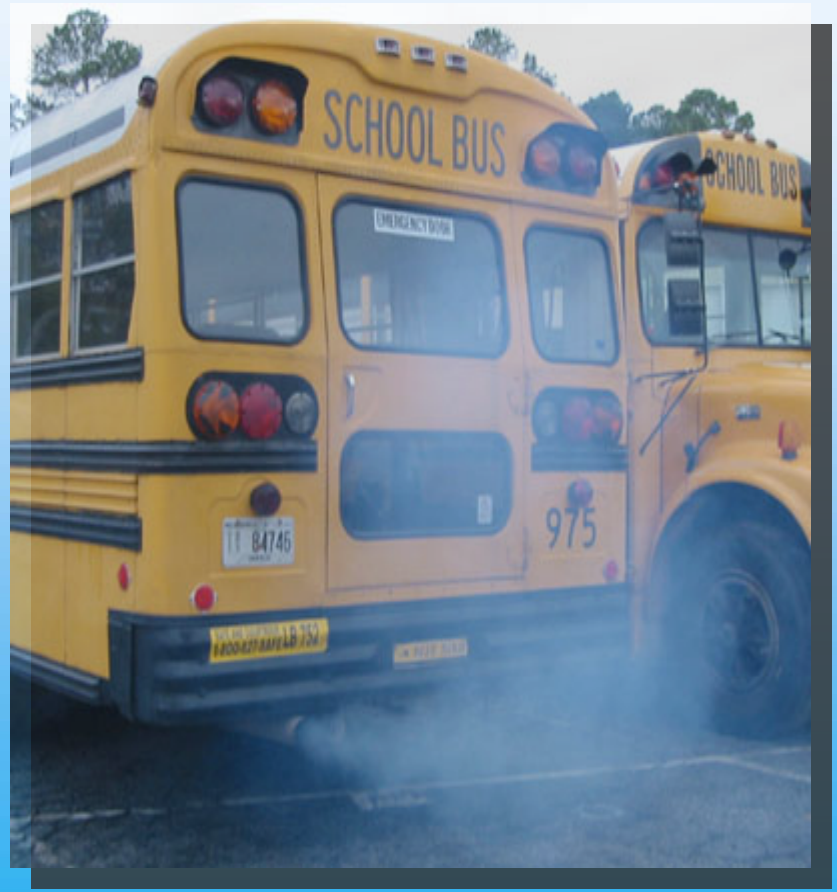
California Vehicle Emissions Standards

- DEP in rulemaking
- Held 2 workshops
- Taken public comments and met with stakeholders
- March 18th workshop will discuss a conceptual proposal including key rule elements

Executive Order 07-127

Diesel Idling Reduction Standard

- DEP in rulemaking
- Held 2 workshops
- Taken public comments and met with stakeholders
- March 19th workshop will discuss conceptual proposal including key rule elements



Executive Order 07-127

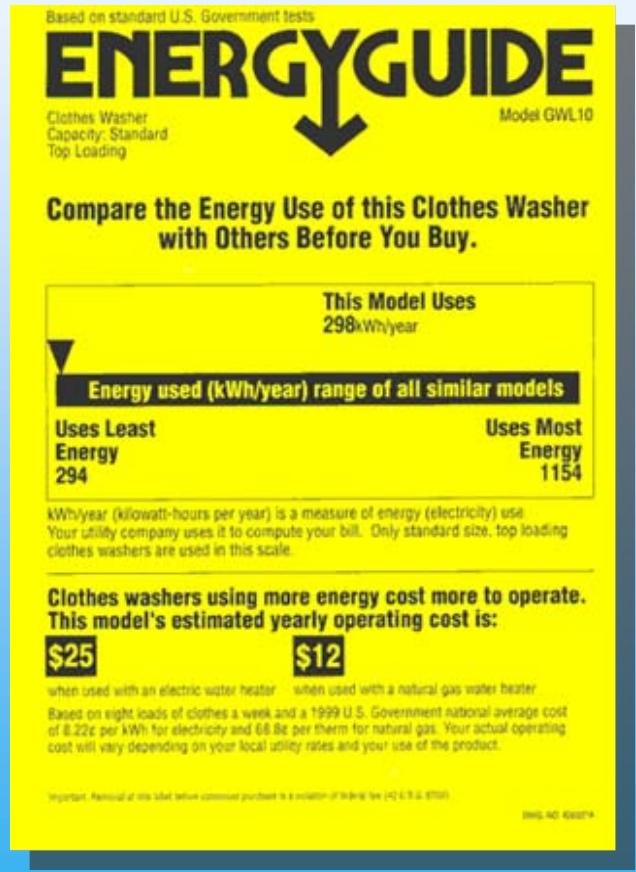
Revise Florida Energy Codes for Building Construction

- Increase energy performance of new construction by at least 15%
- Florida Building Commission convened by Secretary Pelham on October 3, 2007
- Target for implementation is January 1, 2009

Executive Order 07-127

Revise Florida Energy Conservation Standards

- Rulemaking to increase the efficiency of consumer appliances by 15%
- The Department of Community Affairs held first rule workshop on October 18, 2007
- Target for final rule implementation is July 1, 2009



Executive Order 07-127

Renewable Portfolio Standards

- Initiate rulemaking to require utilities to produce at least 20% from renewable sources
- PSC held workshops through December 2007
- Taken comments and met with stakeholders
- Preparing a report with recommendation for next steps to pursue rulemaking

Florida DEP

Executive Order 07-127

Interconnecting Distributed Resources

- Initiate rulemaking to adopt IEEE standards and reduce the cost of connecting solar and other renewable energy technologies to Florida's power grid
- PSC released proposed rule in December 2007
- No protests, but comments filed by stakeholders
- PSC will address comments March 4, 2008
- Final rule released in either April with no changes or in May with changes

Executive Order 07-127

Net Metering

- Initiate rulemaking to authorize a uniform, statewide method to enable customers who generate electricity to offset that equally against their electric meter
- PSC released proposed rule in December 2007
- No protests, but comments filed by stakeholders
- PSC will address comments March 4, 2008
- Final rule released in either April with no changes or in May with changes

Action Team Phase I Recommendations Pursuant to EO 07-128

- Mandatory reporting through The Climate Registry
- Cap and Trade market-based GHG reduction program
- Explore potential for sale of FL offset credits to RGGI
- Early emission reduction incentives
- PSC incentives for renewable energy installations
- Additional building efficiency measures
- Additional appliance efficiency measures
- Partnerships promoting CCSR

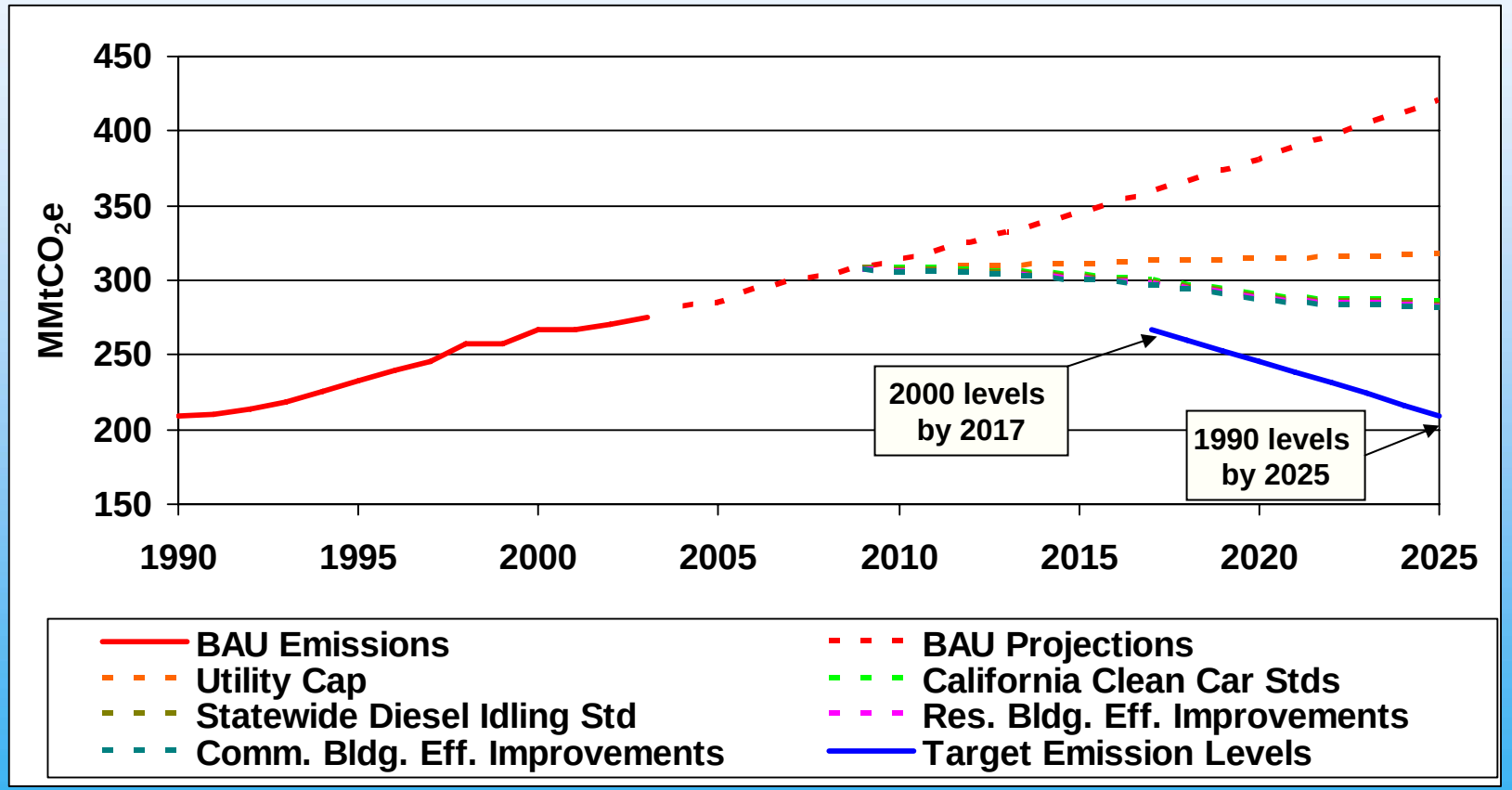
Action Team Phase I Recommendations Pursuant to EO 07-128 (cont'd)

