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A Policy History of Federal Coal Leasing: Past and Present Challenges

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A POLICY HISTORY OF FEDERAL COAL LEASING: PAST AND PRESENT CHALLENGES

*Josh Lappen**

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I. INTRODUCTION

On March 29, 2017, Secretary of the Interior Ryan Zinke signed Secretarial Order (S.O.) 3348: *Concerning the Federal Coal Moratorium*.¹ Its main purpose

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¹ U.S. DEP'T INTERIOR, OFF. OF THE SECRETARY, S.O. 3348, CONCERNING THE FEDERAL COAL MORATORIUM (2017) [hereinafter S.O. 3348].

was the revocation of S.O. 3338, signed just over a year prior by then-Secretary Sally Jewell.² S.O. 3338 suspended most coal leasing on federal lands to allow a review of the Federal Coal Management Program.³ This review, a discretionary Programmatic Environmental Impact Statement (PEIS), would have been the first comprehensive evaluation of federal coal management since 1986.⁴ Since the end of the last leasing moratorium in 1987, there have been few structural changes to the regulatory process under which federal coal reserves are leased for mining.⁵ Over the three decades and six presidential administrations that have followed, however, both the American coal industry and the domestic and international coal markets have changed dramatically.⁶

Several persistent, underlying challenges have troubled federal coal management since its inception. Most notably, the Department of the Interior (Interior) has struggled in every era of coal management to promote competition in the coal leasing process and to receive fair market value for federal coal. In recent times, a series of external changes have compounded the Federal Coal Management Program's internal challenges.⁷ In particular, the 21st century ascendancy of cheap, plentiful natural gas, an expanded and volatile export market, and a growing movement to account for the social and environmental costs of coal production have helped to create a new economic reality which the current Federal Coal Management Program is ill-equipped to handle.⁸

By reconstructing a policy history of federal coal leasing, this Article seeks to confront the structural conflicts which undergird and perpetuate federal coal management's long string of scandals, failures, and shortcomings. Part II of this Article lays out the history of federal coal leasing policy. Part III then surveys

² S.O. 3348, *supra* note 1, at 1; U.S. DEP'T OF THE INTERIOR, OFF. OF THE SECRETARY, S.O. 3338, DISCRETIONARY PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT TO MODERNIZE THE FEDERAL COAL PROGRAM (2016) [hereinafter PEIS, S.O. 3338]; U.S. DEP'T INTERIOR, BUREAU OF LAND MGMT., FEDERAL COAL PROGRAM: PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT - SCOPING REPORT, at ES-3 (2017) [hereinafter SCOPING REPORT].

³ See PEIS, S.O. 3338, *supra* note 2, at 8–9; SCOPING REPORT, *supra* note 2, at 4–19, 5–6.

⁴ PEIS, S.O. 3338, *supra* note 2, at 6. Before its discontinuation, the PEIS process produced a Scoping Report, published in January 2017, that summarized the results of the Interior's public comment process and winnowed those comments into a list of alternatives to be considered. See SCOPING REPORT, *supra* note 2.

⁵ Specifically, the formal regulatory process as described in Public Lands Interior, 43 C.F.R. §§ 3400–3430 (2018) has not changed significantly in the intervening decades. However, this does not mean that the modern average prospective lease has followed the same steps or that it has been subject to the same rules within that regulatory process from the last major revisions up until the present day. See especially *infra* notes 113, 293–320 and accompanying text. But see *infra* note 108 (discussing one minor subsequent change to leasing rules and its impacts).

⁶ See *infra* notes 117–52 and accompanying text.

⁷ See *infra* note 8 and accompanying text.

⁸ See *infra* notes 128–31, 134–40 and accompanying text.

recent economic trends in the domestic thermal coal mining industry, while Part IV traces the contemporary leasing process step by step. From this foundation, Part V breaks the Federal Coal Management Program down to examine how its most persistently challenging aspects have performed since the Program's inception. Understanding the Federal Coal Management Program's origins and its progression through several periods of deficiency and reform helps to clarify the structural reasons why the Interior continues to struggle in its management of federal coal resources. Furthermore, this cycle of reform efforts has produced a body of untapped policy recommendations, some of which may still provide strong solutions to modern challenges.⁹ This Article examines those solutions and offers synthesized suggestions in pursuit of the dual goals of achieving fair market value for federal taxpayers and a competitive environment for the American coal industry.

II. HISTORY OF FEDERAL COAL LEASING AND REGULATION

A. *Early Federal Coal Leasing*

The Mineral Leasing Act of 1920 (MLA) standardized the management of federal coal, petroleum, and natural resources, along with a number of other minerals.¹⁰ Prior to the law's passage, the Coal Lands Acts of 1864 and 1873 had allowed federal coal-bearing lands to be purchased for extraction at public auction.¹¹ Similarly, the General Mining Law of 1872 governed oil and gas extraction through patenting, a process which granted the prospector permanent ownership of both the mineral resources and the surface land contained within any properly-staked claim.¹² To replace this, the MLA created a leasing system for mineral deposits on all federal and Indian lands, allowing the federal government and Indian tribes to retain ownership of public land while still enabling mineral resource extraction on those lands.¹³ This new approach helped to solidify the principle that the government should be compensated for resource development on public land. Likewise, by preserving government ownership of mineral-

⁹ See *infra* notes 174–346 and accompanying text (examining past recommendations).

¹⁰ Mineral Leasing Act of 1920, Pub. L. No. 66-146, 41 Stat. 437 (codified as amended at 30 U.S.C. §§ 181–263 (2012)); see also SCOPING REPORT, *supra* note 2.

¹¹ Mark Squillace, *The Tragic Story of the Federal Coal Leasing Program*, 27 NAT. RES. ENV'T 29, 29 (2013); see also Coal Lands Act, 13 Stat. 343 (1964); Coal Lands Act of 1873, 17 Stat. 607, amended by Mineral Leasing Act of 1920; see also SCOPING REPORT, *supra* note 2.

¹² See General Mining Law of 1872, 17 Stat. 91, amended by Mineral Leasing Act of 1920.

¹³ See *id.* Though coal leasing on tribal lands presents an important and underexamined topic of inquiry, this Article does not examine it specifically. Rather, this Article will use “public,” “government,” and “federal” to refer to all coal managed by the federal government—some of which is managed by the Interior on behalf of federally-recognized tribes. Regardless, tribal governments retain control over the rights and many of the conditions of coal leasing on their lands. Additionally, revenues from coal leasing on tribal lands are held in trust by the Interior for the tribe rather than being split between state and federal coffers. Other laws, regulations, and treaties also govern tribal coal leasing, but this Article does not examine them. *Id.*; see also SCOPING REPORT, *supra* note 2.

bearing lands, the MLA granted the government the power to dictate the scale and distribution of mining.¹⁴

The passage of the MLA was part of a larger transition towards the management, rather than the disbursement, of public lands. Throughout the latter half of the 19th century, federal land policy consistently focused on enabling rapid development of natural resources.¹⁵ Policies such as homesteading, land grants to states and railroad corporations, and patenting all worked to stimulate private development, especially in the unexploited American West.¹⁶ Reasoning that settlement and resource development were in the public interest, policymakers subsidized these activities by privatizing federal land for little or no direct return.¹⁷ By the beginning of the 20th century, though, an alternative philosophy of managed development argued that the public should receive compensation for private profits made from federal resources.¹⁸ The MLA came early in a growing legislative movement that sought to balance private development and public revenue.

