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## TRANSPORTATION AND LAND USE SECTOR GHG REDUCTION POLICY OPTIONS

PREPARED FOR TWG CALL #3, OCTOBER 19, 2005, 8:30-10:00 A.M.

### Potential Emission Reductions \*

**High (H):** At least 1 Million Metric Tons (MMT) carbon dioxide equivalent (CO<sub>2</sub>e) per year by 2020 (~1% of current NM emissions)

**Medium (M):** From 0.1 to 1 MMT CO<sub>2</sub>e per year by 2020

**Low (L):** Less than 0.1 MMT CO<sub>2</sub>e per year by 2020

**Uncertain (U):** Not able to estimate at this time

### Potential Cost or Cost Savings \*

**High (H):** \$50 per Metric Ton CO<sub>2</sub>e (MTCO<sub>2</sub>e) or above

**Medium (M):** \$5-50/MTCO<sub>2</sub>e

**Low (L):** Less than \$5/MTCO<sub>2</sub>e

**Cost Savings:** Options that save money, i.e., that have “negative costs.”

**Uncertain (U):** Not able to estimate at this time

\* “Potential” here connotes rough initial estimate based in part on experience in other states. Also, several measures may overlap in terms of emissions reductions and/or cost impacts. Estimates assume measures would be implemented independently from other measures.

### 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 a double asterisk (\*\*) indicate options that are at least partially “base case” policies, i.e., that have been or are likely to be implemented at some level in New Mexico. Initial priorities from Call #2 (10/5/05) are marked in yellow.

Option No.	GHG Reduction Policy Option	Priority for Analysis	Potential GHG Emissions Reduction	Potential Cost or Cost Savings	Ancillary Impacts, Feasibility Considerations	Notes
<b>1.</b>	<b>PASSENGER SECTOR</b>					
<b>1.1</b>	<b>Vehicle Technology</b>					
	California GHG Emission Standards for Light-duty Vehicles	Not Applicable	H	L	New Mexico not eligible under CAA. Opinions vary sharply on cost. Legal challenge pending.	
	California LEV-2 Emission Standards (option: w/ or w/out Advanced Technology Component)	Not Applicable	L	L/M	New Mexico not eligible under CAA.	
	State R&D on Low-GHG Vehicle Technology (e.g., fuel cell)	M/L	L	?	Probably best coupled w/ federal dollars.	No State agency in NM is currently capable of this; could partner with Sandia Labs or piggyback on California R&D efforts. This option could be attractive for the long-term
	Promote Add-on Technologies (Low Friction Oil, Low-Rolling Resistance Tires)	tbd	L	Cost Savings/L	This measure has PR benefits; gets public involved; potential cost savings could get people doing this right away	
	Procurement of Efficient Fleet Vehicles**	H	M	Cost Savings/L		State already has directive from governor to do this, so State effort already underway. However, opportunity exists for local government fleets and private fleets to take initiative on this measure.
1.1.6-8	Incentive/Disincentive Options [To be analyzed as a bundle]	H				Group recommended bundling the next three options as an incentive/disincentive package, with an overall high priority ranking. Also noted that potential emission reductions could be higher depending on market penetration of options.

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	Feebates (state-specific or regional) <i>[Charge a fee on purchases of relatively high-emitting vehicles and give a rebate on the purchase of relatively low-emitting vehicles. Overall, fees/rebates are revenue neutral.]</i>	M	?	?	Considered in many states but not adopted.	Group has interest in revenue-neutral aspect of this option.
	GHG-based registration fees	M	L	?		NM already has registration system based on vehicle weight; could modify system to a GHG basis. Some concern for also factoring in vehicle use (e.g., commercial work vehicle versus personal use vehicle)
	Tax Credits for Fuel Efficient Vehicles**	H	L	?		Federal tax code provides tax credits for alternative fuel vehicles. State has tax exemptions for new hybrid vehicles. Interest in expanding current exemptions to a fuel economy (mpg) base.
1.1.9	Vehicle Scrappage	M	L	L/M		Pilots undertaken in several cities.
<b>1.2</b>	<b>Fuel</b>					
	Low-GHG Fuel Standards (e.g., minimum ethanol content)		H	L/M		
	Low-GHG Fuel for Public and/or Private Fleets (e.g., ethanol, biodiesel, compressed natural gas (CNG))**		M	L/M		
	Promote Expansion/Availability of Low-GHG Fuels (CNG, LPG, ethanol) **		L	L/M		

