



Institute for  
Policy Integrity  
*new york university school of law*

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Bureau of Land Management

VIA ELECTRONIC SUBMISSION

Attn: RIN 1004-AE23

Subject: Comments on Advance Notice of Proposed Rulemaking re. Waste Mine Methane Capture, Use, Sale, or Destruction, 79 Fed. Reg. 23,923 (Apr. 29, 2014)

The Institute for Policy Integrity at New York University School of Law<sup>1</sup> (“Policy Integrity”) respectfully submits the following comments on the Bureau of Land Management’s (“BLM”) advance notice of proposed rulemaking regarding the establishment of a program to capture, use, or destroy methane that is released into the mine environment and the atmosphere as a direct consequence of underground mining operations on federal leases for coal and other minerals. Policy Integrity is a non-partisan think tank dedicated to improving the quality of government decisionmaking through advocacy and scholarship in the fields of administrative law, economics, and public policy.

Methane is a potent greenhouse gas, with an estimated global warming potential value at least 21 times greater than that of carbon dioxide.<sup>2</sup> Coal mining releases large quantities of methane-rich gas trapped in and around the coal, and most mine operators vent this gas directly into the atmosphere to reduce the risk of explosions.<sup>3</sup> As a result, coal mining is the United States’ fourth-largest source of methane emissions, accounting for 10 percent of emissions in 2012.<sup>4</sup>

Technology exists to safely capture and exploit mine methane for profit.<sup>5</sup> Even where capture is impractical, it is possible to abate mine methane’s climate impacts by converting the methane to carbon dioxide (a less potent greenhouse gas) through thermal oxidation or flaring.<sup>6</sup> BLM’s current leasing regime, however, encourages suboptimal levels of capture and abatement, both because coal estate lessees often lack a clear legal right to exploit mine methane and because the lessees do not internalize the full social costs or unrealized commercial value of their methane emissions.

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<sup>1</sup> No part of this document purports to present New York University School of Law’s views, if any.

<sup>2</sup> EPA, Overview of Greenhouse Gases: Methane Emissions, <http://epa.gov/climatechange/ghgemissions/gases/ch4.html> (last visited June 25, 2014).

<sup>3</sup> EPA, Coalbed Methane Outreach Program: Basic Information, <http://www.epa.gov/cmop/basic.html> (last visited June 25, 2014).

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

<sup>5</sup> *Id.*

<sup>6</sup> See, e.g., J.M. Somers & H.K. Schultz, Thermal oxidation of coal mine ventilation air methane (2008), available at [http://www.epa.gov/cmop/docs/2008\\_mine\\_vent\\_symp.pdf](http://www.epa.gov/cmop/docs/2008_mine_vent_symp.pdf); EPA, *MINOSA Successfully Deploys First CMM Flares in Mexico*, COALBED METHANE EXTRA, Winter 2013, at 1, 1, available at [http://www.epa.gov/coalbed/docs/Winter\\_2013.pdf](http://www.epa.gov/coalbed/docs/Winter_2013.pdf).

To encourage the efficient capture or abatement of mine methane, BLM should adopt the following policies:

- BLM should explicitly grant all coal lessees the right to capture and use or sell any methane that is released as a consequence of mining activities.
- BLM should adjust the royalty rates it charges coal lessees to reflect the social costs and unrealized commercial value of vented mine methane.

## **I. BLM Should Explicitly Grant All Coal Lessees the Right to Capture and Use or Sell Any Methane That Is Released As a Consequence of Mining Activities**

### *The Current Legal Ownership Framework Encourages Coal Lessees to Vent Mine Methane*

Pursuant to the Mineral Leasing Act (“MLA”), BLM issues leases for federally owned mineral estates, including coal, oil, and gas estates, as well as for the lands containing the minerals.<sup>7</sup> To obtain a lease for a mineral estate under the Act, an operator typically must participate in a competitive bidding process.<sup>8</sup> The highest bidder for a particular mineral estate gains the right to mine for “deposits” of that mineral.<sup>9</sup>

Different mineral estates are leased separately, so a mining company that secures a coal estate does not automatically gain ownership of the surrounding coal seam gas.<sup>10</sup> Yet coal mining necessarily affects the gas estate because mining activities incidentally release some of the surrounding methane.<sup>11</sup> Indeed, the Mine Safety and Health Administration *requires* underground coal mines to dilute and remove methane from the mine environment to minimize the risk of explosions.<sup>12</sup>

The right to vent methane, however, is legally distinct from the right to exploit that methane for commercial gain. In *Amoco Production Company v. Southern Ute Indian Tribe*, the Supreme Court recognized that the right to mine coal “implies the right to release gas incident to coal mining where it is necessary and reasonable to do so.”<sup>13</sup> But the court was also quick to clarify that this right does not “imply the ownership of the gas in the first instance.”<sup>14</sup> Instead, it “simply reflects the established common-law right of the owner of one mineral estate to use, and even damage, a neighboring estate as necessary and reasonable” to the extraction of one’s own minerals.<sup>15</sup>

Without a clear legal claim to the methane released by mining activities, coal lessees are likely to vent the gas into the atmosphere even when it might be profitably captured and exploited.