From the enactment of the MLA until the early 1960s, limited demand meant that little federal coal was leased for mining.¹⁹ The federal coal that did get leased was auctioned and managed with limited government oversight.²⁰ Though the government retained the right to designate which tracts to auction, *de facto* on-demand practices meant that coal was developed whenever and wherever buyers sought a lease sale.²¹

Throughout the 1960s, however, widespread speculation on Western coal caused federal coal leasing to skyrocket even as production rates declined.²² As demand increased, lease sale prices remained low and industry continued to designate which sites would be leased.²³ As a later Congressional commission

¹⁴ U.S. OFF. OF TECH. ASSESSMENT, PB82-149378, AN ASSESSMENT OF DEVELOPMENT AND PRODUCTION POTENTIAL OF FEDERAL COAL LEASES 227–28, 230 (1981), <http://ota.fas.org/reports/8103.pdf>.

¹⁵ *Id.* at 227.

¹⁶ *See id.* *See also generally* SCOPING REPORT, *supra* note 2.

¹⁷ The Homestead Acts, Pacific Railroad Acts, military warrants, State Land Grants, and the General Mining Law of 1872 all freely transferred land to non-federal interests. *See, e.g.*, Homestead Act of 1862, 12 Stat. 392; Pacific Railway Act of 1862, 12 Stat. 489 (amended 1863, 1864, and 1865); *see also* SCOPING REPORT, *supra* note 2.

¹⁸ U.S. OFF. OF TECH. ASSESSMENT, PB-295788, MANAGEMENT OF FUEL AND NONFUEL MINERALS IN FEDERAL LAND 79 (1979) [hereinafter MANAGEMENT OF FUEL AND NONFUEL]; *see also* SCOPING REPORT, *supra* note 2.

¹⁹ COMM'N ON FAIR MKT. VALUE POL'Y FOR FED. COAL LEASING, REPORT OF THE COMMISSION 2 (1984) [hereinafter LINOWES REPORT].

²⁰ *Id.*

²¹ U.S. OFF. OF TECH. ASSESSMENT, *supra* note 14, at 230.

²² *Id.* at 230; Squillace, *supra* note 11, at 30.

²³ LINOWES REPORT, *supra* note 19, at 2.

found, “bidding competition was virtually nonexistent, production royalties were low and not linked to likely future production value, and requirements for timely production of leased coal were not enforced.”²⁴ During this decade, coal production rates actually decreased relative to the amount of leased coal.²⁵

The explosive growth of speculation introduced a serious challenge to the MLA’s principle of payment in return for coal production rights.²⁶ By buying leases while demand was low and waiting for higher coal prices before producing, buyers profited off of the marginal difference and avoided paying that difference to the federal government. The diligent development rules then in effect were designed to prevent speculation by requiring leaseholders to produce coal more or less continuously or risk losing their leases.²⁷ However, by 1970, the Interior had never once cancelled a nonproducing lease due to nonproduction.²⁸ That year, an internal study clarified the breadth of these structural problems, and early the next year the Interior stopped issuing new coal leases.²⁹ Soon thereafter, a secretarial order formalized the coal leasing moratorium, officially halting all federal coal lease sales and prospecting activity.³⁰

B. The First Reform Era

Between 1972 and 1974, a series of Congressional hearings examined speculation, diligent development enforcement, and the structure of the MLA.³¹ On the Congressional side, this flurry of reviews and policy discussions produced a series of new laws: the Federal Coal Leasing Amendments Act of 1976 (FCLAA),³² the Federal Land Policy and Management Act of 1976 (FLPMA),³³

²⁴ *See id.*

²⁵ U.S. OFF. OF TECH. ASSESSMENT, *supra* note 14, at 230.

²⁶ LINOWES REPORT, *supra* note 19, at 2. In its original form, the MLA prevented federal oil and gas resources from being leased for less than market value but did not restrict coal leasing in that way. *See also* Mineral Leasing Act of 1920, Pub. L. No. 113-67, §36, 41 Stat. 437.

²⁷ *See* Minerals Leasing Act of 1920 § 7.

²⁸ U.S. OFF. OF TECH. ASSESSMENT, *supra* note 14, at 251–52. By 1976, this was still true.

²⁹ *Id.* at 230–31. The major finding of this internal study held that the proportion of leased coal under production had fallen over the preceding decade despite significant growth in coal leasing.

³⁰ *See* U.S. DEP’T INTERIOR, OFF. OF THE SECRETARY, S.O. 2952: ISSUANCE OF PROSPECTING PERMITS FOR COAL (1973) [hereinafter S.O. 2952].

³¹ *Id.* at 231.

³² Federal Coal Leasing Amendments Act of 1976, Pub. L. No. 94-377, 90 Stat. 1083 (codified as amended at 30 U.S.C. §§181–263 (2012)).

³³ Federal Land Policy and Management Act of 1976, Pub. L. No. 94-579, 90 Stat. 2743 (codified as amended at 43 U.S.C. §§ 1701–1782 (2012)).

and the Surface Mining Control and Reclamation Act of 1977 (SMCRA).³⁴ These laws comprise the last major legislative revisions to the principles and practice of federal coal management.³⁵

The FLPMA served as a unifying mandate for the Bureau of Land Management (BLM), which—among its many responsibilities—has managed coal leasing and most federal coal-bearing lands since 1946, when it succeeded the General Land Office.³⁶ The FLPMA established a land use planning framework to enable the BLM to make consistent and balanced land management decisions.³⁷ These principles guided federal land managers in balancing the conflicting demands of resource development, environmental values, recreation, and economic return on public lands.³⁸ The FLPMA also required the agency to ensure federal receipt of fair market value whenever public resources were exploited for private profit,³⁹ and tasked the BLM with accounting for likely future land use, possible environmental impacts, and protection of undeveloped landscapes in its management processes.⁴⁰

The FCLAA, which amended the MLA, focused on fixing the fair market value problem which had plagued the Interior's coal leasing program. Drawing upon Congressional findings that noncompetitive lease sales served as a major enabler of speculation, the FCLAA required all coal leases to be auctioned via a competitive bidding process.⁴¹ Within this process, the law prohibited the Interior from accepting any bid whose value was lower than the BLM's estimated fair market value for the lease.⁴² In a pointed effort to end the Interior's lenient management practices, the FCLAA stiffened diligent development requirements and made the BLM's enforcement of those requirements nondiscretionary.⁴³ This

³⁴ Surface Mining Control and Reclamation Act of 1977, Pub. L. No. 95-87, 91 Stat. 445 (codified as amended at 30 U.S.C. §§ 1201–1328 (2012)).

³⁵ See *infra* note 108 and accompanying text.

³⁶ See U.S. OFF. OF TECH. ASSESSMENT, *supra* note 14, at 232–33. The FLPMA constituted a sweeping expansion and reorientation of public lands management across the BLM's holdings. *Id.* at 232. Among other things, the FLPMA ended homesteading in the continental United States and provided the BLM with its modern administrative structure and function. See Federal Land Policy and Management Act of 1976, tit. III; tit. VII, sec. 702.

³⁷ 43 U.S.C. § 1701; see also 43 U.S.C. § 1702(e).

³⁸ See *id.* § 1701(a).

³⁹ See *infra* note 42, 186 and accompanying text. Though the FLPMA established the fair market value mandate, it did not provide a definition. See 43 U.S.C. § 1713(d); see also SCOPING REPORT, *supra* note 2.

⁴⁰ See U.S. OFF. OF TECH. ASSESSMENT, *supra* note 14, at 232; see also SCOPING REPORT, *supra* note 2.

⁴¹ 30 U.S.C. § 201 (2012).

⁴² See *id.* § 201(a)(1). The FCLAA explicitly applied the FLPMA's fair market value mandate to coal leasing but, like the FLPMA, it did not provide a definition. LINOWES REPORT, *supra* note 19, at 609. See also SCOPING REPORT, *supra* note 2.

