

**To: The New Mexico Environmental Improvement Board**

**From: Brendan Miller, Southwest Renewables LLC**

**Regarding: Support for the Greenhouse Gas Reduction Program - 20.2.100**

**Date: December 1, 2011**

New Mexico's carbon pollution reduction law is sound public policy with great potential to significantly improve the state's economy and create more good jobs right now and for many years to come. These important benefits need not come at the expense of other sources of job creation and they do not require that new financial burdens be placed on New Mexico businesses and families.

The carbon pollution law adopted by the New Mexico Environment Improvement Board in 2010 requires facilities that emit more than 25,000 metric tons of carbon pollution per year to reduce these emissions by 3 percent per year from 2010 levels starting in 2013. There are approximately 60 facilities in the state that exceed this pollution threshold.

The law is market-based, does not dictate how CO<sub>2</sub> should be reduced and allows compliance at the lowest cost possible. The law even has a limit on how much a facility has to spend on compliance in a given year. The law has been lauded by national energy security experts for its capacity to improve New Mexico's energy security by means of predictability, market-based mechanisms and extensive compliance flexibility.<sup>1</sup>

It's important to recognize that the carbon pollution reduction law will not raise the price of gasoline in New Mexico. Gasoline prices vary according to global market forces and commodity prices. The carbon pollution reduction law will not significantly raise the cost of electricity in New Mexico either.

While New Mexico has historically enjoyed relatively low electricity prices from coal-fired power plants, continued overdependence on coal power exposes the state to increasing downside economic risks. For example, the carbon pollution reduction law does not even take effect until 2013, but the state's largest utility, PNM, has already increased electricity rates 40% in just the last four years.

All indicators point to continued volatile and escalating electricity prices as PNM, and other coal-dependent power generators, struggle to maintain inefficient coal plants that have been operating for four or five decades, and as the cost of coal rises along with global demand over the long term. Volatile, rising energy prices make it harder for businesses to plan the expenditures and investments they need to grow. This uncertainty makes New Mexico less attractive to businesses of all types and all

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<sup>1</sup> Dan Klein, "Energy Security and the Role of Clean Energy," 2011.

sizes.

In addition, the carbon pollution law encourages a shift in investments to more cost efficient opportunities like customer energy efficiency programs that are in the best interests of rate payers. Due to our current regulatory structure, utilities like PNM have an incentive to maximize the return on their owned generation assets, such as their coal facilities, which is why they prefer to retrofit these plants rather than invest in energy efficiency measures, especially those on the customer side of the meter. The utility industry's analysis of the costs and benefits of various alternatives for meeting demand must be considered through this lens. A carbon pollution law helps to balance this regressive bias.

Bear in mind that the energy and electricity costs described above do not include the massive cost burden that falls on New Mexico families and businesses due to the negative health impacts of coal pollution and the increasingly apparent negative impacts of climate change. Coal pollution costs New Mexico families and businesses millions of dollars in medical expenses, productivity losses and reduced property values each year.<sup>2</sup> When fully calculated, the cost of the historic drought and wild fires in 2011 will conservatively run hundreds of millions of dollars. All these economic costs from coal pollution and climate change will get worse if nothing is done to reduce carbon pollution and develop cleaner sources of energy. A recent study by Sandia National Laboratories estimated that New Mexico faces a loss of GDP due to projected drought attributable to climate change effects, with some of the largest impacts of any sector on the mining industry.<sup>3</sup> Coal combustion is the single greatest source of carbon pollution globally. The San Juan Generating Station is the single biggest source of carbon pollution in New Mexico.

Beyond the fact that the carbon pollution reduction law will not raise energy and electricity prices in New Mexico, the law has tremendous potential to spur job creation and economic growth. By putting a modest price on carbon pollution, the law will start an incremental shift in investment decisions in the power sector and the wider economy. In the near term, this shift will come as the diffusion of mature, available alternatives is boosted. A large portion of this 'low hanging fruit' will be practical, straightforward improvements in energy efficiency. Energy efficiency is universally acknowledged by experts to be the cheapest resource to meet demand, and to have an excellent return on investment.<sup>4</sup>

Implementing energy efficiency measures creates jobs. More than half of New Mexico's 35,000 existing, green jobs are in energy efficiency.<sup>5</sup> Furthermore, an

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<sup>2</sup> Estimates based on Clean Air Task Force, "Death and Disease from Power Plants," and Physicians for Social Responsibility, "Coal's Assault on Human Health."

<sup>3</sup> Sandia Report #SAND2010-0692, January 2010.

<sup>4</sup> See McKinsey and Co., "Unlocking Energy Efficiency in the U.S. Economy," 2009.

<sup>5</sup> New Mexico Department of Workforce Solutions, 2011.

economic analysis released in February of 2011 indicated that the carbon pollution reduction law has the potential to add 17,500 good-paying jobs in New Mexico's electric sector alone. These new jobs would deliver more than \$2 billion in total added economic value to New Mexico's families and businesses. Many of these new jobs, particularly in the near term, will be in energy efficiency.<sup>6</sup>

A recent analysis concludes that the Regional Greenhouse Gas Initiative (RGGI) in the Northeast United States created a net new 16,000 job-years in just three years.<sup>7</sup> This analysis definitively demonstrates that local carbon pollution rules spur energy efficiency improvements, saving rate payers money, and creates net new jobs.

It will also stimulate valuable innovation, which will have positive benefits for New Mexico companies, which will emerge ahead of their competitors in other states. As described in broad studies like that presented by Daniel Esty and Andrew Winston<sup>8</sup>, business entities that adopt forward-looking policies experience a tangible advantage over their competitors not only in innovation, but also positive brand effects, cost savings from resource efficiency, and cost-effective preparation for future regulation.

