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OF RESOURCE COUNCILS ♦ WILDEARTH GUARDIANS ♦ WYOMING  
OUTDOOR COUNCIL**

January 27, 2014

The Honorable Sally Jewell  
Secretary  
U.S. Department of the Interior  
1849 C Street N.W.  
Washington, DC 20240

Dear Secretary Jewell,

As organizations with deep and longstanding concerns regarding the development of oil and gas resources in the American West, we write to express our strong support for the U.S. Bureau of Land Management's urgently needed effort to promulgate revised rules to prevent the waste of oil and gas resources, namely natural gas, from federal onshore oil and gas development.

BLM's current regulations are over 30 years old and do not adequately prevent the leaking, venting, and flaring of methane from oil and gas development. This loss of methane harms the climate and results in the waste of a valuable energy resource. Such waste contravenes the Mineral Leasing Act of 1920 which requires that the Bureau of Land Management, before granting leases to federally-owned onshore oil and gas resources, ensure that oil and gas producers "use all reasonable precautions to prevent waste of oil or gas developed...."

Reducing this waste would:

- Conserve domestic oil and gas resources;
- Safeguard the climate, environment, and public health; and
- Increase federal and state royalties.

The most recent U.S. Greenhouse Gas Inventory shows that the oil and gas industry leaked, vented, or flared approximately 8.4 million metric tons of methane in 2011, comparable to the emissions of 204 coal-fired power plants, assuming the most recent estimates of methane's 20-year warming potential provided by the Intergovernmental Panel on Climate Change. And while

there are divergent research findings regarding methane emissions, one conclusion rings loud and clear: significant reductions are within reach. Leaked, vented, and flared methane emissions can be reduced with proven, off-the-shelf technologies. These technologies are often economical, paying for themselves quickly, even at today's low natural gas prices.

The attached core principles document is divided into three sections. First, we highlight the problem—and opportunity—inherent in BLM's rulemaking process. Second, we provide an analysis of BLM's authority to prevent methane waste and pollution. And finally, with this foundation, we provide ten core principles that BLM should consider as it works to craft and then implement and enforce new rules to prevent methane/natural gas waste. These core principles, to summarize, are as follows:

1. BLM's revised waste rule should be expeditiously completed, implemented, and enforced.
2. BLM should consider an interim directive to ensure that waste is prevented pending a revised waste rule.
3. BLM's revised waste rule should prevent waste from all oil and gas methane pollution and waste sources.
4. BLM's waste rule should prevent waste from existing and future oil and gas development.
5. BLM's revised waste rule should integrate methane waste prevention efforts with BLM's "front end" planning and management tools.
6. BLM's revised waste rule should mandate—before leases are executed—the use of best available technologies.
7. BLM should significantly tighten and at times prohibit natural gas venting and flaring.
8. BLM's revised waste rule should be informed by the true and full cost of methane waste and pollution.
9. BLM should use a "carrot-and-stick" approach to facilitate the prevention of natural gas waste.
10. BLM should ensure public transparency and accountability.

We look forward to engaging with BLM and other stakeholders in a constructive and informed dialogue as the agency works to curb methane waste and pollution from the development of publicly owned oil and natural gas resources. We would therefore welcome the opportunity to discuss our recommendations in more detail.

Sincerely,



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# **WASTED OIL AND GAS RESOURCES ON FEDERAL LANDS**

Core Principles To Inform Modernization Of The U.S. Bureau of Land  
Management's 34-Year-Old Rules

## **Submitted By:**

AMIGOS BRAVOS ♦ CENTER FOR BIOLOGICAL DIVERSITY ♦ CITIZENS FOR A  
HEALTHY COMMUNITY ♦ CLEAN AIR TASK FORCE ♦ EARTHJUSTICE ♦ EARTHWORKS  
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RESOURCE COUNCILS ♦ WILDEARTH GUARDIANS ♦ WYOMING OUTDOOR  
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I.	INTRODUCTION .....	4
II.	NATURAL GAS WASTE IS A SERIOUS PROBLEM WITH PROVEN AND OFTEN ECONOMICAL SOLUTIONS.....	4
A.	OIL AND NATURAL GAS METHANE EMISSIONS AND EMISSION REDUCTION OPPORTUNITIES.....	4
B.	BLM’S EFFORTS TO CONTROL METHANE WASTE ARE IMPROVING BUT STILL INADEQUATE.....	8
III.	BLM HAS THE EXPANSIVE AUTHORITY, RESPONSIBILITY, AND OPPORTUNITY TO PREVENT METHANE WASTE AND POLLUTION.....	13
A.	THE MINERAL LEASING ACT’S DUTY TO PREVENT OIL AND NATURAL GAS WASTE .....	13
B.	THE PRESIDENT’S CLIMATE ACTION PLAN, THE FEDERAL LAND POLICY AND MANAGEMENT ACT, THE NATIONAL ENVIRONMENTAL POLICY ACT, AND SECRETARIAL ORDER 3289 COMPEL ACTION TO PREVENT OIL AND NATURAL GAS WASTE AND POLLUTION .....	14
IV.	BLM’S RULEMAKING SHOULD REFLECT THE FOLLOWING CORE PRINCIPLES .....	18
A.	OVERVIEW .....	18
B.	CORE PRINCIPLES .....	18
1.	BLM’s Revised Waste Rule Should Be Expeditiously Completed, Implemented, And Enforced .....	18
2.	BLM Should Consider An Interim Directive To Ensure That Waste Is Prevented Pending A Revised Waste Rule.....	18
3.	BLM’s Revised Waste Rule Should Prevent Waste From All Oil and Gas Methane Pollution And Waste Sources .....	19
4.	BLM’s Waste Rule Should Prevent Waste From Existing And Future Oil And Gas Development .....	22
5.	BLM’s Revised Waste Rule Should Integrate Methane Waste Prevention Efforts With BLM’s “Front End”	

**CORE PRINCIPLES**

	Planning And Management Tools.....	23
6.	BLM’s Revised Waste Rule Should Mandate—Before Leases Are Executed—The Use Of Best Available Technologies.....	26
7.	BLM Should Significantly Tighten And At Times Prohibit Natural Gas Venting And Flaring.....	26
8.	BLM’s Revised Waste Rule Should Be Informed By The True And Full Cost of Methane Waste And Pollution .....	27
9.	BLM Should Use A “Carrot-And-Stick” Approach To Facilitate The Prevention Of Natural Gas Waste .....	29
10.	BLM Should Ensure Public Transparency And Accountability.....	31
V.	CONCLUSION.....	32

## **I. INTRODUCTION**

The U.S. Bureau of Land Management’s (“BLM’s”) rule governing the waste of oil and gas resources on federal onshore lands, Notice to Lessees and Operators 4A (“NTL 4A”), is outdated. This 34-year old rule effectively allows oil and gas producers to waste methane—the primary constituent of natural gas—through deliberate venting and flaring, as well as through myriad unintentional fugitive leaks. This waste occurs during the production of federal, publicly owned, onshore oil and gas resources. The BLM has fortunately announced an effort to update the agency’s waste prevention rule—an effort that is urgently needed as our country, for better or worse, continues to lean on natural gas as an energy resource. Such an effort is also eminently practical if harnessed to BLM’s existing planning and management authorities as well as to the host of industry proven and EPA vetted methane reduction technologies and practices. Preventing methane waste conserves domestic oil and gas resources; better safeguards the climate, environment, and public health; and increases federal and state royalty revenues.

With this paper, we lay out the reasons why BLM should reduce methane waste and pollution as an essential component of the nation’s climate and energy strategy. We also set forth the expansive legal basis for BLM’s authority and responsibility to prevent methane waste (and pollution). Finally, we lay out a number of core principles to help guide BLM in developing an effective and enforceable new rule. We do this to spark a constructive and informed dialogue with BLM and other stakeholders.

## **II. NATURAL GAS WASTE IS A SERIOUS PROBLEM WITH PROVEN AND OFTEN ECONOMICAL SOLUTIONS**

### **A. OIL AND NATURAL GAS METHANE EMISSIONS AND EMISSION REDUCTION OPPORTUNITIES**

Oil and natural gas systems are the single largest industrial source of methane emissions in the United States. Indeed, oil and natural gas systems are one of the top three industrial sources of greenhouse gas (“GHG”) pollution, period, when accounting for both methane and carbon dioxide (“CO<sub>2</sub>”).<sup>1</sup> And because methane is the main component of natural gas—a marketable energy resource—natural gas is wasted when methane is released into the atmosphere.

The most recent report by the Intergovernmental Panel on Climate Change (“IPCC”) indicates that the oil and gas industry has a far greater climate impact than that suggested by past IPCC warming potential estimates. The IPCC now estimates methane to be upwards of 34 times more potent than CO<sub>2</sub> over a 100-year time frame and upwards of 86 times more potent than CO<sub>2</sub> over a 20-year time frame (accounting for climate-carbon feedbacks).<sup>2</sup> Given this potent

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<sup>1</sup> <http://epa.gov/climatechange/ghgemissions/gases/ch4.html>.

<sup>2</sup> IPCC Fifth Assessment Report, Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (accepted September 26, 2013).



warming impact, but relatively short residency time in the atmosphere (~12 years), scientists have emphasized that reducing methane emissions—specifically from oil and natural gas systems—provides a critical near-term climate mitigation opportunity to substantially reduce the risk of crossing a 2°C warming threshold and thereby avoid catastrophic climate disruption.<sup>3</sup>

Given its oversight of oil and gas development on roughly 700 million acres of federal onshore mineral lands, including nearly 38 million acres already leased for oil and gas development, BLM has an opportunity to make a significant contribution towards the reduction of both GHG emissions and methane waste.<sup>4</sup> In 2010, the Government Accountability Office (“GAO”) estimated that BLM could economically eliminate up to 40% of methane vented and flared from federally authorized onshore oil and natural gas development.<sup>5</sup> In 2012, the Natural Resources Defense Council (“NRDC”) estimated that up to 80% of methane emissions from oil and gas development could be captured using readily available technologies.<sup>6</sup>

Assuming a near-term 40-80% emissions reduction potential, BLM—coupled with regulatory efforts by other agencies, such as the U.S. Environmental Protection Agency (“EPA”)<sup>7</sup>—has the opportunity to eliminate roughly 65-130 MMTCO<sub>2e</sub>, assuming a 20-year warming potential of 86 for methane, of GHG pollution annually on federal lands (assuming static development levels). These annual reductions are comparable to the elimination of annual GHG emissions from 18 to 37 coal-fired power plants, or 13 to 27 million passenger vehicles.<sup>8</sup> Of note, these

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<sup>3</sup> Shindell, D., *et al.*, *Simultaneously Mitigating Near-Term Climate Change and Improving Human Health and Food Security*. Science. Vol. 335, no. 6065 pp. 183-189 (Jan. 13, 2012).