⁴³ U.S. OFF. OF TECH. ASSESSMENT, *supra* note 14, at 231–32, 251–52; see also SCOPING REPORT, *supra* note 2.

law also introduced the notion of Maximum Economic Recovery (MER),⁴⁴ which sought to prevent less accessible coal from being bypassed during the mining process by requiring companies to average their mining costs across their entire lease, and by authorizing BLM to vary from its typical leasing, diligence, and operation practices to help make marginal coal recoverable.⁴⁵

The SMCRA established standards, permit requirements, and inspection programs to ensure that surface coal mining would protect surrounding lands for other uses.⁴⁶ The law's bonding requirement forced mining companies to reserve adequate funds for post-mining restoration projects, ensuring that public land would be reclaimed for future multiple-use management regardless of the mining company's future financial health.⁴⁷ To achieve its goals, the SMCRA introduced cooperative federalism into the management of federal coal resources, incorporating state agencies into the planning process and leasing decisions and putting state officials in charge of bonding and restoration programs on federal lands in their states.⁴⁸ The SMCRA also established the Office of Surface Mining Reclamation and Enforcement (OSMRE) to oversee those state programs.⁴⁹

The passage of these three bills, the last of Congress' federal coal statutes, emphasized the growing significance of federal coal resources in the West.⁵⁰ In 1973, the oil embargo declared by the Organization of Petroleum Exporting Countries (OPEC) caused oil and natural gas prices to spike, sparking a nationwide energy crisis and leading to a series of federal laws aimed at conserving oil and developing domestic energy resources.⁵¹ At the same time, power demand was rising in pace with explosive Western population growth, just as the economy of

⁴⁴ 30 U.S.C. § 201(a)(3)(iii)(c); *see also infra* notes 210–17 and accompanying text.

⁴⁵ U.S. OFF. OF TECH. ASSESSMENT, *supra* note 14, at 231–32, 249–50; *see also* SCOPING REPORT, *supra* note 2.

⁴⁶ *See* 30 U.S.C. §§ 1201–1202.

⁴⁷ *See id.* § 1259.

⁴⁸ *See* 30 U.S.C. § 1253. For further description of the SMCRA's cooperative federalism (delivered as part of a strident critique of the approach), *see* Mark Squillace, *Cooperative Federalism Under the Surface Mining Control and Reclamation Act: Is This Any Way to Run a Government?*, 87 W. VA. L. REV. 687 (1985).

⁴⁹ 30 U.S.C. § 1211; *see* LINOWES REPORT, *supra* note 19, at 593–98.

⁵⁰ *But see infra* note 108 and accompanying text (discussing the Energy Policy Act of 2005, one of the few subsequent pieces of legislation that made any alteration to coal leasing law).

⁵¹ In 1973, OPEC embargoed petroleum exports to the United States and several other countries in response to those countries' involvement in the Arab-Israeli War. The resultant oil shortage caused a national economic crisis and sparked a host of legislative and regulatory attempts to develop domestic energy resources, including thermal coal. For a summary of the embargo, *see Oil Embargo, 1973-1974*, DEP'T OF STATE, OFF. OF HISTORIAN: MILESTONES IN THE HISTORY OF U.S. FOREIGN RELATIONS, <https://history.state.gov/milestones/1969-1976/oil-embargo> (last updated May 9, 2017). *See also* Dan Tarlock, *The Making of Federal Coal Policy: Lessons for Public Lands Management from a Failed Program*, 25 NAT. RES. J., 349, 349–51 (1985).

new hydropower and nuclear plants was coming into question.⁵² In response to all these factors, coal power quickly became a major source of electricity.⁵³

Western coal resources were well-positioned to serve the developing Western market for thermal coal.⁵⁴ Coal reserves in the West were, and are, concentrated in thick near-surface basin deposits within the northern plains and the southwest.⁵⁵ This means that Western coal is generally surface-mined, a much more economical proposition than the underground mining conducted in the mountainous terrain of the Appalachian coal region. Western coal is further distinguished by federal ownership of surface and mineral rights. As tabulated in 1980, roughly 60% of all coal deposits west of the Mississippi River were situated on federal land, and another 20% in private hands were so tightly commingled that independent private development was economically infeasible.⁵⁶ The introduction of Logical Mining Units under the SMCRA expanded access to these intermingled coal reserves by allowing combined coal mining on abutting federal and non-federal tracts.⁵⁷

The growth of Western coal was also bolstered by environmental law. The introduction of the Clean Air Act in 1970 meant that the growing number of coal power plants across the country needed to meet a series of air quality standards, including limits on sulfur dioxide emissions.⁵⁸ Western coal, though it has lower heating values than Midwestern or Appalachian coal, also contains significantly less sulfur, making it the fuel of choice for power plants well beyond the American West.⁵⁹

⁵² LINOWES REPORT, *supra* note 19, at 14.

⁵³ LINOWES REPORT, *supra* note 19, at 11–12. For data on coal's share of national electricity generation, see U.S. ENERGY INFO. ADMIN., MONTHLY ENERGY REV. (2018) <https://www.eia.gov/totalenergy/data/monthly/pdf/mer.pdf>.

⁵⁴ See *infra* notes 55–59 and accompanying text; *supra* note 52 and accompanying text.

⁵⁵ See U.S. GOV'T ACCOUNTABILITY OFF., GAO-14-140, COAL LEASING: BLM COULD ENHANCE APPRAISAL PROCESS, MORE EXPLICITLY CONSIDER COAL EXPORTS, AND PROVIDE MORE PUBLIC INFORMATION 11 fig. 1 (2013) [hereinafter GAO-14-140].

⁵⁶ LINOWES REPORT, *supra* note 19, at 16.

⁵⁷ U.S. OFF. OF TECH. ASSESSMENT, *supra* note 14, at 231–32.

⁵⁸ LINOWES REPORT, *supra* note 19, at 14. See The Clean Air Act of 1970, 42 U.S.C. §§ 7401–7626 (2012).

⁵⁹ The Clean Air Act of 1970's clear preference for low-sulfur coal threatened mines that produced higher-sulfur coal, especially in traditional coal mining areas of the East Coast. CHARLES D. KOLSTAD, STANFORD INST. FOR ECON. POL'Y RES., WHAT IS KILLING THE U.S. COAL INDUSTRY? 1 (2017). In response, in the Clean Air Act Amendments of 1977, Congress required all new coal-fired power plants to install scrubber technology for SO₂ abatement, decreasing the financial benefit of using low-sulfur coal. *Id.* at 3. At this point, other factors such as railroad deregulation helped Western coal to maintain and expand its foothold in non-Western thermal coal markets. *Id.* at 4.

C. *The Federal Coal Management Program*

In 1975, as Congress worked to re-orient federal coal management, the BLM produced a comprehensive environmental impact statement on the coal program which resulted in a new leasing and management program called the Energy Minerals Allocation Recommendation System (EMARS).⁶⁰ However, in *Natural Resources Defense Council v. Hughes*, the United States District Court for the District of Columbia ruled that EMARS's tract designation process was inadequate under the National Environmental Policy Act (NEPA) because it failed to consider the "no-action" alternative when establishing leasing levels and tracts.⁶¹ Just as the Interior's first leasing process encouraged speculative and non-competitive behavior by leasing tracts to any willing buyer, EMARS did not provide land managers sufficient flexibility to choose not to issue leases.⁶² The *Hughes* court imposed its own moratorium, which allowed for some small-scale leasing, until the Interior redesigned the program.⁶³

In 1979, the Interior finalized the Federal Coal Management Program, which followed the FLPMA and the FCLAA's new mandates by taking a regional approach to coal lease planning and management.⁶⁴ Under this program, the BLM would designate any region containing significant amounts of leasable federal coal as a Coal Producing Region (Region) and produced a comprehensive land use plan covering the entire area.⁶⁵ This designation would trigger the formation of a joint state-federal Regional Coal Team (RCT) to oversee lease sales and mining operations within the Region.⁶⁶ Among other things, the RCT would recommend when to conduct lease sales based on market conditions and industry interest, where tracts should be designated for leasing, and how much federal coal should be leased within the Region as a whole.⁶⁷ Using this information, the BLM would next establish total leasing levels for the Region based on multiple-use land planning, impact considerations, both current and future projected coal demand, and a number of other factors.⁶⁸ The RCT would then rank available lease tracts in order of priority to reach the designated overall leasing level.⁶⁹

⁶⁰ LINOWES REPORT, *supra* note 19, at 2.

