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**From:** Constance Falk <cfalk@nmsu.edu>  
**Sent:** Monday, November 13, 2017 2:23 PM  
**To:** Sidney Hill  
**Subject:** Comments on the Proposed Sandoval County Oil and Gas Ordinance  
**Attachments:** letter to county commission.pdf

Hi Sidney.

I have attached a paper with some comments regarding the proposed Sandoval County Oil and Gas Ordinance. I appreciate your efforts to insure that the commissioners get public comments and that they are entered into the official record.

Sincerely,  
Constance L. Falk

M. Eugene Sundt Honors Professor Emeritus  
New Mexico State University

44 Quail Meadow Rd.  
Placitas, NM 87043

November 13, 2017

Dear County Commissioners

My name is Constance L. Falk. I was a professor of agricultural economics at New Mexico State University, for 25 years, retiring in 2013. I have an MBA, and PhD in agricultural economics. I served my country as a Peace Corps volunteer for three years. My last two years at NMSU I held an endowed professorship in the Honors College, the first recipient of this chair, and my focus for the two years was on sustainable development and climate change.

I think you should table the proposed oil and gas ordinance currently under consideration and form a task force that is inclusive and representative of the county to study the issue for several months, at least until the report, which you have commissioned from New Mexico Tech, is released in May 2018. The task force can craft all sections of the ordinance, save those that would pertain to geological and water contamination issues, until May. When the NMT report becomes available, any sections that are still pending can be finalized, incorporating the relevant scientific information from NMT. If you do this, you will win the approval of a larger segment of the county residents, who it appears to me, are strongly opposed to the weak Stoddard ordinance that will not protect us from the grave risks to which the unrestricted oil and gas drilling will expose us all.

Before moving to Placitas, I lived in Farmington for 3 years. In part, I moved out of the Four Corners because of the heavy concentration of oil and gas production in San Juan County. One of the many egregious practices in that county is the spreading of spilled toxins on desert soils, on what are called "land farms." The desert is scraped bare and the spilled material is applied to the land, allowing it to volatilize into the air. Of course, anyone down wind is subject to contaminated soil landing in their homes or on their crops. I don't know how long the desert remains poisoned. Next time you drive up Highway 550 to Farmington, check out the land farms near the scenic turnout for Angel Peak. The area is no longer scenic.

Other objectionable and dangerous practices in San Juan County documented by Navajo communities include illegal dumping of hazardous "wastewater" into arroyos by tanker drivers, oil traffic on roads 24/7, excessive noise that disturbs sleep and interferes with school work, toxic fumes near the Lybrook Community School, intense lighting that drives away wildlife and disturb sleep and health.<sup>i</sup>

One of the basic concepts in economics is cost externalities. These are costs not incorporated into the price of a product and are externalized to society at large. A well-documented example from agriculture is the over application of fertilizers in the Corn

Belt that make their way to the Gulf of Mexico, where the excess nutrients cause algae blooms. When the algae die, their decomposition deprive the water of oxygen, and create what is known as a “dead zone” where sea creatures cannot live. Farmers in the Midwest externalize their costs to fishermen in the Gulf.

Oil and gas companies are masters at cost externalization. The most heinous is the costs associated with severe climate disruption caused by carbon dioxide and methane emissions from oil and gas production and burning. We are seeing in our lifetimes the impact of more severe fires in the Western US from increased drought and higher temperatures, and stronger hurricanes fed by warmer ocean waters in the South and East. Future generations will be forced to move inland and abandon major cities due to rising sea levels. Some public utilities have begun to use estimates of the social cost of carbon (associated with climate change impacts) to make decisions on where to invest (renewables vs. fossil fuels), leading to “shifts in state electricity procurement.”<sup>ii</sup>

Other significant costs externalized by the oil and gas industry are those associated with health impacts. Scientists in the San Francisco Environmental Protection Agency estimated the externalized health costs of fossil fuel-based electricity production to be \$362 - \$887 billion annually, representing 2.5-6% of national GDP.<sup>iii</sup>

However, I understand your hands are tied regarding whether new fossil fuel development is allowed to continue in Sandoval County, even if you had the inclination to be prudent and keep the carbon in the ground. So, the best you can do to is to write an ordinance, that to the extent possible, forces companies to internalize the costs that they otherwise will certainly pass on to the county and taxpayers if allowed to do so. The Stoddard Ordinance is quite permissive in this regard, which is why you should table this ordinance on November 16.

