

FACTS

NEW MEXICO

A M E R I C A N S E C U R I T Y P R O J E C T

Pay Now, Pay Later: New Mexico

Climate change is projected to cost New Mexico \$3.2 billion each year by 2020; wildfires, health-related costs, and lost recreation sector income will make up a large fraction of this cost. Spread evenly, this equates to a loss of \$3,430 per household—or an average of more than 8% of a median New Mexican household income.¹

A high-emissions scenario could cause a 25% decline in farmed acres, potentially devastating the agriculture industry, which brings in \$1.6 billion to the state each year.²

A nationwide green economic recovery program (costing New Mexico \$600 million) has to potential to create 13,717 jobs in the state,³ reducing unemployment, which currently tops 8% and grew by 7,000 between August and September 2010.⁴

According to a new study, a failure to mitigate the effects of climate change could begin to cause serious gross domestic product and job losses within the next several decades. Between 2010 and 2050, it could cost New Mexico \$26.1 billion in GDP and over 217,000 jobs.*

**GDP numbers are based on a 0% discount rate. Job losses are measured in labor years, or entire years of fulltime employment. Backus, George et al., "Assessing the Near-Term Risk of Climate Uncertainty: Interdependencies among the U.S. States," Sandia Report (Sandia National Laboratories, May 2010), 141. https://cfwebprod.sandia.gov/cfidocs/CCIM/docs/Climate_Risk_Assessment.pdf (accessed March 23, 2011).*

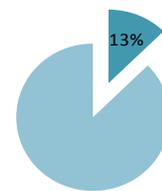
Admittedly, the effects of climate change, a complex and intricate phenomenon, are difficult to predict with precision. Informed scientific and economic projections, as we have used in our research, however, allow us to see that New Mexico faces significant losses in industries crucial to its economy if no action is taken.

Moreover, data shows New Mexico is poised to benefit from the research, development, and distribution of renewable energy technologies. Though rich in crude oil and natural gas reserves, New Mexico also has vast opportunities to generate renewable energy, including immense solar power potential.⁵ Should we fail to take action against climate change, New Mexico residents have much to lose.

Pay Later: The Cost of Inaction

Climate change poses serious threats to New Mexico. In a state already plagued by heat and aridity, an increase in temperatures of 6-12°F over the next century will result in hotter, drier summers and heightened water scarcity.⁶ Precipitation is already a rarity, and high greenhouse gas emissions will cause increasingly severe and lengthy droughts; rains will more often arrive in the form of severe storms, providing an environment conducive to flash floods.⁷ Rising temperatures will impact the mountains in New Mexico, causing snow to melt earlier and too rapidly to retain sufficient water for the later summer months, further straining the state's water supply.⁸ To the tourism, agricultural, and forestry industries

New Mexican Labor Force Projected to be Directly Affected



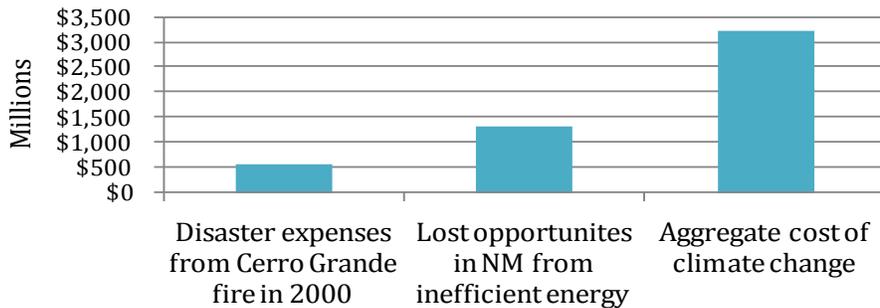
Source: Bureau of Economic Analysis⁹

that depend on the state's healthy ecosystems, climate change and the resulting environmental consequences will pose serious threats to their profitability and, therefore, to the economic security of the state.