<sup>4</sup> BLM, Public Land Statistics (2012) [http://www.blm.gov/public\\_land\\_statistics/](http://www.blm.gov/public_land_statistics/).

<sup>5</sup> GAO, Federal Oil & Gas Leases: Opportunities Exist to Capture Vented and Flared Natural Gas, Which Would Increase Royalty Payments and Reduce Greenhouse Gases, GAO-11-34 (October 2010).

<sup>6</sup> Harvey, S. *et al.*, *Leaking Profits: The U.S. Oil and Gas Industry Can Reduce Pollution, Conserve Resources, and Make Money by Preventing Methane Waste*, NRDC (2012) (<http://www.nrdc.org/energy/leaking-profits.asp>).

<sup>7</sup> In April 2012, EPA issued new air pollution rules applicable to oil and natural gas production. These rules, while they do not directly mandate the reduction of methane, will indirectly result in the reduction of methane emissions as a byproduct of controlling other air pollutants, such as volatile organic compounds. See <http://www.epa.gov/airquality/oilandgas/actions.html>. These rules will contribute to the aggregate emissions reduction potential of 40-80%.

<sup>8</sup> This calculation is based on GAO 11-34’s analysis of greenhouse gas emissions data and assumes a CH<sub>4</sub> warming potential of 86 (20-year warming period) as per the Intergovernmental Panel on Climate Change’s Fifth Assessment Report; coal-fired power plant and passenger vehicle equivalencies were calculated using EPA’s GHG equivalencies calculator and rounded. We use the 20-year warming period to emphasize near term climate mitigation opportunities and to reflect the typical time horizon of BLM decision-making as reflected in the agency’s primary management tool, Resource Management Plans, required by the Federal Land Policy Management Act. We emphasize that this is a rough projection and do not mean to convey a false sense of precision; GAO’s analysis of emissions is now dated relative to new research and EPA data that has arisen since GAO 11-34 and these figures do not account for indirect methane emission reductions obtained through implementation of EPA’s 2012 air rules (as modified) for oil and natural gas development (see note 7 above).

methane emission reductions can be achieved without necessarily prohibiting or shutting down a single oil or natural gas well.

Additional Peer-reviewed research findings strongly suggest that the scale of the waste problem identified by GAO—and thus the opportunity—may well be underestimated. Recent field-level air analyses conducted by the National Oceanic and Atmospheric Administration and University of Colorado have shown startlingly high methane losses from oil and gas development in Colorado’s Denver-Julesberg Basin (2.3-7.7% loss) and Utah’s Uintah Basin (6-12% loss).<sup>9</sup> On the other hand, a recent “bottom up” study showed very low emissions from new well drilling projects utilizing reduced emission completion technology, illustrating the available opportunities to help mitigate the methane emission problem with proven, often economical technologies and practices.<sup>10</sup>

Such technologies and practices are well documented by EPA’s Natural Gas STAR program.<sup>11</sup> Gas STAR is a voluntary program that works collaboratively with industry

to encourage partner companies to implement methane emissions reducing technologies and practices and document their voluntary emission reduction activities. Through this work, the oil and natural gas industry, in conjunction with Natural Gas STAR, has pioneered some of the most widely-used, innovative technologies and practices that reduce methane emissions.<sup>12</sup>

In its 2012 study, NRDC reviewed Gas STAR’s documentation and identified ten of Gas STAR’s most promising technologies and practices to prevent methane waste and pollution.<sup>13</sup> These technologies and practices are economical, often providing a payback on investment in less than a year, and in most cases no longer than three years.<sup>14</sup>

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<sup>9</sup> Karion, A., *et al.* (2013), Methane emissions estimate from airborne measurements over a western United States natural gas field, *Geophys. Res. Lett.*, 40, 4393–4397, doi:[10.1002/grl.50811](https://doi.org/10.1002/grl.50811); Pétron, G., *et al.* (2012), Hydrocarbon emissions characterization in the Colorado Front Range: A pilot study, *J. Geophys. Res.*, 117, D04304, doi:[10.1029/2011JD016360](https://doi.org/10.1029/2011JD016360). See also Katzenstein, A., *et al.* (2012) Extensive regional atmospheric hydrocarbon pollution in the southwestern United States. *Proc. Natl. Acad. Sci.*, 100, 11975-11979, doi:[10.1073/pnas.1635258100](https://doi.org/10.1073/pnas.1635258100); Wennberg, P., *et al.* (2012) On the sources of methane to the Los Angeles Atmosphere. *Environ. Sci. Technol.*, 46, 9282–9289, doi:[10.1021/es301138y](https://doi.org/10.1021/es301138y).

<sup>10</sup> Allen, David T. *et al.*, Measurements of methane emissions at natural gas production sites in the United States PNAS 2013; published ahead of print September 16, 2013, doi:[10.1073/pnas.1304880110](https://doi.org/10.1073/pnas.1304880110).

<sup>11</sup> <http://www.epa.gov/gasstar/tools/recommended.html>.

<sup>12</sup> <http://www.epa.gov/gasstar/basic-information/index.html#overview1>.

<sup>13</sup> Harvey, Susan, *et al.*, *Leaking Profits*, NRDC (2012) (<http://www.nrdc.org/energy/leaking-profits.asp>).

<sup>14</sup> <http://www.epa.gov/gasstar/tools/recommended.html>.

However, Gas STAR has its limitations. As a voluntary program, Gas STAR neither sets enforceable standards to ensure accountability nor ensures implementation across the full spectrum of oil and natural gas activities. Moreover, simply adopting proven Gas STAR solutions, while a good thing, would not satisfy BLM's obligation to prevent waste. Gas STAR is focused on the "back end" adoption by industry of technologies and practices, like green completions or directed inspection and maintenance. BLM management of oil and gas resources should certainly make use of these excellent technologies and practices, but BLM must also employ its "front-end" planning and management tools to ensure the orderly and efficient development of oil and gas resources, which can also prevent waste. An updated BLM waste rule that combines back-end waste reduction technologies and practices with front-end planning and management tools presents a golden opportunity to secure significant reductions in methane waste.

The investor community is, notably, increasingly paying attention to the need to address environmental costs and waste that accompanies oil and natural gas development. Just recently, Trillium Asset Management divested its client holdings in natural gas producer Range Resources and removed Range Resources from its "buy list." As Trillium explained:

Given the importance of operational efficiency to Range Resources' profitability, as well as the regulatory, environmental, and social license risks facing the company, Trillium believes that the company's current level of disclosure related to methane leakage is woefully inadequate.

Leaking methane also represents lost revenue and raises the potential for increased regulatory and legal expense. Better transparency and the use of best practices to mitigate fugitive emissions would benefit Range Resources' shareholders.<sup>15</sup>

Unfortunately, Range Resources has opposed Trillium's efforts to seek improvements in their operations and minimize methane waste.

Mirroring Trillium's concerns, mineral rights owners in North Dakota have initiated class-action lawsuits against companies operating in the Bakken Formation, including Continental Resources, XTO Energy, SM Energy, and Marathon Oil, alleging that by flaring rather than routing natural gas produced in association with oil to a sales line, these companies have wasted gas and reduced royalty payments to mineral rights owners.<sup>16</sup> Documenting the extent of flaring in the Bakken, the U.S. Energy Information Administration has reported flaring at rates in excess of

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<sup>15</sup> <http://www.trilliuminvest.com/news-articles-category/thinking-capital/trillium-sells-all-holdings-in-range-resources/>.

<sup>16</sup> [http://www.nytimes.com/2013/10/18/business/energy-environment/oil-companies-are-sued-over-natural-gas-flaring-in-north-dakota.html?\\_r=2&](http://www.nytimes.com/2013/10/18/business/energy-environment/oil-companies-are-sued-over-natural-gas-flaring-in-north-dakota.html?_r=2&).

30% of production for several years.<sup>17</sup> And a recent report by CERES found that in 2012 alone, flaring resulted “in the loss of approximately \$1 billion in fuel and the GHG emissions equivalent of adding one million cars to the road.”<sup>18</sup>

The deliberate flaring of gas at this magnitude, as well as leaks and venting of methane from numerous other sources all underscore the opportunity—and urgent need—to reduce waste through improved rules.

## **B. BLM’S EFFORTS TO CONTROL METHANE WASTE ARE IMPROVING BUT STILL INADEQUATE**

The GAO’s 2010 report noted that BLM’s existing waste rule, NTL 4A, was developed in 1980, well before many methane reduction technologies and practices were developed and understood. As GAO found, “BLM guidance is 30 years old and therefore does not address venting and flaring reduction technologies that have advanced since it was issued.”<sup>19</sup> GAO also found that NTL 4A does not “enumerate the sources [of methane emissions] that should be reported or specify how they should be estimated.”<sup>20</sup> Further, GAO “found a lack of consistency across BLM field offices regarding their understanding of which intermittent volumes of lost gas should be reported to [the Oil and Gas Operations Report].”<sup>21</sup>

GAO did note “that [BLM] thought the industry would use venting and flaring technologies if they made economic sense.”<sup>22</sup> However, this view, as GAO found, is belied by reality: methane waste is occurring and the existence of barriers to the deployment of methane reduction technologies and practices.<sup>23</sup> BLM, to its credit, conceded “existing guidance was outdated given current technologies and said that they were planning to update it by the second quarter of 2012.”<sup>24</sup>

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<sup>17</sup>U.S. Energy Information Administration, Today in Energy, 11/23/11, “Over one-third of natural gas produced in North Dakota is flared or otherwise not marketed.”  
<http://www.eia.gov/todayinenergy/detail.cfm?id=4030>.

<sup>18</sup> Ceres, “Flaring Up,” July 2013  
<http://www.ceres.org/resources/reports/flaring-up-north-dakota-natural-gas-flaring-more-than-doubles-in-two-years>; see also North Dakota Pipeline Authority, Natural Gas Facts, How Much Gas is Produced and Flared  
<http://northdakotapipelines.com/natgasfacts/>.

<sup>19</sup> GAO 11-34 at 27.

<sup>20</sup> *Id.* at 11, 27.

<sup>21</sup> *Id.* at 11.

<sup>22</sup> *Id.* at 27.