- Integrated land use planning to promote GHG reductions
- Low carbon vehicles
- Research and development for renewable fuels
- Investigate regional low carbon fuel standard
- State to use energy performance savings contracts
- Alternative fuels technology development
- Public-private cooperation for low-carbon energy market
- Facilitated stakeholder process for Phase II

Break

Inventory and Forecast; Preliminary Results of Recent Actions

Recent Florida Actions – Preliminary GHG Reductions



Inventory Improvements

- Business-as-Usual (BAU) Inventory Improvements
- BAU Reference Case Forecast Improvements
- Recent Actions Quantification Improvements

BAU Inventory Improvements

- Incorporate as much state-specific data as available for FL inventory (1990-2005)
- Electricity Supply
  - Existing inventory based on EIA State Energy Data and EPA emission factors for in-state generation facilities.
  - Revise with more detailed data available for in-state utilities
  - Develop inventory for imported electricity

BAU Inventory Improvements

- Transportation
  - Compare default EPA inventory model for vehicle miles traveled (VMT) with historical FL VMT data
  - Review default activity data for rail, marine, and air with appropriate FL agencies
- Emissions from Industrial Processes
  - Obtain process throughput data for FL industries
- Fossil Fuel Production and Distribution Industries
  - Review/verify pipeline and other activity data with appropriate FL agencies

BAU Inventory Improvements

- Agriculture
  - Work with FL state agencies and universities to review/update animal populations and waste management assumptions
- Forestry Sector
  - Obtain historic data on forest wildfires and prescribed burns
- Carbon Sinks (Agriculture and Forestry)
  - Work with FL state and federal agencies and state universities to obtain data on carbon storage potential of biomass in FL
- Waste
  - Obtain data on landfills permitted in FL including control information
  - Obtain process data for industrial wastewater

Reference Case Forecast Improvements

- BAU Reference Case Forecast
  - Currently uses population projections to grow emissions for all categories
  - Forecast improvements—for example:
    - Utilities
      - FL state electricity sales
      - Utility plans and projected mix of electricity generation for in-state utilities
      - Electricity imports
    - FL VMT projections for onroad vehicles
    - Include known and expected landfill controls
    - Use employment projections for commercial and industrial direct fuel use

Recent Actions Calculations Improvements

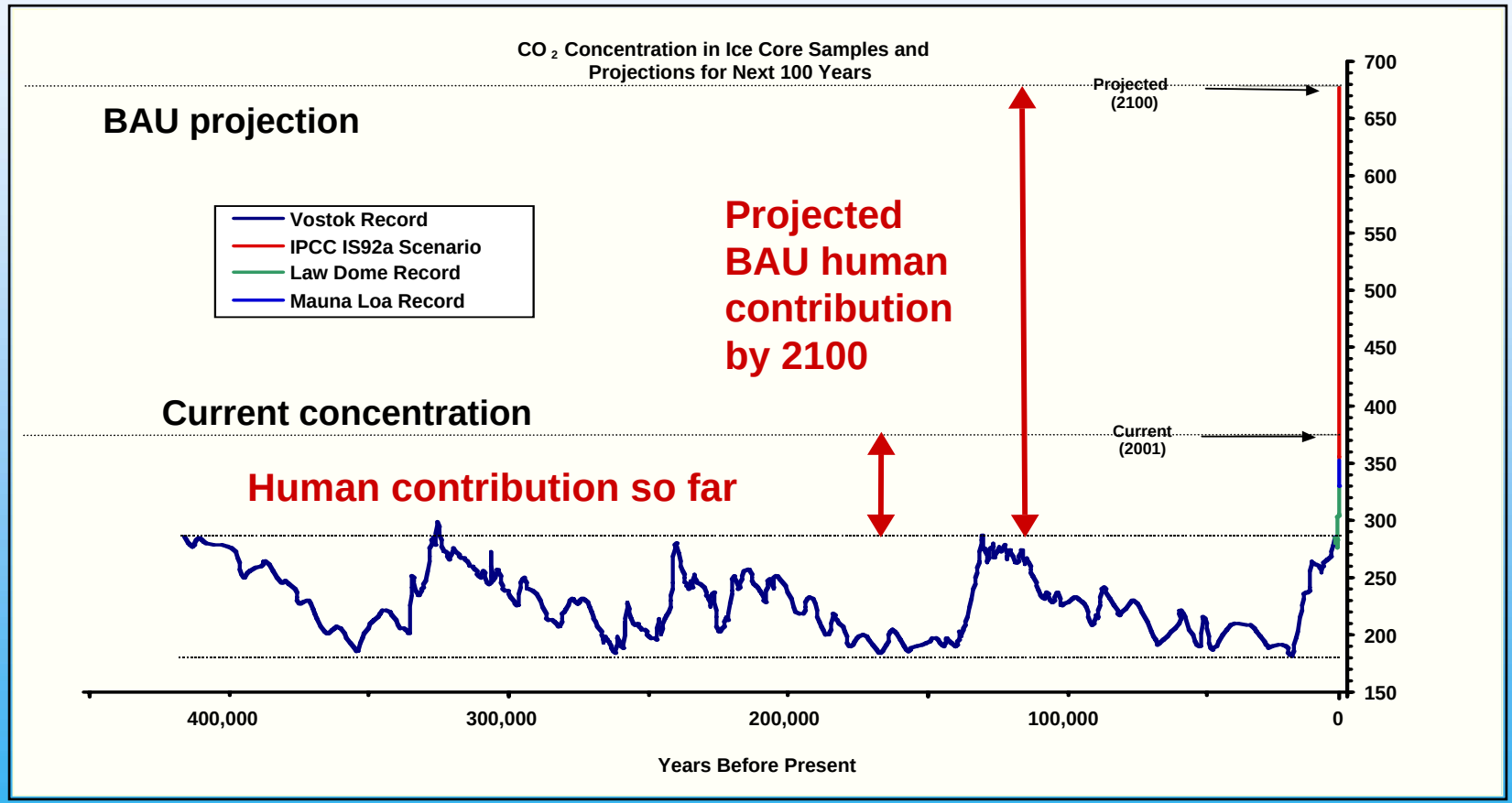
- Improvements needed in:
  - Defining emission reductions from FL Governor's Executive Orders
  - Defining emission reductions from Phase I recommendations
  - Defining emission reductions from recent federal actions

State Climate Action Plans

The Challenge

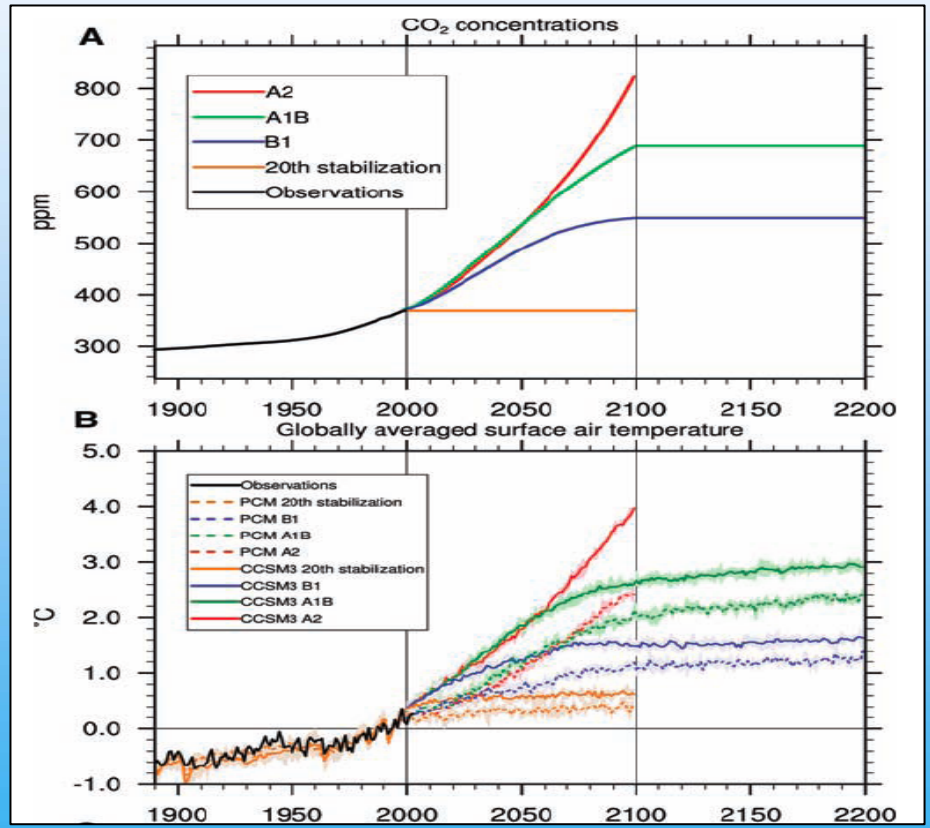
- "The ultimate objective of this Convention .... is to achieve, …. stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system."
  - UNFCCC Article 2 Objective,
  - Rio De Janeiro

GHG's and Temperature (Overpeck, 2006)



