Gone with the Wind:
How Taxpayers Are Losing from Wasted Gas

August 2016

Taxpayers for Common Sense ("TCS") requested information about the disposition of federal gas on onshore federal leases[1] from the Office of Natural Resource Revenue ("ONRR"), the Department of the Interior ("DOI") office that manages revenues owed for development of federal energy and natural resources. TCS analyzed the information in the context of recent revelations about data reporting and accounting lapses at the Bureau of Land Management ("BLM"). The results of that analysis presented in this report add to and update the 2014 TCS report, "Burning Money." Here is what we found:

- The total amount of lost gas reported by oil and gas companies to DOI is significantly less than the amount of lost gas from the oil and gas operators recorded by the Environmental Protection Agency and non-government groups.[2]
- BLM field offices often are inconsistent in applying and complying with department guidance when approving and categorizing flaring and venting activity.[3] This inconsistency has decreased the amount of revenue collected by the DOI because less lost gas is subject to royalties.

Oil and gas companies reported the "unavoidable" loss of 171.8 billion cubic feet of natural gas from federal lands from 2006 through 2015.

Gas flaring in Colorado

Taxpayers for Common Sense is an independent voice for taxpayers working to increase transparency and expose and eliminate wasteful and corrupt subsidies, earmarks, and corporate welfare.

- According to ONRR data, the amount of natural gas "unavoidably" lost by oil and gas companies from venting and flaring operations was 10 times the amount "avoidably" lost from 2006 through 2015. The BLM does not require companies to pay royalties on unavoidably lost gas.
- Oil and gas companies reported the "unavoidable" loss of 171.8 billion cubic feet ("bcf") of natural gas from federal lands from 2006 through 2015.
    - ◊ At the average yearly price of natural gas, this lost gas had a market value of roughly $878.1 million dollars.
    - ◊ Because this gas was "unavoidably" lost, no royalties were paid to taxpayers. If it had incurred a royalty of 12.5 percent,[4] it would have generated $109.8 million in royalty payments.
- During this period, these same companies reported the "avoidable" loss of 17.6 bcf of natural gas.
    - ◊ At the average yearly price of natural gas, this lost gas had a market value of roughly $73.2 million dollars, and should have incurred a royalty of $9.2 million.
- Oil and gas operators reported the "beneficial use" of 711.8 bcf of natural gas to power their equipment on federal leases. Operators are allowed to consume this gas free-of-charge.
    - ◊ At average yearly prices, this gas would have had a market value of $3.72 billion.
    - ◊ No royalties are paid on this gas. If royalties were paid at the royalty rate of 12.5 percent, it would have generated $465.1 million in royalty payments.

Oil and gas companies drilling on federal lands are losing a significant amount of natural gas. In their drilling operations, they are consuming free-of-charge gas worth billions of dollars while some gas is also being leaked into the atmosphere from drilling equipment. Historically, these companies have paid royalties on only a tiny fraction of this lost gas, and the DOI does not have a system to track those losses.

Context

The BLM is finalizing a new rule entitled, "Waste Prevention, Production Subject to Royalties, and Resource Conservation," which is meant to curtail the loss of natural gas from oil and gas drilling on federal leases. Existing rules[5] allow for the loss of natural gas in certain cases, exempting oil and gas companies from royalty payments on gas vented (released directly into the atmosphere) or flared (burned) with prior authorization or approval.[6] Because the volume of such "unavoidably" lost gas is 10 times the "avoidable"

Methane flaring

The Bureau of Land Management (BLM) within the Department of the Interior (DOI) administers mineral leasing on 245 million acres of public lands.

In 1976, Congress passed the Federal Lands Policy and Management Act (FLPMA), which requires "the United States receive fair market value of the use of the public lands and their resources ..."

Congress further articulated BLM's authority in the Federal Oil and Gas Royalty Management Act of 1982, which states, "Any lessee is liable for royalty payments on oil or gas lost or wasted from a lease site when such loss or waste is due to negligence on the part of the operator of the lease, or due to the failure to comply with any rule or regulation, order or citation issued under this Act or any mineral leasing law."