<sup>23</sup> *Id.* at 20-33.

<sup>24</sup> *Id.* at 27.

GAO's findings reflect the results of our own investigations and engagement with BLM regarding methane waste. In 2008, the Western Environmental Law Center ("WELC") and allies, such as San Juan Citizens Alliance, began to review proposed BLM oil and gas lease sales in California, Colorado, Montana, New Mexico, and Wyoming by evaluating the agency's lease-stage documentation and underlying Resource Management Plans and accompanying environmental reviews completed pursuant to the National Environmental Policy Act.

In particular, WELC reviewed oil and gas lease sales in New Mexico that were held on April 16, 2008 and July 16, 2008 for the Carlsbad, Farmington, Roswell, and Socorro Field Offices. In Montana, WELC reviewed oil and gas lease sales that were held on April 8, 2008; June 17, 2008; August 26, 2008; and November 4, 2008 for the Billings, Lewiston, Butte, Malta, and Miles City Field Offices. In each case, WELC and its allies found that BLM's planning and leasing documentation failed to address methane waste and climate pollution. Indeed, in Montana, BLM had not even prepared lease-stage environmental reviews. WELC and its allies accordingly challenged these oil and gas lease sales, raising concerns about methane waste and pollution.

To better understand what BLM was (or was not) doing, WELC and its allies supplemented its review of BLM's planning and leasing documentation with Freedom of Information Act ("FOIA") Requests. For example, on August 14, 2008, Rocky Mountain Clean Air Act filed a FOIA request with BLM's Washington D.C. and New Mexico offices asking for records regarding methane and other greenhouse gas emissions. BLM's October 10, 2008 response to this FOIA<sup>25</sup> was revealing:

- BLM could not find "any records" "addressing the efficacy of [GHG] mitigation measures on federal leaseholds."<sup>26</sup>
- BLM could not locate "any records" "addressing the magnitude of GHG emissions from the venting of methane gas during drilling and well testing," or "pertaining to the deployment and effectiveness of best management practices used to reduce methane."<sup>27</sup>
- BLM could not locate any records "pertaining to BLM's coordination and participation with the Environmental Protection Agency's Natural Gas STAR program."<sup>28</sup>
- BLM could not locate any records "supporting BLM's contention that existing lease stipulations and APD-level conditions of approval and operational best management practices will help reduce GHG emissions."<sup>29</sup>

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<sup>25</sup> FOIA NM 2008-052; FOIA 2008-952.

<sup>26</sup> Index of Released/Withheld Records for FOIA NM 2008-052 at 3.

<sup>27</sup> *Id.* at 4.

<sup>28</sup> *Id.*

In 2008, after WELC challenged BLM oil and gas lease sales in New Mexico, the agency did begin to complete environmental reviews that attempted to account for methane and other GHG emissions.<sup>30</sup> BLM did not, however, consider specific technologies and practices to prevent methane emissions or mandate these technologies and practices via stipulation attached to leases or other approvals. Nor did BLM consider methane emissions from a “waste” perspective. Rather, BLM evaluated methane emissions only as a climate issue and on this basis dismissed them as insignificant relative to total global-, national-, and regional-scale GHG emissions. BLM’s approach—which the agency has used in other situations, such as the Vernal Field Office’s Monument Butte Project—ignores the nature of oil and gas development: disaggregated industrial drilling, extraction, gathering, and processing operations consisting of thousands, if not millions, of pieces of individual equipment which leak or vent methane and are sprawled across landscape-scale regions. Put differently, while natural gas waste from an individual oil and gas operation may appear insignificant in isolation, it is extremely significant when industry activity is viewed cumulatively, in particular relative to pragmatic methane reduction opportunities.

In Montana, BLM took a positive step forward in 2010 by contracting with URS Corporation to complete a Climate Change Supplemental Information Report (“SIR”) to look more closely at the climate impacts of oil and gas development on federal lands.<sup>31</sup> The SIR, prepared in response to a settlement agreement that WELC secured from BLM on behalf of the Montana Environmental Information Center, Earthworks Oil & Gas Accountability Project, and WildEarth Guardians (*see Mont. Env’tl. Info. Ctr. v. BLM*, 08-CV-178 DWM (Dkt # 54)), examined greenhouse gas emissions (including methane) from oil and gas development. The SIR also identified methane emission reduction technologies and best practices. However, in its subsequent leasing decisions and environmental reviews, BLM did not mandate the use of these technologies and practices via stipulation or other mandatory measures.<sup>32</sup> Instead, BLM promised to take action at the drilling stage to control methane emissions.<sup>33</sup>

To determine whether BLM carried through with this promise, WELC filed, on behalf of the Montana Environmental Information Center, a FOIA request in March 2013 with the Miles City

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<sup>29</sup> *Id.*

<sup>30</sup> *See, e.g.,* BLM, *Environmental Assessment for July 16, 2008 Oil and Gas Lease Sale*, EA-NM-210-08-369 (Farmington Field Office).

<sup>31</sup> URS Corporation, *Climate Change Supplemental Information Report for the Montana, North Dakota, and South Dakota BLM* (October 2010) (available at: [http://www.blm.gov/pgdata/etc/medialib/blm/mt/blm\\_programs/energy/oil\\_and\\_gas/leasing/eas.Par.26526.File.dat/SIRupdate.pdf](http://www.blm.gov/pgdata/etc/medialib/blm/mt/blm_programs/energy/oil_and_gas/leasing/eas.Par.26526.File.dat/SIRupdate.pdf)).

<sup>32</sup> *See, e.g.,* BLM, Miles City Field Office, *Environmental Assessment DOI-BLM-MT-C020-2010-0249-EA* (Oct. 22, 2010).

<sup>33</sup> U.S. BLM, *Decision Dismissing Protest to Dec. 9, 2010 Montana BLM Oil and Gas Lease Sale* (Dec. 27, 2010).

Field Office asking for documentation showing whether, in its drilling stage approvals, the agency had considered alternatives or analyzed the feasibility of action to require, encourage, or otherwise deploy measures to capture or mitigate methane emissions.<sup>34</sup> In response, BLM conceded that it had not carried through with its promise, writing that it had “[n]o responsive records because the Miles City Field Office’s environmental assessments for Applications for Permits to Drill do not specifically analyze methane emissions.”<sup>35</sup>

Nonetheless, in a step forward, the current Draft Resource Management Plan and Environmental Impact Statement of the Miles City Field Office acknowledges that “management direction is needed to identify methods to reduce greenhouse gas (GHG) emissions” and “to ensure that the BLM authorizations and management activities implement feasible GHG emission reduction strategies.”<sup>36</sup> The Miles City Draft Resource Management Plan also identifies numerous “best management practices (BMPs)” to reduce methane waste, but, problematically, stops short of requiring their deployment as stipulations attached to future leases or as mandatory drilling-stage requirements.

Real progress has, however, been made in Colorado, where the Tres Rios Field Office, along with the San Juan National Forest, has taken the groundbreaking step of requiring several mandatory methane reduction measures for oil and natural gas development in their recently completed Final Land and Resource Management Plan (“FLRMP”).<sup>37</sup> The FLRMP states that:

Much emphasis is also put into reducing CH<sub>4</sub> emissions from drilling and gas production activities. Reducing CH<sub>4</sub> emissions would reduce emissions of a significant greenhouse gas and increase CH<sub>4</sub> gas revenue sales benefitting both the operator and the federal government.<sup>38</sup>

To achieve these methane reduction goals, the FLRMP—while imperfect—adopts several widely-recognized BMPs, including centralized liquid gathering systems and liquid transport pipelines; reduced emission completions/recompletions; low-bleed/no-bleed pneumatic devices on both new and existing wells; and dehydrator emission controls.<sup>39</sup>

Facing updates to other resource management plans, BLM’s Colorado State Office has also undertaken an unprecedented effort to standardize and broaden the use of methane reduction

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<sup>34</sup> Mont. Env’tl. Info. Ctr. FOIA to BLM (March 20, 2013).

<sup>35</sup> BLM FOIA Response, FOIA Control No. BLM-2013-00467, at 3 (May 15, 2013).

<sup>36</sup> Miles City Field Office, Draft Resource Management Plan and Environmental Impact Statement, Chapter 1: Purpose and Need, p. 1-11.

<sup>37</sup> [http://www.blm.gov/co/st/en/fo/sjplc/land\\_use\\_planning.html](http://www.blm.gov/co/st/en/fo/sjplc/land_use_planning.html).

<sup>38</sup> FLRMP EIS at 373.

<sup>39</sup> *Id.*

measures in the full range of regulatory actions under the purview of the state's Field Offices. It has developed a Colorado Air Resources Protection Protocol ("CARPP") providing that:

The BLM will ensure implementation of reasonable mitigation, control measures, and design features through appropriate mechanisms, including lease stipulations identified in RMPs, notices to lessees, and conditions of approval (permit terms and conditions) as provided for by law and consistent with lease rights and obligations. In the absence of, or in addition to effective control technologies, the BLM may manage the pace, place, density, and intensity of leasing and development to meet air quality goals and objectives as defined under any applicable RMP.<sup>40</sup>

The CARPP provides a comprehensive listing of widely-recognized methane reduction measures and development phasing mechanisms that BLM field offices will be able to draw upon, and require of industry, to meet the specific air quality challenges posed by oil and gas development within their jurisdictions. And while the CARPP focuses on the impact of methane to air quality, the CARPP—and use of mandatory methane reduction measures in the Tres Rios Field Office FLRMP—do help illuminate a path for BLM as it updates its methane waste rule.

In sum, BLM is making progress in acknowledging and remedying methane emissions and waste. Given the rapid pace of domestic oil and natural gas development and mounting evidence that a climate crisis is not simply a speculative possibility but, in fact, upon us, this progress must be accelerated and intensified—in part through the expeditious completion of a modernized methane waste rule.

In updating its rule, BLM should not only take advantage of lessons learned where states and field offices are already requiring methane mitigation, but also guide and strengthen such efforts—in particular in lagging states and field offices—with national-level policy. We note, for example, that despite Secretary Jewell specifically calling for methane rules to improve air quality in the Uintah Basin<sup>41</sup>, BLM's Vernal Field Office, in a recent Draft Environmental Impact Statement for the Monument Butte Area Oil and Gas Development Project, located squarely in the Uintah Basin, has not proposed mandatory measures to reduce methane emissions<sup>42</sup>, despite the existing authorities and responsibilities outlined in these core principles.

