North Carolina

Climate Action Plan Advisory Group

Activity Update to the Legislative Commission on Global Climate Change

October 3, 2006

ncdenr
North Carolina Department of Environment and Natural Resources

CCS
CENTER FOR CLIMATE STRATEGIES

Topics

- Update on activities of the North Carolina Climate Action Planning Advisory Group (CAPAG) and Technical Work Groups (TWGs)
  - Review of activities to date
  - Discussion of current draft mitigation options for analysis
  - Discussion of next steps, using one sample option

Participants

- CAPAG Members (45)
- LCGCC Members on the CAPAG (11)
- TWG Members:
  - Residential, Commercial and Industrial (18)
  - Energy Supply (18)
  - Transportation and Land Use (18)
  - Agriculture, Forestry and Waste (18)
  - Cross Cutting Issues (14)

Meetings

- CAPAG Meetings Held to Date (February, May, July 2006) (3)
- CAPAG Meetings to be Held (October 2006; January, May 2007) (3)
- TWG Meetings Held to Date (41)
- TWG Meetings to be Held (October 2006 - May 2007) (~ 40)
- Additional Meetings of the CAPAG and or TWGs After May 2007 (TBD)

Draft Mitigation Options

- Original Number of Potential Options Presented to the CAPAG from the CCS Catalog of States Actions (251)
- Updated Number of Potential Options on the CCS Catalog of States Actions, Including CAPAG Additions from the Clean Smokestacks Act, State Energy Plan, Etc. (307)
- Current Number of "Priority for Analysis" Draft Potential Mitigation Options for Analysis (52)
  - Residential, Commercial and Industrial (11)
  - Energy Supply (10)
  - Transportation and Land Use (13)
  - Agriculture, Forestry and Waste (12)
  - Cross Cutting Issues (6)

LCGCC Participants on the CAPAG and TWGs

- Dr. Delores “Dee” Eggers - CC
- Tim Tobin - ES
- Ivan Irlaub - ES
- Tom Cecich - CC
- George Everett - ES
- Vickie Will - ES
- Preston Howard - ES
- Mitch Peele - AFW
- Robert Slocum - AFW
- Michael Shore - CC, ES, TLU
- Steven Smith - CC, AFW, ES
- James Stevenson - CC

Residential, Commercial, Industrial

- RCI-1 Demand Side Management Programs for the Residential, Commercial and Industrial Sectors
- RCI-2 Expand Energy Efficiency Funds
- RCI-3 Energy Efficiency Requirements
- RCI-4 Market Transformation and Technology Development Programs
- RCI-5 Improved Appliance and Equipment Efficiency Standards
- RCI-6 Building Energy Codes
- RCI-7 "Beyond Code" Building Design Incentives and Mandatory Programs, Incorporating Local Building Materials and Advanced Construction
- RCI-8 Education (Consumer, Primary/Secondary, Post-Secondary/ Specialist, College and University Programs)
- RCI-9 Green Power Purchasing (required for state facilities) and Bulk Purchasing Programs for Energy Efficiency or Other Equipment
- RCI-10 Distributed Renewable and Clean Fossil Fuel Power Generation
- RCI-11 Residential, Commercial, and Industrial Energy and Emissions Audits and Recommended Measure Implementation

Energy Supply

- ES-1 Renewable Energy Incentives (biomass, wind, solar, geothermal, hydro)
- ES-2 Environmental Portfolio Standard (renewables and energy efficiency) with renewable energy credit trading
- ES-3 Removing barriers to CHP and clean DG (including utility rate and interconnection barriers, financing, information, etc.)
- ES-4 CO2 tax and/or cap-and-trade (including covering sources including fossil, renewable, and nuclear on life-cycle basis)
- ES-5 Legislative changes requiring the NC Utility Commission to
- Consider environmental and other factors
- ES-6 Incentives for advanced coal, including IGCC and carbon capture and storage (CCS)
- ES-7 Public Benefit Charge on electricity bills for funding efficiency activities
- ES-8 Waste to Energy
- ES-9 Incentives for combined heat and power (CHP) and clean DG
- ES-10 NC Greenpower renewable resources program

Transportation

- TLU-1 Smart Growth Bundle
- TLU-2 Improve Transit Bundle
- TLU-3 Feebates
- TLU-4 VMT Fee
- TLU-5 Truck Stop Electrification (TSE)
- TLU-6 Tailpipe GHG Standards
- TLU-7 Biofuels Bundle
- TLU-8 Procurement of Efficient Fleet Vehicles
- TLU-9 Anti-Idling
- TLU-10 Diesel Retrofits
- TLU-11 Fuel Tax
- TLU-12 Pay as You Drive Insurance
- TLU-13 Incentives for Advanced Technology Vehicles

