Pennsylvania Methane Emissions Policy Analysis

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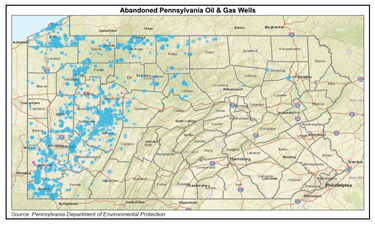
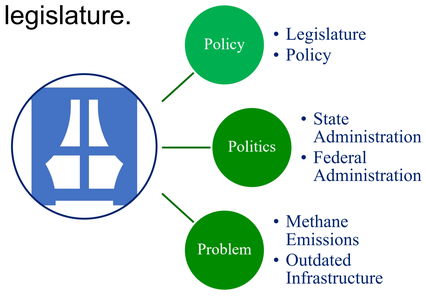
Background

- Pennsylvania and the **Marcellus Shale Basin** have historically been a dominant player in domestic natural gas and oil production; even more so with the advent of fracking to access the Marcellus Shale Basin
- With hundreds of thousands of wells across the state, the leakage of methane has been identified as a serious concern and recognized by recent administrations. Both the **Biden** and **Shapiro administrations** have allotted resources toward curbing methane levels to decrease greenhouse gas emissions and improve health outcomes
- The presence of hundreds of thousands of abandoned and orphaned wells on top of operating conventional and unconventional well sites leads to concerns over gaps in current legislature and policy regimes



Methods

- The framework for the policy analysis was a **mainstream orientation**, which focused specifically on the role that policy actors play and their interaction with policymaking[1]. Specifically, **Multiple Streams Theory (MST)**[2] was used to analyze the overlaps of policy, problem, and politics streams.
- Evidence collected included government publications, Pennsylvania legislature, previous political analyses, industry publications and press releases, oil and gas association publications, non-government organization, and environmental group publications, and scientific research were all examined surrounding current methane emissions legislature.



Results

Self-Reporting and Regulating

Independent studies have continuously illustrated a lack of accuracy when oil and gas companies were allowed to submit self-reported figures[3]. However, the most recent Pennsylvania emissions legislature, published in 2022, gives companies relaxed guidelines in their monitoring regimes.

All identified emissions are treated the same, despite recent understandings that the majority of methane emissions typically come from a small percentage of point sources[4]. Timelines for companies to amend discovered fugitive emissions sites are uniform in Pennsylvania legislature.

Underutilization of Third-Party Monitoring Regimes

Under the Biden Administration, the EPA's 2023 final rule for oil and natural gas operations introduced a Super Emitter Program, which will allow third-party expertise to engage in remote sensing to detect large methane releases in the oil and natural gas production sector[5]. This prevents a significant opportunity for Pennsylvania to encourage citizen engagement and utilize third-party technology.

Addressing Fugitive Emissions from Abandoned and Shut-in Wells

There are currently no requirements for monitoring emissions of abandoned wells, with monitoring of shut-in wells only being required if operations resume. However, studies have shown that abandoned wells contribute 4-7% of total Pennsylvania methane emissions[6]. The minimalized focus on abandoned wells is a missed opportunity to tackle a significant portion of methane emissions.

Lack of Orphaned Well Coverage

Despite access to up to $400 million USD through the Infrastructure Investments and Jobs Act to clean up orphaned wells, there has been minimal progress, and no concrete policy regime.

Image of Orphaned Well from PA DEP

Conclusions

Based on analysis of current regulations, policy recommendations include:

- Strengthen self-reporting guidelines and requirements to promote accurate monitoring, timely remediation, and appropriate disclosure
- Incorporate third-party and civic engagement to increase abandoned well identification programs
- Increase responsibility on registered owners of abandoned and shut-in wells to monitor fugitive emissions
- Align policy strategies with IIJA goals to capitalize on available funding for plugging orphaned wells

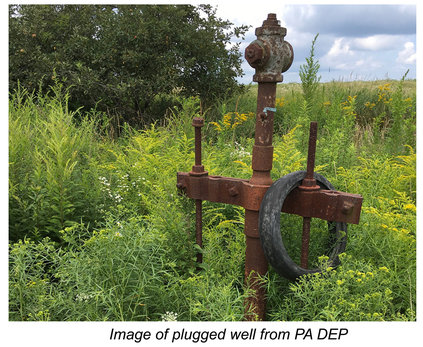


Image of plugged well from PA DEP

Acknowledgements

I would like to extend my appreciation to Dr. Andrew Huemmler, Dr. Jane Dmochowski, and Jimil Ataman.

Citations

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