⁶¹ Nat. Res. Def. Council v. Hughes, 437 F. Supp. 981, 990 (D.D.C. 1977); Tarlock, *supra* note 51, at 362–64.

⁶² LINOWES REPORT, *supra* note 19, at 69.

⁶³ U.S. OFF. OF TECH. ASSESSMENT, *supra* note 14, at 231.

⁶⁴ See *infra* notes 65–69 and accompanying text.

⁶⁵ See Coal Production Regions, 43 C.F.R. § 3400.5 (1982).

⁶⁶ See Limitations on Authority to Lease, 43 C.F.R. § 3400.4 (1999).

⁶⁷ U.S. OFF. OF TECH. ASSESSMENT, *supra* note 14, at 237.

⁶⁸ See Regional Leasing Levels, 43 C.F.R. § 3420.2 (1999).

⁶⁹ See Trust Protection Lands, 43 C.F.R. § 3400.3-.4.

Using these tracts, the RCT would complete a regional environmental impact study assessing the cumulative region-wide impacts of mining at the established leasing level. With the selection process completed, the BLM would then conduct a region-wide lease sale for the designated tracts.⁷⁰

For isolated pockets of federal coal outside the designated Coal Producing Regions, the Interior created the Lease by Application (LBA) process.⁷¹ Though tracts leased through the LBA process were still subject to a comprehensive land use plan, they fell outside the leasing levels established by RCTs within designated Coal Producing Regions.⁷² This meant the federal government did not take cumulative impacts or total regional production into account when offering these tracts for lease.⁷³ Instead, interested lessees could request a competitive auction for a tract of their choosing.⁷⁴ The BLM would then respond to each request by determining whether the specified tracts were acceptable before conducting a separate auction for each approved application.⁷⁵ Though the BLM still retained its veto authority to reject mining because of conflicting land-use priorities, market conditions, or local environmental impacts concerns, the LBA system shifted the impetus for the decision to lease more coal from the interagency RCT to the private lessees.⁷⁶

This first coal leasing moratorium, initiated informally in 1971 with the expectation of a quick resolution, was extended by the courts, eventually remaining in place through two separate presidential administrations.⁷⁷ The moratorium was finally lifted in 1981 by the outgoing Carter Administration, and the first lease sale under the new system was conducted later that year.⁷⁸ Despite the decade-long gap in new federal leases, federal coal production had increased steadily throughout the 1970s, driven by increasing Western demand for electricity, high oil and natural gas prices, and the development of coal leased during the speculative boom of the previous decade.⁷⁹ Federal coal

⁷⁰ U.S. GEN. ACCOUNTING OFF., RCED-94-10, MINERAL RESOURCES: FEDERAL COAL-LEASING PROGRAM NEEDS STRENGTHENING 17–18 (1994) [hereinafter RCED-94-10]. This report, which primarily focuses on diligent development requirements and the issuance of leases to unqualified lessees, is the only federal oversight report of this period—roughly the decade after the end of the second moratorium—to detail the transition away from the Federal Coal Management Program's system of Coal Producing Regions. *Id.* See also *infra* note 113–15 and accompanying text.

⁷¹ *Id.* at 18; Leasing on Application, 43 C.F.R. § 3425. See also RCED-94-10, *supra* note 70, at 18.

⁷² RCED-94-10, *supra* note 70, at 18.

⁷³ *Id.*

⁷⁴ See 43 C.F.R. § 3425.1.

⁷⁵ RCED-94-10, *supra* note 70, at 18.

⁷⁶ *Id.*; Squillace, *supra* note 11, at 35.

⁷⁷ LINOWES REPORT, *supra* note 19, at 563–66.

⁷⁸ *Id.* at 2.

⁷⁹ *Id.* at 14.

production had climbed from 7 million tons in 1967 to 101 million tons by the start of 1982. This represented 12% of national coal production, up from roughly 1% in 1967.⁸⁰ Federal coal, and Powder River Basin coal in particular, became a significant force in the national coal market during the decade-long moratorium.

D. The Powder River Lease Sales and the Linowes Commission

In April of 1982, less than a year after leasing had resumed, the Interior conducted a series of lease sales in the Powder River Basin. The result—some 1.6 billion tons of coal leased for \$67 million—was by far the largest coal lease in the Interior’s history, and it immediately provoked concern from observers.⁸¹ One subsequent federal investigation found that “by design or through incompetence the Government had realized far less than fair value for the leases.”⁸² Such accusations of malfeasance included, among other things, allegations that a federal official had leaked the BLM’s confidential appraisal of fair market value to the coal industry just before auction, allowing bidders to lower their bids.⁸³ Other observers accused the Interior of arbitrarily halving the BLM’s fair market value estimates, and knowingly conducting what was then the largest coal lease sale in United States history despite the demonstrably weak coal market and lack of competitive industry interest.⁸⁴

In response, two Congressional investigations into the sale and the BLM’s fair market value calculations found that the Interior’s final fair market value estimates were between \$60 million and \$100 million too low.⁸⁵ In response, the Interior made several procedural changes, but refused to refrain from further coal leasing despite instruction from the House Interior Committee to do so.⁸⁶ On

⁸⁰ *Id.* at 16.

⁸¹ *Id.* at 2. Members of Congress—especially Representative Ed Markey and Senator Max Baucus, who requested the ensuing investigation by the GAO—environmental groups, mining industry executives, and journalists all expressed concerns. Two lawsuits were filed against the Interior over the leasing process and its outcome. See *infra* note 83 and accompanying text.

⁸² LINOWES REPORT, *supra* note 19, at 2.

⁸³ U.S. GEN. ACCOUNTING OFF., RCED-83-119, ANALYSIS OF THE POWDER RIVER BASIN FEDERAL COAL LEASE SALE: ECONOMIC VALUATION IMPROVEMENTS AND LEGISLATIVE CHANGED NEEDED i, 8 (1983) [hereinafter RCED-83-119].

⁸⁴ LINOWES REPORT, *supra* note 19, at 3–4.