Agriculture, Forestry & Waste Management

- AFW-1 Manure Digesters/Other Waste Energy Utilization
- AFW-2 Biodiesel Production (incentives for feedstocks and production plants)
- AFW-3 Conservation Tillage/No-Till (carbon sequestration and reduced energy use)
- AFW-4 Preserve Open Space/Agricultural Land
- AFW-5 Agricultural Biomass Feedstocks for Electricity or Steam Production
- AFW-6 Policies to Promote Ethanol Production
- AFW-7 Forest Protection – Reduced Clearing and Conversion to Nonforest Cover
- AFW-8 Afforestation and/or Restoration of Nonforested Lands
- AFW- 9 &10 Expanded Use of Forest Biomass for Electricity, Heating and Liquid Fuels
- AFW-11 Landfill Methane and Biogas Energy Programs
- AFW-12 Increased Recycling Infrastructure and Collection

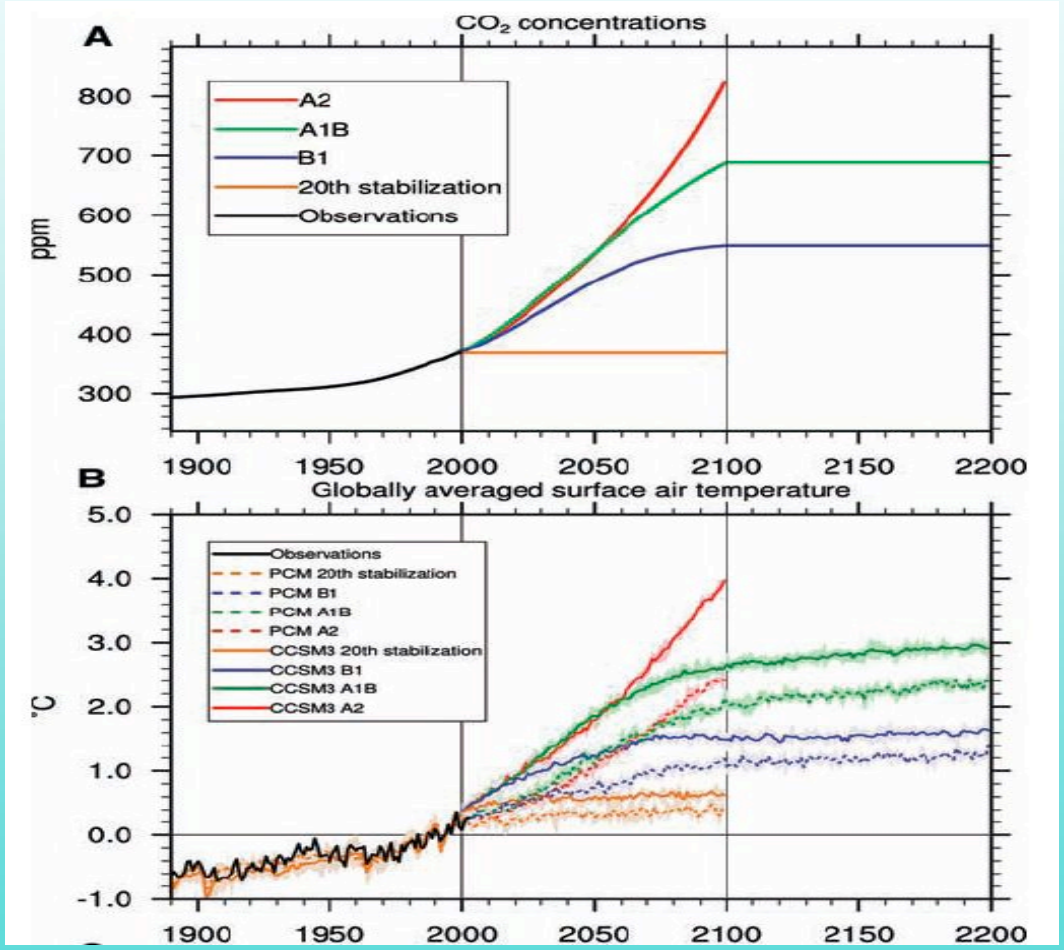
Cross Cutting Issues

- CC-1 GHG Inventories and Forecasts
- CC-2 GHG Reporting
- CC-3 GHG Registry
- CC-4 Public Education and Outreach
- CC-5 Adaptation
- CC-6 Options for Goals or Targets (in support of LCGCC)

