



South Carolina Climate, Energy & Commerce Advisory Committee

Meeting #6

April 4, 2008

Office of the Governor

The Center for Climate Strategies

Welcome and Introductions

- Governor's Office
- Chairman, Rep. Ben Hagood
- State Agencies
- Climate, Energy & Commerce Advisory Committee (CECAC)
- Members of the Public
- Center for Climate Strategies

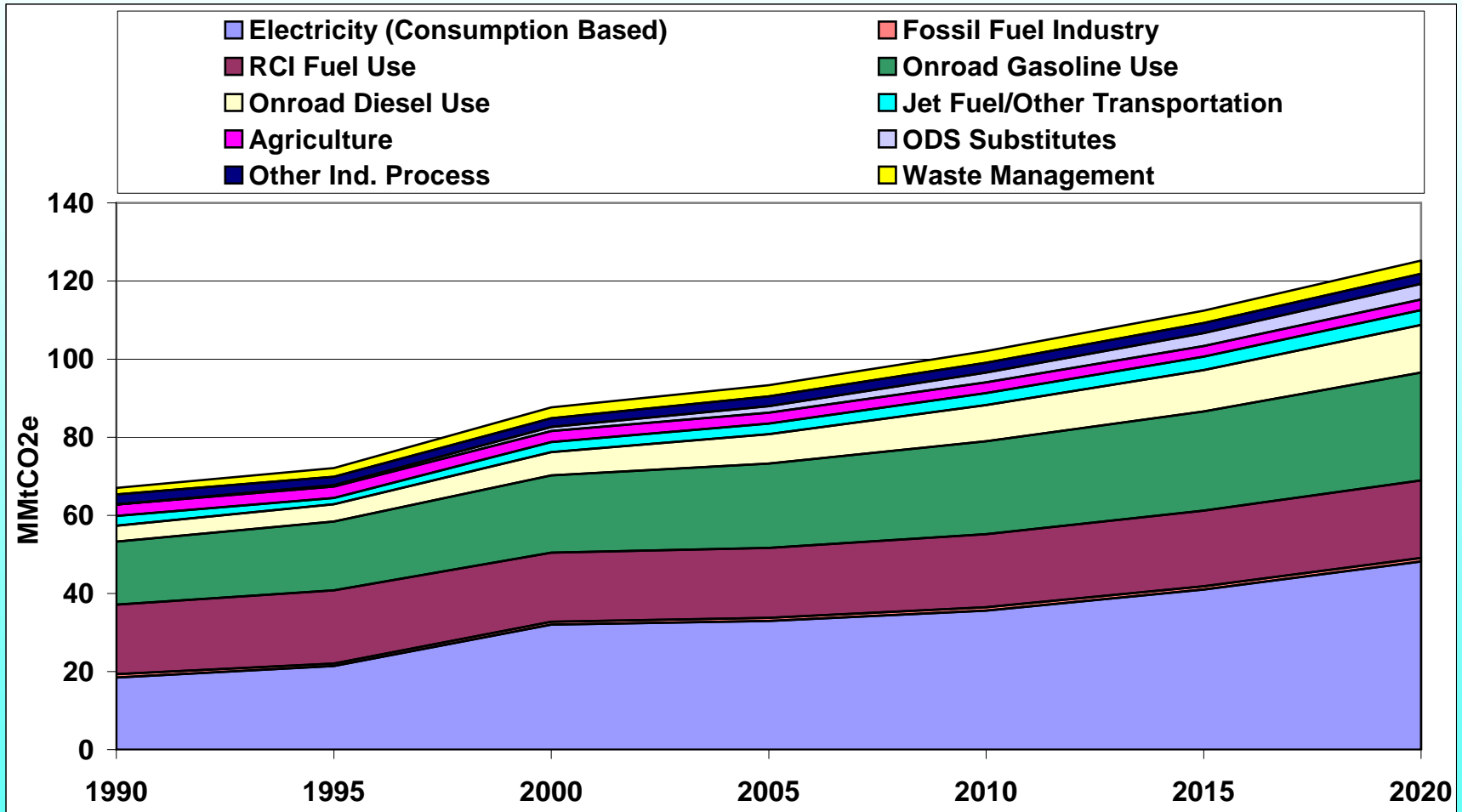
Agenda

- Introductions and review of day's agenda
- Approval of draft summary of CECAC Meeting #5
- Date and Time for Next Meeting
- Review and approval of South Carolina's Draft GHG Inventory and Forecast
- Review of CECAC progress and results
- Review and approval of draft policy options
- Next Steps for CECAC and Technical Work Groups (TWGs)
- Agenda for CECAC Meeting #7
- Public Input and Announcements

