

Chapter 5: A Plan for Change

“The only way to get the whole industry working on the problem is to craft new regulations and enforce them.”

– Paul Gunning, Environmental Protection Agency Climate Change Division Director

Legal, economic, and political frameworks support routine venting and flaring in Texas. By creating legal opportunities to unnecessarily vent and flare, state law and administrative code legitimates unnecessary venting and flaring. Since immediate financial incentives often outweigh the immediate economic costs of venting and flaring, prevailing economic structures encourage unnecessary venting and flaring. Furthermore, industry influence over TXRRC election and policy outcomes prevents the state from enacting strict anti-flaring regulation. Since prevailing legal, economic, and political structures support venting and flaring practices, in order to transform venting and flaring practices, political, legal, and economic structures must change. In this chapter, I discuss the need for change and lay out five recommendations. I conclude by summarizing the pathways to venting and flaring described in this thesis and how the recommended changes will eliminate current pathways.

5.2. The Need for Change

Although prevailing structures create incentives for individual operators to vent and flare, venting and flaring practices continue to produce immediate environmental harms for wider society and long-term economic harms for the individual operator. For economic, environmental, and social justice reasons, there is a need for current venting and flaring practices to change.

Venting and flaring is an economic waste for the state. Venting and flaring practices continue to expand, even as there is a bust. While prior to the shale oil boom in 2005, 7,743 million cubic feet of natural gas worth over \$67 million was wasted by flaring or venting at extraction sites in Texas. In 2012, the amount grew over six fold to 48,192 million cubic feet worth nearly \$228 million. The amount continues to expand. This waste of a finite natural resource results in immediate economic losses for the state and mineral rights owners.

Venting and flaring also contributes to global climate change. Flaring and venting releases a large amount of greenhouse gasses into the atmosphere including carbon dioxide and methane gas. In fact, flaring and venting is the largest source of methane emissions by the oil and gas industry (EPA 2017). This is particularly problematic because over the course of 100 years, methane contributes to climate change over 25 times as much as carbon dioxide (EPA 2015). Global climate change threatens our planet by changing global temperatures, leading to extreme weather patterns and rising sea levels. Since current venting and flaring practices by the oil and gas extraction industry is a major source contributing to climate change, it is important to change prevailing venting and flaring practices.

Finally, venting and flaring is problematic because it produces environmental injustices. In 2012, flaring conducted in the Eagle Ford Shale, which is just one of Texas’ many oil and gas shale plays, led to over 15,000 tons of pollutants being released into the atmosphere, which is more than high-polluting Texas oil refineries (Tedesco and Hiller 2014). Flaring is the largest industrial source of smog, which exposes surrounding populations to potential negative health effects, such as asthma. Furthermore, as

this research shows, the hazards of venting and flaring disproportionately rest on Hispanic populations. As such, it is a producer of environmental racism affecting a growing minority population.

In sum, regardless if you prioritize economic productivity or environmental and social justice, venting and flaring by the oil and gas industry is a problem. Additionally, venting and flaring is not a problem that is going away. Even as shale oil and gas development slows, venting and flaring practices continue to expand. As such, there is a growing need to change social structures to eliminate unnecessary routine venting and flaring practices.

5.2. Five Recommendations for Change

5.2.1. Strengthening Regulatory Frameworks

As described in Chapter 2, amendments to Statewide Rule 32 created legal opportunities for companies to waste gas that could otherwise be sold for a profit. In order to ensure companies do not continue wasteful practices, TXRRC must eliminate legal loopholes. Therefore, I recommend the advise of legal scholar and professor Brett Wells, JD (2014:355), that “statewide Rule 32 be amended to allow the flaring of natural gas only after the operator establishes that a “no-flare policy would itself result in physical waste or would represent a potential loss of one’s opportunity to obtain a fair share of the oil and gas in place.” This would ensure RRC policy prioritizes its original purpose to minimize waste while still ensuring companies are able to fairly participate in the market.

5.2.2. Campaign Finance Reform

Prior to its establishment as an oil and gas regulatory agency, TXRRC was changed to be run by three elected officials rather than appointed ones. With big financial interests, TXRRC elections have become dominated by the oil and gas industry. In order to keep industry money from dominating local politics, Texas state legislature must enact campaign finance reform laws. First of all, state laws should limit the time and amount of financial contributions that can be received by those running for office. By creating a lower threshold for the length and financial resources of a campaign, unfair industry influence on TXRRC election actions can be minimized. Also, to ensure TXRRC commissioners do not use their power to ensure industry support for a re-election campaign, TXRRC commissioners should only be allowed to serve one term in office. By shifting power away from industry selected TXRRC candidates and toward TXRRC state managers (while keeping industry power over state managers in check by the continued enforcement of Texas revolving door provisions), industry dominance of TXRRC outcomes can be minimized.

5.2.3. Strengthening Fiscal Frameworks

As described in chapter 2, since companies face few, if any, economic repercussions for venting and flaring, there are few financial incentives for companies to eliminate flaring. Since corporate boards are often judged by quarterly profit reports, financial incentives and penalties drive corporate behavior. This is especially true in regard to venting and flaring. As shown in the previous chapter, extreme pollution is associated with economic costs such as the density and primary commodity of the facility. Since natural gas is the primary commodity of gas extraction facilities, in comparison to oil extraction facilities, gas extraction facilities vent and flare at a much lower rate. Furthermore, because there are more incentives to pool resources and establish the technology and infrastructure to eliminate venting and flaring in more densely developed areas, there is a significant negative correlation between development density and extreme venting and flaring.

