



## **BLM Forum on Venting and Flaring of Gas Produced from Onshore Federal Lands**

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May 15, 2014

Good afternoon, my name is Tomás Carbonell and I am Senior Attorney in the Climate and Air Legal and Regulatory Program of Environmental Defense Fund (EDF). EDF is a nonprofit, nonpartisan organization that combines law, policy, science, and economics to find solutions to today's most pressing environmental problems. On behalf of EDF and its over 750,000 members nationwide, I'd like to express our appreciation for BLM's outreach on the critical issue of venting, flaring, and other avoidable waste of natural gas on Federal lands. Reducing waste of natural gas on Federal lands is a core element of the President's strategy to reduce methane emissions, and we urge BLM to take swift and effective action in support of that goal.

Venting, flaring, and leaks from oil and gas facilities on Federal lands not only contributes to climate change and threatens public health, it represents an irresponsible and unnecessary waste of natural resources that BLM is charged by statute with protecting and preserving. The available data on natural gas losses from Federal lands points to a serious problem. As we all know, the GAO found in 2010 that between 4.2 and 5% of all natural gas produced onshore on Federal lands was vented, flared, or lost in fugitive emissions – enough gas to heat about 1.7 million homes each year.<sup>1</sup> Of this total gas lost, a significant proportion consists of gas that is simply vented or leaked to the atmosphere – a form of waste that causes the greatest harm to our climate and to public health. According to EIA, approximately 8.5% of the nation's onshore oil production and 14% of onshore gas production come from Federal lands. Based on current inventories, this suggests that approximately 545,000 metric tons of methane (about 36 billion cubic feet of whole gas) is being lost each year if we assume that the amount of natural gas

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<sup>1</sup> U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-11-34, FEDERAL OIL AND GAS LEASES: OPPORTUNITIES EXIST TO CAPTURE VENTED AND FLARED NATURAL GAS, WHICH WOULD INCREASE ROYALTY PAYMENTS AND REDUCE GREENHOUSE GASES (Oct. 2010).

venting from production and gathering facilities on Federal lands is in proportion to the amount of production that takes place there.<sup>2</sup>

Moreover, recent studies suggest that methane emissions in certain production basins could be much higher than even these inventories would suggest. A study released this month by NOAA, sponsored in part by EDF, found unexpectedly high emissions from oil and gas operations in the Denver-Julesburg basin based on measurements of local methane concentrations.<sup>3</sup> According to the NOAA study, between 2.6 and 5.6% of gas produced in the Denver Julesburg basin is lost to the atmosphere – nearly three times the amount estimated using data from EPA inventories. These results are consistent with prior “top down” studies from the Denver-Julesburg and Uinta Basins finding that existing inventories are likely underestimating actual emissions from oil and gas development.

These emissions are causing immediate climate and health harms. As much as 80% of produced natural gas can consist of methane, which is a potent accelerator of climate change. The National Climate Assessment released last week reported that climate change is already causing a host of adverse effects around the United States, including longer and more frequent droughts and heat waves; more frequent and intense extreme weather events; increased flooding; larger wildfires; and longer fire seasons.<sup>4</sup> At the same time, methane is now believed to be an even more potent contributor to climate change than we previously thought. More than one-third of today’s human-caused global warming comes from highly potent, short-lived climate pollutants that include methane, according to the Intergovernmental Panel on Climate Change (IPCC).<sup>5</sup> The most recent IPCC report also found that a ton of methane is 84 to 86 times more potent than the same amount of CO<sub>2</sub> within the first two decades after it is emitted, and 28 to 34 times more potent within the first 100 years after it is emitted.

In addition to methane, upstream oil and gas facilities emit other harmful co-pollutants including carcinogens, such as benzene, and smog-forming volatile organic compounds. Volatile organic compounds contribute to ground-level ozone formation and cause a range of human health issues, including heightened risks of cancer, respiratory disease, and developmental disorders in children.

We also know that there are common-sense, cost-effective technologies available to reduce methane emissions across the oil and gas supply chain, and that many of these technologies would even end up saving the industry money over time. The scope of this opportunity was

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<sup>2</sup> This calculation was based on the inventory used in the ICF report for the production and gathering segments. In the ICF report and for the purposes of this testimony, whole gas was assumed to have a volumetric methane content of 78.8 percent.

<sup>3</sup> Gabrielle Petron et al., *A new look at methane and non-methane hydrocarbon emissions from oil and natural gas operations in the Colorado Denver-Julesburg Basin*, J. GEOPHYSICAL RES. ATMOSPHERES, DOI: 10.1002/2013JD021272 (May 2014).

<sup>4</sup> U.S. GLOBAL CHANGE RESEARCH PROGRAM, 2014 NATIONAL CLIMATE ASSESSMENT (May 2014).

<sup>5</sup> CLIMATE CHANGE 2013: THE PHYSICAL SCIENCE BASIS, CONTRIBUTION OF WORKING GROUP I TO THE FIFTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (Thomas F. Stocker et al., eds. 2013).

recently brought into sharp relief in a report that EDF commissioned from the independent consulting firm ICF. According to ICF's report, approximately 40% of methane emissions from the nation's oil and gas sector could be eliminated by 2018 at a total cost of just one penny per thousand cubic feet of gas produced in this country.<sup>6</sup> GAO's report found that a similar proportion of natural gas losses from Federal leases could be cost-effectively eliminated. Many of the methane-reducing measures highlighted in the report could be feasibly applied to the thousands of well sites, gathering and processing facilities, and transmission compressor stations on Federal leases and rights-of-way that are subject to BLM jurisdiction.