### *BLM Can Remove Legal Barriers to Capture by Granting Coal Lessees an Express Right to Commercially Exploit Mine Methane*

While coal lessees lack an *implied* right to commercially exploit mine methane, BLM can use its broad authority under the MLA to grant coal lessees an *express* right to do so. As discussed above, the MLA typically requires BLM to conduct a public, competitive bidding process before it grants

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<sup>7</sup> 30 U.S.C. § 181 *et seq.*

<sup>8</sup> *See, e.g.*, 30 U.S.C. § 201; 30 U.S.C. § 226.

<sup>9</sup> *See, e.g.*, 30 U.S.C. § 181; 30 U.S.C. § 226(b)(1)(A).

<sup>10</sup> *See* Waste Mine Methane Capture, Use, Sale, or Destruction, 79 Fed. Reg. 23,923, 23,923-24 (Apr. 29, 2014) (“For federal lands, recovery of coalbed methane is authorized through an oil and gas lease under the Mineral Leasing Act.”)

<sup>11</sup> *Id.* at 23,924.

<sup>12</sup> 30 C.F.R. § 75.323.

<sup>13</sup> 526 U.S. 865, 879 (1999).

<sup>14</sup> *Id.*

<sup>15</sup> *Id.*

the right to extract any federally owned mineral “deposits.”<sup>16</sup> In *Vessels Coal Gas, Inc.*, however, the Interior Board of Land Appeals held that “the methane mixture released by coal mining into the environment” does not qualify as a “deposit” within the meaning of the MLA.<sup>17</sup> As a result, “BLM bears no obligation to conduct a public competitive MLA lease sale” before allowing that mine methane to be captured and used or marketed.<sup>18</sup>

Subsequent to the *Vessels* decision, at least one regional BLM office has added “addenda” to an existing coal lease that authorize the coal lessee to capture for use or sale “any combustible gas located in, over, under or adjacent to the coal that will or may infiltrate underground mining operations” (i.e., mine methane).<sup>19</sup> The negotiation of such addenda is entirely consistent with BLM’s authority under the MLA, which states that each mineral lease shall include, in addition to provisions regard the length of the primary term, annual rentals, and royalties, “such other terms and conditions as the Secretary [of the Interior] shall determine.”<sup>20</sup> The Act also expressly contemplates the inclusion of terms aimed at “the prevention of undue waste.”<sup>21</sup> Accordingly, BLM can and should make addenda authorizing the capture and exploitation of mine methane standard components of all future leases and lease renewals.

Additionally, BLM should promulgate a regulation formally adopting the Interior Board of Land Appeals’ view that methane released as a consequence of mining activities does not qualify as a “deposit” under the MLA and is thus not subject to a competitive bidding requirement.<sup>22</sup> Such a pronouncement would be an appropriate exercise of the Secretary’s MLA authority to “prescribe necessary and proper rules” and to do “any and all things necessary to carry out and accomplish” the purposes of the Act.<sup>23</sup>

## **II. BLM Should Adjust the Royalty Rates It Charges Coal Operators to Reflect the Social Costs and Unrealized Commercial Value of Vented Mine Methane**

### *The Current Leasing System Encourages Suboptimal Levels of Methane Capture and Abatement*

Capturing mine methane provides two primary benefits. First, the gas itself has commercial value. Second, when the gas is captured, the social costs associated with venting it are avoided. Under an ideal leasing regime, coal operators would take both of these benefits into account when deciding whether to capture the methane released by their mining activities. An operator would capture a unit of methane whenever the commercial value of the gas *plus* the avoided social costs of venting it outweighed the cost of capture. Furthermore, where capture was not economically justified, an

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<sup>16</sup> See, e.g., 30 U.S.C. § 201; 30 U.S.C. § 226.

<sup>17</sup> 175 IBLA 8, 26 (2008). The IBLA is an appellate review body that issues final decisions for the Department of the Interior. Dep’t of Interior, About the Interior Board of Land Appeals, <http://www.doi.gov/oha/ibla/index.cfm> (last visited June 25, 2014).