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<sup>40</sup> Colorado BLM, *Comprehensive Air Resource Protection Protocol* (September 2013) at 9 (available at [http://www.blm.gov/pgdata/etc/medialib/blm/co/field\\_offices/san\\_juan\\_public\\_lands/land\\_use\\_planning/proposed\\_lrmp.Par.75621.File.dat/2013-0911%20Comprehensive%20Air%20Resource%20Protection%20Plan.pdf](http://www.blm.gov/pgdata/etc/medialib/blm/co/field_offices/san_juan_public_lands/land_use_planning/proposed_lrmp.Par.75621.File.dat/2013-0911%20Comprehensive%20Air%20Resource%20Protection%20Plan.pdf)).

<sup>41</sup> <http://www.deseretnews.com/article/865594644/Interior-Secretary-details-approach-to-connect-millennials-with-the-outdoors.html>.

<sup>42</sup> [http://www.blm.gov/ut/st/en/fo/vernal/planning/nepa\\_.html](http://www.blm.gov/ut/st/en/fo/vernal/planning/nepa_.html).



### III. BLM HAS THE EXPANSIVE AUTHORITY, RESPONSIBILITY, AND OPPORTUNITY TO PREVENT METHANE WASTE AND POLLUTION

#### A. **THE MINERAL LEASING ACT'S DUTY TO PREVENT OIL AND NATURAL GAS WASTE**

BLM has the expansive authority, responsibility, and opportunity to prevent the waste of oil and gas resources, in particular methane, which is the primary constituent of natural gas. The Mineral Leasing Act of 1920 (“MLA”) provides that “[a]ll leases of lands containing oil or gas ... shall be subject to the condition that the lessee will, in conducting his explorations and mining operations, use all reasonable precautions to prevent waste of oil or gas developed in the land...” 30 U.S.C. § 225; *see also* 30 U.S.C. § 187 (“Each lease shall contain...a provision...for the prevention of undue waste....” As the MLA’s legislative history teaches, “conservation through control was the dominant theme of the debates.” *Boesche v. Udall*, 373 U.S. 472, 481 (1963) (citing H.R.Rep. No. 398, 66th Cong., 1st Sess. 12-13; H.R.Rep. No. 1138, 65th Cong., 3d Sess. 19 (“The legislation provided for herein...will [help] prevent waste and other lax methods....”)).

BLM’s implementing regulations—which underlie NTL4a and should inform BLM’s revised waste rule—reflect these provisions, providing that “[t]he objective” of its MLA regulations in 43 C.F.R. Subpart 3160 “is to promote the orderly and efficient exploration, development and production of oil and gas.” 43 C.F.R. § 3160.0-4. Subpart 3160 specifically requires BLM officials to ensure “that all [oil and gas] operations be conducted in a manner which *protects other natural resources and environmental quality*, protects life and property and results in the *maximum ultimate recovery of oil and gas with minimum waste and with minimum adverse effect on the ultimate recovery of other mineral resources*.” 43 C.F.R. § 3161.2 (emph. added). The lease owner and or operator is similarly charged with “conducting all operations in a manner which ensures the proper handling, measurement, disposition, and site security of leasehold production; which protects other natural resources and environmental quality; which protects life and property; and *which results in maximum ultimate economic recovery of oil and gas with minimum waste and with minimum adverse effect on ultimate recovery of other mineral resources*.” 43 C.F.R. § 3162.1(a) (emph. added). Thus, BLM and lessees have four duties of primary relevance: (1) to protect other natural resources and environmental quality; (2) to ensure the maximum ultimate recovery of oil and gas resources; (3) to minimize waste; and (4) to minimize adverse effects on the ultimate recovery of other mineral resources.

Two definitions are of particular importance. First, “maximum ultimate economic recovery” is defined as “the recovery of oil and gas from leased lands which a prudent operator could be expected to make from that field or reservoir given existing knowledge of reservoir and other pertinent facts and utilizing common industry practices for primary, secondary or tertiary recovery operations.” 43 C.F.R. § 3160.0-5. Second, “waste” is defined as “(1) A reduction in the quantity or quality of oil and gas ultimately producible from a reservoir under prudent and proper operations; or (2) avoidable surface loss of oil or gas.” 43 C.F.R. § 3160.0-5. Avoidable losses of oil or gas are currently defined as including venting or flaring without authorization, operator negligence, failure of the operator to take “all reasonable measures to prevent and/or

control the loss” of methane, and an operator’s failure to comply with lease terms and regulations, order, notices, and the like. *Id.*

As the MLA and its implementing regulations should make clear, BLM’s duty to prevent waste must permeate the agency’s full suite of planning and decision-making processes for oil and gas—from the point at which the agency develops broad-scale management and leasing plans, to the point that the agency executes specific leases, and onwards to the point that the agency authorizes and oversees actual drilling. Otherwise, it is entirely unclear how BLM could ensure that its duties—and the duties of oil and gas lessees—can be satisfied. Embracing this expansive view of the agency’s authority and responsibility ensures that BLM integrates proven, often economical, technologies and practices to prevent methane waste with the agency’s existing tools governing the very scale, pace, and nature of development.

**B. THE PRESIDENT’S CLIMATE ACTION PLAN, THE FEDERAL LAND POLICY AND MANAGEMENT ACT, THE NATIONAL ENVIRONMENTAL POLICY ACT, AND SECRETARIAL ORDER 3289 COMPEL ACTION TO PREVENT OIL AND NATURAL GAS WASTE AND POLLUTION**

BLM’s obligation to prevent waste is complemented by Administration priorities, federal laws and rules, and Department of the Interior secretarial orders. President Obama’s June 2013 Climate Action Plan, in particular, categorically states that “[c]urbing emissions of methane is critical to our overall effort to address global climate change.”<sup>43</sup> The President’s statement dovetails closely with BLM’s authorities and responsibilities, beyond the MLA, to reduce methane emissions, and requires swift action.

The foundation for BLM’s management of our public lands and resources is the Federal Land Policy and Management Act of 1976 (“FLPMA”). FLPMA provides that BLM must manage the public lands:

in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, *air and atmospheric*, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition, that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use.

43 U.S.C. § 1701(a)(8) (emphasis added). BLM, as a multiple use agency, must also manage the public lands and the oil and natural gas resource to “best meet the present and future needs of the American people” and to ensure that management “takes into account the long-term needs of future generations for...non-renewable resources, including....minerals.” 43 C.F.R. § 1702(c). Put differently, the driving force behind BLM-authorized oil and gas development must be the

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<sup>43</sup> President Barack Obama’s Climate Action Plan at 10 (June 2013) (available at <http://www.whitehouse.gov/the-press-office/2013/06/25/fact-sheet-president-obama-s-climate-action-plan>).

long-term and broad public interest—not the too often short-term and narrow interest of oil and gas lessees. BLM rules to prevent waste must account for this driving force.

Moreover, “[i]n managing the public lands,” BLM “shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands.” 43 U.S.C. § 1732(b). As this is written in the disjunctive, BLM must prevent degradation that is “unnecessary” as well as degradation that is “undue.” *Mineral Policy Ctr. v. Norton*, 292 F.Supp.2d 30, 41-43 (D. D.C. 2003). This protective mandate applies to BLM’s planning and management decisions. See *Utah Shared Access Alliance v. Carpenter*, 463 F.3d 1125, 1136 (10<sup>th</sup> Cir. 2006) (finding that BLM’s authority to prevent degradation is not limited to the RMP planning process). Methane waste and pollution may cause “undue” degradation, even if the activity causing the degradation is “necessary.” Where methane waste and pollution is avoidable, even if in the process of avoiding such emissions lessees or operators incur reasonable economic costs that are consistent with conferred lease rights, the loss of methane constitutes “unnecessary” degradation. 43 U.S.C. § 1732(b).

BLM ensures that these objectives and duties are adhered to through the Resource Management Plans (“RMPs”). RMPs must, *inter alia*, “use and observe the principles of multiple use and sustained yield,” “consider present and potential uses of the public lands,” and “weigh long-term benefits to the public against short-term benefits.” 43 U.S.C. §§ 1712(c)(1), (5), (7). These criteria reinforce FLPMA’s driving force: the long-term and broad public interest. Relative to oil and gas, RMPs identify areas open and closed to leasing, impose “moderate” and “major” constraints on development and production, and establish resource condition objectives and best management practices. Specifically, RMPs identify:

1. Areas open to leasing, subject to existing laws, regulations, and formal orders; and the terms and conditions of the standard lease form.
2. Areas open to leasing, subject to moderate constraints such as seasonal and controlled surface use restrictions. (These are areas where it has been determined that moderately restrictive lease stipulations may be required to mitigate impacts to other land uses or resource values.)
3. Areas open to leasing, subject to major constraints such as no-surface-occupancy stipulations on an area more than 40 acres in size or more than 0.25 mile in width. (These are areas where it has been determined that highly restrictive lease stipulations are required to mitigate impacts to other lands or resource values. This category also includes areas where overlapping moderate constraints would severely limit development of fluid mineral resources.)
4. Areas closed to leasing. (These are areas where it has been determined that other land uses or resource values cannot be adequately protected with even the most restrictive lease stipulations; appropriate protection can be ensured only by closing the lands to leasing. Such closures can be nondiscretionary or discretionary; if the

latter a rationale should be included.)

5. In areas open to leasing, resource condition objectives, specific lease stipulations, general/typical conditions of approval, and best management practices that will be employed to accomplish these objectives.
6. For each lease stipulation, the circumstances for granting an exception, waiver, or modification; identification of the general documentation requirements; and any public notification associated with granting exceptions, waivers, or modifications.
7. Whether the leasing and development decisions also apply to geophysical exploration.
8. Whether constraints identified in the RMP for new leases also apply to areas currently under lease.
9. Long-term resource condition objectives for areas currently under development to guide reclamation activities prior to abandonment.

BLM, Land Use Planning Handbook, H-1601-1, Appx. C at 23-24.

BLM is also subject to Secretarial Order 3289 (Dept. Int. Sept. 14, 2009). Secretarial Order 3289, in section 3(a), provides that BLM “must consider and analyze climate change impacts when undertaking long-range planning exercises, setting priorities for scientific research and investigations, developing multi-year management plans, and making major decisions regarding potential use of resources under the Department’s purview.” Section 3(a) of Secretarial Order 3289 also reinstates Secretarial Order 3226 (January 19, 2001).