Particular issues where cost externalities will fall on Sandoval County and taxpayers if the Stoddard Ordinance is passed without sufficient amendments to internalize costs to industry, include road deterioration, emergency services, abandoned wells, and property tax evasion.

#### Road Deterioration, Workplace Deaths, and Fiscal Impacts.

A NM Department of Transportation assessment of road conditions in the state found a significant decrease from FY 12 to FY 14. Roads in good condition declined from 84% to 68% of the total non-interstate roads. As road conditions deteriorate, costs to maintain them skyrocket. Per mile costs jump from an estimated \$15,000 to as much as \$1.5 million as conditions worsen from good to poor.<sup>iv</sup> The NMDOT estimated it had a funding gap of \$362.3 million in FY16 to maintain roads in good condition.

The average fracked well requires 1,200 loaded trucks to bring the mixture of water, sand, and chemicals to the site, which causes damage to rural roadways built for nothing heavier than an occasional farm tractor. In Texas, oil and gas truck traffic was estimated to cause road damage equivalent to the impact of eight million cars annually.<sup>v</sup>

Poor road conditions also lead to increased deaths among truckers. New Mexico's workplace deaths were double that of the US rate in 2013, according to the Federal Bureau of Labor Statistics.<sup>vi</sup> Workplace deaths in oil and gas and trucking industries help explain that statistic. Twelve people were killed in trucking accidents in the state in 2013, and five of those were in the oil and gas industry. According to Tom Church, the state's transportation secretary, trucking deaths can be reduced by improvements in road conditions. "Southeast New Mexico has seen an unprecedented growth in highway use supporting the oil and gas industry," he said. The result has been "increases in accidents and highway fatalities" and deteriorated roads, he said.<sup>vii</sup>

The Stoddard Ordinance makes no provision for assessing oil and gas companies any fees for contributing to road maintenance required due to industry damage.

### Emergency Services and Industrial Accidents.

San Juan County experienced a massive fire on July 11, 2016, after 36 oil tanks exploded and were allowed to burn out due to the intense heat over the course of five days.<sup>viii</sup> The company responsible for the accident, WPX Energy, had been in production a week when the explosion occurred. Emergency services were "hours away."<sup>ix</sup>

The Health Impact Assessment Committee representing several chapters of the Navajo Nation, located close to where the WPX fire occurred, recently issued a report and submitted it to the Bureau of Land Management, on community impacts of oil and gas operations. Their report indicated that there is **no**:

- public alert system to notify residents when there is any kind of explosion or emergency,
- emergency preparedness evacuation plan for residents, or children at the nearby school,
- emergency hazardous training for first responders who went to the WPX fire,
- emergency shelter or medical treatment center,
- or contact number for local residents.<sup>x</sup>

The Stoddard Ordinance makes no provision for drilling and production companies to contribute to paying any costs associated with industrial accidents, emergency service, first responder training, public warning system, or evacuation planning.

### Abandoned Wells and Fiscal Solvency

Abandoned or orphaned wells are a problem in New Mexico and elsewhere. Large financially stable companies typically do the drilling, but then sell the wells once production declines, to smaller companies, thereby decreasing liability for the well. Smaller companies are more likely to go bankrupt and abandon wells, which then become the state or federal government's problem. Orphan wells can leak contaminants into the groundwater and onto nearby land. Plugging these wells requires filling the hole

with absorbent material and then capping it with cement.<sup>xi</sup> Per well costs to cap wells in Wyoming ranged up to \$528,000 between 1997 and 2014.<sup>xii</sup> Deeper wells are more expensive to cap and companies are increasingly drilling deeper in order to frack. Future costs in Wyoming to cap the deeper wells are expected to cost \$14.7-19 million.<sup>xiii</sup>

Bonding requirements are rising nationally to cover abandoned well costs, but nowhere in the country are full costs factored into bonding requirements.<sup>xiv</sup> The NM Oil Conservation Division (OCD) estimated there were 2290 inactive wells in the state in November 2017. New Mexico's bonding requirements are \$50,000 for a blanket bond statewide. Sandoval County bonds are \$5,000/well plus \$1/foot.<sup>xv</sup> Clearly these bonds are inadequate to cover the cost of plugging abandoned wells.