While there are some inherent financial incentives associated with venting and flaring (i.e., the density and primary commodity of the facility), state created fiscal frameworks can be used to eliminate routine venting and flaring (World Bank 2009). Fiscal frameworks must enhance the financial penalties for venting and flaring and enhance the incentives to utilize gas that is otherwise being vented or flared using a two-pronged penalty and incentive approach. A penalty approach should be taken by the Texas legislature to provide TXRRC with the resources and mission to routinely identify and heavily fine venting and flaring facilities. The financial incentives approach should be taken by the TXRRC by reducing taxes on facilities that invest in the development, purchase, or rental of gas utilization equipment. This two-pronged approach must shift conditions such that the financial incentives to utilize extracted natural gas will outweigh the financial costs. Since money matters to corporations, shifting the financial conditions involved in decisions to vent and flare will change venting and flaring outcomes.

5.2.4. Using Litigation to Force Compliance

There are several avenues for mineral rights owners, surface rights owners, and adjacent landowners to use private litigation to force companies to eliminate wasteful venting and flaring practices (Wells 2014). First of all, to sue venting and flaring operators, mineral rights owners can use legal precedent that the mineral rights owner is entitled to receive maximum gross royalties (Natural Gas Pipeline Co. of America v. Pool), and the fact that flaring reduces gross royalties. Second, surface rights owners can sue venting and flaring operators by using tort law to claim that venting and flaring is a nuisance that affects air quality. By enacting the legal advice laid out in the Texas Journal of Oil Gas and Energy Law (Wells 2014), mineral rights owners, surface rights owners, and adjacent landowners can use private litigation to legally force companies to eliminate venting and flaring. Based on historical evidence described in Chapter 2, litigation is a critical component in forcing companies to eliminate unnecessary venting and flaring practices.

5.2.5. Increasing Public Access to Information

Prior to this research, point-level maps of venting and flaring volumes were not publicly available. To create these maps, in addition to using GIS resources made available through a National Science Foundation Grant (SES) and affiliation with Texas A&M University, TXRRC required several thousand dollars of payments. While Texas law allows state agencies to have the option to waive fee requirements if the information will primarily benefit the public, even though it was not disputed that by producing mobile-friendly GIS maps of the data, the research will primarily benefit the public, Public Information Act fee waivers were denied. In addition to the large economic cost to access comprehensive information about lease venting and flaring estimates, a large amount of technical skill and time was required to examine the places most affected by venting and flaring. As described in the Appendix, to find the places where venting and flaring occurs required connecting multiple datasets and making multiple requests for information since information provided was incomplete. In order to make information more accessible to the public, the Texas Railroad Commission should be required waive all Public Information Act fee requests for academic researchers and to make editable online maps of monthly and yearly venting and flaring estimates (like that produced by this project and made available to the public at

<http://tamu.maps.arcgis.com/apps/webappviewer/index.html?id=05ba58ab4ef1441389289d34395d3587>).

5.3. Conclusion

This thesis explored the social structures that support extreme pollution from venting and flaring. These structures are described as coercive, quiescent, expropriative and inertial. Coercive structures involve those that provide minimal local resistance to extreme pollution through hard power. The coercive power of the state has a major effect on venting and flaring engagement and magnitude. Other coercive structures like the surrounding community ethnic makeup, contribute to whether a facility engages in venting and flaring, but are not related to extreme venting and flaring. Quiescent structures involve those that provide minimal local resistance to extreme pollution through soft power. The quiescent power of operators, as shown through the company's gas market share, is a major predictor of extreme venting and flaring. Expropriative structures, which involve the weighing of economic costs and incentives, are also major factors associated with extreme venting and flaring. Finally inertial structures such as size are also explored. Larger companies that make up a greater market share are more prone to extreme pollution. However, due to a lack of comprehensive public data, inertial structures such as ultimate parent company size and age were not examined. Future research will examine these configurations using restricted data available in a Federal Statistical Research Data Center.

In order to change venting and flaring practices, we must change these coercive, quiescent, expropriative, and inertial structures that support them. This can be done by strengthening regulatory frameworks, enacting campaign finance reform, strengthening fiscal frameworks, using private litigation to force compliance, and increasing public access to information. By closing loop holes that allow unnecessary venting and flaring, by providing accessible information to affected communities, and by encouraging the pursuit of private litigation in cases where companies unnecessarily vent and flare, coercive structures can be strengthened to eliminate unnecessary venting and flaring. Quiescent structures, like the influential soft power of money in campaign finance, can also be enhanced to decrease the power of hyper-polluters. Finally, expropriative structures can be fixed by changing fiscal frameworks such that the costs of venting and flaring outweigh the financial incentives to fail to invest in the technology, equipment, and infrastructure necessary to eliminate routine venting and flaring. While venting and flaring is a growing concern, venting and flaring practices are not normal or inherent; they are the result of socially constructed political, legal, and economic arrangements. By changing these man-made social structures, venting and flaring can be a problem of the past.

5.4. References

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