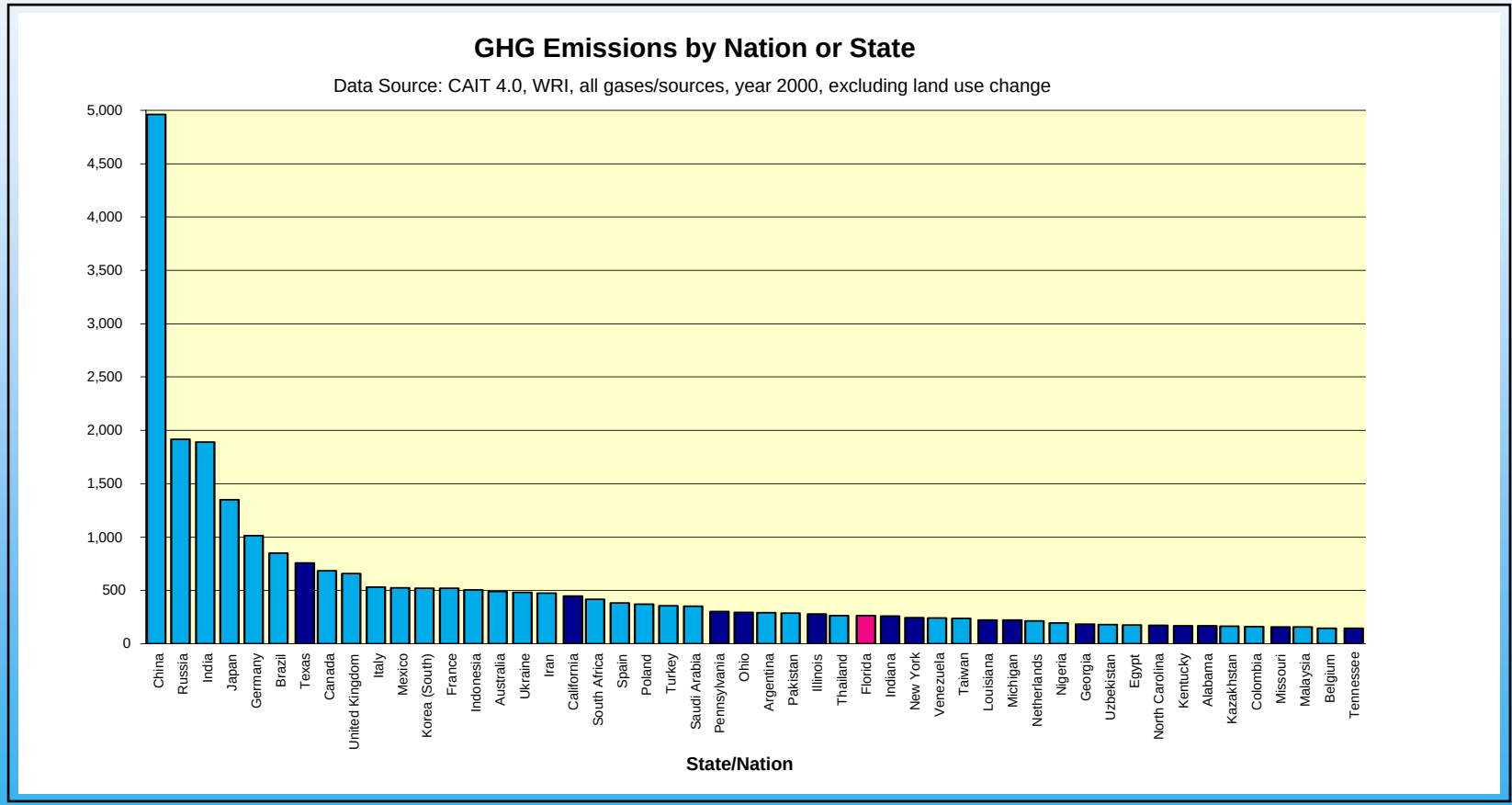
GHG Mitigation Scenarios, IPCC/NAS

Carbon Dioxide Concentration

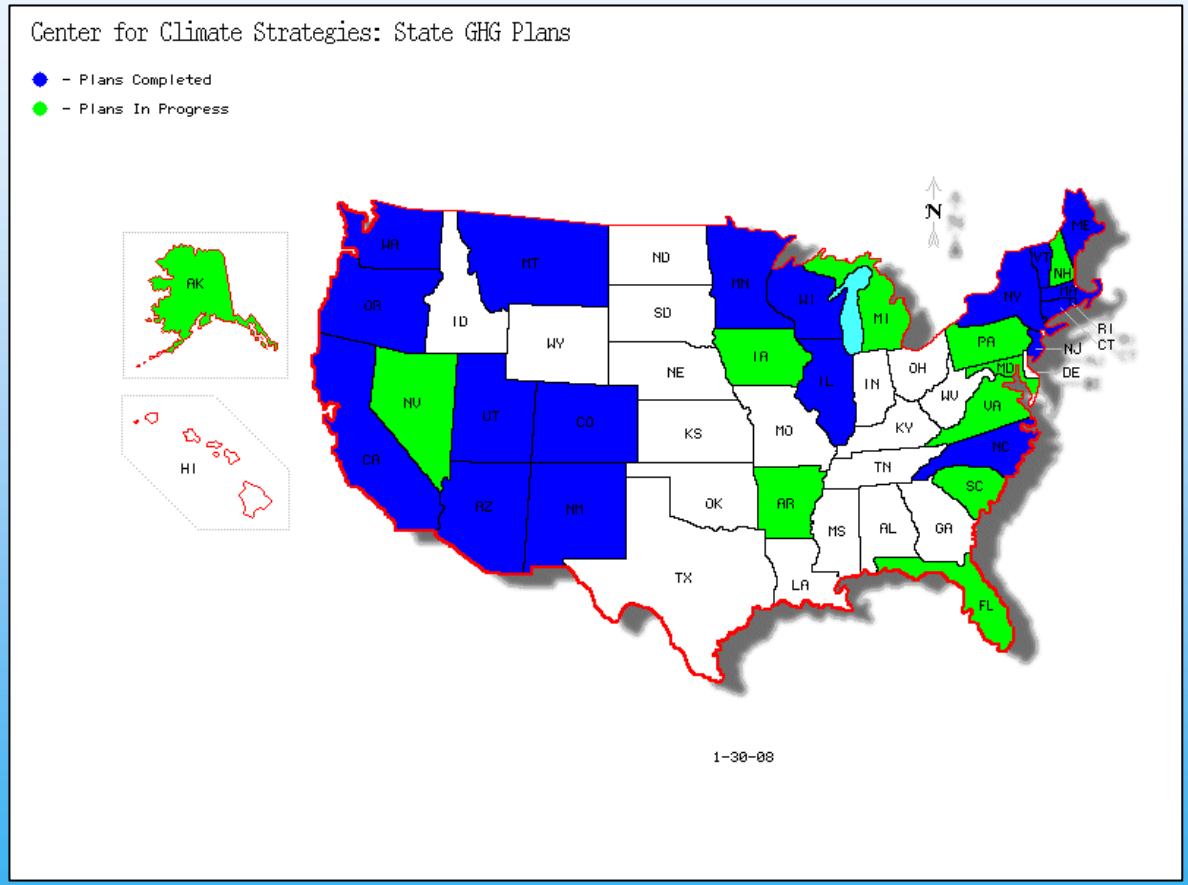


Warming (°C)

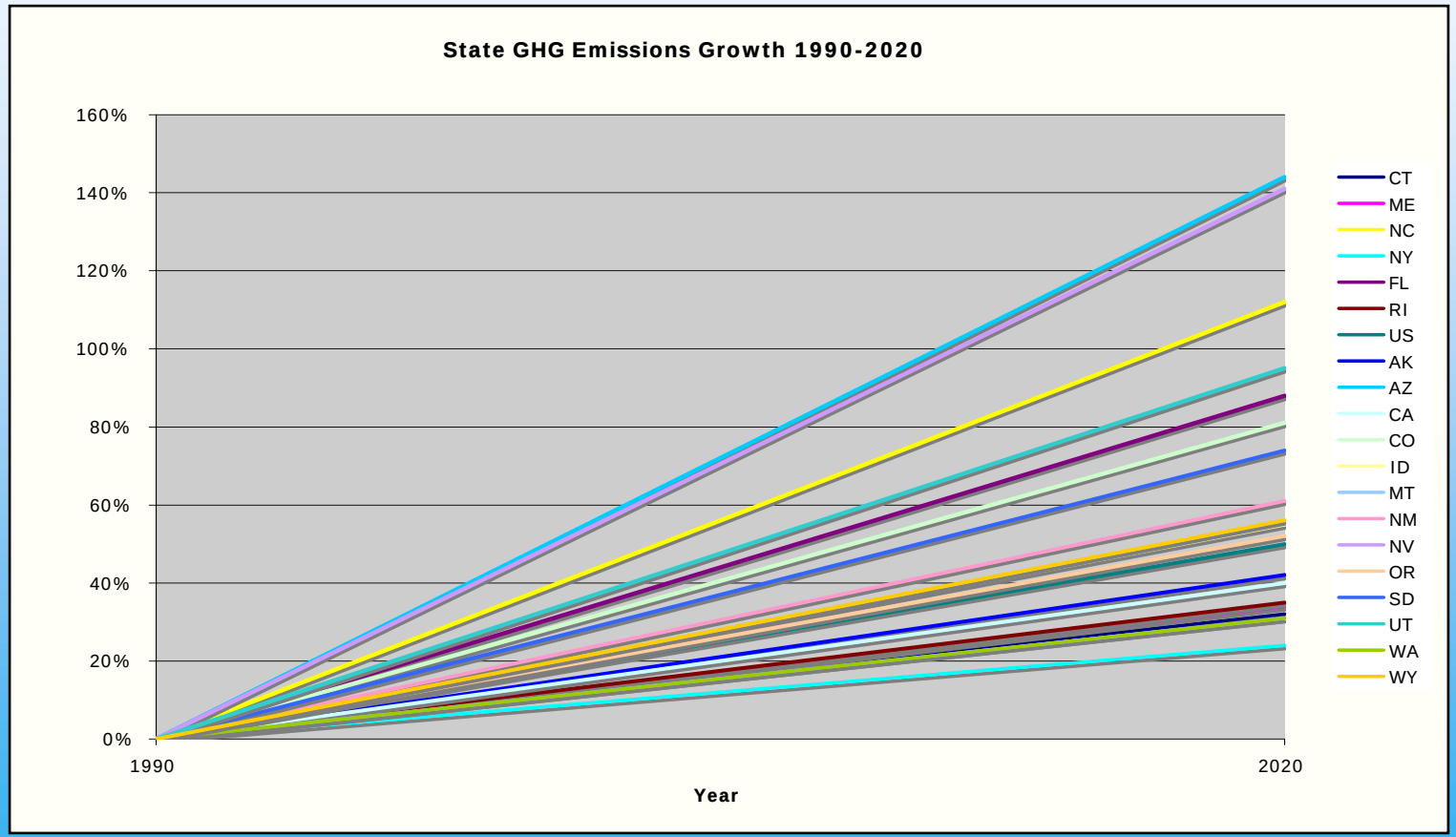
US States: 30 of Top 75 World Emitters (Year 2000, DOE)



