



Memorandums of understanding and public trust in local government for Colorado's unconventional energy industry



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ABSTRACT

In the fight between state versus local control in Colorado's unconventional energy industry, Memorandums of Understanding (MOUs) signed directly between operators and local governments are becoming an increasingly popular strategy for formally integrating citizen concerns into oil and gas development. Yet little is known about how these agreements may shape public opinion of industry and local government. This article uses mixed methods to investigate if and how MOUs shaped public perceptions of the industry and the town government in a politically heterogeneous suburban Colorado town home to the state's first MOU. While public comments have become significantly more favorable toward oil and gas development over time, our research reveals that the MOU itself did not significantly change those perceptions. The more significant factor was the election of a town board committed to processes of engagement and transparency, including a meaningful revision of the original MOU.

1. Introduction

The United States is currently the world's largest producer of natural gas, with two-thirds of those wells being treated with hydraulic fracturing (EIA, 2016a). Paired with horizontal drilling, hydraulic fracturing techniques have also increased domestic oil production “faster than at any time in [the country's] history” and currently account for over half of domestic crude oil production (EIA, 2016b). The boom in these unconventional energy sources has generated substantial controversy, particularly surrounding concerns that potential air and water pollution pose risks to human and environmental health.

In the absence of coherent federal policy, states exercise authority to regulate hydraulic fracturing (Rahm, 2011). Since the boom took off in Colorado in 2012, the state has created multiple policy innovations seeking to reconcile the interests of industry, state and local government, and communities (Minor, 2014). In 2011 Colorado was the first to pass comprehensive rules requiring public disclosure of the chemicals used in the hydraulic fracturing process, and in 2014 it was the first to regulate methane emissions from oil and gas production (Heikkila et al., 2014; Rinfret et al., 2014). This rulemaking emerged as directional drilling brought oil and gas activity closer to rapidly

growing suburban communities along the Front Range (Davis, 2012; Limerick, 2016; Kroepsch, 2016). For the Niobrara shale play, production was 83,000 barrels in 2008, 4.1 million in 2012, and, before the slump in oil prices, was estimated to reach as many as 16 million by 2020 (Zaffos, 2013). The Colorado Oil and Gas Conservation Commission (COGCC), the state agency charged with handling drilling permitting and ensuring industry compliance with state statutes and regulations, permits thousands of new wells each year, ranging from a low of 1529 before the unconventional energy boom to the high of 8027 in 2008, before the financial crisis. From 2012 to 2014 annual permits hovered around 4000 and dropped to 3000 in 2015, following a drop in oil prices (COGCC, 2016). With more than 50,000 active oil and gas wells, the state is currently one of the country's largest producers of oil and gas (Wines, 2016).

The boom brought the state agencies tasked with regulating oil and gas development into conflict with citizens and some local governments advocating for more local control over industry activity. In May 2016 after years of contentious debate punctuated with multiple bans and moratoriums on unconventional energy development, the Colorado Supreme Court upheld the state's right to regulate the industry and deemed the local bans “invalid and unenforceable” (Finley, 2016). Ballot measures to ban or severely curtail oil and gas development

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failed to gain enough signatures to reach a statewide vote in November 2016. Instead, Colorado voters did pass Amendment 71, which anti-fracking advocates criticize as hindering local control.¹

Faced with perpetual regulatory uncertainty and increasing local expectations over industry, at least a dozen Colorado municipalities and counties turned to Memorandums of Understanding (MOUs) to attempt to reconcile the interests of their constituents with industry activity. The MOUs establish a set of Best Management Practices for unconventional energy development, providing more local control over the permitting and production of wells, which otherwise falls to the COGCC.² In exchange for adhering to those best management practices, operators receive increased speed and certainty in permitting. As options to restrict industry activity narrow in the wake of the Supreme Court ruling and November 2016 election, MOUs will likely become increasingly appealing for local governments weary of unconventional energy development but unable to ban it outright.

Our research seeks to understand if and how MOUs affect public perceptions of fracking in Colorado. Social science research in other communities experiencing unconventional energy production demonstrates a correlation between mistrust of governing bodies and citizens' increased perception of risks and problems (Brasier et al., 2013; Ferrar et al., 2013; Goldstein et al., 2013; Jacquet, 2014). We hypothesized that by providing greater transparency and public participation in the governance process, MOUs had the potential to increase trust in local government and therefore also trust in the industry. For our study we chose Erie, a politically heterogeneous suburban Colorado town that was the first in the state to adopt MOUs.³ While public comments have become significantly more favorable toward oil and gas development over time, our mixed methods research revealed that the MOU itself did not significantly change those perceptions. The more significant factor was the election of a town board committed to processes of engagement and transparency, including a meaningful revision of the original MOU.