⁸⁵ *Id.*

⁸⁶ See *id.* at 81. The House Committee on Interior and Insular Affairs (now the House Committee on Natural Resources) was acting pursuant to its authority under the FLPMA. See 43 U.S.C. § 1714(e) (2014) (requiring the Secretary of the Interior to make emergency withdrawals of land from public use at the direction of either the House Committee on Natural Resources or the Senate Committee on Energy and Natural Resources). The Committee’s resolution was later upheld in *National Wildlife Federation v. Watt*, 571 F. Supp. 1145, 1149 (D.D.C. 1983), when a federal district judge issued an injunction enjoining the Secretary from conducting further coal leases in the Powder River Basin. For further discussion of the unresolved constitutional questions raised by

September 14, 1983, the Interior conducted another record lease sale in the Fort Union formation of the Powder River Basin.⁸⁷ Though the Interior attempted to offer 540 million tons, only two bidders participated, buying 115 million tons of federal coal for prices at or barely above the reserve price.⁸⁸ The next week, Congress voted to impose a moratorium on all federal coal leasing until three months after the newly-created Linowes Commission had published its findings on federal coal leasing policy and the Interior's actions in the Powder River and Fort Union sales.⁸⁹

The Linowes Commission, established a month prior to the moratorium through a separate act of Congress, was tasked with examining the Interior's implementation of the FCLAA, the FLPMA, and the MLA, and recommending improvements both to the statutes and to the Interior's coal leasing policies and procedures.⁹⁰ In its 1984 report, the Commission summarized its driving question: "how can the Federal Government lease its coal lands to realize fair market value, while also achieving numerous other goals that often are in apparent conflict?"⁹¹ At the same time, the General Accounting Office (GAO)—now the Government Accountability Office—conducted its own investigation into the sales and made a parallel series of recommendations on how to better ensure receipt of fair market value for federal coal.⁹²

Though the Congressional coal moratorium expired that May, the Secretary of the Interior subsequently suspended all non-emergency leasing within the Coal Producing Regions until the Interior had finished revising the Federal Coal Management Program.⁹³ This Secretarial moratorium was lifted in February of

this provision of FLPMA, see Ronald J. Athmann, *FLPMA §204(e): A Constitutional Infirmary*, 8 TUL. ENVTL. L. J. 505, 505–26 (1995). The outgoing administration of George W. Bush explicitly addressed *Watt* by repealing the regulatory language which the judge in that case had relied on to avoid ruling on the constitutionality of FLPMA §204(e). See Land Withdrawals; Amendment of Regulations Regarding Emergency Withdrawals; 73 Fed. Reg. 74,039 (Dec. 5, 2008); Public Lands Interior 43 C.F.R. § 2300 (2018).

⁸⁷ LINOWES REPORT, *supra* note 19, at 81.

⁸⁸ *Id.* at 5–6. The reserve price is also known as the regulatory minimum. For a more detailed discussion of reserve prices, see *infra* notes 238–52 and accompanying text.

⁸⁹ LINOWES REPORT, *supra* note 19, at 6.

⁹⁰ *Id.* at 5.

⁹¹ *Id.* at 1. The report's official title, *Fair Market Value Policy for Federal Coal Leasing*, emphasized its focus.

⁹² RCED-83-119, *supra* note 83.

⁹³ David Johnson, *Ex-Interior Chief is Indicted in Influence-Peddling Case*, N.Y. TIMES (Feb. 23, 1995), <https://www.nytimes.com/1995/02/23/us/ex-interior-chief-is-indicted-in-influence-peddling-case.html>. Though Secretary Watt took a hard line against any delay in leasing, he resigned from his position before the Linowes Commission had finished its investigation. *Id.* Secretary Watt's resignation was most directly due to derogatory and bigoted comments made regarding the

1987, but did not resume until 1989 due to low industry interest leasing in the Powder River Basin.⁹⁴

Both the Linowes Commission Report and the 1983 GAO-83-199 report identified a series of flaws in the Federal Coal Management Program, ranging from technical adjustments to broad-scale policy considerations.⁹⁵ The GAO's examination faulted Interior officials for a series of inappropriate decisions surrounding the Powder River Basin and Fort Union sales, and recommended regulatory changes to limit political discretion, standardize appraisal methods, and prevent inappropriate contact between regulators and potential lessees during the leasing process.⁹⁶ The BLM and the Interior accepted many of these recommendations and crafted new specific procedures for selecting, adjusting, and analyzing comparable sales.⁹⁷ In response to the GAO's concern, however, the Interior continued to insist that the Powder River Basin and Fort Union sales had achieved fair market value.⁹⁸ This disagreement, the GAO argued, "could carry over into how new procedures are applied and coal is valued in future sales."⁹⁹

Following up on the GAO's findings, the Linowes Commission Report further critiqued the Federal Coal Management Program's leasing process and policies, suggesting several dozen reforms aimed at ensuring that leasing levels matched market demand, coal valuations were robust, and the lease sale procedure produced meaningful competitive behavior.¹⁰⁰ The Interior's response to these recommendations was mixed. The BLM made a number of adjustments to its coal valuation process, incorporating the majority of these recommendations

make-up of the Commission, but was driven home by Secretary Watt's accumulation of scandals and controversies during his tenure. *Id.* In 1995, he was indicted on twenty-five counts of perjury and obstruction of justice relating to his post-resignation interactions with the Reagan administration. *Id.*

⁹⁴ RCED-94-10, *supra* note 70, at 19; *Powder River Basin Coal: History of the Coal Program*, BLM, http://www.blm.gov/wy/st/en/programs/energy/Coal_Resources/PRB_Coal/history.html, [https://web.archive.org/web/20170323054034/https://www.blm.gov/wy/st/en/programs/energy/Coal_Resources/PRB_Coal/history.html] (last visited Dec. 15, 2016) [hereinafter *History of the Coal Program*].

⁹⁵ See *infra* note 174–346 (discussing many of these flaws); see also generally LINOWES REPORT, *supra* note 19, at xix–xxv; RCED-83-119, *supra* note 83, at 78–79.

⁹⁶ RCED-83-119, *supra* note 83, at 78–79.

⁹⁷ LINOWES REPORT, *supra* note 19, at 3–4.

⁹⁸ *Analysis of the Powder River Basin Federal Coal Lease Sale: Hearing Before the Comm. on Fair Market Value Policy for Federal Coal Leasing*, 98th Cong. 8 (1983) [hereinafter Peach] (statement of J. Dexter Peach, Director of Resources, Community and Economic Development Division).

⁹⁹ *Id.* at 8.

¹⁰⁰ LINOWES REPORT, *supra* note 19, at xix–xxv. Especially relevant are the recommendations in sections III through VI, as well as further discussion in the Report's corresponding chapters. See *id.*

into its manuals.¹⁰¹ However, the Interior either contested or disregarded the broader recommendations aimed at the sale process, competition, and leasing levels.¹⁰² The lack of changes to the relevant regulations and governing statutes suggests that few of these structural suggestions were ever implemented. Most notably, the Linowes Commission's key recommendations on regulatory minimums, leasing level controls, and bidding systems were not incorporated into the revised Federal Coal Management Program.¹⁰³

Finally, both reports confronted the overarching problem of competition in leasing.¹⁰⁴ Both reports found that, while the 1976 coal leasing statutes required the Interior to lease federal coal in an idealized competitive market, in reality the American coal industry and the coal mining process contained inherently noncompetitive aspects.¹⁰⁵ This conflict created challenges for the federal officials tasked with leasing coal competitively while still stimulating coal development.¹⁰⁶ In response, the reports suggested that Congress consider making a series of changes to the law, including granting the Interior the ability to negotiate lease values with individual companies when competition was not present.¹⁰⁷ To date, however, Congress has not acted on these recommendations or made any structural changes to the Interior's coal management mandate.¹⁰⁸

In 1987, the three-year Secretarial moratorium on new leasing expired and the revised Federal Coal Management Program resumed operations.¹⁰⁹

¹⁰¹ See generally *BLM Manuals, Minerals Management Manuals and Handbooks: 3000 Series*, U.S. DEP'T OF INTERIOR, BUREAU OF LAND MGMT., <https://www.blm.gov/policy/manuals> (last visited Sept. 13, 2018). The BLM's manuals establish the agency's responsibilities and the procedures under which its programs are governed. *Id.* Each manual section links to a corresponding handbook, which provides detailed instructions for carrying out the relevant programmatic activity. *Id.*

¹⁰² See, e.g., Squillace, *supra* note 11, at 4 (highlighting the BLM's decision not to pursue recommendations V-1, V-3, V-4, and V-6 of the Linowes Report); see also LINOWES REPORT, *supra* note 19, at xxi–xxii. For further discussion of the implications of the BLM's decision here, see *infra* notes 293–320 and accompanying text.