<sup>18</sup> 175 IBLA at 27.

<sup>19</sup> ROBERT A. BASSETT ET AL., U.S. LAWS & POLICIES REGARDING CAPTURING METHANE GAS 20 (2009), available at [http://www.epa.gov/cmop/docs/cmm\\_conference\\_sept09/02bassett\\_white\\_paper.pdf](http://www.epa.gov/cmop/docs/cmm_conference_sept09/02bassett_white_paper.pdf) (quoting BLM Addendum to Coal Leases C-1362, COC-56447, COC-67011, C-0117192, D-044569, COC-54558, COC-67232 (Jan. 14, 2009)).

<sup>20</sup> 30 U.S.C. § 207(a).

<sup>21</sup> 30 U.S.C. § 187.

<sup>22</sup> Note that, even under this interpretation of “deposit,” an operator seeking to drain coalbed methane prior to the commencement of mining activities (as opposed to capturing methane released as a consequence of those activities) will need to secure an oil and gas lease via a competitive bidding process. See 79 Fed. Reg. at 23,924.

<sup>23</sup> 30 U.S.C. § 189.

operator would abate its methane emissions so long as the avoided social costs of those emissions outweighed the costs of flaring or thermal oxidation.

Because the ill effects of vented methane are suffered by society at large rather than individual operators, however, the operators do not currently take these social costs into account when determining whether capture is cost-benefit justified. Thus, even if an operator is granted a clear legal right to capture the methane released by its mining operations, it will capture (and abate) that methane at suboptimal levels. Capture rates are further depressed because operators must pay a 12.5 percent royalty on any captured methane but no equivalent sum for vented methane, even though the government's mineral resource is being expended either way.<sup>24</sup> In other words, the current leasing scheme encourages operators to vent methane whenever the cost of capture exceeds 87.5 percent of the methane's commercial value.

BLM can incentivize coal operators to capture and abate optimal volumes of mine methane by adjusting coal royalty rates to reflect both the social costs and foregone commercial value of the methane that is projected to be released as a result of the operators' mining. If forced to internalize these costs, coal operators should engage in all capture and abatement activities that are cost-benefit justified.

*For New Coal Leases, BLM Should Increase Coal Royalty Rates to Reflect the Social Costs and Foregone Commercial Value of Vented Mine Methane*

BLM currently imposes a royalty rate of 8 percent of the commercial value of coal produced from underground mines.<sup>25</sup> For each new coal lease, BLM should increase coal royalty rates above current levels by accounting for the external costs that will result and the commercial value that will remain unrealized if the methane released by mining activities is vented into the atmosphere. Where the external costs and unrealized commercial value are low (for example, because the coal mine contains minimal amounts of the gas), the royalty rate increase should be slight. But where the projected external costs and foregone value are great, the rate increase should be more substantial.

In the near term, BLM can assess mine methane's external costs by converting projected methane emissions into units of carbon dioxide equivalent and applying the federal government's estimate of the Social Cost of Carbon.<sup>26</sup> As soon as practicable, however, the agency should heed the advice of leading economists and separately model the full social cost of methane, which would more accurately account for the gas's shorter atmospheric life span, among other differences.<sup>27</sup>

At specified points during and after mining operations, BLM should provide royalty relief to coal operators who capture or abate methane. To the extent that an operator realizes the commercial value of methane (and thus pays a gas royalty) and/or prevents the social costs associated with venting the gas, the operator should not be required to pay that portion of the coal royalty rate increase. With respect to avoided social costs, capture should generate the greatest royalty reduction, because it offsets demand for power generation from other sources.<sup>28</sup> Abatement should

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<sup>24</sup> 43 C.F.R. § 3103.3-1.

<sup>25</sup> *Id.* § 3473.3-2(a).

<sup>26</sup> See EPA, The Social Cost of Carbon, <http://www.epa.gov/climatechange/EPAactivities/economics/scc.html> (last visited June 25, 2014).

<sup>27</sup> DISA THURESON & CHRIS HOPE, IS WEITZMAN RIGHT? THE SOCIAL COST OF GREENHOUSE GASES IN AN IAM WORLD 21 (2012), available at <http://www.oru.se/PageFiles/36235/WP%203%202012.pdf>.

<sup>28</sup> EPA, Coalbed Methane Outreach Program: Basic Information, <http://www.epa.gov/cmop/basic.html> (last visited June 25, 2014) (noting that "nearly all [mine methane] captured and used from active U.S. mines is injected into the natural gas pipeline system").

generate a lesser royalty reduction that reflects the social cost of the carbon dioxide emissions generated by thermal oxidation and flaring.