The Stoddard Ordinance does not increase county bond requirements and makes no requirement that companies are financially solvent who operate in the county.

### Property tax evasion.

Oil and gas companies are underreporting their assets to the state for purposes of paying relevant property taxes. New Mexico relies on self-reporting for property tax of industrial equipment because county property appraisers do not have the staff or expertise to make the inspections.<sup>xvi</sup> According to a 2017 report, 111 drilling rigs in Eddy County with a taxable value of nearly a half million dollars had been identified and were not on the tax rolls, and this result was from a partial analysis of the county.<sup>xvii</sup> Lea County found that two-thirds of drilling companies in the last ten years have not reported any new taxable assets.<sup>xviii</sup> Industry failure to be honest about taxable property results in increased property taxes for everyone else. The cost to hire an expert company to audit Eddy County's oil and gas industry assets was \$600,000.<sup>xix</sup>

The Stoddard Ordinance does not require oil and gas companies to pay any kind of bond or fee such that the county can hire outside experts to check whether they are reporting all taxable assets.

### Summary and Conclusion

Oil and gas companies have been documented in the state of New Mexico to place undue financial burdens on the citizens, counties, and state. This paper examined only four such cases of cost externalization: road deterioration, emergency services, abandoned wells, and property tax evasion. Of course there are many others that can be explored and should be prior to final adoption of any ordinance governing oil and gas activities in Sandoval County. I strongly urge the commissioners to table the Stoddard Ordinance and study the issues more carefully.

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<sup>i</sup> Health Impact Assessment Committee, "Community Reported Impacts of Oil-Gas Operations, Counselor, NM, Ojo Encino, NM, Torreon-Starlake, NM, Nageezi, NM."

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January 22, 2017. Report submitted to the BLM Farmington Field Office public scoping meetings in 2016 and presented to BLM NM State Director, January 17, 2017.

ii Machol, Ben and Sarah Rizk. Economic Value of U.S. Fossil Fuel Electricity Health Impacts. *Environment International*. 52(2014):75-80.

iii Machol and Rizk, 75.

iv NM Legislative Finance Committee, Fiscal Impact Report, Jan. 27, 2016.

[www.nmlegis.gov](http://www.nmlegis.gov)

v Fehling, Dave. "Roads Killed: Texas Adds up Damages from Drilling," Energy and Environment Reporting for Texas, March 19, 2012. [www.stateimpact.npr.org](http://www.stateimpact.npr.org)

vi Uyttebrouck, Olivier. "NM's work-related deaths double the U.S. rate," *Albuquerque Journal*, Sept. 22, 2015.

vii Uyttebrouck, 2015.

viii Romeo, Jonathan. *Durango Herald*, Aug. 2, 2016.

ix Eco Watch, "Massive Fracking Explosion in New Mexico, 36 Oil Tanks Catch Fire,"

[www.ecowatch.com](http://www.ecowatch.com)

x Health Impact Assessment Committee, 2017.

xi *The Wall Street Journal*, "What to Know about Abandoned Wells – The Short Answer,"

Feb. 25, 2015. [www.wsj.com](http://www.wsj.com)

xii Joyce, Stephanie. "The Rising Cost of Cleaning up After Oil and Gas," Wyoming Public Radio, October 1, 2015.

xiii Joyce, 2015.

xiv Joyce, 2015.

xv Western Organization of Resources Councils, Oil and Gas Reclamation Bonding Amounts, [www.worc.org](http://www.worc.org)

xvi Krasnow, Bruce. "Appraisal Expert: Energy Companies Cheating the State," *The New Mexican*, Nov. 1, 2017.

xvii Eddy County Board of Commissioners, Minutes of a Regular Meeting, Feb. 21, 2017.

xviii Associated Press. "Preliminary Lea Audit Finds Unpaid Taxes," *Albuquerque Journal*, August 15, 2017.

xix Associated Press, 2017.