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RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL SECTOR GHG REDUCTION POLICY OPTIONS

PREPARED FOR TECHNICAL WORKING GROUP (TWG) CALL #2, OCTOBER 4, 2005, 2:00 TO 3:30 PM

Indicative Potential Emission Reductions* -	Indicative cost (\$/tCO₂e)
High (H): Potentially capable of saving at least 1 Million Metric Tons CO ₂ e per year by 2020 (~1% of current NM emissions)	High (H): \$50/tCO ₂ e or above
Medium (M): Potentially capable of saving from 0.1 to 1 Million Metric Tons CO ₂ e per year by 2020	Medium (M): \$5-50/tCO ₂ e
Low (L): Unlikely to yield more than 0.1 Million Metric Tons CO ₂ e per year by 2020	Low (L): \$5/tCO ₂ e or lower
Uncertain (U): Too many unknowns to estimate at this time	Negative (Neg): Cost Savings

* Several measures may overlap in terms of the emissions reductions. Estimates assume measures would be implemented independently from other measures.

Indication of Priorities:

- **High:** High priority items are deemed deserving of considerable further analysis.
- **Medium:** Medium priority items will be carried forward, with the extent of further consideration and analysis to be determined later.
- **Low:** Low priority items will be moved to a separate list as options to be potentially considered at a later time.

** Options marked with a double asterisk in the matrix indicate policies that have been considered or undertaken at some level in New Mexico. Please see <http://www.nmclimatechange.us/ewebeditpro/items/O117F6957.pdf> for an initial, non-comprehensive sampling of such policies as they relate to the policy option categories listed below.

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		Priority: High, Med, Low	Implement. Level	Potential Emission Reductions	Cost (\$/tCO ₂ removed)	Co-benefits, Feasibility Considerations
1.	Energy Efficiency Programs, Funds, and Goals					
1.1	Utility Demand Side Management (DSM) Programs for electricity, natural gas, propane, fuel oil**		Utility	High	Negative/ Low	<ul style="list-style-type: none"> • Co-benefits include transmission/distribution system costs reduction. • Significant potential overlap with many other options.
1.2	Energy Efficiency Funds (e.g. Public Benefit Funds) administered by State agency, utility, or 3rd party (e.g. Energy Trust)**		State	High	Negative/ Low	[As above]
1.3	Energy Efficiency Requirements (e.g. Utility Savings Goals or Energy Portfolio Standards)**		State, utility	High	Negative/ Low	[As above]
1.4	Market transformation and technology development programs		Federal, State, local	High	Negative/ Low	
2.	Appliance Standards					
2.1	Expansion of State-level Appliance Efficiency Standards		State, regional	Low/High	Negative/ Low	<ul style="list-style-type: none"> • Feasibility enhanced by adopting regional standards
2.2	Support for Federal-level Appliance Efficiency Standards		State, regional	Low/High	Negative/ Low	<ul style="list-style-type: none"> • Potential overlap with previous option

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3.	Buildings					
3.1	Improved Building Codes**		Local	Medium/ High	Negative/ Low	<ul style="list-style-type: none"> • Potential to also yield water savings, comfort/air quality improvements.
3.2	Promotion and Incentives for Improved Design and Construction (e.g. LEED, green buildings)**		State, local	Medium/ High	Negative/ Low	<ul style="list-style-type: none"> • Potential overlap with previous option [co-benefits as above]
3.3	Contractor and Builder Education (e.g.: Proper sizing of HVAC, duct sealing)**		Local	Medium/ High	Negative/ Low	[As above]
3.4	Training and Enforcement of Building Codes**		State, local	Medium	Negative/ Low	[As above]
3.5	Building Commissioning and Recommissioning, including energy tracking and benchmarking**		State, local	Medium	Negative/ Low	[As above]
3.6	Energy Management Training/ Training of Building Operators**		State, local	Medium	Negative/ Low	[As above]
3.7	Increased use of blended cement (substituting fly ash or other pozzolans for clinker reduces CO ₂ emissions)		State, local, industry	Low/ Medium	Negative/ Low	<ul style="list-style-type: none"> • May provide modest avoided waste disposal co-benefit, depending on standard practice
3.8	Reduction of emissions from diesel engines used in new construction developments		Local, builders	Low	Low?	
4.	Education and Outreach					
4.1	Consumer education programs		State, local	Uncertain	Negative/ Low	<ul style="list-style-type: none"> • Potential contribution difficult to estimate
4.2	Introduce in School Curriculum		State, local	Uncertain	Negative/ Low	[As above]