Secretarial Order 3226 commits the Department of the Interior to address climate change through its planning and decision-making processes. As Order 3226 explains, “climate change is impacting natural resources that the Department of the Interior (Department) has the responsibility to manage and protect.” Sec. Or. 3226, § 1. Order 3226 therefore “ensures that climate change impacts are taken into account in connection with Department planning and decision making.” *Id.* Order 3226 obligates BLM to “consider and analyze potential climate change impacts” in four situations: (1) “when undertaking long-range planning exercises”; (2) “when setting priorities for scientific research and investigations”; (3) “when developing multi-year management plans, and/or” (4) “when making major decisions regarding the potential utilization of resources under the Department’s purview.” *Id.* § 3.

Order 3226 also specifically provides that “Departmental activities covered by this Order” include “management plans and activities developed for public lands” and “*planning and management activities associated with oil, gas and mineral development on public lands.*” *Id.* (emphasis added). Put simply, BLM’s oil and gas decisions are contemplated by and subject to section 3 of Order 3226.

Both FLPMA and secretarial orders 3289 and 3226 help inform BLM’s efforts to effectively use and comply with the National Environmental Policy Act (“NEPA”). Pursuant to NEPA, BLM must take a hard look at direct, indirect, and cumulative impacts. 40 C.F.R. §§ 1502.16(a), (b); 1508.25(c). Direct impacts include methane that is vented, flared, or leaked from oil and gas development. Indirect impacts include methane that is lost in downstream activities, as well as the consequences of combusting or otherwise using methane after it has been sold in market. And cumulative impacts include aggregate methane emissions from oil and gas development within a particular planning region (whether federal, state, or private), as well as aggregate GHG emissions from all development or other sources.

In evaluating impacts, BLM must discuss “[e]nergy requirements and conservation potential of various alternatives and mitigation measures,” “[n]atural or depletable resource requirements and conservation potential of various alternatives and mitigation measures,” and “[m]eans to mitigate adverse environmental impacts (if not fully covered under 1502.14(f)).” 40 C.F.R. §§ 1502.16(e), (f), (h). BLM’s “hard look” mandate thus requires consideration of natural gas waste and methane emissions that impact the oil and natural gas resource itself; the lands, waters, and communities overlaying that resource; and the climate.

This hard look helps inform the “heart” of the NEPA process: BLM’s duty to consider “alternatives to the proposed action” and to “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.” 42 U.S.C. §§ 4332(2)(C)(iii), 4332(2)(E); 40 C.F.R. § 1502.14(a). Alternatives are critical because, “[c]learly, it is pointless to ‘consider’ environmental costs without also seriously considering action to avoid them.” *Calvert Cliffs’ Coordinating Comm., Inc. v. U.S. Atomic Energy Commn.*, 449 F.2d 1109, 1128 (D.C. Cir. 1971). Operating in concert with NEPA’s mandate to address environmental impacts, BLM’s fidelity to alternatives analysis helps “sharply defin[e] the issues and provid[e] a clear basis for choice among options by the decision maker and the public.” 40 C.F.R. § 1502.14. An agency must, therefore, “[r]igorously explore and objectively evaluate all reasonable alternatives” and specifically “[i]nclude the alternative of no action.” 40 C.F.R. §§ 1502.14(a), (d).

Even where impacts may be “insignificant,” BLM must still consider alternatives. *Bob Marshall Alliance v. Hodel*, 852 F.2d 1223, 1229 (9<sup>th</sup> Cir. 1988) (agency’s duty to consider alternatives “is both independent of, and broader than,” its duty to complete an environmental analysis); *Greater Yellowstone Coalition v. Flowers*, 359 F.3d 1257, 1277 (10<sup>th</sup> Cir. 2004) (duty to consider alternatives “is ‘operative even if the agency finds no significant environmental impact’”). This is particularly necessary where there are, as with methane waste and pollution, “unresolved conflicts concerning alternative uses of available resources.” 42 U.S.C. § 4332(E).

Fundamentally, FLPMA, Secretarial Orders 3289 and 3226, and NEPA provide BLM with essential tools that—used well—complement the MLA’s duty to prevent methane waste. These tools can help ensure that BLM properly plans for and manages the oil and gas resources the agency holds in trust for the American public in a transparent, publicly accountable fashion.

These tools can also identify opportunities to achieve additional methane emission reductions above-and-beyond what the MLA's waste prohibition may alone compel.

#### **IV. BLM'S RULEMAKING SHOULD REFLECT THE FOLLOWING CORE PRINCIPLES**

##### **A. OVERVIEW**

We offer the following core principles to constructively inform the contours of BLM's rulemaking process. These core principles—designed to satisfy the MLA and to further FLPMA, Secretarial Orders 3289 and 3266, and NEPA—will operate as a lens through which we will review and comment on the BLM's rulemaking process as well as specific, place-based planning and decision-making processes.

##### **B. CORE PRINCIPLES**

###### **1. BLM's Revised Waste Rule Should Be Expeditiously Completed, Implemented, And Enforced**

BLM's current 34-year old waste policy—NTL 4A—is demonstrably outdated and in urgent need of revision. BLM should therefore prioritize and expeditiously complete its revised waste rule. We would like to see BLM complete a revised waste rule by no later than the end of 2015. The agency should also ensure that it 'hits the ground running' once a revised rule is finalized through effective implementation and enforcement.

###### **2. BLM Should Consider An Interim Directive To Ensure That Waste Is Prevented Pending A Revised Waste Rule**

BLM-authorized oil and gas production is—right now—occurring on roughly 12.5 million acres of federal land. BLM should therefore consider issuing an interim directive—via Instruction Memorandum—to ensure that NTL 4A and associated waste rules and policies are fully implemented and enforced pending a new waste rule. We note that concerns regarding implementation of NTL 4A are a serious concern. As we noted above, while some field offices, namely the Tres Rios Field Office, take real action to reduce methane pollution and waste, other field offices, such as the Vernal Field Office, continue to avoid taking real action—i.e., fail to mandate the use of proven, often economical methane emission reduction technologies and practices, as required by existing rule and NTL 4A.

This directive should: (a) underscore BLM's existing authority, responsibility, and opportunity to prevent natural gas waste as per the MLA, the MLA's implementing rules, and NTL 4A; (b) require that BLM Field Offices account for waste through oil and gas-related planning and decision-making processes; (c) signal to lessees and operators that they must reduce fugitive, vented, and flared methane and significantly step up methane waste prevention efforts; and (d) encourage Field Offices to mandate the use of specific technologies and BMPs to prevent waste

in their planning, leasing, and permitting activities. Regarding (a), we emphasize a need for far more effective implementation and enforcement of NTL 4A. In particular, better implementation and enforcement of NTL 4A's:

- Section I provisions, in the context of Section II's definitions, regarding oversight and approval of well venting and flaring. "Venting" should be interpreted to include all leaks throughout the system, not just well venting during completions
- Section III(B) and III(c) limits on "short-term" venting or flaring during well purging, well evaluation, and initial production tests.
- Section IV(A) and IV(B) limits on venting and flaring, including prohibitions against venting or flaring, except as provided by Sections II(C) and III or as explicitly authorized by the "Supervisor" in Section IV(B) for oil well gas. This includes Section IV(B)'s requirement that a lessee or operator to submit an "action plan" that "will eliminate venting or flaring of the gas within 1 year from the date of the application," and meaningful review of that application by the "Supervisor" to determine whether venting or flaring is "justified."
- Section V tracking and reporting of avoidable losses.
- Section VI computation and enforcement of royalty due when the "Supervisor" determines that gas is lost due to lessee or operator negligence or failure to take all reasonable measures to prevent or control methane losses.

The pioneering efforts by the Tres Rios Field Office and the Colorado State Office to mitigate the impacts of methane emissions have been noted above. An interim directive could help highlight and build upon these laudable actions. An interim directive could also ensure that BLM state and field offices are re-acquainted with their responsibility to prevent waste, which could help spark creative thinking and early action to prevent waste. Such "learning by doing" could, in turn, enable BLM's state and field offices to better inform the rule-making process. And by ensuring that state and field offices take more robust action to prevent waste now—not just at the conclusion of the rulemaking process—BLM would better ensure that a final rule can be effectively and expeditiously implemented and enforced. We recommend issuing this interim directive by no later than July 1, 2014.

### **3. BLM's Revised Waste Rule Should Prevent Waste From All Oil and Gas Methane Pollution And Waste Sources**

BLM's waste rule should prevent waste from all oil and natural gas sources under the agency's purview, including exploration, production, gathering, processing, and bulk distribution activities. Ensuring that the waste rule covers all sources is necessary to comply with the MLA's expansive mandate to prevent waste.

As the MLA provides, oil and gas leases "shall be subject to the condition that the lessee will, in

conducting his explorations and mining operations, use all reasonable precautions to prevent waste of oil or gas developed in the land....” 30 U.S.C. § 225. Further, MLA rules articulate that BLM must ensure the “maximum ultimate recovery of oil and gas with minimum waste and with minimum adverse effect on the ultimate recovery of other mineral resources.” 43 C.F.R. § 3161.2. “[M]aximum ultimate economic recovery” is defined as “the recovery of oil and gas from leased lands which a prudent operator could be expected to make from that field or reservoir given existing knowledge of reservoir and other pertinent facts and utilizing common industry practices for primary, secondary or tertiary recovery operations.” 43 C.F.R. § 3160.0-5. The “waste of oil and gas” is specifically defined as “any act or failure to act by the operator that is not sanctioned by the authorized officer as necessary for proper development and production and which results in: (1) a reduction in the quantity or quality of oil and gas ultimately producible from a reservoir under prudent and proper operations; or (2) avoidable surface loss of oil or gas.” 43 C.F.R. § 3160.0-5. Moreover, *all* sources can produce waste that can be considered either “undue” for a particular activity or “unnecessary” given available reduction options. 43 U.S.C. § 1732(b). Put simply, BLM’s mandate to prevent waste is not—as per the MLA’s plain language and BLM’s own current rules—limited to particular sources of waste such as well completions, but rather *all* sources within the agency’s direct purview.

We also encourage BLM to leverage its authorities and responsibilities to ensure that downstream oil and natural gas activities—even those activities that may fall outside the agency’s direct purview—do not undermine the efficacy of upstream BLM methane reduction actions and waste federal mineral resources. It makes little sense to allow for BLM to authorize the upstream production of oil and natural gas resources if those resources are lost through wasteful and inefficient downstream activities. Thus, for example, BLM should expressly coordinate its planning and management efforts with federal, state, and local agencies that regulate downstream activities, as well as with industry segments responsible for downstream activities. BLM should also strongly consider whether leases or other authorizations should contain provisions ensuring responsible downstream gathering, processing, and distribution.

