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MATRIX OF GHG REDUCTION POLICY OPTIONS IN THE RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL (RCI) SECTOR

Note: The following initial and illustrative matrix of policy options for reducing greenhouse gas emissions in the Residential, Commercial, and Industrial sectors provides, in addition to the basic categories for consideration, notes on Examples of current Activities related to some of the options. The listing of Examples of options is not meant to be exhaustive. The information in the notes on Examples of options were developed from conversations with various experts and officials, combined with a review of several key sources:

A1/NMED Haze SIP report – *Revision to the New Mexico State Implementation Plan for Regional Haze*, Air Quality Division, Environmental Protection Division, New Mexico Environment Department, December 31, 2003.

http://www.nmenv.state.nm.us/aqb/reghaz/Final/NMRHSIP_123103_noappx.pdf.

A2/SWEEP website – Southwest Energy Efficiency Project website, information downloaded March 22, 2005.

<http://www.swenergy.org/programs/arizona/index.html>

A3/DSIRE website - Database of State Incentives for Renewable Energy (2005 Status), information downloaded March 22, 2005.

<http://www.dsireusa.org/library/includes/map.cfm?State=AZ&CurrentPageId=1>.

A4/Presentation by Chris Wentz, Director, Energy Conservation and Management Division, NM Energy, Minerals & Natural Resources Department, *Clean Energy and Global Climate Change in New Mexico*, dated April 6, 2005, and notes for the presentation provided by Chris Wentz.

GUIDE TO NOTATIONS

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 (?): Too many unknowns to hazard a guess	Negative (Neg): option yields net benefits
* Several measures overlap in terms of the emissions they would reduce. They may target the same emissions sources, but using different implementation pathways. The estimates shown here assume that measures would be implemented independently from, or instead, of other measures.	

		Priority: High, Med, Low	Implement. Level & Lead	Potential Emission Reductions	Indicative Cost (\$/tCO ₂ removed)	Listing of Co-benefits, Feasibility Considerations, and Other Factors, plus Examples of Current Activities (currently only Examples are included here)
1.	Energy Efficiency Programs, Funds, and Goals					
1.1	Utility Demand Side Management (DSM) Programs for electricity, natural gas, propane, fuel oil					see 1.3 Xcel energy provides low interest loans of up to \$500,000 are offered for the purchase and installation of energy efficient equipment [reference A1]
1.2	Energy Efficiency Funds (e.g. Public Benefit Funds) administered by State agency, utility, or 3rd party (e.g. Energy Trust)					see 1.3
1.3	Energy Efficiency Requirements (e.g. Utility Savings Goals or Energy Portfolio Standards)					- Efficient Use of Energy Act (SB 644) --directs public electric and gas utilities to develop, fund and implement comprehensive, cost-effective energy efficiency programs to reduce utility-related expenditures for citizens and businesses; declares that utility expenditures on cost-effective energy efficiency measures are an acceptable use of ratepayer monies; requires a utility to obtain prior approval for its energy efficiency programs and expenditures; provides for a tariff rider (not to exceed the lesser of 1.5% of a customer's bill or \$75,000/year) for a utility to recover its energy efficiency expenditures; provides for monitoring, verification, and periodic reporting by the utility on its energy efficiency expenditures and overall program effectiveness. [Reference A4]
1.4	Market transformation and technology development programs					

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2.	Appliance standards					
2.1	Expansion of State-level Appliance Efficiency Standards					
2.2	Support for Federal-level Appliance Efficiency Standards					
3	Buildings					
3.1	Improved Building Codes					In 2004, New Mexico updated both the Residential and Commercial building codes to International Energy Conservation Code 2003
3.2	Promotion and Incentives for Improved Design and Construction (e.g. LEED, green buildings)					Governor's Green Building task force
3.3	Contractor and Builder Education (e.g.: Proper sizing of HVAC, duct sealing)					State provides technical assistance to contractors and homeowners. Several grants have been obtained from DOE to assist with training and the development of compliance materials. [See http://www.emnrd.state.nm.us/ecmd/html/codes.htm]
3.4	Training and Enforcement of Building Codes					see 3.3
3.5	Building Commissioning and Recommissioning, including energy tracking and benchmarking					State Government Energy Management Program - database maintained at State Energy Office that track utility usage by state agencies. State Government Energy Managers' Working Group [Reference A4]
3.6	Energy Management Training / Training of Building Operators					Rebuild New Mexico provides information and technical assistance to help public and private sector building owners and managers implement energy saving projects. State Government Energy Managers' working group [Reference A3]
3.7	Increased use of blended cement (substituting fly ash or other pozzolans for clinker reduces CO ₂ emissions)					
3.8	Reduction of emissions from diesel engines used in new construction developments					