View of tank emissions using infrared camera.

amount, historical data shows that BLM personnel have approved most requests to vent or flare gas.[7]

One of the central issues of the new rule is how to determine when gas is being wasted (i.e. "avoidably" lost), and should therefore incur a royalty. Mining companies pay the owners of natural resources a percentage of the proceeds from production and sale of the property. Oil and gas companies pay the federal government royalties of 18.75 percent of proceeds from the sale of oil and gas mined from offshore leases, and 12.5 percent from onshore leases. Most states charge higher royalty rates for state-owned oil and gas.

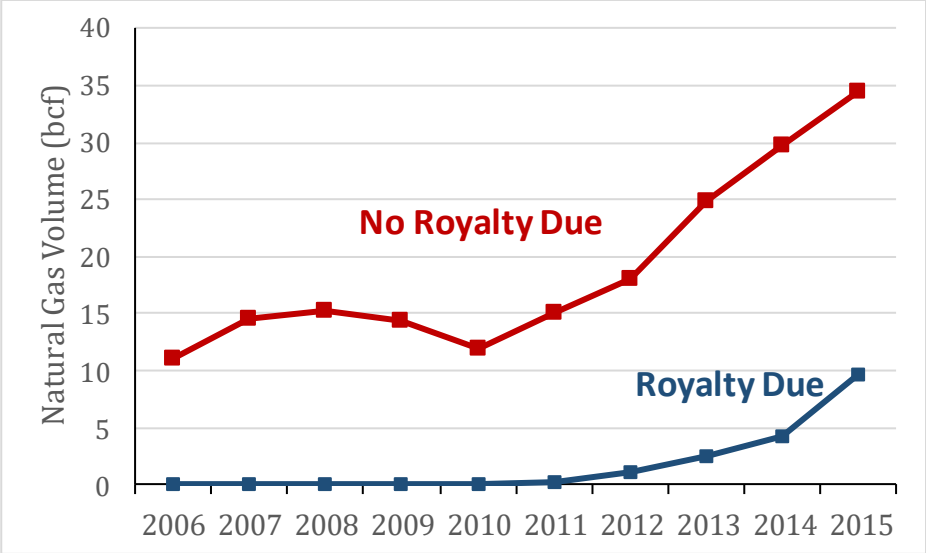
Existing rules rely largely on the judgment of a BLM Supervisor or Authorized Officer about what is "prudent and proper" or "reasonable" to determine whether gas has been wasted and should incur a royalty. This case-by-case approach was criticized recently by the Government Accountability Office ("GAO"), which looked at the extent to which the DOI could account for lost gas from oil and gas development, and how well BLM field offices managed requests to vent or flare. The problems identified by the GAO help explain why so much lost gas was considered "unavoidable," decreasing the amount of revenue collected by the DOI.

On the first question, the GAO found significant dysfunction in the DOI's accounting for lost gas. After identifying a number of procedural inconsistencies and shortcomings, the GAO concluded that the DOI "may not have a clear accounting of natural gas emissions, which could limit [DOI"s] ability to ensure that lessees pay royalties in the proper

amounts and minimize waste of natural gas." Specifically, the GAO faulted BLM field offices for:

- not providing specific instructions to operators for how to estimate the volume of lost natural gas;
- providing operators with only limited guidance on how they should record volumes of natural gas in the different categories on monthly reports; and
- not identifying which types of natural gas venting and flaring should be recorded on monthly reports.

Importantly, the BLM's problems accounting for lost gas identified by the GAO suggest that the data TCS received from ONRR may significantly underrepresent the total amount of natural gas vented and flared on federal lands. Other studies of natural gas emissions from oil and gas production done by the Environmental Protection Agency[8] and ICF International,[9] among others, found significantly higher losses than those reported by the industry to the DOI.



The GAO also reported substantial inconsistencies among BLM offices in processing requests to vent or flare natural gas and determining whether the resulting loss of gas should be subject to royalty. On this question, the GAO's first major finding was that, even though the vast majority of requests to vent or flare were not accompanied by the appropriate documentation, many were still approved by BLM field offices. These approvals directly contravened the agency's standing guidance.