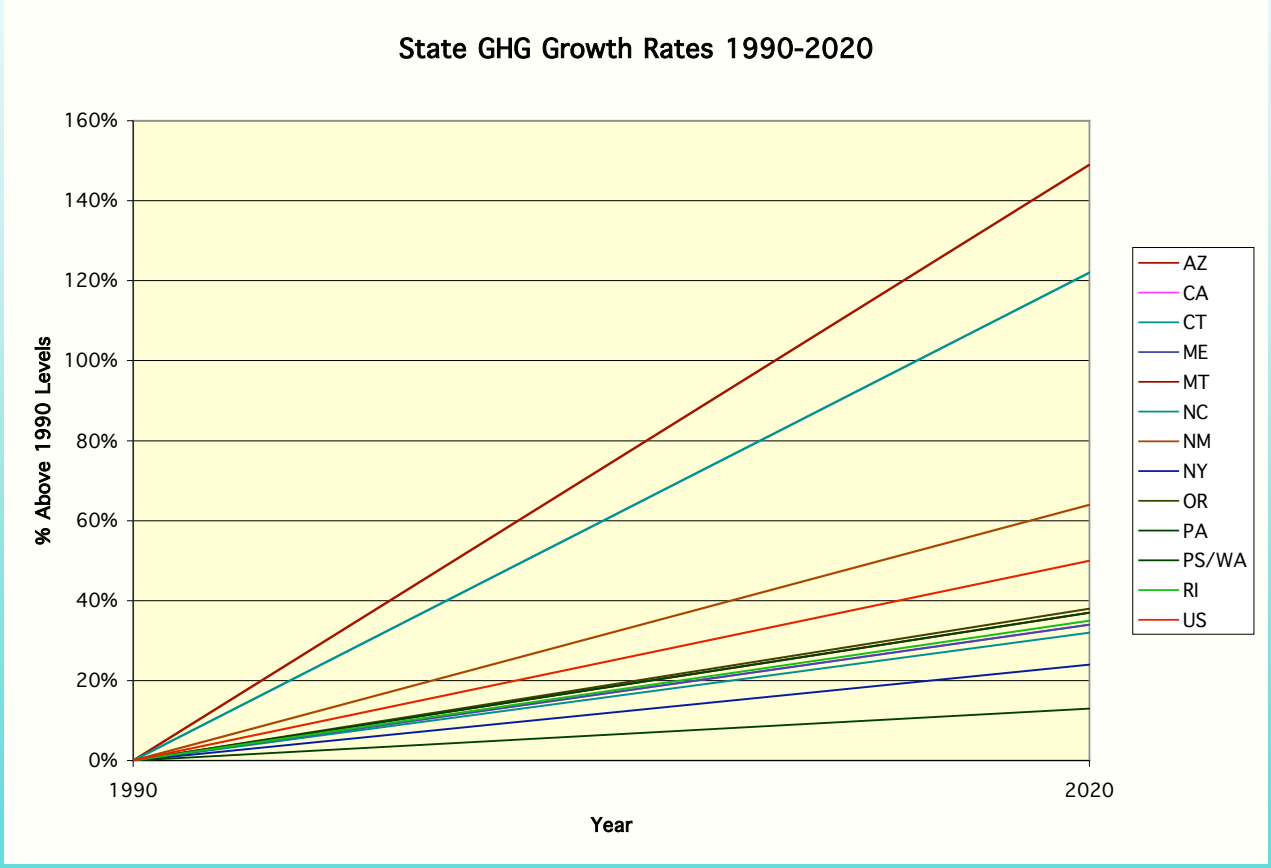
High v. Low GHG Scenarios

Carbon Dioxide Concentration

Warming (°C)



State GHG Growth Rates



Closing the Emissions Gap

State Climate Goals

State	1990-2020 GHG Forecast	State Goals	Climate Plan Coverage
Arizona	149%	2000 levels by 2020; 50% below by 2040	106%
California	34%	- E.O.: 2000 level by 2010; 10% below by 2020; 80% by 2050 - AB-32: 1990 levels by 2020	TBD
Connecticut	32%	1990 level by 2010; 10% below by 2020; 75-85% ultimately	100%
Massachusetts	?	1990 level by 2010; 10% below by 2020; 75-85% ultimately	?
Maine	34%	1990 level by 2010; 10% below by 2020; 75-85% ultimately	100%
North Carolina	113%	?	TBD
NEG/ECP	?	1990 level by 2010; 10% below by 2020; 75-85% ultimately	TBD
New Jersey	?	5% below 1990 by 2005	100%
New Mexico	48-64%	2000 level by 2012; 10% below by 2020; 75% by 2050	TBD
New York	24%	5% below 1990 by 2010	?
Oregon	38%	1990 level by 2010; 10% below by 2020; 75% by 2100	85%
Puget Sound	37%	1990 level by 2010; 10% below by 2020; 75% by 2100	100%
Rhode Island	35%	1990 level by 2010; 10% below by 2020; 75-85% ultimately	100%

Next Steps - Sample Draft Mitigation Option

- Mitigation Option Description
- Mitigation Option Design
- Implementation Mechanisms
- Related Policies/Programs in Place
- Types(s) of GHG Reductions
- Estimated GHG Savings and Costs per MtCO2e
- Key Uncertainties
- Additional Benefits and Costs
- Feasibility Issues
- Status of Group Approval
- Level of Group Support
- Barriers to Consensus