Date for Remaining CECAC Meeting

- Meeting #7 (Final Meeting)
 - Friday, May 9, 2008
 - Time – 9:00 am – 6:00 pm

Gross SC GHG Emissions By Sector, 1990-2020



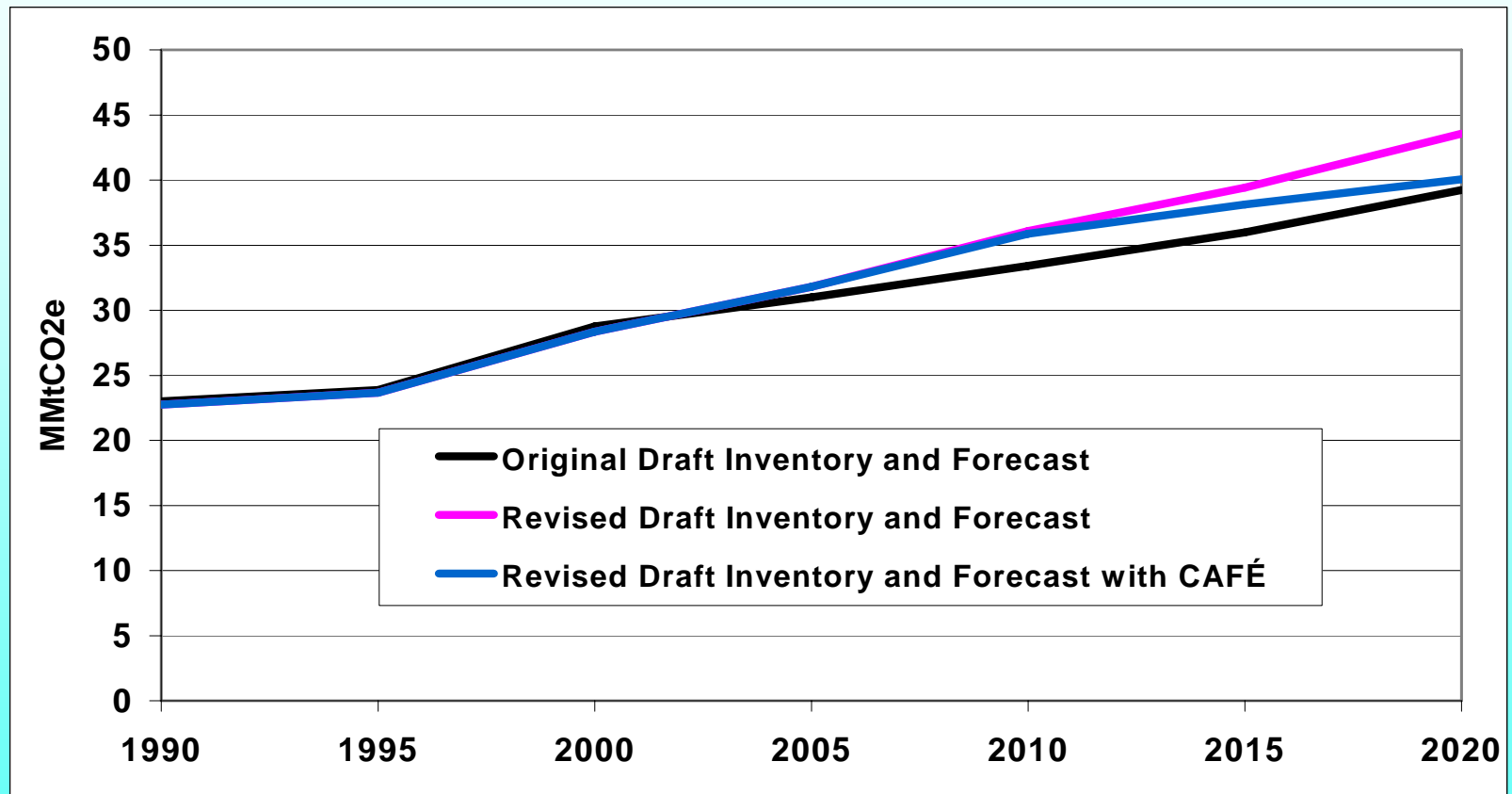
SC Inventory & Forecast Update

- Electricity Supply
 - Incorporated 2003 SC utility baseline data, sales forecast, fuel mix, and line losses
- RCI Direct Fuel Use
 - Incorporated latest EIA State Energy Data for SC through 2005
- Transportation
 - Incorporated VMT forecast using SC DOT data
- Industrial Processes
 - Incorporated revised EPA forecast for ODS substitutes and electric power transmission & distribution

