

Lobos CO₂ Pipeline Health Impact Assessment

Executive Summary

Building a carbon dioxide (CO₂) pipeline through Torrance County, New Mexico, has the potential to compromise safety, threaten water supplies and quality, and disrupt the special places, culture and historical connection to the land that unite the county's diverse communities. This Health Impact Assessment (HIA) of Kinder Morgan's proposed Lobos CO₂ Pipeline finds that the project offers few if any benefits to the health, well being and economy of the county.

Although falling oil prices prompted Kinder Morgan in January 2015 to withdraw its application to the US Bureau of Land Management for the proposed Lobos CO₂ Pipeline, the company reserves the right to revive the project if market conditions change. Facing this possibility, the partners who conducted the HIA - Human Impact Partners, New Mexico Department of Health and Partnership for a Healthy Torrance Community - completed this study to serve as a compendium of information that could be used to evaluate the impacts of a future proposed pipeline or similar projects. The HIA could also be useful to other communities facing such proposals.

Kinder Morgan is the largest energy infrastructure company in North America. It owns an interest in or operates more than 80,000 miles of pipelines that transport natural gas, oil and carbon dioxide, and is the largest transporter of CO₂ in the US.

The proposed \$1 billion Lobos Pipeline project includes 213 miles of 16-inch pipeline to carry CO₂ from an underground reservoir in Apache County, Arizona, to the Permian Basin in eastern New Mexico and West Texas for use to enhance the process of extracting crude oil from oil fields. The pipeline

would connect in Torrance County to Kinder Morgan's existing Cortez Pipeline, which runs from southwest Colorado to Denver City, Texas. The Lobos Pipeline project is projected to have an initial capacity of 300 million cubic feet of CO₂ a day.

Construction of the pipeline requires the acquisition of a 100-foot right-of-way for the pipeline route, which would cross private, state, and tribal land throughout New Mexico, including areas belonging to Native American tribes and land overseen by the Bureau of Land Management. Landowners can negotiate permission and compensation for allowing right-of-way, however if they refuse, under New Mexico law oil and gas pipelines are "common carriers" serving the public good, and Kinder Morgan has the right to seize the land through eminent domain.

Torrance County is known for its awe inspiring landscape, farms, ranches and warm climate, with a unique history that has tied many families to the area for hundreds or thousands of years. Its diverse population of about 16,000 includes Pueblo and land grant families, descendants of 19th Century homesteaders, retirees and artists. In the 2010 Census, 56 percent of residents identified as white and 39 percent as Hispanic or Latino. Of Hispanics and Latinos, more than half further identify as Spanish or Spanish-American, descendants of families who settled here when Mexico was a Spanish territory.

Torrance County residents struggle with poverty, unemployment and other socioeconomic and health challenges. Of 32 counties ranked in New Mexico, in 2015, Torrance ranked 28th in terms of quality of life, 26th in social and economic factors, and last in health

behaviors (smoking, exercise, etc.). However, strong community connections among Torrance County's residents serve as protective health measures.

The Health Impact Assessment focused on how the proposed pipeline would affect health and equity in these key areas:

- Culture and connection to the land
- Land use
- Economic vitality
- Safety
- Water quality and availability

CULTURE AND CONNECTION TO THE LAND

"To take away the connection to the land... to take a part of us... it is like missing a limb."
– HIA Focus Group Participant

Cultural and spiritual well being are vital social determinants of health. Yet they are not included in traditional assessments of environmental or health conditions. The culture of Torrance County is tied strongly to preservation of traditions and natural resources. The proposed pipeline would have significant impacts on the unique populations and cultures that have called Torrance County home for centuries.

Numerous culturally significant sites are found in Torrance County. These include all three sites of the Salinas Pueblo Missions National Monument, dating to the 17th century and listed on the National Register of Historic Places, as well as 12 other historic sites or features. Many lesser-known sites are spread throughout Torrance County on both public and private land. In focus groups for this HIA, land grant heirs in particular said sacred sites in Torrance County are crucial to their identity and culture.

Given the strong connection many residents have to culturally and spiritually significant sites in Torrance County, the proposed pipeline's construction, operation and maintenance would likely diminish the community's identity and connection with its culture and history. The project could trigger historical trauma associated with the past traumatic experiences of populations in Torrance County including loss of land and culture and mistreatment by government and private entities. Historical trauma stems from a community's sense of collective loss over past events.

LAND USE

Land use plays a crucial role in determining health outcomes. In Torrance County, land use is deeply embedded in the history and tradition of the region. Large-scale developments such as the proposed pipeline can impact land use by changes to traditional and current uses such as farming or ranching, degradation of the landscape, and shaping future land use decisions and opportunities.

Focus group participants cited uncertainty about local land use decisions as a cause of anxiety and stress, particularly for those residing on or near the proposed pipeline route. Residents expressed deep concern for how the land has been affected by past developments, such as the addition of a second track to the Burlington Northern-Santa Fe Railroad, and how it might be further damaged by future developments, including the proposed pipeline.

Construction of the proposed pipeline would bring a major industrial development into Torrance County. This is inconsistent with the goals of the County's land use plan which aims to maintain traditional and current land use and protect areas that are historically, culturally, geographically or environmentally unique.

ECONOMIC VITALITY

Kinder Morgan says construction of the pipeline, along its entire length from Arizona to Texas, would employ a peak of 1,200 workers. After construction is complete, operating the pipeline would require 6 to 8 permanent employees. The company says it expects to pay \$2.3 million a year in property taxes, to be shared by states, counties and municipalities along the route.

