



Transportation and Land Use GHG Reduction Policy Options

Prepared for Technical Working Group (TWG) Call #2, May 5, 2006

Potential Emission Reductions <u>1/</u>	Potential Cost or Cost Savings <u>1/ 2/</u>
High (H): At least 1 Million Metric Tons (MMT) carbon dioxide equivalent (CO ₂ e) per year by 2020 (~1% of current NC emissions)	High (H): \$50 per Metric Ton CO ₂ e (MTCO ₂ e) or above
Medium (M): From 0.1 to 1 MMT CO ₂ e per year by 2020	Medium (M): \$5-50/MTCO ₂ e
Low (L): Less than 0.1 MMT CO ₂ e per year by 2020, or 1 MMT CO ₂ e by 2050	Low (L): Less than \$5/MTCO ₂ e
Uncertain (U): Not able to estimate at this time	Uncertain (U): Not able to estimate at this time
<p><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.</p> <p><u>2/</u> Costs are denoted by a positive number. Cost savings (i.e., “negative costs”) are denoted by a negative number.</p>	

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.

* 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.

Option No.	GHG Reduction Policy Option	Priority for Analysis	Potential GHG Emissions Reduction	Potential Cost or Cost Savings	Ancillary Impacts, Feasibility Considerations	Notes
TLU 1.	PASSENGER VEHICLE GHG EMISSION RATES					
TLU 1.1	Vehicle Technology					
TLU 1.1.1	Tailpipe GHG Emission Standards **					
TLU 1.1.2	ZEV/LEV-2 Implementation **					
TLU 1.1.3	R&D on Low-GHG Vehicle Technology (e.g., fuel cell)					
TLU 1.1.4	Add-on Technologies (Low Friction Oil, Low-Rolling Resistance Tires)					
TLU 1.2	Vehicle Operation					
TLU 1.2.1	Enforce Speed Limits					
TLU 1.2.2	Vehicle Maintenance, Driver Training					

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TLU	1.2.3	Transportation System Management					
TLU	1.3	Incentives & Disincentives					
TLU	1.3.1	Procurement of Efficient Fleet Vehicles **					
TLU	1.3.2	Feebates (state-specific or regional) **					
TLU	1.3.3	CO ₂ -based registration fees					
TLU	1.3.4	Tax Credits for Efficient Vehicles **					
TLU	1.3.5	Vehicle Scrappage					
TLU	2.	LAND USE AND LOCATION EFFICIENCY					
TLU	2.1	General					
TLU	2.1.1	Infill, Brownfield Re-development					
TLU	2.1.2	Transit-Oriented Development *					
TLU	2.1.3	Smart Growth Planning, Modeling, Tools **					
TLU	2.1.4	Targeted Open Space Protection					
TLU	3.	INCREASING LOW-GHG TRAVEL OPTIONS					
TLU	3.1	Increase Transportation Funding for Efficient Modes					
TLU	3.1.1	Make full use of CMAQ funds					
TLU	3.1.2	Improve Transit Service (frequency, convenience, quality) **					
TLU	3.1.3	Transit Marketing and Promotion *					

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TLU	3.1.4	Bike and Pedestrian Infrastructure					
TLU	3.1.5	Expand Transit Infrastructure (rail, bus, BRT) *					
TLU	3.1.6	HOV lanes					
TLU	3.1.7	"Fix-it-First"					
TLU	3.1.8	Transit Prioritization (signal prioritization, HOV lanes)					
TLU	3.1.9	Telecommute and Live-Near-Your-Work					
TLU	3.1.10	Car sharing					
TLU	3.1.11	E-Commerce					
TLU	3.2	Incentives & Disincentives					
TLU	3.2.1	Commuter Choice/Parking Cash Out					
TLU	3.2.2	VMT Tax					
TLU	3.2.3	Pay As You Drive Insurance					
TLU	3.2.4	Increased Fuel Tax (w/ targeted use of revenue towards travel alternatives)					
TLU	3.2.5	Location-Efficient Mortgages					
TLU	3.2.6	Congestion Pricing (or tolls) (w/ targeted use of revenue towards travel alternatives)					
TLU	3.2.7	Parking Pricing or Supply Restrictions					
TLU	3.2.8	Transit Repositioning					
TLU	3.2.9	Transit Pricing Incentives *					
TLU	3.2.10	VMT/GHG Offset Requirements for Large Developments					

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TLU	3.2.11	Benefits for Low GHG Vehicles (preferential parking, use of HOV lanes, tolls)					
TLU	3.3	Fuel Measures					
TLU	3.3.1	Low-GHG Fuel Standard (e.g., renewable)					
TLU	3.3.2	Renewable Fuels Motor Fuels Tax Exemption / credit					
TLU	3.3.3	Low-GHG Fuel for State Fleets (e.g., CNG, biodiesel) *					
TLU	3.3.4	Biofuel expansion (biodiesel, CNG, LPG, cellulosic ethanol)					
TLU	3.3.5	Alternative Fuel Infrastructure Development *					
TLU	4.	FREIGHT					
TLU	4.1	Vehicle Technology					
TLU	4.1.1	Vehicle Technology Improvements (e.g., aerodynamics)					
TLU	4.1.2	R&D on Low-GHG Vehicle Technology					
TLU	4.1.3	Low-sulfur diesel					
TLU	4.1.4	Black carbon control technologies (e.g., use of particulate traps, other complementary technologies) **					
TLU	4.2	Vehicle Operation					
TLU	4.2.1	Freight Logistics Improvements/GIS					
TLU	4.2.2	Enforce Speed Limits					
TLU	4.2.3	Improve Traffic Flow					

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TLU	4.2.4	Increased Size & Weight of Trucks					
TLU	4.2.5	Increase the Number of Rest Areas					
TLU	4.2.6	Pre-clearance at Scale Houses					
TLU	4.2.7	Truck Stop Electrification **					
TLU	4.2.8	Enforce Anti-Idling **					
TLU	4.3	Increasing Low-GHG Travel Options					
TLU	4.3.1	Intermodal Freight Initiatives **					
TLU	4.3.2	Feeder Barge Container Service					
TLU	4.4	Incentives & Disincentives					
TLU	4.4.1	Procurement of Efficient Fleet Vehicles (public, private or other)					
TLU	4.4.2	Incentives to Retire or Improve Older Less Efficient Vehicles					
TLU	4.4.3	Maintenance and Driver Training					
TLU	4.4.4	Increased Truck Tolls or Highway User Fees					
TLU	4.5	Intercity Travel: Aviation, High Speed Rail, Bus					
TLU	4.5.1	High-speed Rail					
TLU	4.5.2	Integrated Aviation, Rail, Bus Networks					
TLU	4.5.3	Aircraft emissions					
TLU	4.5.4	Airport Ground Equipment					

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TLU	4.6	Off-Road Vehicles (construction equipment, out-board motors, ATVs, etc)					
TLU	4.6.1	Incentives for Purchase of Efficient Vehicles/Equipment					
TLU	4.6.2	Improved Operations, Operator Training					
TLU	4.6.3	Maintenance Improvements					
TLU	4.6.4	Increased Use of Alternative Fuels or Low Sulfur Diesel					