¹⁰³ See LINOWES REPORT, *supra* note 19, at xix–xxv (providing full list of the Commission's recommendations).

¹⁰⁴ See, e.g., LINOWES REPORT, *supra* note 19, at 116–23, 216–24; RCED-83-119, *supra* note 83, at 77–78.

¹⁰⁵ See RCED-83-119, *supra* note 83, at 77–78; LINOWES REPORT, *supra* note 19, at 231–32.

¹⁰⁶ RCED-83-119, *supra* note 70, at 64.

¹⁰⁷ *Id.* at 77–78; see also *infra* note 118 and accompanying text.

¹⁰⁸ The one exception is the Energy Policy Act of 2005, which increased the maximum size of noncompetitive lease modifications from 160 acres to 960 acres. See Energy Policy Act of 2005, Pub. L. No. 109-58, § 432, 119 Stat. 594 (codified as amended at 30 U.S.C. § 203(3)(a) (2012)). Far from helping to clarify the Interior's competition conundrum, this change drastically widened a loophole by which coal companies were expanding their mining operations without competition for below-market prices. For more detailed discussion of lease modifications, see *infra* notes 210–38 and accompanying text.

¹⁰⁹ RCED-94-10, *supra* note 70, at 3.

However, industry and Interior officials rapidly began expressing concerns about poor coal market conditions and “declining interest in leasing coal.”¹¹⁰ No companies responded to the Powder River Basin RCT’s calls for industry interest in a new regional sale, and by 1989 no lease sales had been conducted.¹¹¹ According to a subsequent GAO report, although some RCT officials conceded that “existing coal production capacity,” which had been dramatically expanded by the record-breaking Powder River Basin and Fort Union sales, “was sufficient to meet near-term regional needs,” they nevertheless began pursuing various methods to encourage further leasing.¹¹²

These concerns, combined with mounting pressure from the coal mining industry, resulted in the decertification of all six Coal Producing Regions between 1987 and 1992 due to a perceived lack of interest in coal leasing.¹¹³ In their place, the BLM shifted to exclusive use of the LBA system, which was originally designed to serve as a supplement in fringe leasing areas of low demand.¹¹⁴ In the Powder River Basin and elsewhere, the RCTs continued to conduct some oversight and serve as an advisory panel but ceased to set leasing levels.¹¹⁵ This shift effectively ended substantive regional planning in the federal coal leasing process. Demand for new lease sales rapidly recovered, and the federal share of domestic coal production continued to climb.¹¹⁶

III. CURRENT ECONOMIC CONDITIONS

Since 1990, federal coal production has continued to increase.¹¹⁷ In 2013, the BLM was managing 314 active coal leases, 306 of which sat on public land in ten different states, and eight of which sat on land owned by the Navajo, Hopi, and

¹¹⁰ *Id.* at 19.

¹¹¹ *History of the Coal Program*, *supra* note 94.

¹¹² RCED-94-10, *supra* note 70, at 19. The quoted phrase is GAO’s language, while the claim is attributed to the Uintah-Southwest Utah RCT. *Id.*

¹¹³ *Id.* at 3. By 1990, all six RCTs had recommended decertification of their Coal Producing Regions, but decertification was not completed until 1992. *Id.*; *see also* Squillace, *supra* note 11, at 3.

¹¹⁴ RCED-94-10, *supra* note 70, at 3; Squillace, *supra* note 10, at 3.

¹¹⁵ RCED-94-10, *supra* note 70, at 19.

¹¹⁶ *Id.* at 19–20. GAO’s critical 1994 report highlighted the shift to LBA and raising questions about whether the Interior’s increasingly lax policies were contributing to speculative leasing—the same issue that had instigated the decade-long moratorium of the 1970s and sparked the passage of the FCLAA. The report found that leases were being issued to unqualified lessees, Logical Mining Units were being misused to extend leases on nonproducing mines, and State Office discrepancies in NEPA diligence produced compliance rates as low as 22%. The Interior’s response to GAO’s recommendations was again mixed, and few significant changes were made to regulatory practices in response.

¹¹⁷ *See infra* note 123 and accompanying text.

Crow Indian tribes.¹¹⁸ At the same time, a consistent trend of industry mergers and consolidations decreased the number of operating mines and companies.¹¹⁹ Four companies—Alpha Natural Resources, Arch Coal, Cloud Peak Energy, and Peabody Energy—now account for about 90% of all federal coal sales by volume.¹²⁰ In the Powder River Basin, where federal production has increased by roughly 150% in the last quarter-century, the number of mining companies has nearly halved.¹²¹ The federal share of total domestic production has also continued to climb, from 12% in 1982 to nearly 41% in 2002, where it has remained.¹²² This number now exceeds the federal share of total domestic coal resources, which is estimated to be roughly 31%.¹²³ Recent projections suggest that the western region, where federal coal is dominant, will continue to increase its share of total domestic coal production, reaching as high as 56% by 2040.¹²⁴

As of 2017, 82% of all coal mined in the United States is used for electricity generation.¹²⁵ The large majority of federal coal mined is now low-sulfur and subbituminous.¹²⁶ Despite its relatively low heat content, this coal is the preferred fuel for most power plants because it is cheaper and releases less toxic byproducts when burned, helping electricity providers meet increasingly stringent air quality requirements under the Clean Air Act.¹²⁷ After rising steadily for decades, though, coal's share of domestic power production began to decline in the mid-2000s, due primarily to the abundance of cheap domestic natural gas and increasing energy efficiency among power consumers.¹²⁸ The declining cost of renewable power sources and increasingly stringent health and environmental regulations have also impacted coal power's competitiveness in the electricity market.¹²⁹ The Environmental Protection Agency's 2015 implementation of the

¹¹⁸ U.S. DEP'T INTERIOR, OFF. OF INSPECTOR GEN., COAL MANAGEMENT PROGRAM EVALUATION 3 (2013).

¹¹⁹ *Id.* at 8.

¹²⁰ *Id.* at 3–4.

¹²¹ *Id.* at 9.

¹²² LINOWES REPORT, *supra* note 19, at 16; COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at 21. For calendar years 2014–2017, see *Production*, U.S. DEP'T OF INTERIOR: NAT. RES. REV. DATA, <https://revenue.data.doi.gov/explore/> (last updated 2016).

¹²³ U.S. DEP'T INTERIOR, OFF. OF INSPECTOR GEN., FINAL AUDIT REPORT: BUREAU OF LAND MANAGEMENT, COAL INSPECTION AND ENFORCEMENT PROGRAM 1 (2003) [hereinafter BLM FINAL AUDIT REPORT].

¹²⁴ GAO-14-140, *supra* note 55, at 10.

¹²⁵ *EIA Projects that U.S. Coal Demand Will Remain Flat for Several Decades*, U.S. ENERGY INFO. ADMIN.: TODAY IN ENERGY (Mar. 30, 2018), <https://www.eia.gov/todayinenergy/detail.php?id=35572> (last updated Mar. 30, 2018) [hereinafter TODAY IN ENERGY].

¹²⁶ See *supra* notes 58–60 and accompanying text.

¹²⁷ See *supra* notes 58–59 and accompanying text.

¹²⁸ TODAY IN ENERGY, *supra* note 125.

¹²⁹ KOLSTAD, *supra* note 56, at 2.