2. Background

2.1. Demographic information

Erie, located 35 miles north of Denver, can be described as a privileged population in terms of wealth, education, and race. As indicated in Table 1, it is a relatively economically privileged community, with high median household income, high home values, high home ownership rates, and low poverty rates. The town also has high education rates, and most residents identify as white.

Erie has experienced rapid growth for over twenty years. From 2000 to 2010 the town more than tripled from about 6000 to about 20,000 residents. The 2000 figure also represents a tripling of the 1990 population, which was under 2000 (US Census Bureau, 2010). This growth has been driven by a “baby boom” in young families (Aguilar, 2012), as evidenced in Fig. 1. These observations correspond with the overt references to Erie's identity as a “family-friendly” town in Town Hall meetings devoted to discussion of growth, recreational marijuana shops, and oil and gas development. In an interview one town official

¹ To be placed on the state ballot for voting, measures must gain signatures from at least two percent of the voters in each of the state's 35 senate districts, meaning that activists can no longer rely primarily on signatures gathered in the liberal strongholds of Denver and Boulder. If an issue makes the ballot, 55% of voters rather than a simple majority, would have to approve it for it to become law.

² See a bibliography of MOUs at <http://www.oilandgasbmps.org/bibliosearch.php?pagenum=1&dispent=60&sortby=authorName&sortdir=asc&mode=2&match=all&kw=mou&disp%5B%5D=citationID&disp%5B%5D=pubName&disp%5B%5D=authorName&disp%5B%5D=pubYear&showanno=1&showsect=0&showent=1&sortby2=pubYear>

³ La Plata County in southwestern Colorado had previously been using MOUs to govern oil and gas activity on a well-by-well basis, but Erie was the first to do so on an operator-by-operator basis, covering multiple wells.

Table 1

Demographic characteristics of Erie (United States Census Bureau / American Fact Finder, 2015).

	Erie	Colorado	United States
Median household income, 2009–2013, in 2013 USD	\$103,796	\$58,433	\$53,046
Percent in poverty	4.1%	13.0%	14.5%
Median value of owner-occupied housing units, 2009–2013	\$340,800	\$236,200	\$176,700
Owner-occupied housing unit rate, 2009–2013	82.6%	65.4%	64.9%
Percent high school graduate	97.9%	90.2%	86.0%
Percent bachelor's degree	56.3%	37.0%	28.8%
Identify as “white alone”	89.2%	87.5%	77.1%

noted that “Erie's brand is young families,” reinforcing the idea that a safe, quiet atmosphere is central to the town's plans for continuing growth.

Erie is also politically heterogeneous (Fig. 2). Voter registration information is divided among Boulder and Weld Counties, with Weld County containing more Republican voters and Boulder County more Democratic voters. However, the town of Erie as a whole exhibits greater balance between registered Republicans and Democrats, leading to its treatment as a political bellwether for both state and national politics (Healy, 2014). As debates about unconventional energy mounted in 2012, a wide swath of Erie residents took an active role by joining citizen advocacy groups and making public comments at local government hearings.

2.2. Community controversy and MOUs

The first widespread activism against unconventional energy production came in 2012, as the “mom-powered” activist group Erie Rising raised concern about the potential air pollution and health hazards of the Canyon Creek well, proposed 1500 feet from two elementary schools (Erie Rising, 2016; Fig. 3). In response, the Erie town government enacted a moratorium to suspend further oil and gas development until studies on air quality were conducted and the town could develop a method to work with oil and gas companies. The study found low probable impact on air quality (Ellwood, 2012), and the well was eventually drilled and completed with almost no further public comment or criticism. One legacy of the conflict was the development of an MOU between the town of Erie and the two companies with a strong presence in the area—the first of its kind in Colorado. Once the MOU was signed, the moratorium was lifted and oil and gas activity resumed.

The original MOU was revised in 2015 in the midst of another public controversy over another controversial well. The Pratt well, located 800 feet from residences in an Erie neighborhood, encountered multiple problems during drilling in late 2014. Initial excavation to install a pipeline uncovered trash from an abandoned landfill, which had been a receptacle for hazardous chemical and industrial waste (Buckingham, 1990). The operator failed to cover the trash promptly, resulting in this potentially contaminated trash blowing through nearby streets (Rubino, 2014). The operator also safely flared unexpected gas, but failed to inform nearby residents, raising alarm. Drilling also consistently exceed the state's acceptable noise limits, with 39 noise complaints being filed to the COGCC in one month alone. Because the existing agreement was set to expire in August 2015, the Town Administrator was re-negotiating the agreement while the Pratt incident was unfolding.

3. Literature review

Social scientists have identified multiple variables that shape how the public perceives the risks and benefits of hydraulic fracturing, and

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