Covering all sources also makes pragmatic sense because, even where individual sources may in isolation seem insignificant, they may and often do prove cumulatively significant. The loss of methane through downstream activities, while perhaps not within the direct purview of BLM, nonetheless also causes indirect impacts and weakens the rationale for upstream production operations.

Taking a hard look at indirect and cumulative impacts is, of course, compelled by NEPA. *See* 40 C.F.R. §§ 1508.7 (providing that “[c]umulative impacts can result from individually minor but collectively significant actions taking place over a period of time”), 1508.8 (requiring consideration of indirect impacts), 1508.27(b)(7) (providing that a proposed action can be significant if related “to other actions with individually significant but cumulatively significant impacts”). NEPA also requires that BLM address “[e]nergy requirements and conservation potential of various alternatives and mitigation measures,” “[n]atural or depletable resource requirements and conservation potential of various alternatives and mitigation measures,” and “[m]eans to mitigate adverse environmental impacts (if not fully covered under 1502.14(f)).” 40



C.F.R. §§ 1502.14, 1502.16(e), (f), (h). Taking a hard look at waste from all sources is also an essential step towards identifying effective alternatives under NEPA (40 C.F.R. § 1502.14) to actually prevent such waste and “to restore and enhance the quality of the human environment and avoid or minimize any possible adverse effects of their actions upon the quality of the environment.” 40 C.F.R. §§ 1500.2(f). BLM must also, of course, not just mitigate harm through alternatives, but expressly retain the authority to choose a “no action” alternative to prevent harm even if that would effectively prohibit development where such activity, despite mitigation, would cause undue waste. 43 U.S.C. § 1732(b); 40 C.F.R. § 1502.14(d).

NEPA analysis of all methane emissions sources thus arms BLM with information necessary to make reasoned and informed decisions to prevent waste from all sources of oil and gas methane waste. As the Supreme Court teaches, agencies, in accord with the Administrative Procedure Act, must identify a “rational connection” between the facts underlying a decision and the decision itself. *Motor Veh. Mfrs. Assn. v. State Farm Mut. Ins. Co.*, 463 U.S. 29 (1983); 5 U.S.C. § 706(2)(A). Where BLM does not comply with NEPA, it risks making decisions regarding oil and gas waste that are not rationally connected to underlying facts and analysis. *Id.* As we have noted, there is a dearth of information regarding BLM’s current efforts to comply with NTL 4A, which leaves BLM action—in particular where the agency does not demonstrate that it has taken action to prevent waste—exposed and vulnerable to challenge.

Currently, we see a widespread disconnect between the MLA and NTL 4A rules, and BLM’s field-level practices. This disconnect is an underlying cause of significant and unnecessary natural gas waste. As GAO found, “[e]stimates of vented and flared natural gas for federal leases vary considerably,” and that data collected by Interior to track venting and flaring on federal leases “likely underestimate” venting and flaring emissions because they do not account for all sources of lost gas.<sup>44</sup> This is largely a product of NTL 4A itself, which is focused on venting and flaring from well completions, workovers, and liquids unloading to the exclusion of other sources of waste. That is, NTL 4A contains mechanisms for regulating venting and flaring but does not provide mechanisms for dealing with other well site emissions or emissions from activities downstream from the well site but still on federal lands. In the absence of such mechanisms and management direction, BLM field office staff lack effective guidance to prevent waste from all sources. BLM also fails to send a clear signal to lessees and operators regarding how the agency will oversee lessee and operator activities and what lessees and operators must do to prevent waste.

In crafting a revised waste rule to account for all waste sources, BLM should consider all methane emissions sources likely to be present on federal lands as identified in EPA’s U.S. GHG Emissions Inventory and separate Greenhouse Gas Reporting Program and by existing BLM inventories, plans, and other documentation. Beyond drilling, such sources include other well-site equipment, gathering pipelines, compressors, separators/dehydrators, pneumatic controls, processing facilities, bulk pipelines, storage tanks, and leaks throughout the system. With a more comprehensive view of the sources of methane waste, BLM will be well positioned to

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<sup>44</sup> GAO 11-34 at 10.

craft, implement, and enforce a revised waste rule that covers all sources of methane waste from oil and gas activities.

#### **4. BLM's Waste Rule Should Prevent Waste From Existing And Future Oil And Gas Development**

BLM's waste rule should prevent waste from both future and existing oil and gas development.

The MLA's expansive mandate to prevent natural gas waste does not differentiate future from existing development and therefore requires prevention of waste from both. As the current MLA waste rule explains, for example, BLM must, simply put, ensure the "maximum ultimate recovery of oil and gas with minimum waste and with minimum adverse effect on the ultimate recovery of other mineral resources." 43 C.F.R. § 3161.2.

There are, of course, significant opportunities to prevent natural gas waste from existing oil and gas operations, and older, existing fields may prove to have some of the greatest opportunities for waste reduction given that they may have been developed before the advent or widespread use of methane reduction technologies and practices. Oil and gas production is already occurring on roughly 12.5 million acres of federal lands, and an additional 25.5 million acres not yet in production have been leased. As EPA's 2011 GHG Inventory shows, operations involving well completions, workovers, and liquids unloading at existing well sites accounted for 42% of total industry methane emissions, while the existing stock of production, processing and transmission equipment accounted for a roughly equal amount of methane emissions, including compressors (15%), pneumatic controllers (11%), and fugitive emissions throughout the system (15%).<sup>45</sup> Reasonable methane mitigation measures are readily available for each of these existing sources, often with quick paybacks.

For example, one of the key methane reduction measures adopted by the Tres Rios Field Office is a requirement for operators to replace high-bleed pneumatics with low-bleed/no-bleed or air-driven pneumatic devices on existing wells. The justification for this action is that:

The cost to inventory and replace high-bleed pneumatics with low-bleed pneumatic devices on existing oil and gas wells located on federal land is not high compared to the value of CH<sub>4</sub> gas lost to the atmosphere. Most replacement costs are recouped in under 1 year, resulting in a large economic benefit for industry.<sup>46</sup>

According to the Tres Rios Field Office LRMP, the environmental benefit from implementation

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<sup>45</sup> <http://www.epa.gov/climatechange/ghgemissions/usinventoryreport/archive.html>.

<sup>46</sup> Final Environmental Impact Statement for the Final San Juan National Forest and Proposed Tres Rios Field Office Land and Resource Management Plan, Vol. 1, Ch. 3 at 376 (available at <http://www.fs.usda.gov/detail/sanjuan/landmanagement/planning/?cid=stelprdb5432707>).

of high-bleed pneumatic replacement/retrofit is a 90% reduction in methane emissions, an expected savings of 100 MCF per year per well.<sup>47</sup>

## 5. **BLM’s Revised Waste Rule Should Integrate Methane Waste Prevention Efforts With BLM’s “Front End” Planning And Management Tools**

BLM should craft its rule to make full use of its “front end” planning and management tools, such as resource management plans and master leasing plans, to prevent oil and natural gas waste. Such back-end measures do not encompass the full suite of agency, lessee, and operator obligations and opportunities to prevent oil and natural gas waste.

By using its front-end planning and management tools, BLM best facilitates the implementation and enforcement of a revised waste rule. This is because such tools can provide field-level oil and gas supervisors with ground-truthed information (via inventories of development activities, as required by 43 U.S.C. § 1711(a)) and analysis to inform clear and strong standards to inform exploration, development, and production decisions. This has an ancillary benefit: providing lessees and operators with a clear signal and thereby ensuring that that waste prevention is not an afterthought for lessees and operators but rather a primary duty that is explicitly and specifically reflected in lease bids, lessee and operator financial arrangements, and lessee and operator exploration, development, and production plans.

Front-end planning and management tools also facilitate public transparency and accountability given public involvement requirements. By improving transparency and accountability, BLM’s front-end tools can contribute to the identification and documentation of additional opportunities (through, e.g., alternatives analysis) to prevent methane pollution and waste above-and-beyond what the agency may initially think is feasible. BLM also helps identify options that not only reduce methane pollution and waste, but also protect—as is required of both the agency and lessees—“other natural resources and environmental quality.” 43 C.F.R. §§ 3161.2, 3162.1(a).

Front-end planning and management tools employed by BLM include:

- **Resource Management Plans (“RMPs”).** RMPs guide and control field office management decisions. RMPs identify lands open/closed to leasing and resource objectives, and impose development constraints, including stipulations to achieve these objectives that are attached to leases before they are executed. *See* 43 U.S.C. 1712 (RMP requirements); 43 C.F.R. §§ 1600.0-1 *et seq.* (RMP rules); H-1601-01 (RMP Handbook). Notably, RMPs are informed by inventories, 43 U.S.C. § 1711(a), and approved, amended, and revised in accord with NEPA. 43 C.F.R. §§ 1601.0-6 (approvals), 1610.5-5 (amendments), 1610.5-6 (revisions).

RMPs provide a critical opportunity to ensure the “orderly and efficient” development of oil and natural gas resources by governing the scale, pace, and nature of exploration,

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<sup>47</sup> *Id.*

development, and production activities. 43 C.F.R. § 3160.0-4. In so doing, RMPs can help overcome structural barriers that currently impede lessee and operator action to prevent methane waste and pollution. For example, RMPs can require that lessees or operators construct the necessary infrastructure, such as gathering lines, separation and treatment equipment, and compression capacity, to route captured gas to a sales line or gas liquids to processing and storage facilities. Similarly, where gas is produced in association with oil, RMPs can concentrate or phase development activity on the landscape, improving the economics of the infrastructure necessary to capture and market (rather than flare or vent) associated gas. This in turn can help reduce the number of wells, storage tanks, pneumatic valves, or other sources of methane pollution and waste that would otherwise result from unmanaged development (or require mitigation through “back end” technologies and practices). Finally, by crafting RMPs to prevent waste through orderly and efficient development, BLM can reduce impacts to and thereby benefit wildlife, water, vegetation, and other conservation values—i.e., BLM can protect “other natural resources and environmental quality....” 43 C.F.R. §§ 3161.2, 3162.1(a).