Specifically, the GAO estimates that 90 percent of the 1,281 requests received by BLM field offices in fiscal year 2014 did not contain the appropriate documentation. Such documentation is essential to justifying why a venting or flaring event is necessary, and whether the release is "avoidable" or "unavoidable." Astoundingly, the BLM approved 70 percent of those FY 2014 requests anyway, and deemed roughly half of all approved requests unavoidable, or royalty-free. As a result, the GAO estimates that 97 percent of the requests approved and deemed royalty-free lacked the documentation the BLM guidance requires to justify such a designation.

The quirks in the approval process were somewhat explained by the GAO's second major finding on request processing. The GAO found that the various BLM field offices greatly differ in how they apply department guidance to determine whether lost gas is "avoidable" or "unavoidable." Of the six BLM field offices that the GAO surveyed, three have interpreted the standing guidance (NTL-4A, discussed below) to mean that all approved venting and flaring is "unavoidable."

In contrast, two other offices, in Carlsbad, New Mexico, and Casper, Wyoming, have employed a considered approach in recent years to adjudicating whether venting or flaring incidents should be subject to royalties. The Carlsbad office met with local operators to understand their capability to avoid venting and flaring, and took regional production trends into account when deeming certain natural gas releases "avoidable" or "unavoidable." The Casper office, meanwhile, took operators economic justifications for venting and flaring requests into account when determining if venting or flaring should require royalty payments. That finding from the GAO was corroborated by the data we received from ONRR. Of all gas lost on federal lands between 2006 and 2015, only nine percent was deemed "avoidable". Of all "avoidable" gas, furthermore, 99.9 percent was recorded in New Mexico and Wyoming.

Consistent with the GAO report, the BLM conducted an internal review of how it processes requests to flare or vent gas and found "substantial variation in how the BLM has interpreted and applied the standard" for approval.[10] The BLM review found instances of personnel approving requests to flare gas because not doing so would impose small net costs on the operator. The circumstances, the personnel found, met the standard under current rules for "unavoidable" loss—the reason being that any net cost at all could theoretically cause an operator to abandon a well earlier than it would otherwise.[11] The GAO also found that two BLM field offices had backlogs of more than 1,000 venting or flaring requests, in addition to processing drilling permits or permitting rights-of-way for gas gathering pipeline.[12] DOI officials said that natu-

Oil derrick drilling

Summary of BLM's Proposed Methane Rule

Good: BLM is proposing to charge a royalty on gas that is flared from wells that are connected to capture infrastructure.

Bad: No royalty charged for flaring from wells not connected to gathering infrastructure.

Good: BLM proposes to set a flaring limit of 1,800 Mcf/month/well, averaged over all producing wells on a lease.

Bad: The rulemaking needs to provide a more direct statement that all flaring above the flaring limit are subject to a royalty payment and possible penalties.

BLM should charge royalties for all flaring of associated gas from all wells. Not charging royalties reduces the incentive to install or extend gas capture equipment.

ral gas emissions have "generally been royalty-free" because their focus has historically been on collecting data on royalty-bearing oil and gas production.

All of the findings by the GAO and the BLM in its review explain why roughly 90 percent of federal gas oil and gas operators reported as vented or flared was royalty free. In its proposed changes, the BLM would generally prohibit all venting of gas and would charge royalties on flared gas from wells that are already connected to capture infrastructure. However, the GAO found, "these proposed regulations do not address the key limitations in reporting and accounting for emissions that we identified."

Assessing the soundness of approvals by BLM state personnel is difficult because documentation for thousands of applications to vent or flare gas is retained at resident BLM state offices and not available in any single location. ONRR collects and centralizes two different data sets to measure volumes of gas extracted and sold from federal leases: 1.) production and disposition data from drilling operators, and 2.) sale and royalty data from federal lessees. In theory, the total amount of gas extracted from oil and gas wells and the amount of gas sold, minus the gas utilized, stored, or lost along the way, should be equal. Ideally, it should be possible to publicly account for every cubic foot of gas removed from federal leases. However, while aggregate data reported by federal lease holders for sales volumes, sales amounts, and royalties is available on the ONRR website, data reported by drilling operators for beneficial purposes, venting, flaring, and other disposition volumes of gas is not.