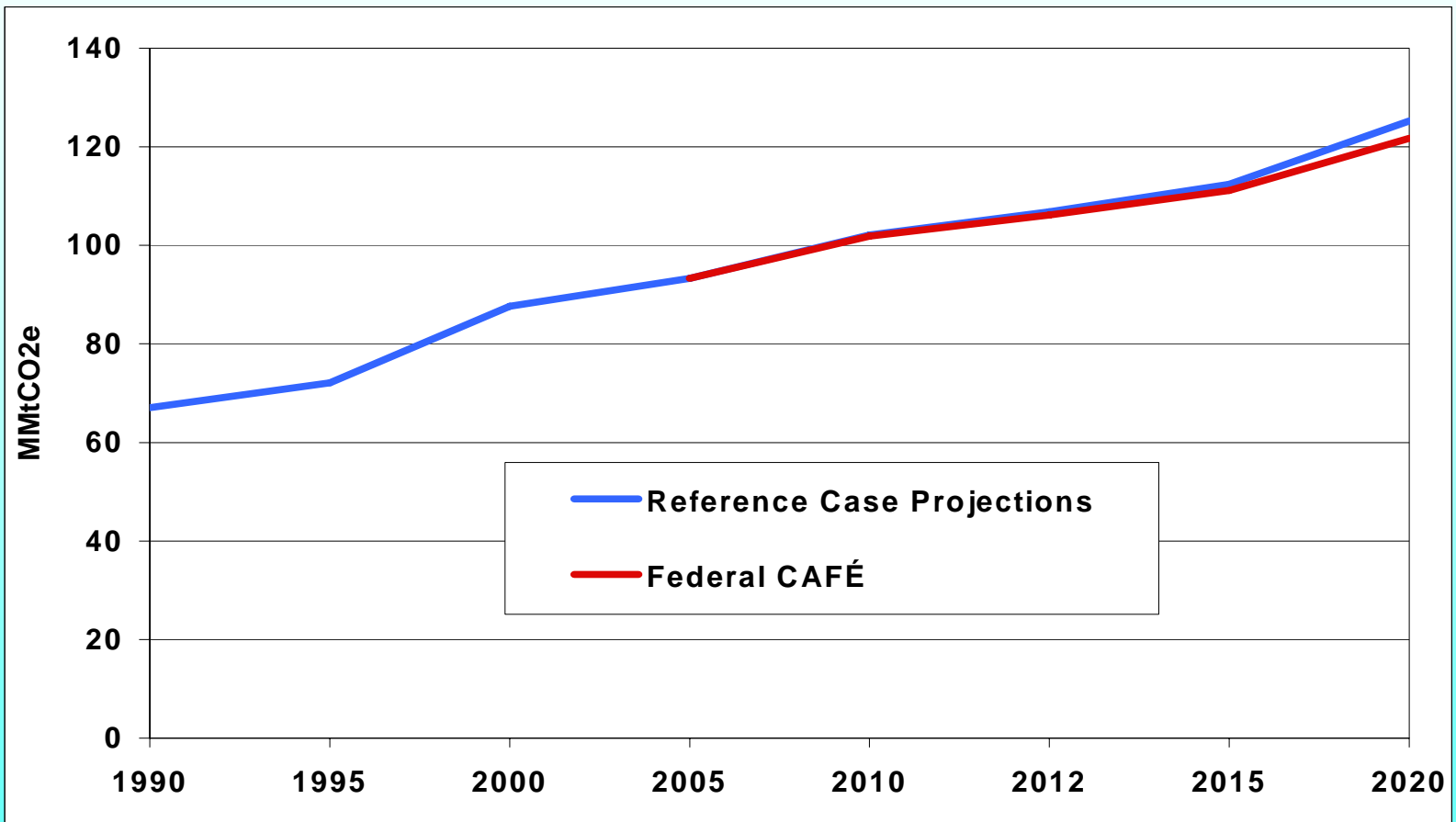
SC Inventory & Forecast Updates

- Additional Considerations:
 - Energy Independence and Security Act of 2007:
 - Quantification of reductions for Corporate Average Fuel Economy (CAFE) requirements
 - Energy efficiency requirements
 - Transportation
 - Forecast - Change fuel economy values used to convert VMT to fuel consumption
 - Original forecast based only on new vehicles versus
 - Revised forecast based on new and existing vehicle mix
 - Inventory - Include State Energy Data (SED) for 2003-2005 that is now available from EIA
 - Natural Gas Consumed as Pipeline Fuel
 - Added to Fossil Fuel Production Industry sector using SED for inventory and growth rate for natural gas transmission and distribution (1.4%/year)

SC Transportation Inventory and Forecast (Draft)



GHG Reductions – Federal CAFÉ Requirements (Consumption Basis, Gross Emissions)



CECAC Actions

Draft Results – Gross Emissions

Consumption Basis - Gross Emissions								
	1990	1995	2000	2005	2010	2012	2015	2020
Projected GHG Emissions	67.0	72.1	87.7	93.3	102.1	106.8	112.4	125.3
Reductions from Existing Actions				0.0	0.2	0.6	1.3	3.5
Projected GHG Emissions After Existing Actions				93.3	101.9	106.2	111.1	121.7
Total GHG Reductions from CECAC Policies						15.9	38.4	76.0