However, there is no guarantee that any Torrance County residents would get either the temporary or permanent jobs, and the county's share of property taxes would be small. In focus groups, residents were concerned that the economic benefits of the pipeline would not outweigh the costs. In Pima County, Arizona, where Kinder Morgan is building a natural gas pipeline, County officials calculated that added costs for public safety, roads, environmental damage and other impacts would exceed the economic benefits to the county.

Kinder Morgan's track record raises additional concerns. In other locations, the company has greatly exaggerated the number of jobs and tax revenue from projects, tried to claim unjustified tax deductions, and been fined for environmental violations. Landowners also worry about

the effect that the pipeline will have on their property values, mortgages, and insurance.

"There ain't no 401(k). There ain't no pension plan. There's not even a fricking savings account. That 80 acres is all I have...I mean, I've got nothing else."
- HIA Focus Group Participant

SAFETY

The US Department of Transportation classifies CO₂ as a non-flammable hazardous gas. Depending on the concentration and length of exposure, carbon dioxide can have negative health impacts ranging from labored breathing, headaches, visual impairment and loss of consciousness. At very high exposures it can cause brain, lung or heart damage, coma or even death.

The possibility of a pipeline accident concerns residents because Torrance County, with a small population spread over more than 3,000 square miles, has limited emergency services. There is no hospital and no after-hours or emergency health care.

"You know one of the problems is an acute problem. The pipeline leaks or breaks. The other problem is chronic. And that's, you know, I mean nothing may happen...with that pipeline if it's built, but people have to live with the thought or the idea, the stress, that it might happen all the time...Fear...That's the chronic condition of living with a thing like that."
- HIA Focus Group Participant

Since Kinder Morgan was formed in 1997, nearly 500 accidents have been recorded on its pipelines (of all kinds). At least 11 leaks have been documented on Kinder Morgan's Cortez CO₂ pipeline, which would connect in Torrance County to the proposed Lobos Pipeline. In 2011 alone, the company was fined more than half a million dollars by federal authorities for pipeline violations, yet it has sharply cut spending for pipeline maintenance. Based on estimates of the annual frequency for CO₂ pipeline accidents, between 12 and 20 accidents can be expected on the proposed pipeline during its operating life of 60 to 100 years.

WATER AVAILABILITY AND QUALITY

In New Mexico and the entire Southwest, water is a paramount concern, and Torrance County is no exception. According to the US Drought Monitor, most of the county is in a "severe" drought, with some portions in "extreme" drought. In the Estancia Basin, which includes Torrance County, shrinking supplies of groundwater have caused the state to declare it a critical management area.

"The first big issue here is our water, because I don't see anybody here that looks like a camel that can survive seven days without water, or that can live without water. To me, that's a priority. Everything else follows: the historical, the cultural, our land, everything."
- HIA Focus Group Participant

Construction and operation activities associated with pipeline projects require a significant amount of water use. Prior to construction of Kinder Morgan's Cortez CO₂ pipeline, Colorado water officials expressed concern that the BLM was not looking closely enough at its impact on water supplies. Environmental impact statements for other CO₂ pipelines have documented that such projects require millions of gallons of water for hydrostatic testing, drilling, dust abatement and other needs.

Once in operation, an accidental release from a pipeline has the potential to affect groundwater quality. CO₂ wells and carbon capture/sequestration projects where accidents have resulted in carbon release have been found to affect water quality by decreasing the pH level, increasing the presence of dissolved metals, or changing water hardness. A study at Duke University found that underground CO₂ leaks could increase contaminants in freshwater aquifers by tenfold or more, in some cases to levels above federal drinking water standards.

RECOMMENDATIONS

The Health Impact Assessment concludes that the Lobos CO₂ Pipeline project offers few benefits for Torrance County; conversely, there are numerous ways it could adversely impact the health and well being of local residents.

Recommendations to the Torrance County Commission to address these impacts include:

- Require Kinder Morgan to establish a mitigation fund to support the development and allocation of resources and services to address adverse impacts of the proposed pipeline to mental and physical health.
- In collaboration with the County Planning and Zoning Board, research and designate north/south and east/west utility corridors for infrastructure development. The process for determining these corridors should take into consideration broad community input, existing land use patterns, historical and cultural impacts, economic impacts, quality and way of life, fragile ecosystems and resources, and health and safety. They should also prioritize the use of existing industrial corridors and align with the County's updated Comprehensive Land Use Plan.

- Require that a comprehensive study of the economic impacts of the proposed pipeline be conducted. The study should include an analysis of loss of use costs, amount and distribution of tax revenues, award compensation and cost benefit analysis, and be made available for public review and comment.

Additional recommendations include:

- With community input, relevant federal agencies should develop guidance for pipeline development in New Mexico, covering impacts to land use, culture and connection to the land, land use, economic vitality, safety and water quality and availability. The guidelines should provide examples of best practices for addressing impacts in these categories, and specifically address the impacts of proposed project activities on health and equity.

These recommendations offer ways for decision makers and project stakeholders to ensure the protection and prioritization of the health and well being of Torrance County residents. The recommendations – and the values and principles deeply held and expressed by many residents as a part of the HIA – can serve as important guiding principles for future decisions that will affect many generations to come in Torrance County and beyond.

ABOUT HEALTH IMPACT ASSESSMENT

Health Impact Assessment (HIA) is a public engagement and decision-support tool that can be used to assess policy proposals and make recommendations to improve health outcomes associated with those proposals. The fundamental goal of HIA is to ensure that health and health inequities are considered in decision-making processes using an objective and scientific approach, and engaging stakeholders in the process.

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ABOUT HUMAN IMPACT PARTNERS

Human Impact Partners works to transform the policies and places people need to live healthy lives by increasing the consideration of health and equity in decision-making.

To learn more about HIP and access the final report, visit: www.humanimpact.org