- **Master Leasing Plans (“MLPs”).** MLPs are a product of oil and gas reforms adopted by BLM in 2010. MLPs allow BLM to plan for oil and gas development in a defined area within a broader landscape. We therefore encourage BLM to use MLPs to establish front-end waste prevention goals and to identify, as with RMPs, specific mitigation measures and best management practices to prevent waste. And, when BLM is preparing MLPs for other reasons, it should also account for methane waste prevention by considering both front end and back end tools. We see great opportunity for BLM to use MLPs to help drive methane waste and pollution reduction efforts.
- **Lease Sale Decisions.** Leases, once executed, confer “surface use rights.” 43 C.F.R. § 3101.1-2 (defining lessee surface use rights). Such rights are subject to stipulations attached to the lease, “specific, non-discretionary statutes,” and “reasonable measures” that are “consistent with lease rights granted.” *Id.* Reasonable measures manifest in the form of “conditions of approval” imposed subsequent to lease execution, typically at the drilling stage. Since these “reasonable measures” provide BLM with only limited authority—authority delimited by the “lease rights granted”—it is imperative that BLM consider what actions are necessary to prevent waste *before* leases are executed. This will ensure that BLM does not unintentionally hamstring its own responsibilities and authority.

In many instances BLM can satisfy this recommendation by mandating strong waste prevention measures at the RMP or MLP stage. However, where BLM is operating in accord with older RMPs or MLPs that do not require action to prevent methane waste, BLM must consider and potentially mandate waste mitigation measures by stipulation at the lease stage, especially when opportunities to prevent waste are only discovered through lease-specific decision-making and environmental reviews. Of course, lease-specific decision-making and environmental reviews can also identify additional measures to prevent waste above-and-beyond those identified in RMPs or MLPs based on lease-specific circumstances.

Taking specific action before leases are executed also sends an early signal to oil and gas lessees and operators regarding their obligations to prevent methane waste, enabling them to integrate that knowledge into their lease bid. BLM’s current practice—relying on general, boilerplate waste provisions and drilling-stage conditions of approval—does not effectively send this signal. Taking action *before* leases are granted also ensures that the agency can make use of the full range of its legal authority, reduce potential conflict over waste prevention action at the drilling stage, provide clear direction to lessees to inform how they invest in the development of a particular lease, and ultimately improve the efficacy of actions to prevent oil and natural gas waste.

- **Unit Agreements.** Unit agreements help facilitate the orderly development of oil and gas fields owned by multiple lessees by consolidating and coordinating development operations. *See* 43 C.F.R. §§ 3161.2, 3162.2-4(b) (BLM authority to require lessee unitization or communitization agreements); 43 C.F.R. Subpart 3180 (general rules pertaining to drilling unit agreements). With unit agreements, lessees share the risks and costs of development, improve the economics of development, and consolidate infrastructure. Unit agreements can help overcome potential structural barriers to methane emission measures, such as differing lessee prioritization of capital expenditures. Unit agreements also present an important “spillover” opportunity to drive methane waste reduction on state and private lands that are included within the same unitized field. Unit agreements do not, however, obviate BLM’s responsibility to prevent methane waste through RMPs, MLPs, stipulations, or other tools that are available before lease rights are conferred.
- **Master Development Plans/Plans of Development (“MDPs” or “PODs”).** MDPs and PODs are used to evaluate and plan for multi-well development projects, ostensibly to streamline the application for permit to drill approval process (discussed below) while also improving BLM’s understanding of cumulative impacts (because BLM’s analysis is not limited to a single well or well pad). Sometimes required by RMPs, MDPs or PODs provide an especially important tool to help prevent flaring because they can identify and delineate the specific infrastructure necessary for development and the specific location of that infrastructure on the landscape (specificity often lacking in earlier broader-scale planning or decision-making stages). In so doing, MDPs or PODs can ensure that infrastructure to route natural gas to market is constructed as part of the development process. Again, this helps ensure “orderly and efficient” development and the consideration and use of all appropriate methane mitigation measures. MDPs or PODs do not, however, obviate BLM’s responsibility to prevent waste through RMPs, MLPs, stipulation or other tools that are used before lease rights are conferred.
- **Applications for Permit to Drill.** Once RMPs and MLPs are completed, leases and unitization agreements executed, and any MDPs or PODs crafted, BLM must still approve specific applications for permit to drill, and can impose, whether to mitigate impacts or for other reasons, “conditions of approval.” *See* 43 C.F.R. §§ 3101.1-2, 3162.3-1(c). At this stage, BLM implements and enforces stipulations and “specific, nondiscretionary statutes,” and can also impose “reasonable measures” (i.e., conditions of approval) so long as they are

“consistent with lease rights granted.” 43 C.F.R. § 3101.1-2. This provides BLM with a final opportunity before a lessee or operator breaks ground to prevent methane waste, whether by controlling the pace or location of development or by mandating the use of specific mitigation technologies and practices. Accordingly, APDs, while important, are not a substitute for BLM’s duty to prevent waste through RMPs, MLPs, stipulation or other tools that are used before lease rights are conferred. At this stage, the updated BLM waste rule should require a final review of methane waste mitigation obligations and opportunities, and oil and gas lessees or operators should be required to certify that they are taking all prudent and necessary action to prevent methane waste.

#### **6. BLM’s Revised Waste Rule Should Mandate—Before Leases Are Executed—The Use Of Best Available Technologies**

BLM’s revised methane waste rule should complement the agency’s front-end planning and management tools by mandating the use of back-end technologies and practices to prevent and reduce methane waste and pollution. The efficacy of these technologies and practices has been well documented by EPA’s Gas STAR program and by Gas STAR’s industry partners. The revised waste rule should set a floor for action by state and field offices by mandating the use of best available technologies and practices. The revised waste rule should also require state and field offices to adopt additional methane waste mitigation technologies and practices that—based on field-level RMPs, MLPs, lease stipulations, unit agreements, MDPs/PODs, and APDS—are appropriate for particular oil and gas exploration, development, and production conditions.

The revised rule should require these technologies and practices at the earliest possible decision point—ideally, *before* leases are executed. In general, we think that there are myriad technologies and practices that should be categorically mandated. But, if the agency cannot anticipate what specific technologies and practices will prove appropriate (and necessary) before leases are executed, BLM should at least strengthen methane mitigation lease stipulations to explicitly provide that it may impose reasonable technologies or practices the agency deems appropriate through review of unit agreements, MDPs, PODs, or APDs.

The revised waste rule should also require BLM to maintain current information on methane mitigation measures, especially as the agency learns more about how best to prevent waste given particular field-level conditions. To encourage innovation, the revised rule should provide for the inclusion of new or improved technologies and practices and also allow lessees and operators to propose alternative technologies and practices where such alternatives would achieve equal or greater waste mitigation. Exhibit A of this White Paper contains the mitigation measure list adopted by the CARPP that the agency could use as a starting point.

#### **7. BLM Should Significantly Tighten And At Times Prohibit Natural Gas Venting And Flaring**

When natural gas is vented or flared, it can no longer be sold and is no longer available for use by homes, schools, and businesses. Put simply, venting and flaring *is* waste. NTL 4A fails to

acknowledge this and, moreover: (1) struggles to identify the circumstances where Supervisors can authorize venting or flaring; and (2) does not set criteria by which these decisions should be made. Venting or flaring without authorization is simply deemed “avoidable,” with the only sanction being payment of royalty due—a sanction that does little to proactively prevent or disincentivize further waste. Following Colorado’s lead, BLM’s updated waste rule should discard this flawed approach and instead establish clear and strong planning requirements and mitigation measures to significantly minimize the circumstances, if any, where natural gas venting and flaring is appropriate. And, where waste does still occur, BLM’s updated waste rule should require immediate action to prevent further waste. This helps (in part) overcome a serious structural flaw in BLM’s current waste policy, NTL 4A: that the penalty imposed for waste is payment of lost royalties, a penalty that does little to actually *prevent* waste.

Recognition of venting and flaring as waste underscores BLM’s broad obligations to ensure that oil and natural gas development serves the long-term public interest, rather than the short-term interest of lessees and operators. BLM must, in accord with its multiple use mandate, manage oil and natural gas resources to “best meet the present and future needs of the American people” and to ensure that management “takes into account the long-term needs of future generations for...non-renewable resources, including....minerals.” 43 C.F.R. § 1702(c). Further, in approving, revising, and amending RMPs, BLM must, *inter alia*, “use and observe the principles of multiple use and sustained yield,” “consider present and potential uses of the public lands,” and “weigh long-term benefits to the public against short-term benefits.” 43 U.S.C. §§ 1712(c)(1), (5), (7). This, coupled with BLM’s duty to protect the climate and prevent waste, provides BLM with ample authority and responsibility to tighten the conditions under which venting or flaring is permitted and, indeed, to prohibit venting and flaring as much as possible.

#### **8. BLM’s Revised Waste Rule Should Be Informed By The True And Full Cost of Methane Waste And Pollution**

Some have argued that oil and gas lessees and operators do not deliberately waste methane because such waste would undermine their bottom line profit motive. This argument has been used to suggest that lessees and operators adequately prevent waste from vented, flared, and fugitive emissions sources through voluntary action, and that tighter government oversight of methane waste and pollution is unnecessary. Conversely, and compellingly, market and other barriers have been identified that impede methane waste prevention and excuse industry’s failure to adequately control methane waste, most notably the waste of associated gas in the Bakken. We find the latter position compelling. GAO offered evidence of these barriers in its 2010 report, finding that:

Despite the potential economic benefits of using these technologies, there are barriers to their implementation for some operators, according to an EPA official and technology vendors. One key barrier is that many operators are unaware of the economic advantages. In part, this is because smaller operators often do not have the time or expertise to undertake the engineering analysis to understand

whether and how they can benefit, according to EPA and technology vendors. Also, these officials said that smaller operators often do not have the capital to purchase equipment, regardless of whether they can recover the costs. According to officials, the voluntary nature of the EPA Natural Gas STAR program is not enough to spur industry to change, and one industry official stated that the sometimes contentious relationship between the federal government and private industry contributes to this lack of awareness. Private industry does not always take federal efforts to encourage industry to alter business practices at face value, according to officials. One industry representative cited reluctance to participate in EPA's Natural Gas STAR program as an example of this skepticism.

A number of other factors can also contribute to operators not adopting venting and flaring reduction technologies. Officials that we spoke with said that overcoming "institutional inertia"—a company's tendency to do business and carry out operations as it always has—is key to adopting these technologies. In a similar vein, industry and EPA officials told us that upper management support is critical for these types of efforts to go forward, and many companies' management is focused on other efforts that are deemed more important than what are seen as incremental improvements in operations. For example, the operator may choose to invest its limited available capital in drilling a new well, which may have a larger return than investments in capturing vented or flared gas from an existing well, according to industry representatives.<sup>48</sup>

We would also add an additional and critical barrier to the adoption of methane waste mitigation measures: the lack of a full and true accounting of the costs of oil and natural gas pollution and waste to society. Such pollution and waste impacts the climate and causes other broadly felt social costs. And, at present, markets do not account for the full and true costs of carbon pollution. Rather than internalize carbon costs, lessees and operators effectively externalize these costs onto the backs of the general public and the environment.