Projected Emissions After Quantified CECAC Reductions						90.9	75.3	49.2
Production Basis - Gross Emissions								
	1990	1995	2000	2005	2010	2012	2015	2020
Projected GHG Emissions	63.7	69.0	83.3	88.3	97.6	101.3	107.5	118.9
Reductions from Existing Actions				0.0	0.2	0.6	1.3	3.5
Projected GHG Emissions After Existing Actions				88.3	97.4	100.6	106.2	115.4
Total GHG Reductions from CECAC Policies						15.9	38.4	76.0
Projected Emissions After Quantified CECAC Reductions						85.4	69.5	42.9

CECAC Actions

Draft Results – Net Emissions

Consumption Basis - Net Emissions								
	1990	1995	2000	2005	2010	2012	2015	2020
Projected GHG Emissions	38.4	43.5	59.0	64.7	73.5	78.2	83.8	96.6
Reductions from Existing Actions				0.0	0.2	0.6	1.3	3.5
Projected GHG Emissions After Existing Actions				64.7	73.3	77.5	82.5	93.1
Total GHG Reductions from CECAC Policies						15.9	38.4	76.0
Projected Emissions After Quantified CECAC Reductions						62.3	46.7	20.6
Production Basis - Net Emissions								
	1990	1995	2000	2005	2010	2012	2015	2020
Projected GHG Emissions	35.0	40.3	54.7	59.7	68.9	72.6	78.9	90.3
Reductions from Existing Actions				0.0	0.2	0.6	1.3	3.5
Projected GHG Emissions After Existing Actions				59.7	68.7	72.0	77.6	86.8
Total GHG Reductions from CECAC Policies						15.9	38.4	76.0
Projected Emissions After Quantified CECAC Reductions						56.8	40.8	14.3