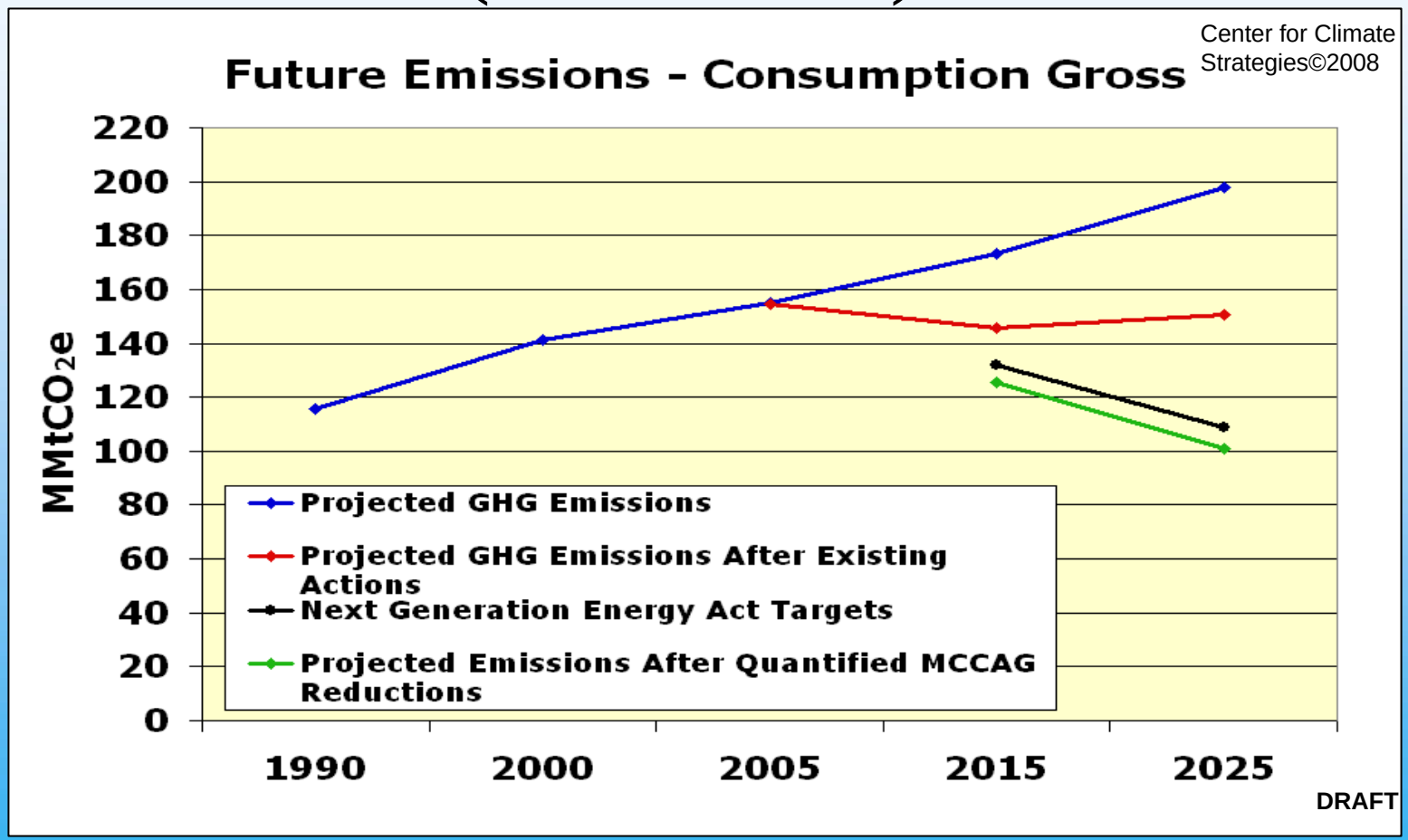
US State Climate Action Plans Completed and In Progress



US States GHG Growth Rates (1990-2020, CCS)



MN GHG Targets 2025 (2008 CCS)

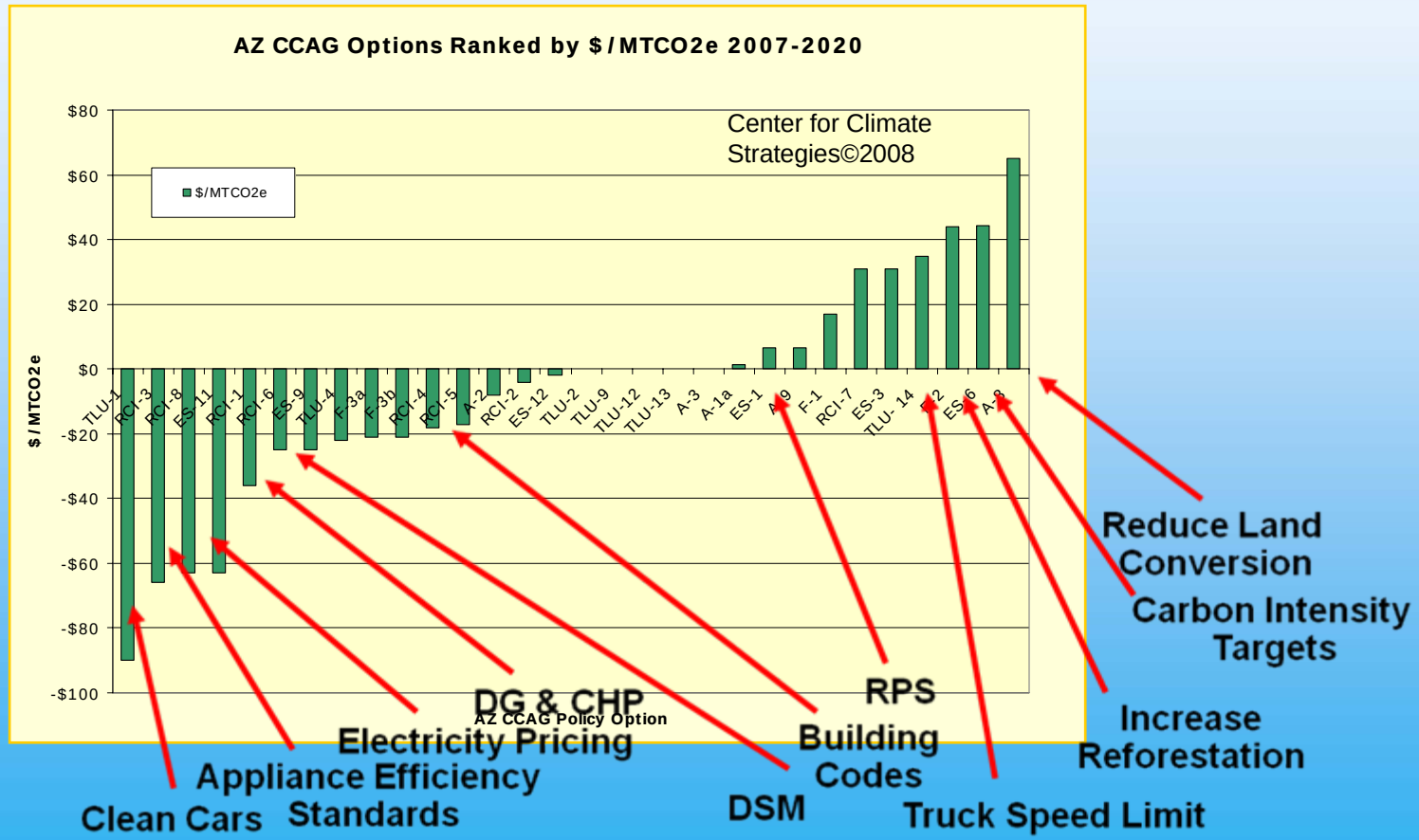


US State GHG Targets

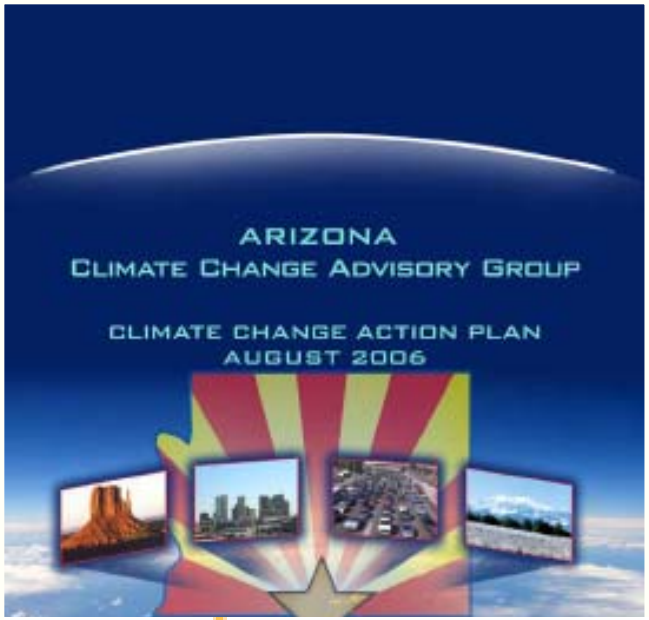
AZ	2000 levels by 2020; 50% below by 2040
CA	- E.O.: 2000 by 2010; 10% below by 2020; 80% by 2050,; - AB-32: 1990 by 2020
CO	TBD
CT	1990 level by 2010; 10% below by 2020; 75% by 2050
IA	50 to 80% below 1990 by 2050, 2012, 2025 and 2035 targets TBD
IL	1990 levels by 2020; 60% below by 2050
MA	1990 level by 2010; 10% below by 2020; 75% by 2050
ME	1990 by 2010; 10% below by 2020; 75% by 2050
MN	Next Generation Energy Act: 15% below 2005 levels by 2015; 30% by 2025; 80% by 2050
MT	TBD

NC	TBD
NEG /ECP	1990 by 2010; 10% below by 2020; 75-85% ultimately
NJ	E.O.: 1990 by 2020; 80% below 2006 by 2050
NM	2000 by 2012; 10% below by 2020; 75% by 2050
NY	5% below 1990 by 2010
OR	1990 by 2010; 10% below by 2020; 75% by 2100
RI	1990 by 2010; 10% below by 2020; 75% by 2050
VT	25% below 1990 by 2012; 50% below 1990 by 2028; 75% by 2050
WA	- E.O.: 1990 by 2020; 25% below 1990 by 2035; 50% below 1990 by 2050
WI	TBD
WCI	15% below 2005 by 2020, 80% below by 2050

Typical GHG Reduction Strategies (AZ, 2006, CCS)



www.azclimatechange.us



CCAG Recommended Policy Options, by Quantified Cost Per Ton GHG Removed

Cost savings are shown below the axis. Net costs are shown above the axis.