The Secretary of the Interior has broad statutory authority to adjust royalty rates according to the above framework. Under the MLA's coal leasing provisions:

“[a] lease shall require payment of a royalty in such amount as the Secretary shall determine of not less than 12 ½ per centum of the value of coal as defined by regulation, except the Secretary may determine a lesser amount in the case of coal recovered by underground mining operations. The lease shall include such other terms and conditions as the Secretary shall determine.”<sup>29</sup>

The statute provides no ceiling for royalty rates, indicating that the Secretary has substantial discretion in setting rates. Notably, the statute grants the Secretary the ability to determine any “other lease terms and conditions,” which could include such additional charges for the social cost of mine methane.<sup>30</sup>

In addition to the plain text of the leasing provision, the MLA specifically grants the Secretary the authority “to prescribe necessary and proper rules and regulations and to do any and all things necessary to carry out and accomplish the purposes of this chapter.”<sup>31</sup> By increasing the extent to which mine methane is captured or abated rather than vented, the royalty adjustments described above would serve a number of broad statutory goals, such as ensuring a “reasonable financial return on assets belonging to [the] public,”<sup>32</sup> “promot[ing] wise development of natural resources,”<sup>33</sup> and lessening environmental impacts.<sup>34</sup>

*For Existing Coal Leases, BLM Should Provide Coal Royalty Relief to Certain Operators Who Capture or Abate Mine Methane*

For existing coal leases, BLM should offer royalty relief to coal operators who capture or abate mine methane that otherwise would be vented. Offering royalty relief to coal operators (as opposed to increasing royalty rates) is appropriate for current leases because the federal government is contractually bound to the existing lease terms, including the royalty percentage that operators must pay for the extracted coal.<sup>35</sup> Operators are, of course, far more likely to volunteer for a decrease in their royalty rates than an increase.

The MLA specifically grants the Secretary of the Interior broad authority to provide royalty relief:

The Secretary “for the purposes of encouraging the greatest ultimate recovery of coal [or] gas . . . and in the interest of conservation of natural resources[,] is authorized to waive, suspend, or reduce the . . . minimum royalty or reduce the royalty on an entire leasehold . . . whenever in his judgment it is necessary to do so to promote development.”<sup>36</sup>

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<sup>29</sup> 30 U.S.C. § 207.

<sup>30</sup> *Id.*

<sup>31</sup> 30 U.S.C. § 189.

<sup>32</sup> *California Co. v. Udall*, 296 F.2d 384, 388 (D.C. Cir. 1961).

<sup>33</sup> *Id.*

<sup>34</sup> 30 U.S.C. § 21a.

<sup>35</sup> See UNCOMPAHGRE FIELD OFFICE, BLM COAL RESOURCES 17 (Mar. 2012), available at [http://www.blm.gov/pgdata/etc/medialib/blm/co/field\\_offices/uncompahgre\\_field/documents/lands\\_\\_minerals.Par.35163.File.d at/2012-0301%20BLM%20Coal%20Overview%20North%20Fork.pdf](http://www.blm.gov/pgdata/etc/medialib/blm/co/field_offices/uncompahgre_field/documents/lands__minerals.Par.35163.File.d at/2012-0301%20BLM%20Coal%20Overview%20North%20Fork.pdf) (noting that royalty rates are fixed in the terms of the lease).

<sup>36</sup> 30 U.S.C. § 209(a).

By incentivizing an operator to capture and exploit mine methane, BLM would encourage the “greatest ultimate recovery of . . . gas” and “promote development.”<sup>37</sup>

Providing relief on coal royalties would also be consistent with the Secretary’s general authority “to prescribe necessary and proper rules and regulations and to do any and all things necessary to carry out and accomplish” the goals of the MLA.<sup>38</sup> By encouraging coal operators to capture or abate greater quantities of mine methane, the relief would reduce mineral waste and adverse environmental impacts.<sup>39</sup>

BLM should be careful, however, to ensure that royalty relief does not inadvertently incentivize more coal mining. To that end, the program should not provide relief to operators who would capture or abate their methane emissions in the absence of a royalty relief program. Additionally, the amount of royalty relief offered to an operator should be sufficient only to incentivize a level of capture or abatement that is cost-benefit justified from the perspective of society at large. If the provided relief is excessive, it will have the effect of subsidizing coal mining rather than incentivizing the efficient capture or abatement of methane. Such a subsidy could spur increased coal mining, which would result in increased greenhouse gas emissions and thus contradict the very purpose of a royalty relief program.

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<sup>37</sup> *Id.*

<sup>38</sup> 30 U.S.C. § 189.

<sup>39</sup> 30 U.S.C. § 21a.