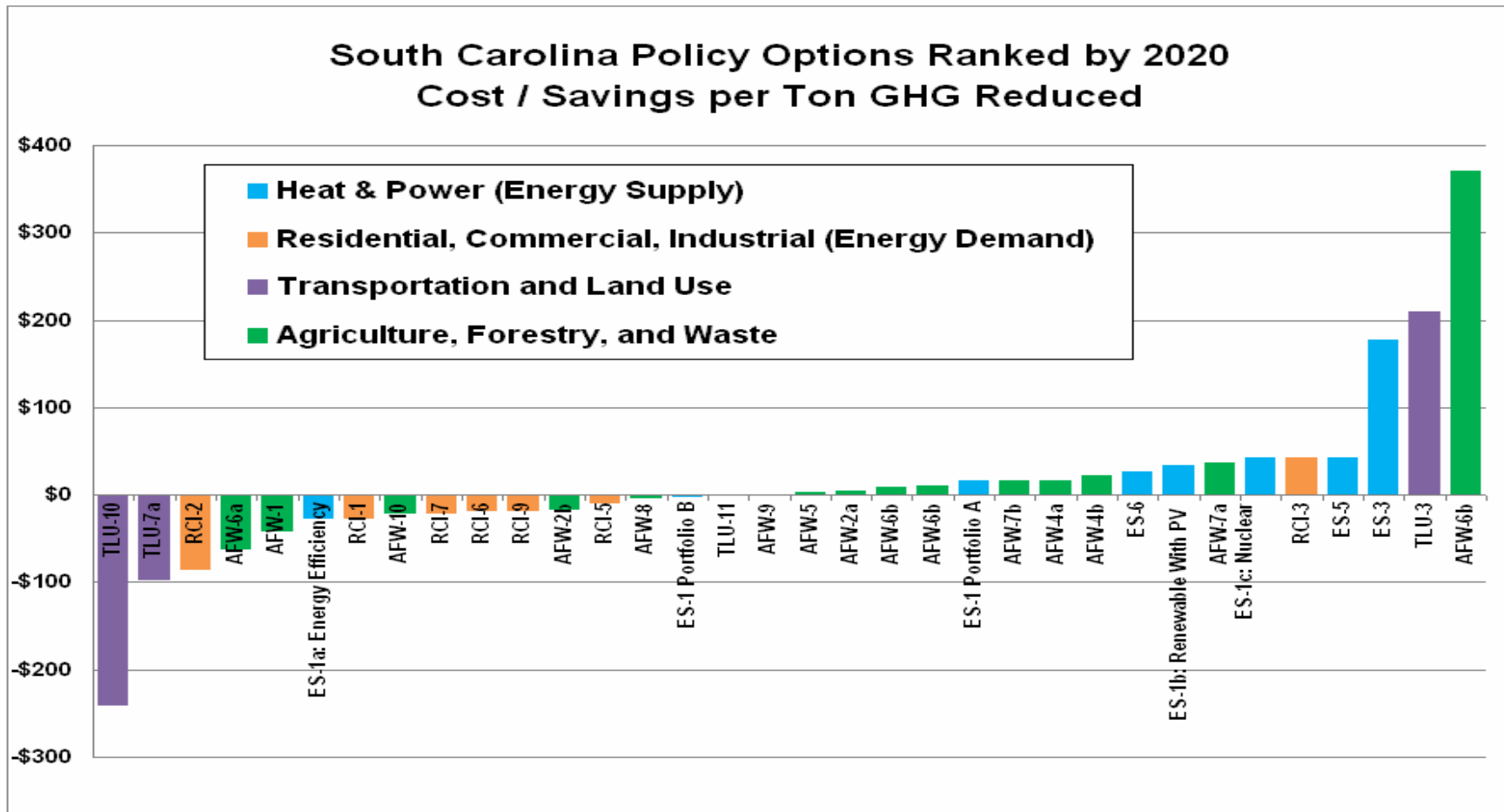
CECAC Actions

Draft Cumulative Results

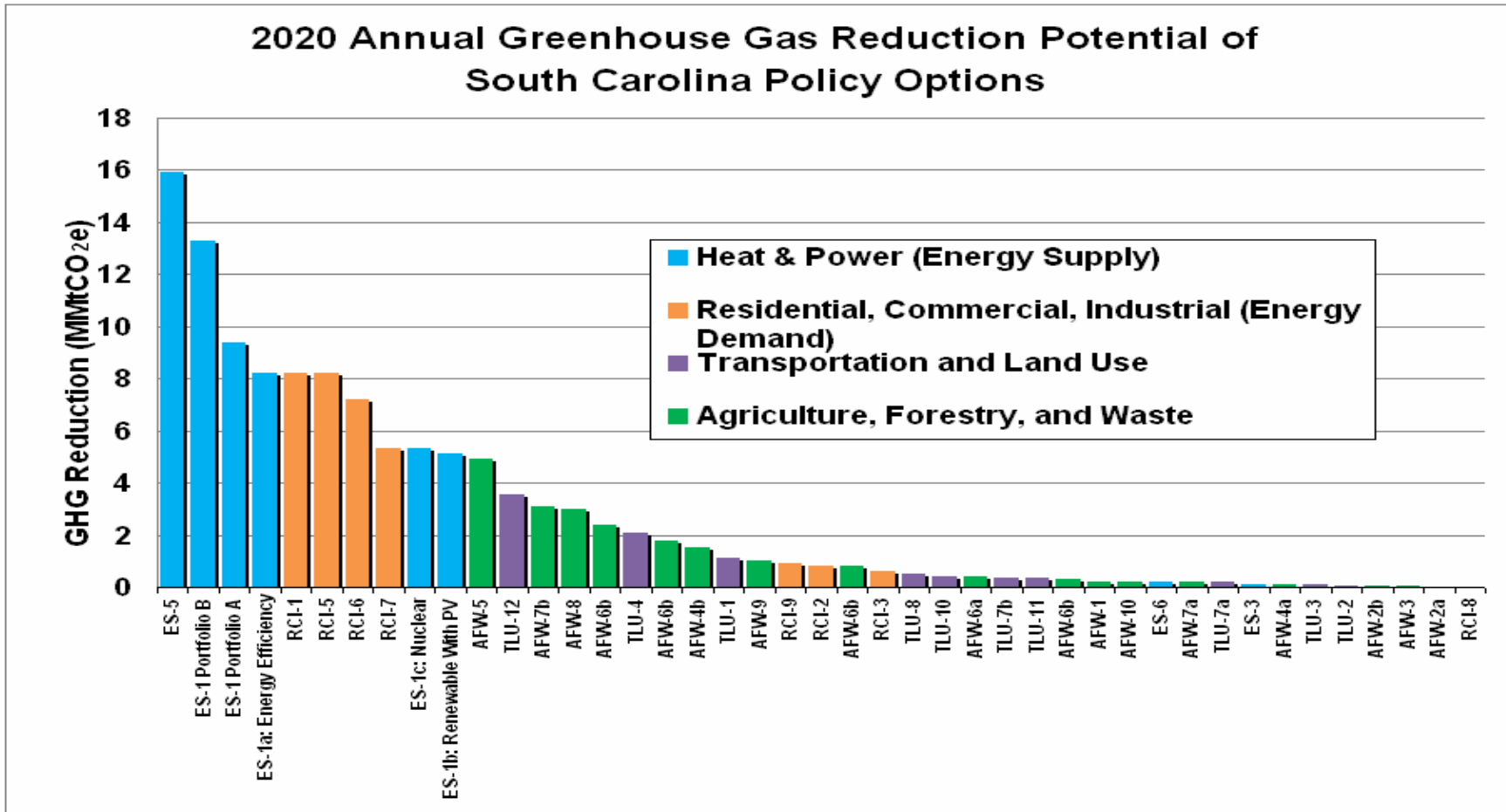
Sector	2012 MMtCO₂e	2020 MMtCO₂e	2008-2020 MMtCO₂e	Million\$ NPV 2008-2020	\$/MTCO₂e
RCI (Fuels; Non-Electric)	4.8	28.7	149.5	-\$2,610	-\$17
ES (Includes Adjustments for Overlaps with RCI)	1.4	21.3	89.3	\$3,595	\$40
TLU	0.86	5.95	27.20	-\$520	-\$19
AFW	8.75	20.07	146.75	\$5,108	\$35
CC					
Total	15.9	76.0	412.7	\$5,573	\$14

Negative values in the Net Present Value (NPV) and the Cost-Effectiveness (\$/MTCO₂e) columns represent net cost savings.