Conclusion

Experience has demonstrated that administering a "waste" standard on a subjective, case-by-case basis is unrealistic and unworkable for the oil and gas resource owners, and federal taxpayers. Both the GAO and the BLM have identified specific problems that have cost taxpayers money by dramatically decreasing the amount of natural gas being vented and flared that is subject to a royalty. The inconsistent application of "waste" standards is one of the principal failures of existing rules that the BLM's proposed update is meant to fix. As part of its effort to curtail waste of natural gas, the BLM must address the underlying problems with the process of approving and recording lost gas.

Summary of BLM's Proposed Methane Rule

Good: Venting prohibited, except emergencies and venting from certain equipment subject to proposed limits. Replace all "high bleed" pneumatic controllers with "low bleed" controllers within one year.

Good: Requires use an instrument-based leak detection and repair (LDAR) program to find and repair leaks twice a year.

Good: Modifies the existing regulation to give BLM discretion to raise the royalty rates for onshore oil and gas leases above 12.5 percent for new competitive leases, consistent with the statutory authority in the Mineral Leasing Act.

Good: Requires submission of plan with an Application for Permit to Drill to also be shared with midstream gas capture companies.

Bad: Waste minimization plan details would not be enforceable by BLM.

Endnotes:

1. The data included in this report are limited to the federal mineral estate. The dataset does not include disposition of gas from Indian mineral rights or non-federal mineral rights. The BLM administers some leases that include more than one mineral estate, known as "mixed estate" leases. The data reflect only the natural gas volumes attributed to the federal share for these leases.

2. Comparison of federal-only disposition values is difficult because most studies of methane losses from oil and gas production include non-federal gas. Even when adjusting aggregate data for only the federal share of total production, the amount of estimated lost gas is higher in most studies than what is reported by industry to ONRR.

3. U.S. Government Accountability Office, "Interior Could Do More to Account for and Manage Natural Gas Emissions," GAO-16-607, Report to Congressional Requesters, July 2016.

4. Federal lessees pay royalties to the federal government for the right to mine and sell publicly owned resources. The royalty rate for onshore natural gas is 12.5 percent of the sale price.

5. Notice to Lessees and Operators of Onshore Federal and Indian Oil and Gas Leases, "Royalty or Compensation for Oil and Gas Lost (NTL-4A)." Effective January 1, 1980.

6. BLM allows venting or flaring of gas in cases of emergencies, and for certain well evaluation and production tests. Unavoidably lost gas also includes "fugitive" emissions released from storage tanks or other low-pressure production vessels, or because of equipment malfunctions.

7. "Oil and Gas Leasing; Royalty on Production, Rental Payments, Minimum Acceptable Bids, Bonding Requirements, and Civil Penalty Assessments," Proposed rule by Bureau of Land Management at 80 FR 2214, April 21, 2015.8Table: "Summary of State & Private Land Royalty Rates" at 80 FR 22152.

8. U.S. Environmental Protection Agency, "Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 – 2014" April 15, 2016

9. ICF International, "Onshore Petroleum and Natural Gas Operations on Federal and Tribal Lands in the United States" June 23, 2015

10. "Waste Prevention, Production Subject to Royalties, and Resource Conservation" Proposed Rule at 81 FR 6616 (February 8, 2016)

11. NTL-4A allows the BLM to approve flaring if it is justified by data showing that "the expenditures necessary to market or beneficially use such gas are not economically justified and that conservation of the gas, if required, would lead to the premature abandonment of recoverable oil reserves and ultimately to a greater loss of equivalent energy than would be recovered if the venting or flaring were permitted to continue."

12. GAO-16-607 at 23.

Notes:

Contact Us

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