Mercury and Air Toxics Standards caused the closure of many aging coal-fired power plants, rapidly decreasing consumption of thermal coal.¹³⁰ Due to these and other factors, domestic coal consumption fell 12% in 2015 alone, and is expected to continue to stay flat or even decline over the next several years.¹³¹ Although recent regulatory and legislative proposals have sought to bolster coal-fired power generation through technology investment, deregulation, or subsidy, in the long term coal power's market share will likely continue to decrease.¹³²

In response to declining domestic consumption and growing foreign demand for more power generation capacity, exports of federal coal to foreign energy markets have increased significantly in recent years.¹³³ Total American coal exports more than doubled between 2007 and 2012, as did their market price.¹³⁴ Over the last decade, the American coal industry has retrenched to address this market, especially in Pacific Rim countries that have experienced strong growth in electricity demand.¹³⁵ International coal prices have historically been much higher than domestic prices, allowing American coal companies to overcome the transportation costs of reaching Pacific Rim markets.¹³⁶ In response, the American coal industry—including some of the largest corporate holders of federal coal leases—have invested heavily in export capacity, signing long-term shipping agreements, financing construction of West Coast coal terminals, and forging sales

¹³⁰ The Mercury and Air Toxics Standards (MATS) were issued in 2012, but an industry suit prevented implementation until 2015, when the D.C. Circuit remanded a cost-of-compliance issue back to the EPA. The EPA released a Supplemental Finding on this issue in 2016 and was again sued by industry. In 2017, litigation was suspended indefinitely to allow the Trump Administration's EPA to reconsider the rule. Despite this, the power industry has widely treated MATS as binding, and a number of industry groups have asked EPA to preserve the rule. *See Mercury and Air Toxic Standards (MATS)*, ENVTL. L. AT HARV., <http://environment.law.harvard.edu/2017/09/mercury-air-toxics-standards-mats/> (last visited Nov. 2, 2018).

¹³¹ U.S. ENERGY INFO. ADMIN., SHORT-TERM ENERGY OUTLOOK (2016), <https://www.eia.gov/outlooks/steo/archives/feb16.pdf> [hereinafter EIA SHORT-TERM ENERGY OUTLOOK 2016].

¹³² In a stated effort to revive the domestic thermal coal industry, the Trump Administration has withdrawn or repealed several federal rules, revoked S.O. 3338 and its associated PEIS process, and proposed sweeping subsidies for baseload coal power plants. While the current administration's rollback of federal climate policies in particular may prevent a more severe or rapid decline in coal power consumption, EIA and outside analysts all still expect the domestic coal industry to continue its decline in both the near and medium term. *See* U.S. ENERGY INFO. ADMIN., ANNUAL ENERGY OUTLOOK 2018, 18 (2018); *see also* DAVID SCHLISSEL ET AL., INST. FOR ENERGY ECON. & FIN. ANALYSIS, U.S. COAL: MORE MARKET EROSION ON THE WAY (2018).

¹³³ CLARK WILLIAMS-DERRY, SIGHTLINE INST., UNFAIR MARKET VALUE: BY IGNORING EXPORTS, BLM UNDERPRICES FEDERAL COAL 3 (2014).

¹³⁴ COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at 7.

¹³⁵ WILLIAMS-DERRY, *supra* note 133, at 1–2.

¹³⁶ Andy Roberts, *Planned US Coal Ports: A Swift Trip from Vital to Irrelevant*, WOOD MACKENZIE (Feb. 10, 2016), <http://www.woodmac.com/blog/planned-us-coal-ports-a-swift-trip-from-vital-to-irrelevant/> [<https://web.archive.org/web/20170423071759/https://www.woodmac.com/blog/planned-us-coal-ports-a-swift-trip-from-vital-to-irrelevant/>].

contracts with Asian power utilities.¹³⁷ The export market has proven volatile, and the protracted slowdown of the Chinese economy, its government's efforts to rapidly reduce urban smog and greenhouse gas emissions, and lower-than-expected growth of coal power in other developing economies produced a glut of Asian coal which oversaturated the international coal market and led to collapsing exports from 2012 to 2016.¹³⁸ This reversal exacerbated the coal industry's slide, causing further mine closures, project cancellations, and bankruptcies.¹³⁹ In 2017, though, thermal coal exports more than doubled, buoyed by expanding demand in India, South Korea, Japan, and the European Union.¹⁴⁰

Over the last thirty years, the Powder River Basin has become emblematic of federal coal production and its challenges. The federal government owns roughly 80% of all coal resources in the Powder River Basin, which stretches from southeastern Montana down the east side of Wyoming.¹⁴¹ As of 2011, Wyoming, which encompasses the majority of the Powder River Basin, accounted for 83% of all federal coal production and 86% of all federal coal revenue.¹⁴² The south range of the Powder River Basin contains the six largest and most productive coal mines in the United States, a record that continues even as demand for Powder River Basin coal has fallen.¹⁴³ Even once adjusted for sulfur content and heating value, Powder River Basin coal is still cheaper than coal's domestic market price.¹⁴⁴

¹³⁷ WILLIAMS-DERRY, *supra* note 133, at 1–2.

¹³⁸ TOM SANZILLO, INST. FOR ENERGY ECON. AND FIN. ANALYSIS, NO NEED FOR NEW U.S. COAL PORTS: DATA SHOWS OVERSUPPLY IN CAPACITY (2014); *China to Halt New Coal Mine Approvals Amid Pollution Fight*, BLOOMBERG (Dec. 29, 2015), <http://www.bloomberg.com/news/articles/2015-12-30/china-to-suspend-new-coal-mine-approvals-amid-pollution-fight>.

¹³⁹ Roberts, *supra* note 136.

¹⁴⁰ *U.S. Coal Exports Increased by 61% as Exports to Asia More than Doubled*, U.S. ENERGY INFO. ADMIN., <https://www.eia.gov/todayinenergy/detail.php?id=35852> (last updated Apr. 19, 2018). India has rapidly become the largest consumer of exported American thermal coal. South Korean and Japanese coal consumption has increased as both countries have begun to decommission their nuclear power plants. *Id.* Disruptions in supply from Australia and Indonesia, some of the main regional exporters, also buoyed American exports. *Id.*; see also *Coal Imports and Exports*, U.S. ENERGY INFO. ADMIN., https://www.eia.gov/energyexplained/index.php?page=coal_imports (last updated June 11, 2018).

¹⁴¹ TAXPAYERS FOR COMMON SENSE, FEDERAL COAL LEASING: FAIR MARKET VALUE AND A FAIR RETURN FOR THE AMERICAN TAXPAYER 6 (2013).

¹⁴² COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at 3. Though ONRR withholds some of this data, Wyoming's share of federal coal production and revenue appear not to have shifted significantly. Wyoming and Montana are the two states which produce the most federal coal. Both Colorado and Utah also produce significant amounts of federal coal. The other states in which federal coal is produced as of 2017 are Alabama, Kentucky, New Mexico, North Dakota, Oklahoma, and Washington. ONRR additionally collects tribal coal mining revenues in Arizona. *Id.*

¹⁴³ *Coal Data Browser*, U.S. ENERGY INFO. ADMIN., <https://www.eia.gov/coal/data/browser/> (last updated 2017) (data only available through 2016). In 2014, the nine most productive mines in the country were all located in the Powder River Basin. WILLIAMS-DERRY, *supra* note 133, at 11.

¹⁴⁴ Squillace, *supra* note 11, at 4.