Draft SC GHG Supply Curve (Completed & Pending Options)



SC GHG Reductions 2020 (Completed & Pending Options)



Policy Option Template

- Policy Description
- Policy Design (Goals, Timing, Coverage)
- Types(s) of GHG Reductions
- Estimated GHG Reductions and Net Costs or 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

Transportation & Land Use

- TLU-1: Adopt California Clean Car Standards
- TLU-2: Transportation System Management
- TLU-3: Tax Credits for Efficient Vehicles
- TLU-4: Improve Development Patterns
- TLU-5: Transit & Bike-Pedestrian
- TLU-6: Alternative Fuel Infrastructure
- TLU-7: Diesel Engine Emission Reductions and Fuel Efficiency Improvements
- TLU-8: Stricter Enforcement of Speed Limits
- TLU-9: Make Full Use of CMAQ Funds

Transportation & Land Use

- TLU-10: Commuter Choice
- TLU-11: Explore Available Resources for Funding Road Maintenance and Mass Transportation
- TLU-12: Low-GHG Fuel Standard
- TLU-13: Freight Vehicle Technology Improvements
- TLU-14: Rail

Residential, Commercial, Industrial

- RCI-1: Demand-Side Management/Energy Efficiency Programs, Funds, or Goals for Electricity (including expansion of same) (Residential, Commercial, and Industrial)
- RCI-2: Demand-Side Management Energy Efficiency Programs, Funds, or Goals for Natural Gas, Propane, and Fuel Oil
- RCI-3: Incentives and Regulatory Reform To Promote Implementation of Renewable Energy Systems, Including Solar Hot Water (Residential, Commercial, and Industrial)
- RCI-5: Incentives, Resources, and Regulatory Reform To Promote Energy Recycling, Including Combined Heat and Power (Approved; subject to review of clarifying text)
- RCI-6: Incentives and Policies for Improving Building and Appliance Efficiency, Including Building Energy Codes
- RCI-7: Improved Design and Construction in New and Existing State and Local Government Buildings, “Government Lead by Example”
- RCI-8: Participation in Voluntary Industry-Government Partnerships (Including Incentives)

Break



Energy Supply

- ES-1: A thorough study of energy options for portfolio standards, including renewables, energy efficiency, nuclear power, waste to energy, landfill gas, offshore wind, and hydro
- ES-3: Renewable Energy (full range) financing, tax incentives, loans
- ES-4: Regulatory model to equalize utility earnings on energy efficiency with earnings on traditional power supply to allow investment in energy efficiency and renewable technologies to be considered in part with investment in new conventional capacity
- ES-5: New Nuclear Power, including reprocessing
- ES-8: Distributed renewable energy incentives and/or barrier removal (Including Interconnection Rules)

Agriculture, Forestry & Waste Management

- AFW-3: Expanded Use of Local Agricultural Products
- AFW-6: Terrestrial Carbon Sequestration
- AFW-7: Conservation and Restoration of Forest and Agriculture Lands for Enhanced Carbon Sequestration

Cross Cutting Issues

- CC-3: Statewide GHG Reduction Goals and Targets
- CC-4: State Government GHG Emissions (Lead-by-Example)

US State/Canadian Province GHG Reduction Goals/Targets

State, Province, or Region	1990-2020 GHG Forecast	State Goals	Climate Plan Coverage
Arizona	144%	<ul style="list-style-type: none"> • 2000 levels by 2020; 50% below by 2040 • 15% below 2005 levels by 2020 (WCI) 	106%
California	40%	<ul style="list-style-type: none"> • E.O.: 2000 level by 2010; 1990 by 2020; 80% below 1990 by 2050 • AB-32: 1990 levels by 2020 • 15% below 2005 levels by 2020 (WCI) 	100%
Colorado	71%	<ul style="list-style-type: none"> • 20% below 2005 level by 2020; 80% below by 2050 	75%
Connecticut	32%	<ul style="list-style-type: none"> • 1990 level by 2010; 10% below by 2020; 75% below by 2050 	100%
Florida	?	<ul style="list-style-type: none"> • 2000 level by 2017; 1990 level by 2025; 80% below 1990 by 2050 	?
Massachusetts	?	<ul style="list-style-type: none"> • 1990 level by 2010; 10% below by 2020; 75% below by 2050 	?
Maine	34%	<ul style="list-style-type: none"> • 1990 level by 2010; 10% below by 2020; 75% below by 2050 	100%
Maryland	52%	<ul style="list-style-type: none"> • 1990 level by 2020; 80% below 2006 levels by 2050 	TBD
Minnesota	48%	<ul style="list-style-type: none"> • Next Generation Energy Act: 15% below 2005 levels by 2015; 30% by 2025; 80% by 2050 	TBD
Montana	30%	<ul style="list-style-type: none"> • 1990 level by 2020; 80% below by 2050 (consumption & production) 	89%-105%
North Carolina	113%	?	TBD
NEG/ECP	?	<ul style="list-style-type: none"> • 1990 level by 2010; 10% below by 2020; 75% below by 2050 	TBD