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	Expand Alternative Fuel Infrastructure Development (e.g. hydrogen, CNG)		L	?		
<b>1.3</b>	<b>Operation</b>					
	Enforce and/or Lower Speed Limits		L	?		
	Vehicle Maintenance, Driver Training		L	?		
	Transportation System Management		L	?		
<b>1.4</b>	<b>Demand – Land Use/Location Efficiency</b>					
	Infill, Brownfield Re-development **		H	?		
	Transit-Oriented Development		H	?		
	Smart Growth Planning, Modeling, Tools**		H	?		
	Targeted Open Space Protection		H	?		
	GHG Offset Requirements for Large Developments [ <i>Require developer to offset GHG emissions attributable to a development</i> ]		?	?		
<b>1.5</b>	<b>Demand – Transit Alternatives</b>					
	Make better use of CMAQ funds		L	L		
	“Fix-it-First” [ <i>Earmark transp. funds toward repair of existing transp. network before funding new transportation infrastructure</i> ]		L/M	?		
	Expand Transit Infrastructure (rail, bus), Improve Transit Marketing and Service (frequency, convenience, quality)		H	M/H		
	Integrated Aviation, Rail, Bus Networks		?	?		

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	Transit Prioritization (signal prioritization, HOV lanes)		L	?		
	Bike and Pedestrian Infrastructure		L	?		
	Telecommute and Live-Near-Your-Work		L	?		
	Car sharing / pooling		L	?		
	E-Commerce		L	?		
	Employer-provided Commuter Incentives (transit passes, , vanpools, preferential parking) <i>[includes "Parking Cash Out" -- an employer that offers free parking also offers the parking subsidy in cash]</i>		L	?		
1.5.11	Low speed vehicles and infrastructure <i>[mostly electric bikes with maximum speed of 25 mph; highly efficient; can only travel on roads with speed limits of 35 mph or lower]</i>					
1.5.12	Support for State funding of public transportation <i>[e.g., dedicated revenue stream to subsidize operations]</i>					
<b>1.6</b>	<b>Demand – Market Mechanisms</b>					
	VMT Tax <i>[tax on miles driven]</i>		L/M	?		
	Pay As You Drive Insurance <i>[part of a vehicle's insurance premium is determined by annual miles driven]</i>		?	?		Revenue neutral to drivers as a whole
	Increased Fuel Tax (w/ targeted use of revenue towards travel alternatives)		L	?		
	Congestion Pricing (or tolls) (w/ targeted use of revenue towards travel alternatives)		?	?		

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	Parking Pricing or Supply Restrictions		?	?		
	Benefits for Low GHG Vehicles (e.g., preferential parking, use of HOV lanes)		?	?		
<b>2.</b>	<b>FREIGHT</b>					
<b>2.1</b>	<b>Technology</b>					
	Vehicle Technology Improvements (e.g., engines, aerodynamics)		L	?		New EPA emission standards for heavy-duty engines take effect in 2007.
	Voluntary diesel retrofit program		L	L/M		See EPA National Clean Diesel Campaign
	Black carbon control technologies (e.g., use of particulate traps, other complementary technologies)		?	M	Large co-benefits in PM reduction	
	Procurement of Fuel Efficient Fleet Vehicles (public, private or other)		M	Cost Savings/L		
	Incentives to Retire or Improve Older Less Efficient Vehicles		L	L		
<b>2.2</b>	<b>Fuel</b>					
	Promote and/or Require Low-sulfur diesel		L	H		New EPA low-sulfur diesel stds take effect in 2006.
	Low-GHG Fuel Standards (e.g., minimum biodiesel content)		L	?		
	Promote Expansion/Availability of Biodiesel, CNG		L	?		
<b>2.3</b>	<b>Vehicle Operation</b> <i>[these options sometimes bundles for analysis]</i>					
	Freight Logistics Improvements/GIS		L	Cost Savings/L		
	Enforce Speed Limits		L	?		
	Improve Traffic Flow		L	?		
	Increased Size & Weight of Trucks		L	?		
	Pre-clearance at Scale Houses		L	?		

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	Promote Truck Stop Electrification <i>[reduces idling]</i>		L	M		
	Maintenance and Driver Training <i>[to improve fuel efficiency]</i>		L	Cost Savings/L		
	Enforce Anti-Idling		L	Cost Savings/L		
<b>2.4</b>	<b>Demand</b>					
	Intermodal Freight Initiatives <i>[increase rail use through better intermodal connections]</i>		L	?		See e.g. EPA SmartWay program
	Increased Truck Tolls or Highway User Fees		?	?		
<b>3. AVIATION, OFF-ROAD</b>						
<b>3.1</b>	<b>Aviation</b>					
	Aircraft emissions <i>[improved operation of aircraft and runway management]</i>		L	?		
	Use of Alternate Fuels in Airport Ground Equipment		L	?		
<b>3.2</b>	<b>Off-Road Vehicles (construction equipment, out-board motors, ATVs, etc)</b>					
	Incentives for Purchase of Efficient Vehicles/Equipment		L	?		
	Improved Operations, Operator Training		L	?		
	Maintenance Improvements		L	?		
	Increased Use of Alternative Fuels or Low Sulfur Diesel		L	?		