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5.	Pricing and Purchasing					
5.1	Green Power Purchasing**		Utilities	Uncertain	Medium/ High	<ul style="list-style-type: none"> • Interaction with RPS option.
5.2	Bulk Purchasing Programs for Energy Efficiency or other Equipment (Public or Private sector)		State, local	Low/ Medium	Negative/ Low	<ul style="list-style-type: none"> • May interact with utility programs.
5.3	Net-metering policies**		State, local, utilities	Low/ Medium	Negative/ Low	
5.4	Time of Use Rates		State, utilities	Low	Negative/ Low	<ul style="list-style-type: none"> • Significant utility system co-benefits
6.	Technology Specific Policies					
6.1	Incentives for Renewable Energy Applications (Solar roofs, water heaters, etc.)**		State, utilities	High	Medium/ High	<ul style="list-style-type: none"> • Programs could help to lower capital and installation costs
6.2	Clean Combined Heat and Power		State, utilities, industries	High	Negative - Medium	<ul style="list-style-type: none"> • Cost dependent on price of natural gas • Interconnection an issue • Utility system co-benefits.
6.3	Promotion and Tax or Other Incentives (e.g. ENERGYSTAR, credits for solar hot water)**		State, utilities	Medium/ High	Negative/ Low	<ul style="list-style-type: none"> • Interaction with appliance standards, utility programs.
6.4	Appliance Recycling/Pick-Up Programs		State, local, utilities	Low	Negative/ Low	<ul style="list-style-type: none"> • Long-term impact uncertain
6.5	White Roofs, Rooftop Gardens, and Landscaping (including Shade Tree Programs)		Local??	Medium/ High	Negative/ Low	<ul style="list-style-type: none"> • Results likely to vary substantially with design
6.6	Focus on specific end-uses/technologies: window AC units, lighting, water heating, plug loads, networked PC management, power supplies, motors, pumps, boilers, etc). Consumer products programs, may include incentives, retailer training, marketing and promotion, education, etc.**		State, local, utilities	(Individually Low to High)	Negative/ Low	<ul style="list-style-type: none"> • Interaction with appliance standards, utility programs.

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7.	Non-Energy Emissions (HFCs, PFCs, SF₆, CO₂ process Emissions					
7.1	Participation in Voluntary Industry-Government Partnerships**		State, industries	Uncertain	Negative/ Low	
7.2	Process Changes/ Optimization		State, industries	Uncertain	Uncertain	• Impact, cost likely highly process-specific.
7.3	Leak Reduction /Capture, Recovery and Recycling of Process Gases		State, industries	Medium	Uncertain	
7.4	Use of Alternative Gases (other HFCs, hydrocarbon coolants, etc.)		Federal, state, industries	Medium/ High	Low/ Medium	
7.5	Cement Industry: use of alternative fuels		State, industries	Uncertain	Low/ Medium	
8.	GHG Emissions-Specific Goals and Policies					
8.1	Support for switching to less carbon-intensive fuels (coal and oil to natural gas or biomass)		State, utilities	Medium/ High	Negative - Medium	• Cost dependent on relative fuel prices
8.2	Industry-Specific Emissions Cap and Trade Programs		State, industries	Medium/ High	Low/ Medium	• Highly dependent on specification of trading systems
8.3	Voluntary emissions targets		Industries	Uncertain	Uncertain	
8.4	Negotiated Emissions or Energy Savings Agreements		Uncertain	Uncertain	Uncertain	

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9.	Other					
9.1	Government Agency Requirements and Goals (including procurement)**		Federal, state, local	Uncertain	Negative/Low	• Potential overlap with other options
9.2	Focus on specific market segments: existing homes (weatherization), new construction, apartments, low income, etc.**		State, local, utilities	Medium/High	Negative/Low	• Potential overlap with other options
9.3	Reinvestment Fund		State, local	Uncertain	Negative/Low	• Potential overlap with other options
9.4	Municipal Energy Management		Local	Uncertain	Uncertain	• Potential overlap with other options
9.5	Focus on Small and Medium Enterprises (SMEs)**		State, local, utilities	Uncertain	Uncertain	• Potential overlap with other options
9.6	Industrial ecology/ by-product synergy		Industries	Uncertain	Uncertain	
9.7	Facilitate activities of ESCOs in Public Sector energy efficiency projects**		State, local	Uncertain	Uncertain	• Potential overlap with other options
10.	Solid Waste and Wastewater Management					
10.1	Solid Waste Source Reduction		Local	Medium/High	Uncertain	
10.2	Solid Waste Recycling		Local	Medium/High	Uncertain	• Materials recovery, reduction of energy requirements for raw materials production
10.3	Separation and Composting of Organic Materials in Solid Wastes		Local	Uncertain	Uncertain	• Co-production of soil amendments
10.4	Capture/Use in buildings or industry of Methane from Landfills		Local	Uncertain	Uncertain	• Fossil fuel displacement a co-benefit
10.5	Capture/Use of Methane from Wastewater Treatment		Local	Uncertain	Uncertain	• Fossil fuel displacement a co-benefit
	(Additional option, if/as suggested)					