US State/Canadian Province GHG Reduction Goals/Targets

State, Province, or Region	1990-2020 GHG Forecast	State Goals	Climate Plan Coverage
New Jersey	28%	<ul style="list-style-type: none"> E.O. 54: 1990 level by 2020; 80% below 2006 levels by 2050 	TBD
New Mexico	65%	<ul style="list-style-type: none"> 2000 level by 2012; 10% below by 2020; 75% below by 2050 15% below 2005 levels by 2020 (WCI) 	133%
New York	24%	<ul style="list-style-type: none"> 5% below 1990 by 2010 	?
Ontario	?	<ul style="list-style-type: none"> 6% below 1990 by 2014 	n/a
Oregon	61%	<ul style="list-style-type: none"> 10% below 1990 by 2020; 75% below 1990 by 2050 15% below 2005 levels by 2020 (WCI) 	85%
Puget Sound	37%	<ul style="list-style-type: none"> 1990 level by 2010; 10% below by 2020; 75% below by 2100 	100%
Rhode Island	35%	<ul style="list-style-type: none"> 1990 level by 2010; 10% below by 2020; 75% below by 2050 	100%
Vermont	26-59%	<ul style="list-style-type: none"> 25% below 1990 levels by 2012; 50% below 1990 by 2028; 75% below by 2050 	TBD
Utah	95%	<ul style="list-style-type: none"> 15% below 2005 levels by 2020 (WCI) 	TBD
Washington	40%	<ul style="list-style-type: none"> E.O.: 1990 levels by 2020; 25% below 1990 by 2035; 50% below 1990 by 2050 15% below 2005 levels by 2020 (WCI) 	TBD
WCI	54%	<ul style="list-style-type: none"> 15% below 2005 levels by 2020 (AZ, NM, CA, OR, UT, WA, BC, MB) 	TBD
British Columbia	69%	<ul style="list-style-type: none"> 15% below 2005 levels by 2020 (WCI) 	TBD
Manitoba	TBD	<ul style="list-style-type: none"> 15% below 2005 levels by 2020 (WCI) 	TBD

Next Steps

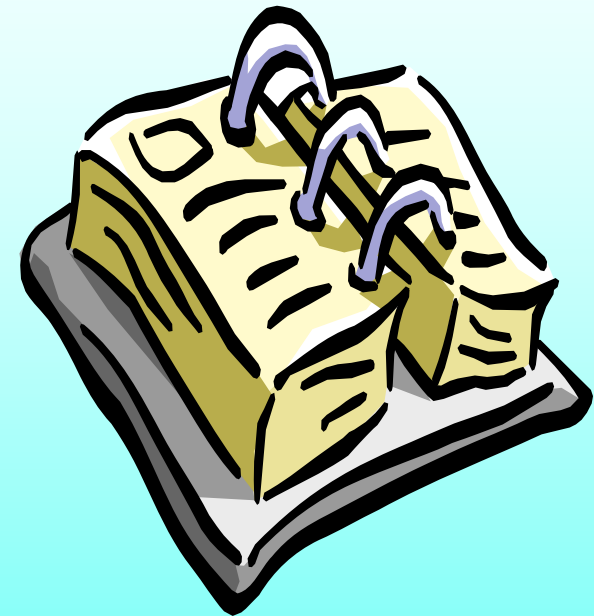
- TWGs
 - Revise and or complete quantification and other elements of the policy template
 - Review and approve updates to the draft inventory and forecast
- CECAC
 - Review and approve draft pending policy options
 - Review and approve inventory and forecast

Final Report Process

- Completion of policy templates, inventory and forecast report, based on CECAC meeting results
- Production of first draft of full report and appendices by CCS for CECAC review and comment
- Final draft completed by CCS for final review and comment
- Report transmitted by CCS to the Governor on behalf of CECAC

CECAC Meeting #7

- Date: May 9, 2008
- Agenda:
 - Review and approval of remaining draft pending CECAC policy options
 - Review and final approval of updates to the inventory and forecast
 - Discussion of final report



Public Input, Announcements