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4	Education and Outreach					
4.1	Consumer education programs					
4.2	Introduce in School Curriculum					
5	Pricing and Purchasing					
5.1	Green Power Purchasing					Mandatory Green Power Program - On December 17, 2002, the New Mexico Public Regulation Commission (NMPRC) unanimously approved an expansive new renewable energy rule. The rule requires utilities to offer a voluntary renewable energy tariff (green pricing option for customers) and to develop an educational program communicating the benefits and availability of this option. Electric cooperatives are only required to provide the green pricing option to the extent that their suppliers make such renewable resources available under their all-requirements contracts. El Paso Electric, Los Alamos, Public Service NM, Tri-state and Xcel offer Green Power programs. [See http://www.eere.energy.gov/greenpower/markets/pricing.shtml?page=1]
5.2	Bulk Purchasing Programs for Energy Efficiency or other Equipment (Public or Private sector)					
5.3	Net-metering policies					· Net Metering of Renewable Energy Resources (SB 1006) -- requires electric utilities to allow net-metering of larger (10-100 kilowatts) customer-owned clean energy generators such as solar photovoltaic systems; the credit to a customer-generator is the wholesale rate. [Reference A4]
5.4	Time of Use Rates					

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6	Technology Specific Policies					
6.1	Incentives for Renewable Energy Applications (Solar roofs, water heaters, etc.)					· Income Tax Exemptions for Certain Taxpayers (HB 410 HB950) --expands criteria for eligibility for the Renewable Energy Production Tax Credit (Section 7-2A-19, NM Statutes Annotated). [Reference A4]
6.2	Clean Combined Heat and Power					
6.3	Promotion and Tax or Other Incentives (e.g EnergyStar, credits for solar hot water)					· Biomass-related Equipment Tax Deduction (HB 995) --provides for deductions from the Compensating Tax for biomass-related equipment and biomass materials purchased for the production of biopower, biofuels or biobased products. [Reference A4]
6.4	Appliance Recycling/Pick-Up Programs					
6.5	White Roofs, Rooftop Gardens, and Landscaping (including Shade Tree Programs)					
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					Clean Energy Grants Program (HB 251, 2004 session) State funding (\$2.65 million) for clean energy projects for private or public entities Projects include: biomass (Jemez Mountain, Ft. Bayard); solar (Schools w/ Sol); green building (Eagle Nest State Park); efficiency retrofits (K-12 public schools); and hydrogen-compressed natural gas (hythane) refueling station. [Reference A4]

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7	Non-Energy Emissions (HFCs, PFCs, SF6, CO2 process Emissions)					
7.1	Participation in Voluntary Industry-Government Partnerships					· Federal voluntary programs for electric power (SF6) and semiconductor (PFC) industries
7.2	Process Changes/ Optimization					
7.3	Leak Reduction /Capture, Recovery and Recycling of Process Gases					
7.4	Use of Alternative Gases (other HFCs, hydrocarbon coolants, etc.)					
7.5	Cement Industry: use of alternative fuels					
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)					
8.2	Industry-Specific Emissions Cap and Trade Programs					
8.3	Voluntary emissions targets					
8.4	Negotiated Emissions or Energy Savings Agreements					

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9	Other					
9.1	Government Agency Requirements and Goals (including procurement)					Clean Energy Grants Program (HB 251, 2004 session) State funding (\$1 million) for renewable, efficiency, clean transport fuels projects for public entities- Energy Efficiency and Renewable Energy Bonding Act (HB 32) --establishes an innovative financing mechanism for state agencies, colleges/universities, and public schools to fund and implement energy efficiency and renewable energy projects at existing facilities; the NM Finance Authority (NMFA) is authorized to issue up to \$20 million in clean energy revenue bonds to fund such clean energy projects at state and public school facilities [Reference A4]
9.2	Focus on specific market segments: existing homes (weatherization), new construction, apartments, low income, etc.					Low income weatherization [Reference A1]
9.3	Reinvestment Fund					
9.4	Municipal Energy Management					
9.5	Focus on Small and Medium Enterprises (SMEs)					Green Zia Environmental Excellence program to assist all New Mexico businesses to achieve environmental excellence through continuous improvement and effective energy management. [Reference A1]
9.6	Industrial ecology/ by-product synergy					
9.7	Facilitate activities of ESCOs in Public Sector energy efficiency projects					· Natural Resource Conservation Bids (HB 720) --makes it easier for State agencies and other public entities such as municipalities, counties, and institutions of higher education to enter into Guaranteed Utility Savings Contracts (also known as Energy Performance Contracts) in order to renovate existing public buildings with energy efficiency measures, thereby reducing energy consumption and saving taxpayer dollars; expands the options available to Energy Service Companies (ESCOs) for providing a performance guarantee (i.e., letters of credit and insurance may be acceptable sureties in addition to performance bonds); authorizes the use of a Request for Qualifications process for soliciting bids from ESCOs, resulting in administrative efficiencies and cost-savings in the procurement process. [Reference A4]
	(Additional option, if/as suggested)					