BLM has the responsibility and legal authority to ensure that critical protections to minimize venting, flaring, and other waste of oil and gas are implemented on Federal lands. The Mineral Leasing Act, for example, requires holders of Federal oil and gas leases to "use all reasonable precautions to prevent waste," directs BLM to regulate "all surface-disturbing activities" on Federal leases "in the interest of conservation of surface resources," and broadly authorizes lease provisions "for the protection of the interest of the United States . . . and for the safeguarding of the public welfare."<sup>7</sup> BLM is further authorized to prescribe regulations and "do any and all things necessary" to carry out these functions.<sup>8</sup>

BLM has complementary responsibilities and authorities under the Federal Lands Policy and Management Act of 1976, which requires BLM to "take any action necessary to prevent unnecessary or undue degradation of the lands," and to issue all regulations necessary for the "management, use, and protection of the public lands, including the property located thereon."<sup>9</sup> FLPMA also requires that BLM manage Federal lands in a manner that "will protect the quality of" resources, including specifically "air and atmospheric" resources.<sup>10</sup> Through these legal mandates, BLM is charged with the responsibility and authority to address one of the most significant sources of methane emissions in the country.

We at EDF look forward to providing more detailed written comments in the weeks to come, and to continuing this dialogue with BLM and other stakeholders. For now, we will set forth a few principles that have guided our thinking on how BLM should structure its proposed rule for venting, flaring, and other natural gas losses.

1. First, we strongly support the adoption of broadly applicable regulations requiring the use of common-sense waste minimization measures. It is important that BLM rigorously carry out its responsibilities under the law, and consider not just much-needed revisions to current royalty policies (NTL-4A) but also direct regulations; use of BLM's extensive land-planning authorities; and other measures.

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<sup>6</sup> ICF INT'L, ECONOMIC ANALYSIS OF METHANE EMISSION REDUCTION OPPORTUNITIES IN THE U.S. ONSHORE OIL AND NATURAL GAS INDUSTRIES (Mar. 2014).

<sup>7</sup> 30 U.S.C. §§ 187, 225, 226(g).

<sup>8</sup> *Id.* § 189.

<sup>9</sup> 43 U.S.C. §§ 1732(b), 1733(a).

<sup>10</sup> *Id.* § 1701(a)(8).

2. Second, it is critical that BLM take action to minimize waste of gas from facilities and operations that are already in existence. ICF's report found that even four years from now, such sources will continue to be responsible for almost 90 percent of total methane emissions from the oil and gas sector.
3. Third, we urge BLM to mitigate product losses not just from facilities located on Federal leases, but also from oil and gas facilities located on other BLM lands. Gathering and transmission facilities, for example, are identified as a major source of natural gas leakage in the ICF report. To the extent these facilities are located on Federal rights-of-way, they are well within BLM's authority to regulate under the MLA.
4. Fourth, we note that in the materials distributed at previous public forums, BLM has suggested that some mitigation measures may not be required unless they are "economic." There are numerous social benefits associated with reducing losses of natural gas from Federal lands, and in addition BLM has an overriding legal mandate to minimize waste of resources. Accordingly, BLM should consider waste minimization measures that are cost-effective from a societal or regulatory point of view and reflective of what rigorous economic analysis and leading policies and practices have demonstrated to be cost-effective. If BLM does decide to propose some form of economic threshold for certain emission reduction measures, that threshold should be rigorous and should recognize the many social benefits associated with preventing loss of natural gas.
5. Lastly, we are encouraged to see that BLM appears to have identified some of the most important sources of wasted natural gas in the materials that it has distributed at prior public forums. As BLM crafts a proposed rule, we urge it to place a high priority on five measures in particular which were identified as major opportunities in the ICF report. Those measures include: i) comprehensive and frequent leak detection and repair (LDAR) at facilities in the production, gathering, processing, and transmission segments; ii) replacement of high-bleed pneumatic controllers, and high-emitting intermittent pneumatic controllers, with low-bleed models; iii) installation of vapor recovery systems on wet seal compressors, and regular replacement of reciprocating compressor rod packings; iv) control of emissions from oil wells, including mitigation of associated gas venting and oil well completion emissions; and v) control of liquids unloading emissions.

Although BLM should not wait for other agencies and jurisdictions to take action before proposing its own rules, we encourage BLM to work closely and collaboratively with EPA and states that have been developing expertise in reducing and preventing waste of natural gas. In February 2014, Colorado established the first set of rules in the nation to directly regulate methane emissions from the oil and gas production segment.<sup>11</sup> In addition to several other important control strategies, these regulations include the strongest-in-the-nation leak detection and repair program. Ohio has also followed suit and issued a rigorous program to address leaks from hydraulically fractured wells last month.<sup>12</sup> Finally, Wyoming – the state

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<sup>11</sup> Co. Dep't of Pub. Health & Env't Reg. No. 7 (5 CCR 1001-9), Unofficial Draft (Feb. 23, 2014) § XVII.F.

<sup>12</sup> Ohio Env'tl. Prot. Agency, General Permit §§ 12.1(C)(5)(c)(2), 12.2(C)(5)(c)(2).

producing the most oil and gas on Federal lands – has had an effective leak detection and repair program in place for certain new production facilities since September 2013.<sup>13</sup>

Again, we welcome BLM’s work on this issue and are pleased to see continued progress towards fulfilling this important part of the White House methane strategy. Strong action to minimize waste of natural gas on Federal lands is urgently needed in order to fulfill BLM’s fundamental responsibility to steward and conserve our nation’s resources. Thank you for your time and this opportunity to share our thinking on these issues.

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<sup>13</sup> Wyo. Dep’t of Env’tl. Quality, Oil and Gas Production Facilities: Chapter 6 Section 2 Permitting Guidance (June 1997, Revised Sept. 2013).