An Agrarian Nightmare

New Mexico's farming industry brings in approximately \$1.6 billion to the state each year.¹⁰ **Should climate change continue unmitigated, New Mexico will lose an estimated \$73 million annually from reduced food and agricultural production by 2020.**¹¹ In a high emissions scenario, the changes to the climate could reduce wheat and sorghum harvests by 10-30% and 7-9%, respectively.¹² Temperature changes will alter growing seasons, and will likely allow for the greater infiltration of pests, weeds, and pathogens.¹³ Water shortages will ultimately lead to higher costs to farmers, as expenses

Estimated Costs to New Mexico Compared to Cerro Grande Fire Expenditures



Sources: Federal Emergency Management Agency; University of Oregon and ECONorthwest¹⁸

for items such as supplemental feed and water hauling increase.¹⁴ Woody plants could replace grassy ones on rangelands, which will negatively impact cattle grazing; with livestock representing two-thirds of agricultural production in New Mexico, this could have serious economic consequences.¹⁵ **Water shortages could cause the total amount of farmed acres in New Mexico to fall by up to 25%.¹⁶ Throughout the West, the value of farmland is projected to decrease by about 36% due to diminished water supplies, resulting in a \$1,700 loss for each New Mexican farm.¹⁷**

Danger to Forestry and Tourism

Residents and tourists alike depend on New Mexico's forests. Hunting, fishing, and wildlife viewing attracts about one million people and brings in more than \$800 million annually—and supports 22,697 jobs in the state.¹⁹ The plants and wildlife inhabiting and dependent upon New Mexico's forests are in danger, particularly under a high emissions scenario. Fueled by severe drought conditions, wildfires are expected to be more catastrophic. **Frequent and intense wildfires are**

projected to cost the state \$488 million each year.²⁰ Loss of forest landscape will likely lead to diminished wildlife populations, which could have serious repercussions for New Mexico's ecosystems overall.²¹

Outdoor recreation is an important component of tourism in New Mexico. By 2020, **lost recreation opportunities due to climate change could account for \$286 million in losses to the state.²²** A warming climate poses a serious threat to many of the activities that are associated with tourism, as well as with the lifestyle of New Mexico residents: rising temperatures will threaten snow levels and ski opportunities; boating, whitewater rafting, and other water sports will be adversely impacted by lower water levels in rivers and streams; fire danger would limit picnicking, hiking, and camping.²³ As an integral part of the gross state product, damage to the forestry and tourism industries will threaten the state's economic security²⁴—and many favored New Mexican pastimes.

Health Hazards

High greenhouse gas (GHG) emissions in New Mexico will likely seriously damage not only environmental quality, but also public health. Elevated levels of ozone and smog will diminish air quality, causing increased respiratory trauma for those already suffering from asthma and lung conditions. Smoke from more frequent wildfires will threaten public health even more.²⁵ Mortalities from heat waves could become more common, and insect-borne diseases may flourish in a high-emissions scenario.²⁶ The nutritional quality of food grown in New Mexico could decrease as levels of atmospheric CO₂ increase. The state's water quality will, likely diminish as a result the effects of climate change as well.²⁷ **New Mexico faces \$305 million in total health-related costs from increased low-altitude ozone by 2020.²⁸**

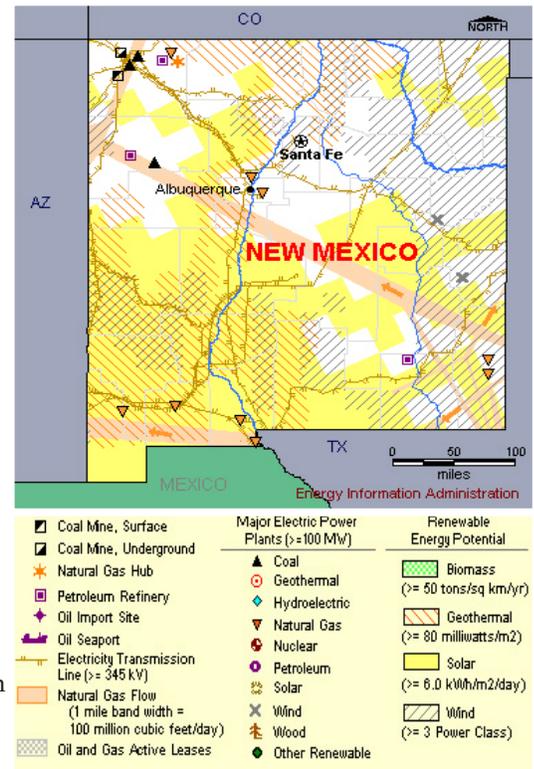
Pay Now: The Benefits of Taking Action

New Mexico has an opportunity to mitigate the damaging effects of climate change by investing in green technology. Indeed, **the state could lose an estimated \$1.3 billion each year through the failure to establish more efficient energy programs.²⁹** New Mexico is one of the country's leading producers of crude oil, natural gas, and coalbed methane.³⁰ Investing in new energy sources could jeopardize the jobs of 23,000 New Mexicans employed by the oil and gas industry.³¹ Despite this, the sector, according to the New Mexico Department of Workforce Solutions, will likely grow in the coming years; the 2008 report predicts that the oil and gas sector will add 300 jobs by 2016.³²

New Mexico has a great opportunity to benefit from solar and wind power generation.³³ **It has the potential to generate more than eight times its electricity needs using wind power.**³⁴ Not only can New Mexico reduce the effects of climate change by redirecting its energy profile, it can also benefit economically.