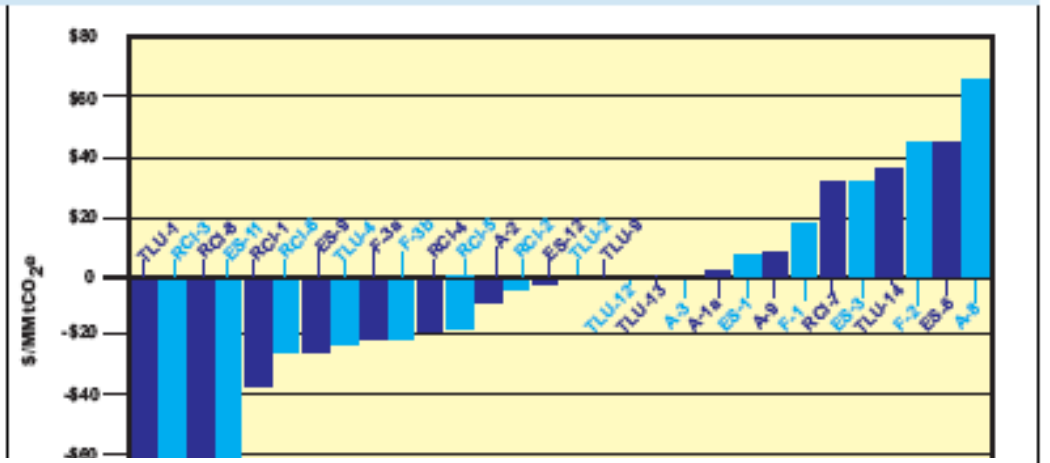


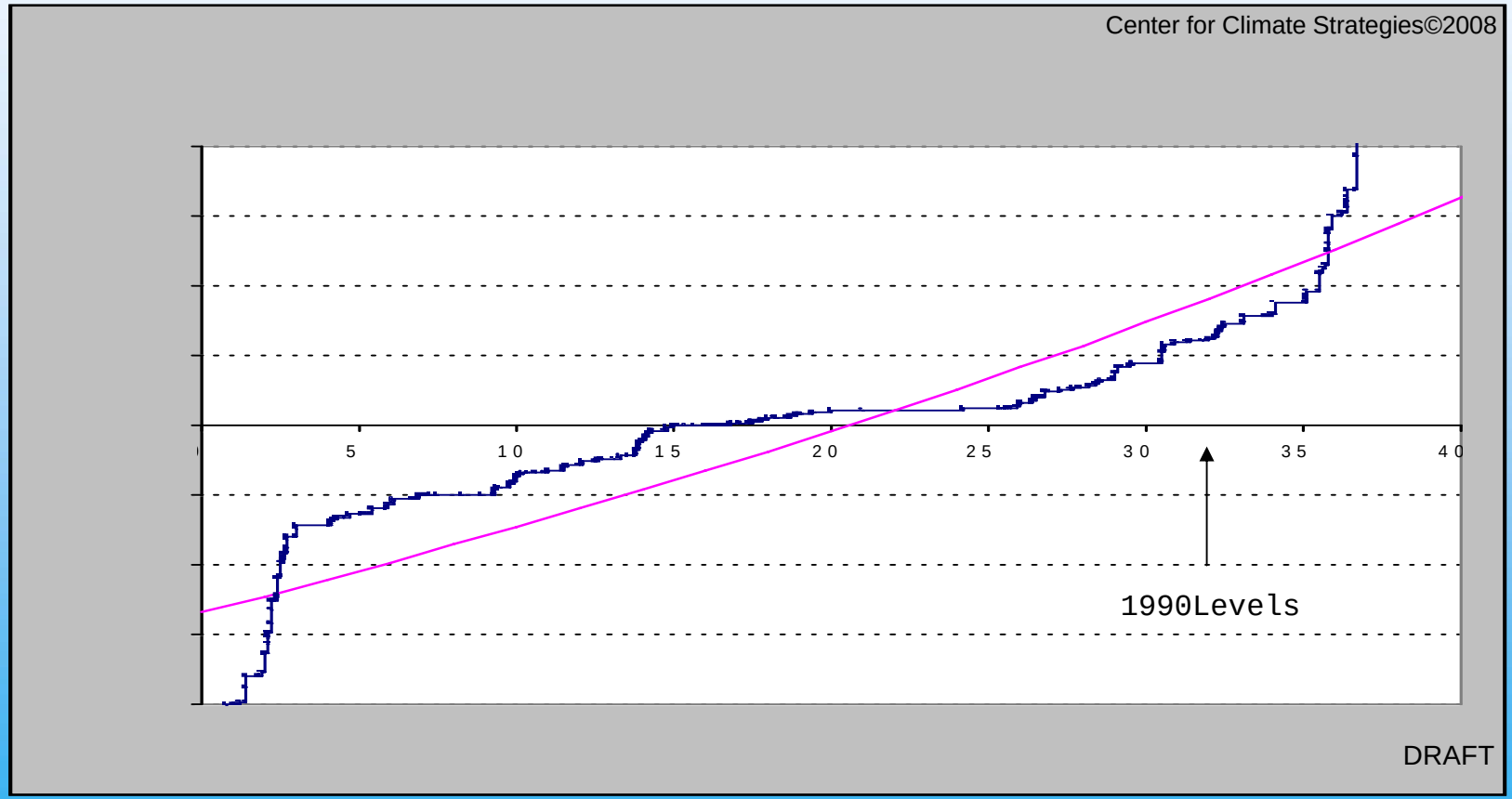
Table 1-3 Totals

Total of all CCAG Options with Adjustments for Overlap (Detailed data may be found in the Tables presented in Chapters 4-8 and the Appendi	2010 Annual GHG Reduction ($MMtCO_2e$)	2020 Annual GHG Reduction ($MMtCO_2e$)	2007-2020 Cumulative Reduction ($MMtCO_2e$)
	15.4	69.4	485.4*

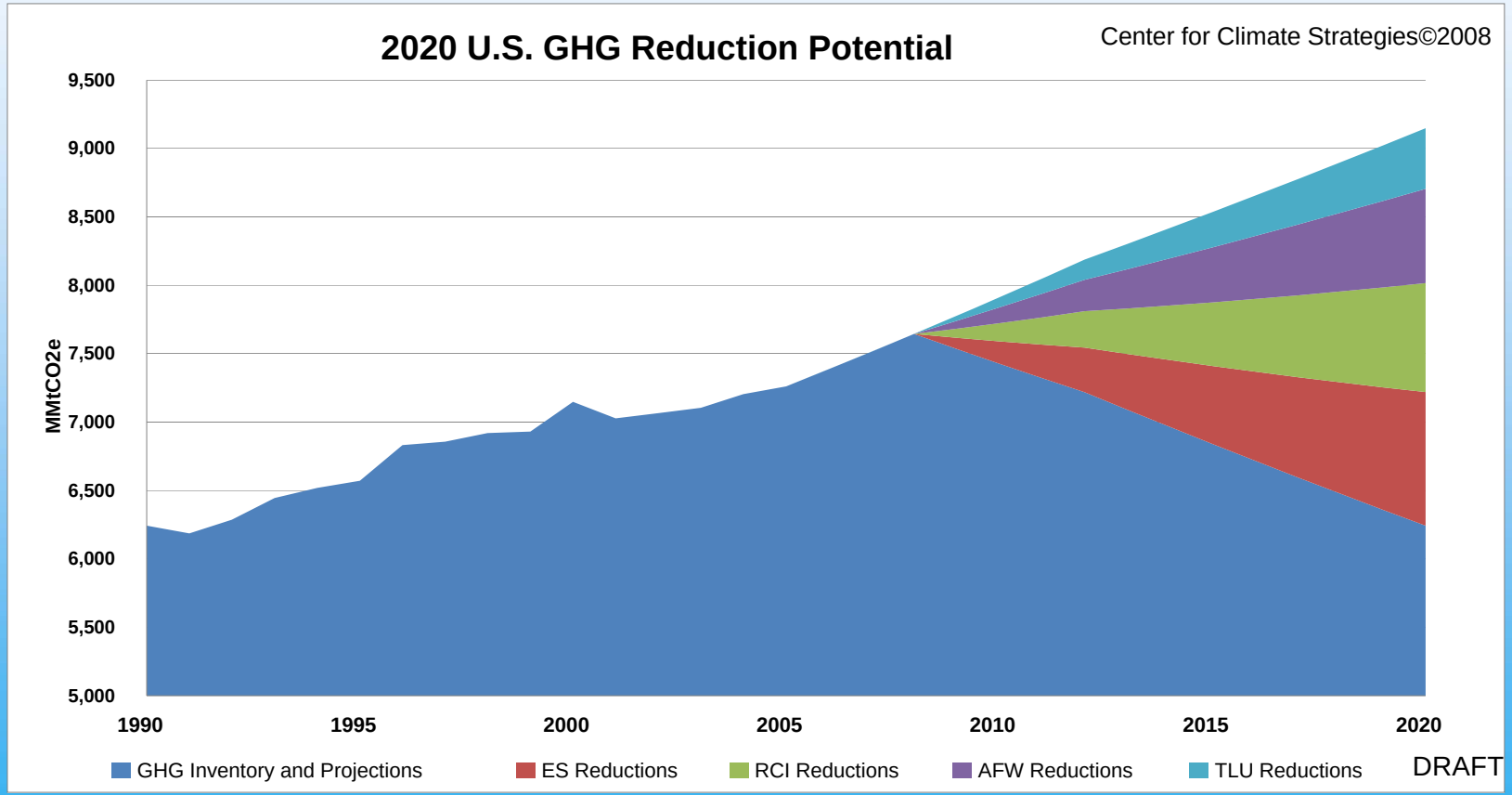
+285,000 jobs

The Center for Climate Strategies (CCS) has calculated overall net economic cost savings from the CCAG's policy option recommendations of more than $5.5 billion from 2007-2020. The CCS also has calculated that the average cost for each ton of GHGs removed would be -$12.74, meaning that there would be a net econmic cost savings of $12.74 for each ton of GHGs removed.[15]