In addition to spurring job growth in energy efficiency, the carbon pollution reduction law will provide a major boost to New Mexico's burgeoning renewable energy industries. New Mexico has some of the greatest renewable energy resources in America with major solar, wind and geothermal energy potential. The Western Governors' Association estimates that New Mexico has 27,000 MW of economically developable renewable energy potential, the highest of any state in the country.<sup>9</sup>

Effectively developing the state's tremendous renewable energy resources requires a pro-cleantech business policy framework, investment capital and thousands of new, good-paying jobs ranging from research and development to component manufacturing, construction as well as operations and maintenance. New Mexico has a cluster of renewable energy equipment manufacturers and leading research which will benefit as more renewable energy is deployed in the state.

As the former Director of the Office of Science, Technology and Energy with the New Mexico Economic Development Department, I witnessed first hand the importance that a progressive and stable policy environment has in attracting new business. It is my firm impression that without these policies, companies like Schott Solar and the

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<sup>6</sup> Synapse Energy Economics, "Economic Impact Analysis of New Mexico's Greenhouse Gas Emissions Rule," 2011.

<sup>7</sup> "The Economic Impacts of the RGGI on Ten New England and Mid-Atlantic States," The Analysis Group, November 2011.

<sup>8</sup> A summary of this research is available in *Green to Gold*, by these authors.

<sup>9</sup> WGA WREZ Report, 2009.

CFV Solar Test Facility would not have located their facilities in our state.

Utility-scale wind power is a mature business utilizing proven technology to deliver power at current market prices. Wind power is cheaper than coal or nuclear power and competitive with new natural gas installations.<sup>10</sup> Cost competitiveness is one reason more than forty percent of all new power purchased by electrical utilities in 2008-2009 was wind power.

New Mexico is being disproportionately outpaced by neighboring states in wind power development and related job creation. Texas has the nation's highest wind power potential, 1,900 Gigawatts, has the most wind power installed, 10 Gigawatts, and supports approximately 9,000 jobs in the wind power industry. Colorado has the nation's twelfth highest wind power potential, 387 Gigawatts, has 1,300 Megawatts of wind power installed and supports approximately 6,000 jobs in the wind power industry. New Mexico has the nation's tenth highest wind power potential, 492 Gigawatts, has 700 Megawatts of wind power installed, and supports approximately 500 jobs in the wind power industry.<sup>11</sup>

No other industry in America is growing faster than the solar power. It grew by almost seventy percent last year and supports more than 100,000 American jobs.<sup>12</sup> America's solar industry is growing faster than that in Germany and Japan. America is a net exporter of solar products to the tune of \$2 billion in export in 2010. Many American solar exports go to China, including solar cells from Emcore, based in Albuquerque. Economic base jobs like these will only benefit from a renewable energy expansion supported by the carbon pollution law.

Again, New Mexico is being disproportionately outpaced by neighboring states when it comes to converting solar power into solar power development and jobs. Arizona has the highest solar power potential in America and supports the third highest number of solar jobs, 4,786. Colorado has the fifth highest solar power potential in America and supports the second highest number of solar jobs, 6,186. New Mexico has the second highest solar power potential in America and supports the thirteenth highest number of solar jobs, 2,099.<sup>13</sup> As another example, despite New Mexico's #2 rank in solar potential, PNM's cumulative installed solar watts per customer ranks 51<sup>st</sup>, significantly lagging peer utilities in the nation.<sup>14</sup>

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<sup>10</sup> American Wind Energy Association, "American Wind Power."

<sup>11</sup> American Wind Energy Association, State Fact Sheets.

<sup>12</sup> GTM Research, 2011.

<sup>13</sup> The Solar Foundation, "Solar Jobs Census," 2011.

<sup>14</sup> 2010 SEPA Utility Solar Rankings.

Although it continues to lag behind neighboring states in creating renewable energy jobs, green jobs in New Mexico have grown quickly and have plenty of growth potential. Over ten years from 1998 through 2007, green jobs in New Mexico grew fifty percent compared to just two percent growth for all jobs in the state.<sup>15</sup> Renewable energy continues to create jobs in rural and urban areas throughout New Mexico. In 2009, green jobs paid an average of \$22 an hour compared to an average of \$19 an hour for all jobs in New Mexico.<sup>16</sup>

There is no clear evidence that repealing New Mexico's carbon pollution reduction law will result in lower energy prices, increased business activity or job creation. On the contrary, maintaining the state's overdependence on antiquated coal power will increase energy security risks, price volatility for electricity and enormous economic burdens due to coal pollution and climate change. Repealing this law will also undermine New Mexico's innovation economy as described above. These factors constrain business growth, investment and job creation.

Abundant evidence clearly indicates that maintaining the carbon pollution reduction law will help ensure low and stable electricity prices, foster innovation and economic growth, and spur significant job creation in energy efficiency and renewable energy over the near and long terms.

## **Biography**

Brendan Miller is the Executive Director of the New Mexico Independent Power Producers, a Principal with Southwest Renewables LLC, and a lecturer in green economic innovation and entrepreneurship at the University of New Mexico Anderson School of Management.

From September 2008 through July 2011, Brendan served the New Mexico Economic Development Department as the Director of the Office of Science, Technology and Energy and its first Green Economy Manager. Prior to this, he worked for two green real estate developers, a fuel cell company and as a public policy analyst and consultant.

Brendan has an MBA from the Massachusetts Institute of Technology, an MPA from Harvard University's Kennedy School of Government and a Bachelors of Science in Math-Computer Science from Brown University.

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<sup>15</sup> Pew Charitable Trusts, 2009.

<sup>16</sup> New Mexico Green Chamber of Commerce, "New Mexico's Clean Energy Economy Today."