Investment in green technology will provide New Mexico with new sources of revenue and expanded labor markets. Jobs will be created in the sectors of building retrofiting, mass transit, constructing smart energy grids, and engineering associated with wind power, solar power, and advanced biofuels.³⁵ **A nationwide green economic recovery program could potentially create over 13,500 jobs in the state.**³⁶ With employment in the clean energy industry growing at a rate of over 50% in New Mexico, such job creation will help stabilize and secure the state economy.³⁷

The state has already made progress in improving its energy efficiency. The New Mexico Climate Change Advisory Group prepared a climate action plan in 2005, which outlines recommendations and policy proposals for how to lower the state's GHG emissions.³⁸ **New Mexico currently has one of the strongest renewable energy standards in the country:** 10% of the state's power is required to come from renewable sources this year.³⁹ By continuing on this path, New Mexico is working to ensure its environmental and economic security by mitigating its own role in affecting climate change.



Conclusion

New Mexico must consider action on climate change not just in terms of cost, but also in terms of opportunities. If we give New Mexico's population, businesses, and investors clear and consistent signals by properly offering initiatives and cultivating demand, investment and innovation in renewable technologies will follow.

New Mexico residents will have to pay for the effects of climate change. The only remaining question is whether they will pay now, or pay later and run the risk of paying significantly more.

(Endnotes)

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- 2 Environmental Defense Fund, *Clean Energy Jobs in New Mexico*, 2. http://www.edf.org/documents/9996_CleanEnergyJobs-NM.pdf (accessed August 10, 2010).
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- 4 Bureau of Labor Statistics, *Regional and State Employment and Unemployment Summary*, October 22, 2010. <http://www.bls.gov/news.release/laus.nr0.htm> (accessed November 17, 2010).
- 5 U.S. Energy Information Administration, *State Energy Profiles: New Mexico*, August 2010. http://www.eia.gov/state/state_energy_profiles.cfm?sid=NM (accessed August 10, 2010).
- 6 National Wildlife Federation, *Global Warming and New Mexico*, 1. <http://www.nwf.org/Global-Warming/-/media/PDFs/Global%20Warming/Global%20Warming%20State%20Fact%20Sheets/NewMexico.ashx> (accessed August 10, 2010).

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- 15 Ibid., 2, 15.
- 16 National Wildlife Federation, 2.
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- 18 Federal Emergency Management Agency, *Cerro Grande Fire*, May 2005. <http://www.fema.gov/news/newsrelease.fema?id=17417> (accessed August 12, 2010); University of Oregon and ECONorthwest, iv.
- 19 National Wildlife Federation, 2.
- 20 Environmental Defense Fund, 2.
- 21 See, for instance, National Wildlife Federation.
- 22 University of Oregon and ECONorthwest, v.
- 23 Agency Technical Workgroup of New Mexico, 3.
- 24 Bureau of Economic Analysis, *Gross Domestic Product by Industry and State*. <http://www.census.gov/compendia/statab/2008/tables/08s0650.xls> (accessed August 10, 2010).
- 25 Agency Technical Workgroup of New Mexico, 3, 30-31.
- 26 Ibid., 31-32.
- 27 Ibid., 16, 19-20, 35.
- 28 University of Oregon and ECONorthwest, 33.
- 29 Ibid., iv.
- 30 U.S. Energy Information Administration.
- 31 New Mexico Oil and Gas Association, *Industry Impact*. <http://nmoga.org/industry.asp?CustComKey=361961&CategoryKey=361962&pn=Page&DomName=nmoga.org> (accessed October 14, 2010).
- 32 Projections for job growth involve making several assumptions. One assumption specific to this report is that going forward natural resources will be in greater demand and play a larger role in the New Mexican economy. New Mexico Department of Workforce Solutions, *New Mexico Employment Projections 2006-2016*, July 2008, 4. <http://www.dws.state.nm.us/LMI/pdf/NMEmp-Proj2016.pdf> (accessed August 16, 2010).
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- 35 Pollin et al., 1-4.
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