An updated methane waste rule should account for the full and true social costs of methane waste; i.e., GHG pollution. This is particularly important if economic costs and benefits are used as a criterion for evaluating the efficacy and viability of particular waste prevention efforts, whether in the revised rule itself or as the rule is implemented and enforced in the context of specific exploration, development, and production activities. Accounting for the full and true costs of waste and the benefits of waste prevention should help overcome barriers impeding the penetration of waste prevention technologies and practices—or at least help justify stronger regulatory action.

Quantifying costs and benefits is required by Executive Order 12866, and the Interagency Workgroup on the Social Cost of Carbon maintains a schedule, updated earlier this year, of

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<sup>48</sup> GAO 11-34 at 24.



social cost of carbon estimates for use in regulatory impact analysis.<sup>49</sup> BLM, notably, has a duty to address the true and full social costs of methane waste and pollution pursuant to FLPMA’s mandate to manage the public lands for multiple uses, and these costs should therefore be reflected in the revised waste rule. 43 U.S.C. §§ 1701(a)(8), 1702(c), 1712(1). FLPMA also mandates that the BLM not delimit its choices by what is or is not economically viable for oil and gas lessees and operators, but rather, by fully and truly accounting for what actions “best meet the present and future needs of the American people,” an analysis that “takes into account the long-term needs of future generations for...non-renewable resources, including...minerals.” 43 C.F.R. § 1702(c). BLM is further compelled to “consider present and potential uses of the public lands,” and “weigh long-term benefits to the public against short-term benefits.” 43 U.S.C. §§ 1712(c)(5), (7). Fundamentally, BLM must manage oil and gas resources for the long-term, and in the broad public interest, and this duty should be reflected in the revised methane waste rule.

Accounting for the true and full social costs of waste also conforms to NEPA’s “hard look” mandate that, again, requires BLM to evaluate the direct, indirect, and cumulative impacts of actions on the “human environment.” 40 C.F.R. §§ 1502.16(a), (b); 1508.25(c). NEPA also mandates that BLM address, through its environmental reviews, “[e]nergy requirements and conservation potential of various alternatives and mitigation measures,” “[n]atural or depletable resource requirements and conservation potential of various alternatives and mitigation measures,” and “[m]eans to mitigate adverse environmental impacts (if not fully covered under 1502.14(f)).” 40 C.F.R. §§ 1502.16(e), (f), (h). This hard look, in turn, informs BLMs consideration of alternatives by “sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public.” 40 C.F.R. § 1502.14.

## **9. BLM Should Use A “Carrot-And-Stick” Approach To Facilitate The Prevention Of Natural Gas Waste**

Accounting for the true and full social costs of waste arms BLM with information to identify, analyze, and substantiate policy changes that account for the barriers impeding reductions in methane waste and pollution. Importantly, all of these barriers can, at least to a degree, also be overcome through a strong rule that is implemented and enforced. This is particularly the case if BLM’s rule makes effective use of front-end planning and management tools (like NEPA) in combination with back-end requirements pertaining to specific methane reduction technologies and practices. Such a combination sends a potent regulatory signal that can shift how oil and gas lessees think about, plan for, invest in, and develop oil and gas resources.

To further address these barriers, BLM should also revise its incentive and disincentive provisions for waste. At present, NTL 4A provides that a lessee or operator who wastes oil or natural gas must compensate BLM, with the value of that compensation determined by

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<sup>49</sup> Interagency Working Group on Social Cost of Carbon, *Technical Support Document—Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866* (May 2013) (<http://www.epa.gov/otaq/climate/regulations/scc-tsd.pdf> [PDF]).

calculating the royalties lost by BLM due to that waste. Given the large amounts of methane that GAO estimated is leaked, vented, and flared on federal land, it is difficult to see how such compensation effectively deters waste.

As part of a “carrot-and-stick” approach, we are open to considering incentive-based mechanisms to reward lessees and operators that take exemplary action to prevent waste so long as those incentives help overcome the barriers described above and do not allow oil and gas lessees to obtain a windfall subsidized by the American people. That said, we emphasize, here, the need for a better “stick.” While we are still exploring how to properly incentivize compliance and disincentivize noncompliance with a revised waste rule (and much depends on how BLM designs the rule) we suggest a stick that makes use of the following three elements.

First, BLM should consider strengthening its existing penalty provisions by:

- Explicitly providing that a lessee or operator who repeatedly or egregiously violates the waste rule will have their leases and permits cancelled or suspended and, further, will be prohibited from acquiring new leases. We believe that such consequences would serve as a more effective deterrent to waste than monetary penalties alone. At present, BLM has the authority to, e.g., “shut down operations” in situations “where continued operations could result in immediate, substantial, and adverse impacts on public health and safety, the environment, production accountability, or royalty income.” 43 C.F.R. § 3163.1(a)(3). BLM also has the authority, e.g., to cancel a lease for “[c]ontinued noncompliance.” 43 C.F.R. § 3163.1(a)(5). But these authorities, relative to the waste rule, should be clearly and explicitly defined and, if necessary, strengthened and expanded.
- Identifying what elements of the revised waste rule, if violated, would constitute a “major” versus “minor” violation as defined in 43 C.F.R. § 3160.0-5 and make revisions of those definitions as appropriate.
- Strengthening the remedies and civil penalties provisions of 43 C.F.R. § 3163.1 and § 3163.2. Both of these provisions give the authorized officer too much discretion as to whether and under what circumstances penalties shall be assessed. BLM should provide consistent guidance to authorized officers to ensure that waste rule requirements are met. These provisions also provide a penalty structure—e.g., a \$500 per day assessment for a “major violation” as per 43 C.F.R. § 3163.1(a)(1)—that does not effectively deter violations or account for inflation. Accordingly, BLM should adjust the penalties to better disincentivize violations of the waste rule and to account for inflation.

Second, we encourage BLM to increase the royalty rate for calculating compensation due for avoidably lost oil and gas to better disincentive waste and ensure a fair return to the American public for the loss of domestic energy resources that are intended to be managed for the broad, long-term public interest. And we further recommend that BLM require that lessees and operators pay royalties on all lost natural gas, even if such loss is deemed unavoidable—compensation that is currently not provided for pursuant to NTL 4A. This is because the

unavoidable loss of natural gas is still the loss of a valuable public resource and the cost of that loss should be born by the lessee or the operator as a cost of doing business, not by the public. In effect, BLM would use two royalty rates: (1) a royalty rate that is higher than the standard royalty rate to penalize and compensate for avoidable waste; and (3) the standard royalty rate to compensate and ensure that the public receives fair market value for unavoidable losses of natural gas. Both of these recommendations are in line with BLM’s authorities and responsibilities. *See* 30 U.S.C. § 226(b)(1)(A) (providing that royalties be set “at a rate of not less than 12.5 percent in amount or value of the production removed or sold from the lease”); 43 U.S.C. § 1701(a)(9) (providing that it is U.S. policy to “receive fair market value of the use of the public lands and their resources....”)

We recognize that BLM discontinued its efforts to modify royalty rates last year, despite the fact that royalty rates for onshore oil and gas production of public mineral resources are some of the lowest in the world at 12.5%. 43 C.F.R. § 3103.3-1. Nonetheless, revisions to the methane rule suggest a key opportunity for at least targeted revisions to royalty rates to better disincentivize waste.<sup>50</sup> We note that BLM already *reduces* royalty rates in certain instances to provide an incentive to, e.g., encourage “the greatest ultimate recovery of oil or gas in the interest of conservation.” 43 C.F.R. § 3103.4-1. We think it reasonable and indeed necessary that BLM, in addition to providing royalty “carrots,” also use royalty “sticks.”

Third, we encourage BLM to consider higher national minimum acceptable bids to better encourage optimization of existing leases rather than the acquisition of new leases. *See* 30 U.S.C. § 226(b)(1)(B) (providing authority to Secretary to raise minimum bids “based upon a finding that such action is necessary: (i) to enhance financial returns to the United States; and (ii) to promote more efficient management of oil and gas resources on Federal lands”). This is particularly so given the stark divide between the number of acres leased for development—nearly 38 million acres—and the number of acres that are actually developed—12.5 million, a divide that does little to facilitate the production of actual energy and a divide that provokes conflict with non-mineral resources, such as wildlands, wildlife, and water protection efforts.

## **10. BLM Should Ensure Public Transparency And Accountability**

A revised methane waste rule should provide for effective public oversight of oil and gas exploration, development, and production on federal onshore oil and gas lands by ensuring that BLM, lessee, and operator activities are transparent and accountable to the public. We have recommended that BLM take advantage of existing front-end planning and management tools precisely because these tools often require public involvement and the publication of publicly available information, such as RMPs or NEPA analyses and their supporting information, that facilitates public transparency and accountability.

In addition to these front end planning and management tools, BLM should also ensure that the public can effectively track and assess whether waste is in fact being prevented, and whether or

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<sup>50</sup> GAO, *Oil and Gas Resources: Action Needed for Interior to Better Ensure a Fair Return*, GAO-14-50 (Dec. 2013).

not lessees and operators have complied with the agency’s waste prevention mandates. This can be done, in part, through:

- Effective monitoring and other implementation and management measures required by RMPs and other decision-documents.
- Revisions to NTL-3A, which dictates when oil and gas operators report “undesirable events,” including gas leaks, to BLM. BLM should decrease the volume of vented gas that an operator must report in a Major Undesirable Event in Part I of NTL-3A from 500 to 100 Mcf and, further, expand the requirement to include not just vented, but also fugitive, emissions.
- Actions taken by BLM in response to GAO’s recommendations in GAO-13-572 regarding documentation of environmental inspections, such as adding methane mitigation measures to BLM’s “Inspection and Enforcement Handbook” and establishing criteria for prioritizing methane waste-related inspection of wells and other facilities.

**V. CONCLUSION**

We hope that BLM gives these core principles due consideration and that they are of service in informing the agency’s efforts to modernize its 34-year old waste rules. As we have noted, BLM has made steady progress acknowledging and remedying methane emissions and waste but that this progress must be accelerated and intensified. This will go far in ensuring that BLM is, in fact, ensuring the responsible development of this country’s onshore oil and natural gas resources.

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