Economy Wide Supply Curve, US States (CCS, 2008)



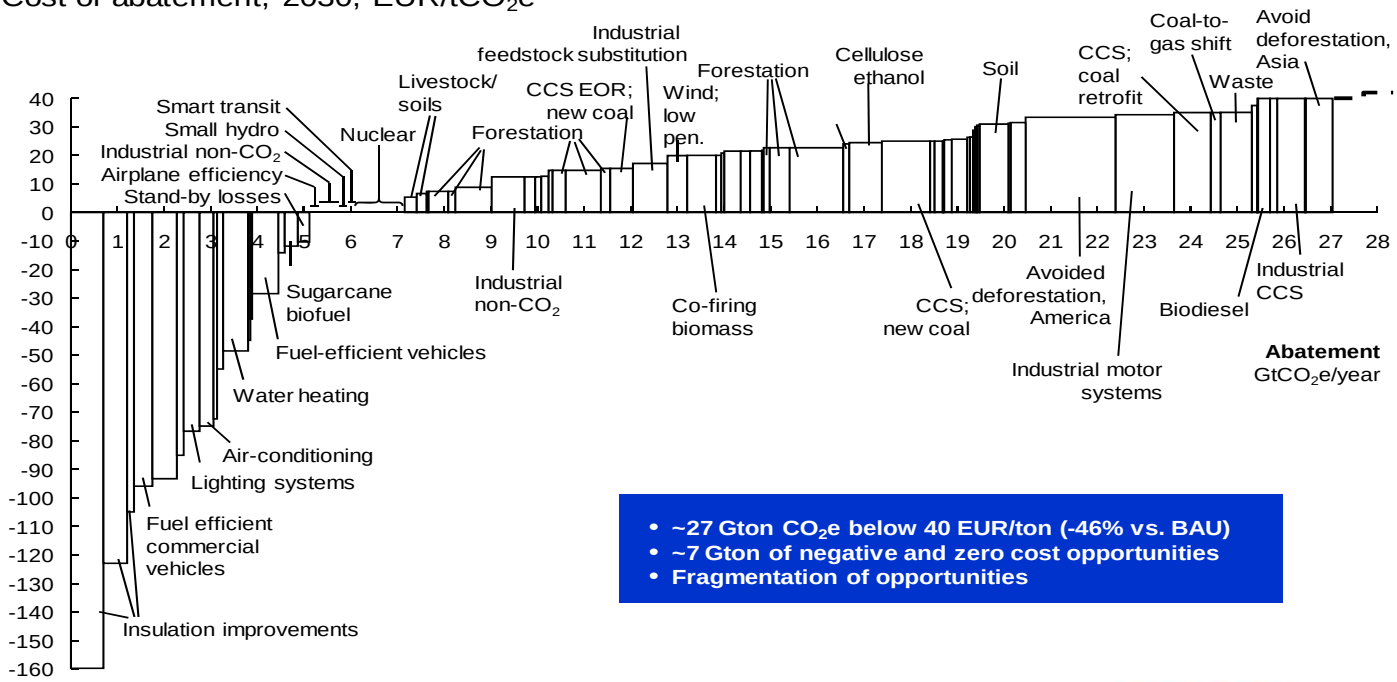
Contribution by Sector, US States (CCS, 2008)



Global Supply Curve (McKinsey, 2007)

An "opportunity map" was created identifying the most promising sources of GHG reduction

