

The banner features a collage of North Carolina scenes: a waterfall, a river, a suburban house, a city skyline, and a sailboat. The text 'North Carolina' is in red script, and 'Climate Action Plan Advisory Group' is in blue bold sans-serif.

**North Carolina**

**Climate Action Plan Advisory Group**

[WWW.NCCLIMATECHANGE.US](http://WWW.NCCLIMATECHANGE.US)

## **Catalog of State Climate Mitigation Options**

May 3, 2006

This catalog of state climate mitigation options by the Center for Climate Strategies (CCS) is based on a review of actions undertaken or considered by US states. It covers all sectors of the economy, all greenhouse gases, and includes a wide variety of implementation programs. It was prepared for the North Carolina Climate Action Plan Advisory Group (CAPAG) and its Technical Work Groups (TWGs), as well as the North Carolina Legislative Commission on Climate Change (LCCC), to assist with identification and screening of potentially applicable actions in North Carolina. This list will be used as a reference and expanded on an ongoing basis during the CAPAG process.

### **Tables of State Climate Mitigation Options:**

<b>Table</b>	<b>Sectors Covered</b>
<b>1.</b>	<b>Residential, Commercial, Industrial (RCI)</b>
<b>2.</b>	<b>Energy Supply (ES)</b>
<b>3.</b>	<b>Transportation and Land Use (TLU)</b>
<b>4.</b>	<b>Agriculture, Forestry and Waste Management (AFW)</b>
<b>5.</b>	<b>Cross Cutting Issues - Reporting, Registries, Education (CC)</b>

**Key To Future Rankings of Options in the Tables that Follow:**

<b>Potential Emission Reductions <u>1/</u></b>	<b>Potential Cost or Cost Savings <u>1/ 2/</u></b>
<b>High (H):</b> At least 1 Million Metric Tons (MMT) carbon dioxide equivalent (CO <sub>2</sub> e) per year by 2020 (~1% of current NC emissions)	<b>High (H):</b> \$50 per Metric Ton CO <sub>2</sub> e (MTCO <sub>2</sub> e) or above
<b>Medium (M):</b> From 0.1 to 1 MMT CO <sub>2</sub> e per year by 2020	<b>Medium (M):</b> \$5-50/MTCO <sub>2</sub> e
<b>Low (L):</b> Less than 0.1 MMT CO <sub>2</sub> e per year by 2020, or 1 MMT CO <sub>2</sub> e by 2050	<b>Low (L):</b> Less than \$5/MTCO <sub>2</sub> e
<b>Uncertain (U):</b> Not able to estimate at this time	<b>Uncertain (U):</b> Not able to estimate at this time
<u>1/</u> Several measures may overlap in terms of emissions reductions and/or cost impacts. Estimates assume measures would be implemented independently from other measures.	
<u>2/</u> Costs are denoted by a positive number. Cost savings (i.e., “negative costs”) are denoted by a negative number.	

**Definition of “Priorities for Analysis”:**

- **High:** High priority options will be analyzed first.
- **Medium:** Medium priority options will be analyzed next, time and resources permitting.
- **Low:** Low priority options will be analyzed last, time and resources permitting.

**Notation of Options:**

\* Options marked with an asterisk (\*) indicate options that are at least partially “base case” policies, i.e., that have been considered or undertaken at some level in North Carolina.

\*\* Options marked with a double asterisk (\*\*) indicate options that are included as recommendations in the September 1, 2005 NC DENR Report under the Clean Smokestacks Act of 2002.

**Table 2 - Energy Supply (ES) - DRAFT**

Option No.	Climate Mitigation Option	Priority for Analysis	Potential GHG Emissions Reduction	Potential Cost or Cost Savings	Ancillary Impacts, Feasibility Considerations	Notes
<b>ES-1</b>	<b>RENEWABLE ENERGY</b>					
1.1	Environmental Portfolio Standard (renewables and energy efficiency) with renewable energy credit trading**		H	L-H		
1.2	NC Greenpower renewable resources program at 100% of consumption *		H	L-H		
1.3	State purchase of electricity through the NC Greenpower renewable resources program**		H	L-H		
1.4	Public Benefit Charge on electricity bills for funding efficiency activities**		H	H (savings)		
1.5	Renewable Energy Incentives (biomass, wind, solar, geothermal)*		Hi	Lo-Hi		
1.6	Green Power Purchases and Marketing*		?	?		

Option No.	Climate Mitigation Option	Priority for Analysis	Potential GHG Emissions Reduction	Potential Cost or Cost Savings	Ancillary Impacts, Feasibility Considerations	Notes
1.7	Renewable energy development issues (zoning, siting, etc.)		?	?		
1.8	Research and Development (R&D) for renewable technologies		U	U		
1.9	Landfill Gas Recovery (see also Waste)		U	U		
1.10	Waste to Energy (see also Waste) **		Hi	L-H		
<b>ES-2</b>	<b>DISTRIBUTED GENERATION (DG)</b>					
2.1	Incentives for combined heat and power (CHP) and clean DG**		M-H	L		
2.2	Removing barriers to CHP and clean DG (including utility rate and interconnection barriers, financing, information, etc.)**		M-H	L		
2.3	Interconnection Rules for clean, distributed generation*,**		L	L		
2.4	Net Metering*,**		U	U		
2.5	Pricing strategies		?	?		

Option No.	Climate Mitigation Option	Priority for Analysis	Potential GHG Emissions Reduction	Potential Cost or Cost Savings	Ancillary Impacts, Feasibility Considerations	Notes
<b>ES-3</b>	<b>ADVANCED FOSSIL FUEL</b>					
3.1	Incentives for advanced coal, including IGCC and carbon capture and storage (CCS)		H	M/H		Need to consider advanced pulverized coal technologies (input from 11 April meeting)
3.2	Incentives for CO2 pipelines for CCS		H	H		
3.3	Fuel Cell Development Incentives		U	U		
3.4	Combined H2/electricity production from fossil fuels with sequestration		Hi	H		
3.5	Research and Development (R&D)		U	U		
<b>ES-4</b>	<b>NUCLEAR</b>					
4.1	New Nuclear Capacity and Licensing		L/H	M/H		
4.2	Nuclear Plant Relicensing		Zero?			
4.3	Nuclear Plant Upgrading		Zero?			
<b>ES-5</b>	<b>OTHER ELECTRICITY MEASURES</b>					
5.1	Efficiency Improvements and Repowering Existing Plants		U	U		
5.2	Transmission System Upgrading		U	U		

Option No.	Climate Mitigation Option	Priority for Analysis	Potential GHG Emissions Reduction	Potential Cost or Cost Savings	Ancillary Impacts, Feasibility Considerations	Notes
5.3	Reduce Transmission and Distribution Line Loss					
<b>ES-6</b>	<b>EMISSIONS POLICIES</b>					
6.1	CO2 Tax		H	L/H		
6.2	GHG Cap and Trade		H	L/H		
6.3	Generation Performance Standards		H	L/H		
6.4	GHG Offset/mitigation requirements for new power plants		M/H	L/H		
6.5	GHG Offset/mitigation requirements for existing power plants		H	L/H		
6.6	Voluntary Utility CO2 Targets		L/M	L		
6.7	Rate restructuring					Added based on input from 11 April meeting
<b>ES-7</b>	<b>EDUCATION/AWARENESS</b>					
7.1	Brownfield Re-development		U	U		
7.2	Environmental (emissions) Disclosure		U	U		
7.3	Public Education		U	U		