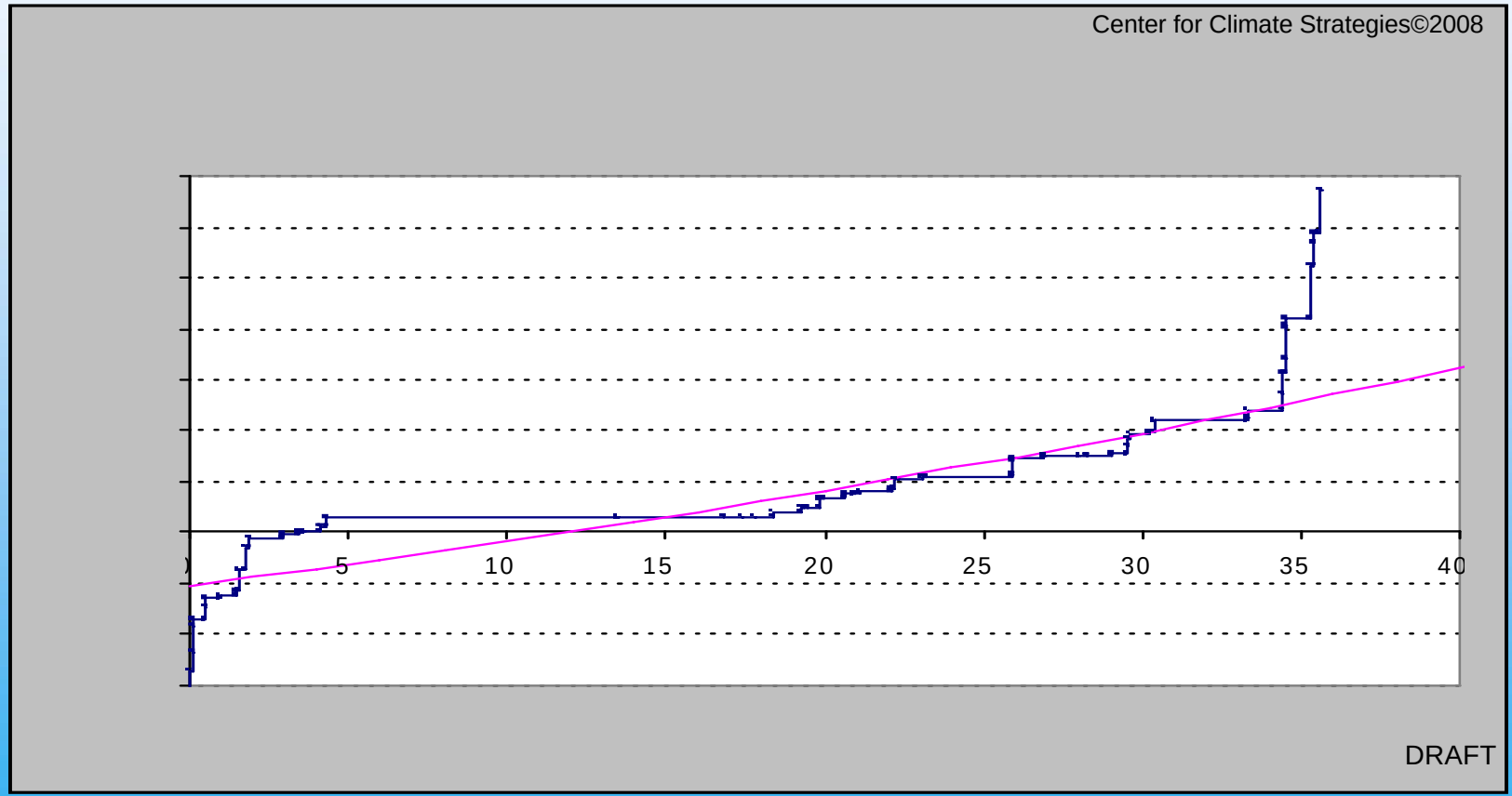
Cost of abatement, 2030, EUR/tCO_2e



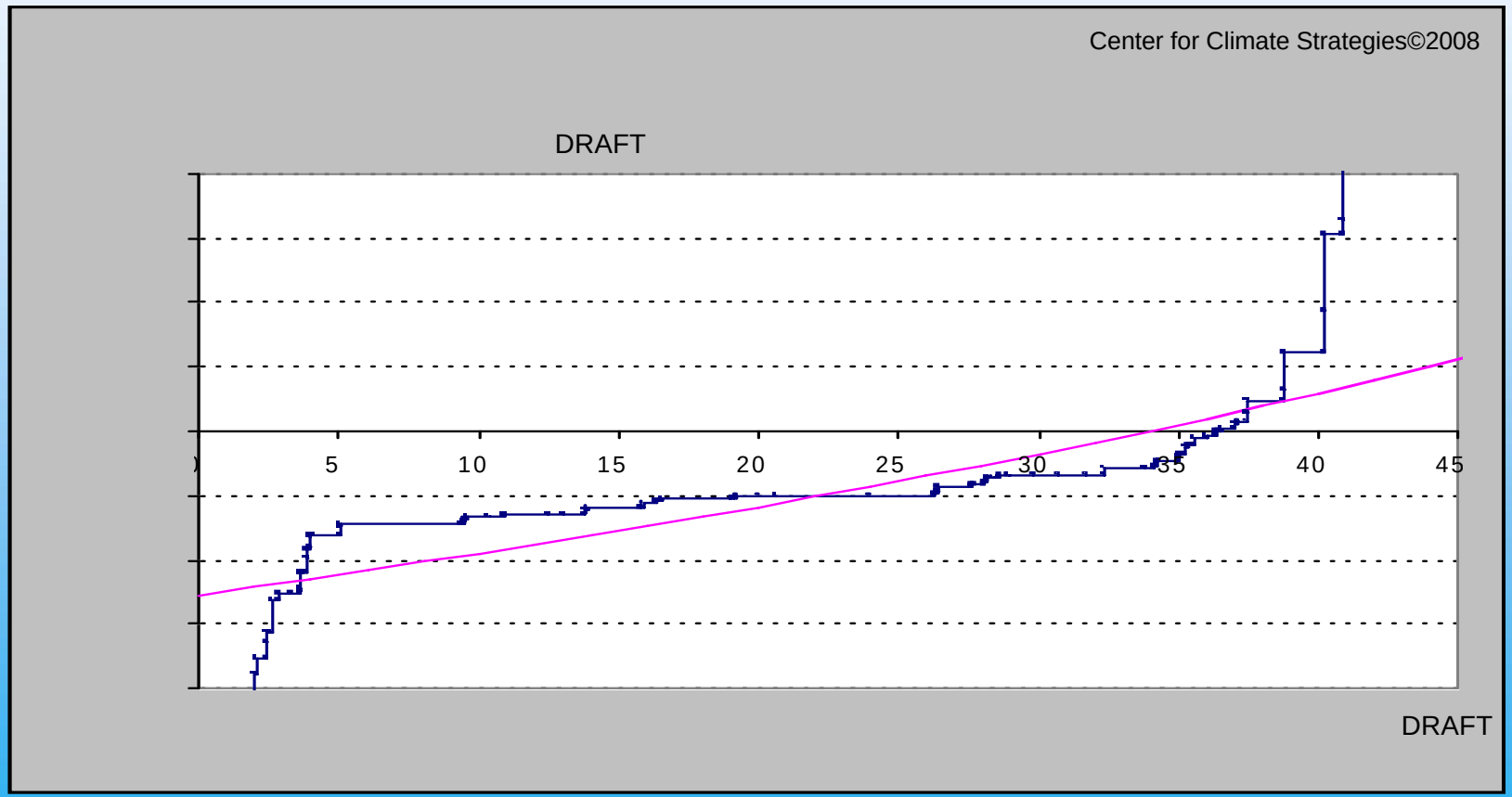
- ~27 Gton CO_2e below 40 EUR/ton (-46% vs. BAU)
- ~7 Gton of negative and zero cost opportunities
- Fragmentation of opportunities

Source: McKinsey

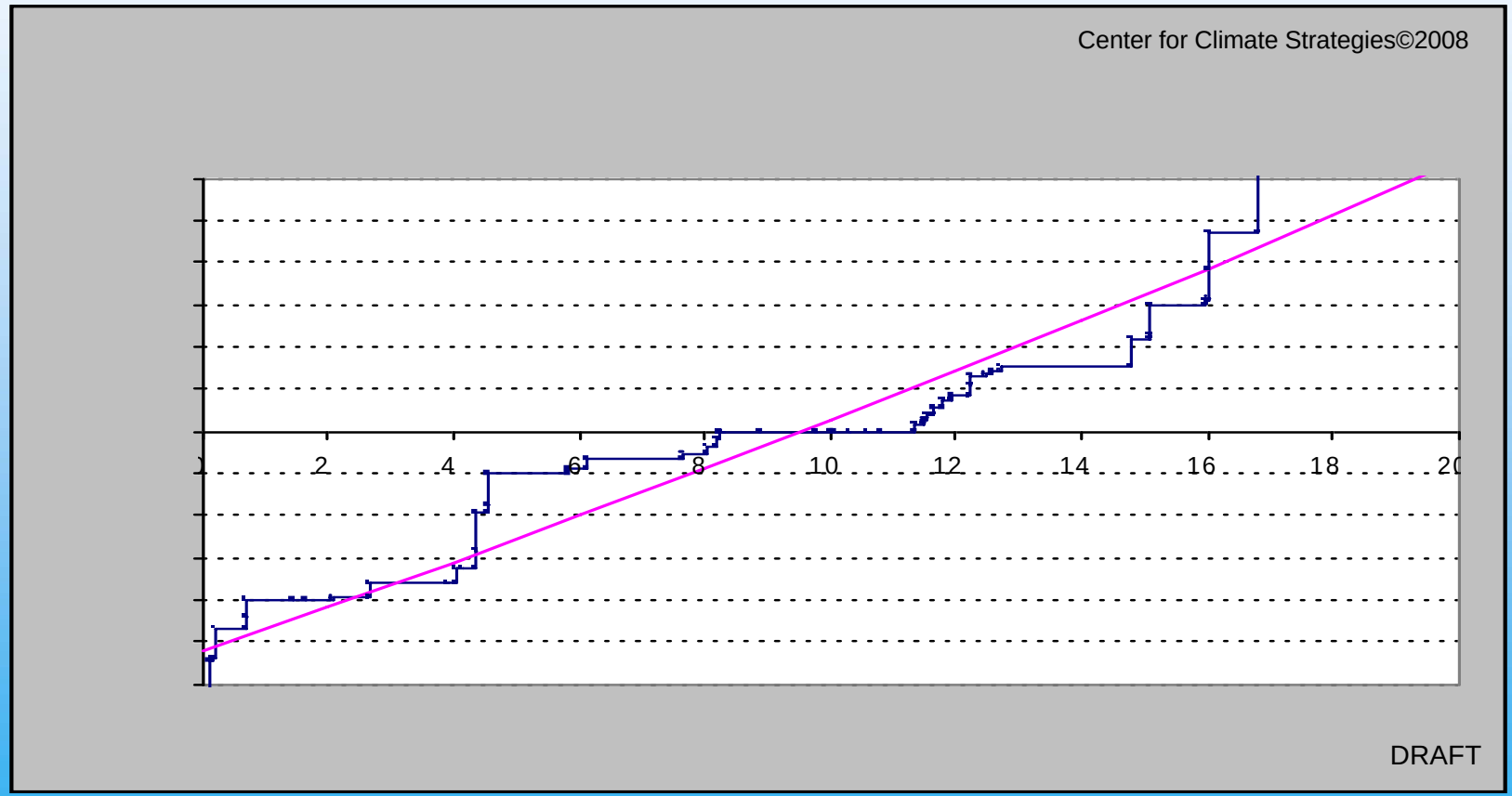
Heat and Power (Energy Supply), US States (CCS, 2008)



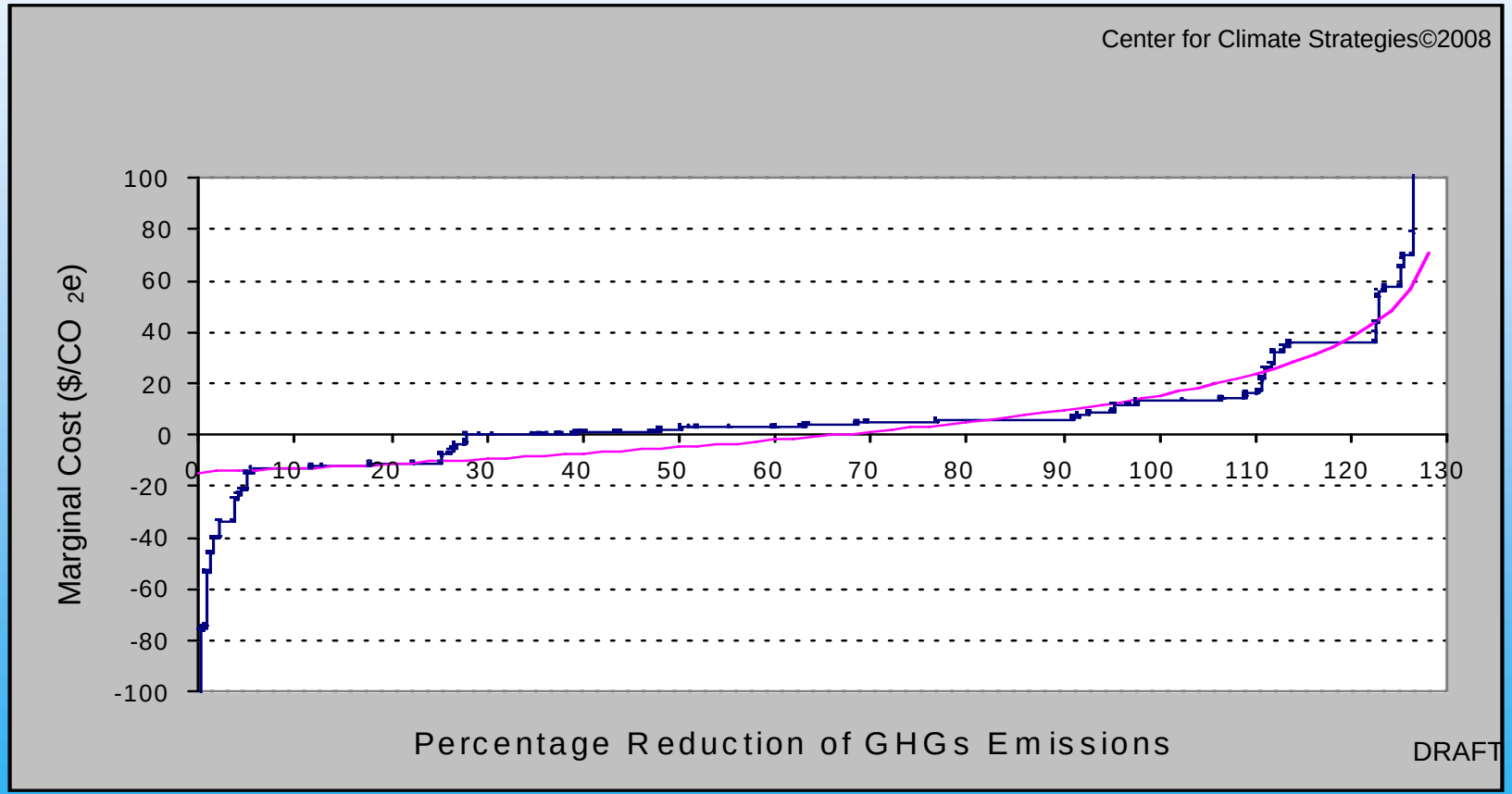
Residential, Commercial, Industrial (Energy Demand), US States (CCS, 2008)



Transportation & Land Use, US States (CCS, 2008)



Agriculture, Forestry, Waste Management, US States (CCS, 2008)



Lunch Break

Phase II Process

Stepwise Planning Process

1. Get organized
2. Review and refine inventory & forecast of emissions
3. Identify a full range of possible actions
4. Identify initial priorities for analysis
5. Develop straw policy design proposals
6. Quantify initial GHG reductions and costs/savings
7. Fully develop policy option templates, including externalities, feasibility issues
8. Develop alternatives to address barriers as needed
9. Aggregate and integrate results
10. Finalize and report recommendations

Step 1: Get Organized

- Review process and timelines
- Review preliminary fact finding
  - Inventory and forecast
  - Analysis of recent actions
- Form Technical Work Groups (TWGs)
- Plan next steps

Building Consensus

- Deliberative democracy applied to governance
  - Comprehensive
  - Stepwise
  - Fact based
  - Transparent
  - Inclusive
  - Collaborative
  - Consensus driven

Fact Finding

- Preliminary fact finding
  - Inventory and forecast of GHG emissions
  - Inventory and results of state actions
- Joint fact finding and policy development
  - Inventory and forecast of emissions
  - Priorities for analysis, policy description, policy design specifications, implementation mechanisms, alternative solutions, GHG reduction potential, cost effectiveness

Timing – Action Team Meetings

Date	Action
February 1, 2008	1st Action Team meeting
March 17, 2008	2nd Action Team meeting
May 29, 2008	3rd Action Team meeting
July 9, 2008	4th Action Team meeting
August 6, 2008	5th Action Team meeting
September 5, 2008	6th Action Team meeting
October 1, 2008	Phase II Final Report due
Between Action Team Meetings	TWG conference calls and meetings

Timing – TWG Meetings

TWG (all times Eastern)	Energy Supply and Demand	Agriculture, Forestry and Waste	Transportation and Land Use	Cap and Trade	Government Policy	Adaptation
Call#1	FEB 27, Wed 1:30pm-3:30pm	FEB 21,Thurs 1:00pm-3:00pm	FEB 27, Wed 1:00pm-3:00pm	FEB 29, Friday, 2:00pm-4:00pm	FEB 28, Thurs, 9:00am-11:00am	FEB 29, Friday 10:00am-12:00pm
Call#2	MAR 5, Wed 1:30pm-3:30pm	MAR 5, Wed 1:00pm-3:00pm	MAR 5, Wed 1:00pm-3:00pm	MAR 7,Friday, 2:00pm-4:00pm	MAR 6, Thurs, 9:00am-11:00am	MAR 6, Thurs, 10:00am-12:00pm
Call#3	APR 2, Wed 1:30pm-3:30pm	MAR 26, Wed 1:00pm-3:00pm	APR 3, Thurs 1:00pm-3:00pm	MAR 28, Friday, 2:00pm-4:00pm	MAR 27, Thurs, 9:00am-11:00am	TBD
Call#4	APR 23, Wed 1:30pm-3:30pm	APR 30, Wed 1:00pm-3:00pm	APR 23, Wed, 1:00pm-3:00pm	APR 25, Friday, 2:00pm-4:00pm	MAY 1, Thurs, 9:00am-11:00am	TBD

Roles & Responsibilities

- Process convened by Governor Crist
- Governor's Office and FL DEP oversee and coordinate process
- Action Team makes recommendations to DEP to provide to the Governor
- Technical Work Groups (TWGs) provide guidance to Action Team
- DEP ensures timely and full completion of Action Team duties, etc.
- Public input and review for stakeholders
- CCS provides facilitation, technical support, final report

Technical Work Group Roles

- Assist Climate Action Team
  - Identify full range of potential state actions
  - Identify suggested priorities for analysis
  - Suggest straw policy designs
  - Assist with analysis, development and review of options
  - Assist with development of policy alternatives
  - Assist with input to and review of Action Team reports
  - Review and assist with the state GHG inventory and forecast

Technical Work Groups

- Energy Supply and Demand
  - Heat and power generation; locus for cap and trade or carbon tax policy
  - Energy efficiency & conservation, industrial process, waste management
- Cap and Trade
- Transportation and Land Use
  - Vehicle efficiency, alternative fuels & demand reduction programs
- Agriculture, Forestry and Waste
  - Land protection, forest restoration, sustainable forest management, bioenergy, sustainable wood products, waste reduction, recycling
- Government Policy Coordination
  - Greening Florida's economy, energy/climate policy coordination, lead by example, reporting and registries
- Adaptation

Transparency

- Policy Design
  - Timing, goals, coverage, implementation methods
- Economic analysis
  - Data sources
  - Quantification methods
  - Key assumptions
  - Key uncertainties

Coverage Of Issues

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

Decision Criteria

- Mitigation:
  - GHG Reduction Potential (MMTCO2e)
  - Cost or Cost Saved Per Ton GHG Removed
  - Externalities (Co-benefits, etc.)
  - Feasibility Issues
- Adaptation:
  - Risk reduction potential
  - Cost or Cost Saved per risk reduced
  - Externalities (Co-benefits, etc.)
  - Feasibility Issues

Ground Rules

- Supportive of the process
- Best effort, good faith
- Attendance at meetings
- Equal footing
- Stay current with information
- No backsliding
- Do not represent the Action Team
- Make objective and timely contributions

Step 2: Review and Refine Inventory and Forecast

- Scope of coverage
- Data sources
- Methods
- Assumptions

Step 3: Expand the 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
  - Will include key FL actions
- Action Team will add new potential actions
  - Starting place for identification of Action Team priorities for analysis

Categories of Action

- Mitigation:
  - Energy efficiency & conservation, industrial process
  - Clean and renewable energy
  - Transportation and land use efficiency
  - Forest and agriculture conservation
  - Waste management
  - Public sector ‘lead by example’
- Adaptation

Step 4: Identify Initial Priorities for Analysis

Option No.	GHG Reduction Policy Option	Potential GHG Emissions Reduction	Cost per Ton	Other Considerations: Jobs, Fuel Imports, Externalities, Feasibility	Priority for Analysis	Notes / Related Actions in FL
AFW-1	AGRICULTURE – PRODUCTION OF ENERGY AND MATERIALS					
1.1	Expanded Use of Biomass Feedstocks for Electricity, Heat, or Steam Production					
1.2	In-state Liquid Biofuels Production					
1.3	Manure Digesters/Other Waste Energy Utilization					
1.4	Improving Energy Capture from Biomass Heat					
1.5	Expand Use of Bio-based Materials					

- Action Team identifies about 50 initial potential options for further analysis and development.

Step 5: Craft Straw Policy Design Proposals

- TWGs propose initial policy option design ("straw proposals") with key parameters of analysis
  - Timing
  - Goals
  - Coverage
- CCS works with TWGs to set up quantification
- Options are quantified and fleshed out for review and revision by the Action Team
- Action Team revisits list of potential priorities, as needed

Step 6: Prepare First Round of Quantification

- CCS prepares quantification memo, specific options for analysis of draft actions
  - US EPA Economic Guidelines, other standard references applied to climate actions
- Quantification includes:
  - GHG reduction potential (mitigation)
  - Risk reduction potential (adaptation)
  - Cost per ton of GHG removed/adaptive risk reduced
  - Direct cost/cost savings of action
- Externalities if/as needed in time available
- Aggregate/Integrative impacts

Step 7: Develop Full Policy Option Template

- Policy Description (Concept)
- Policy Design (Goals, Timing, Coverage)
- Potential Implementation Methods
- Related Programs and Policies (BAU)
- Quantification of costs, results
  - Data Sources, Methods and Assumptions
  - Key Uncertainties
- Externalities, as Needed
- Feasibility Issues, as Needed
- Status Of Group Approval
- Level of Group Support
- Barriers to Consensus, if any

Step 8: Identify Alternatives to Resolve Conflicts

- Clarification, expanded information or modifications:
  - Policy Design (goals, timing, coverage)
  - Implementation methods
  - Modifications to analysis (data sources, methods, assumptions
  - List of options

A “Portfolio” of Policy Options…

CCS CENTER FOR CLIMATE STRATEGIES	Codes & Standards	Market Mechanisms	Funding Mechanisms	Voluntary Agreements	Technical & Financial Assistance	Information & Education	Pilots & Demo Projects	Reporting & Disclosure
Agriculture Forestry & Waste								
Energy Supply & Demand								
Cap and Trade								
Transportation & Land Use								
Adaptation								
Government Policy								

Implementation Methods - Not One Size Fits All

- Voluntary Agreements
- Technical Assistance
- Financial Incentives
- Targeted Spending
- Codes and Standards
- Market Based Approaches
- Pilots and Demos
- Information and Education
- Research and Development
- Reporting and Disclosure

Step 9: Conduct Aggregate Analysis and Compare to Goals

- Integrate measures within TWGs
- Integrate measures across TWGs
- Remove double counting
- Assess supply and demand interactions
- Assess other interactions, externalities, if/as needed
- Assess needs for margin of safety, etc.

Step 10: Develop Final Report

- Executive Summary
- Background, Purpose And Goals
- FL Emissions Inventory & Forecast
- Action Team Recommendations & Results
  - Agriculture, Forestry and Waste Management
  - Energy Supply & Demand
  - Cap and Trade
  - Transportation & Land Use
  - Government Policy
  - Adaptation
- Appendices

Break

Next Steps Action Team, TWGs

- Finalize TWG assignments
- Begin TWG meetings
- 2 TWG meetings/calls in February/early March
  - Review and expand catalogs of potential state actions
  - Review and comment on inventory and forecast
  - Review and comment on analysis of existing actions
  - Begin study of cap and trade design options

TWG Assignments

- Action Team Members have expressed preference
- Action Team Member TWG assignments
- Additional TWG members are being appointed

Next Action Team Meeting

- Agenda:
  - Review and approve potential additions to the catalog of state actions
  - Review and approve TWG suggested updates to the FL emissions inventory and projection
  - Review progress on cap and trade design issues
- March 17, 2008, Tallahassee

Public Input, Announcements