Throughout all of this growth, the region has remained decertified, meaning it is not considered to contain significant coal resources or significant leasing demand. Though its RCT continues to operate as an advisory panel, no regional leasing level planning or regional lease sales have taken place since before 1990—nor have these activities taken place anywhere in the United States since the last federal coal region was decertified in 1992.¹⁴⁵ Since that time, there have been twenty-eight individual coal lease sales in the Powder River Basin for a cumulative total of over 7.3 billion tons of federal coal, all conducted through the LBA process or leased through the explicitly noncompetitive lease modification process.¹⁴⁶ Of these, twenty-two sales attracted only one bidder, and in every instance that bidder owned the adjacent mine.¹⁴⁷ The remaining five sales drew two bidders each.¹⁴⁸

The Powder River Basin is representative, not remarkable, in its lack of competition.¹⁴⁹ Since decertification, the coal industry has focused almost exclusively on lease tracts adjacent to producing mines.¹⁵⁰ These tracts allow the leasing company to maintain its production by effectively expanding the mine.¹⁵¹ This practice offers significant economic advantages over establishing new mines, as it allows the company to utilize existing infrastructure in familiar geologic conditions. It also fits well with federal land-use planning expectations, because it consolidates the environmental and social impacts of mining and its associated infrastructure into previously-disturbed areas rather than opening separate lands for mining. However, these tracts rarely invite competitive bidding, because their worth is far higher to the adjacent company than to the rest of the industry.¹⁵²

IV. THE MODERN COAL MANAGEMENT PROCESS

As it exists today, the federal coal leasing process begins with an interested bidder submitting a lease application to the BLM which includes the bidder's proposed delineation of the tract or tracts.¹⁵³ The BLM then compares the land

¹⁴⁵ *Id.* at 3.

¹⁴⁶ *Id.* at 3–4. For data from 2013 to the present, see *Coal Data*, BLM, <https://www.blm.gov/programs/energy-and-minerals/coal/coal-data> (last visited Dec. 16, 2018).

¹⁴⁷ Squillace 11, at 3–4.

¹⁴⁸ *Id.*

¹⁴⁹ COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at 8.

¹⁵⁰ GAO-14-140, *supra* note 55, at 2.

¹⁵¹ *Id.* at 2.

¹⁵² For a more detailed discussion of maintenance tracts, see *infra* notes 194–201 and accompanying text.

¹⁵³ *Coal Operations*, BLM, http://www.blm.gov/wo/st/en/prog/energy/coal_and_non-energy.print.html [https://web.archive.org/web/20170118053445/https://www.blm.gov/wo/st/en/prog/energy/coal_and_non-energy.print.html] (last visited Dec. 15, 2015); Leasing on Application, 43 C.F.R. 3425 (2018). See *generally How it Works: Coal*, U.S. DEP'T OF INTERIOR: NAT. RES. REV. DATA, <https://revenue.data.doi.gov/how-it-works/coal/> (last visited Dec. 15, 2018).

to its existing land use plan for the area to determine whether the land is suitable for coal leasing.¹⁵⁴ This process includes analysis of the proposed tracts' coal resources, consideration of multiple-use conflicts, and consultation with any non-federal surface rights holders.¹⁵⁵ The BLM also assesses whether adequate geological data exists to reasonably estimate the tracts' fair market value.¹⁵⁶ Additionally, the BLM considers the suggested tracts' prospects for generating competition during the lease sale, and can modify the proposed tract boundaries in an attempt to make them more competitive.¹⁵⁷ If the BLM accepts the application, it then begins an Environmental Impact Study—or an Environmental Assessment in cases of minimal impact—of coal mining on the proposed site.¹⁵⁸ When the BLM publishes the draft Environmental Impact Study, it also opens the proposed lease sale to the public for comment.¹⁵⁹

The BLM begins the lease sale process by conducting a fair market value appraisal of the lease tracts.¹⁶⁰ This value serves as the lower threshold for any winning bid, though it remains secret throughout the bidding process.¹⁶¹ All fair market value estimates must be above the regulatory minimum bid price of \$100 per acre, while any estimate which is not is raised to the regulatory minimum price.¹⁶² Interested bidders then submit their sealed bids, which represent the combined sum of the expected cumulative royalty revenue, an annual rent of \$3 per acre, and a one-time bonus bid payment.¹⁶³ In general, the highest bid which exceeds the BLM's presale estimate of fair market value is accepted as the winning bid.¹⁶⁴ If no bids exceed fair market value, the lease sale is not completed and the tracts are reoffered.¹⁶⁵

The initial lease term for all federal coal tracts is twenty years, after which the lessee may re-bid to extend the lease.¹⁶⁶ However, diligent development requirements for all federal leases mean the lessee must begin production of coal

¹⁵⁴ *Coal Operations*, *supra* note 153.

¹⁵⁵ If coal development would degrade other uses, BLM can attach mitigation stipulations to the tracts in question. *Id.*

¹⁵⁶ *Id.*

¹⁵⁷ GAO-14-140, *supra* note 55, at 19. *See also infra* note 306 and accompanying text.

¹⁵⁸ *Coal Operations*, *supra* note 153.

¹⁵⁹ *Id.*

¹⁶⁰ *Id.*

¹⁶¹ *Id.*

¹⁶² *See infra* note 239 and accompanying text. Any estimate which is not is raised to the regulatory minimum price. *See id.*

¹⁶³ *Coal Operations*, *supra* note 153.

¹⁶⁴ *Id.*

¹⁶⁵ GAO-14-140, *supra* note 55, at 10.

¹⁶⁶ 30 U.S.C. § 207(a) (2012).

within ten years and produce continually after that point or face cancellation of the lease.¹⁶⁷ Leases can also be cancelled for noncompliance with leasing law or lease terms.¹⁶⁸

Lessees pay royalties based on the gross value of the coal they extract, at rates of 12.5% for surface mines and 8% for underground mines.¹⁶⁹ If the lessee confronts poor geology or financial hardship, it may apply for a temporary reduction of the royalty rate to no lower than 2% of sales value.¹⁷⁰ This policy means that effective royalty rates vary dramatically between states.¹⁷¹ All revenue associated with a lease on federal land in the lower forty-eight states is split evenly with the state in which the production takes place.¹⁷²

The last systemic revisions of the Federal Coal Management Program took place just over thirty years ago. In that time both the coal commodity market and the coal industry have changed dramatically, but since the end of regional leasing the Federal Coal Management Program has not. The following sections break down the challenges facing the Federal Coal Management Program into categories which briefly present the regulatory and economic history of each topic.¹⁷³ Some of these issues are governed by regulations designed for different problems and different economic contexts, while others have plagued federal coal management since well before the Linowes Commission Report.

V. COMPARATIVE ANALYSIS

In its 1983 testimony to the Linowes Commission, the GAO warned that “major differences” between investigators and coal program officials over fair

¹⁶⁷ *Id.* § 207(b).

¹⁶⁸ Cause for Cancellation, 43 C.F.R. § 3452.2-1 (2018).

¹⁶⁹ 30 U.S.C. § 207(a); 43 C.F.R. § 3473.3-2. *See also* GAO-14-140 *supra* note 55, at 9.

¹⁷⁰ *Id.*

¹⁷¹ For the Office of Natural Resources Revenue’s statistical data on historic coal leasing production levels and revenues by state, see <http://statistics.onrr.gov/ReportTool.aspx>.

¹⁷² 30 U.S.C. § 191 (2014). In Alaska, 90% of the revenue received goes to the state and 100% of revenue received for leases on tribal land is held in trust by the Interior for that tribe. *Revenue from Natural Resources on Indian Land*, U.S. DEP’T OF INTERIOR: NAT. RESOURCES REVENUE DATA, <https://revenuedata.doi.gov/how-it-works/tribal-revenue/> (last updated 2017). Numerous governmental and outside reports have highlighted coal royalty rate reform as a priority for over a decade. *See, e.g.*, COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118; GAO-14-140, *supra* note 55; MARK HAGGARTY, HEADWATER ECON., FEDERAL COAL ROYALTY VALUATION: CURRENT STRUCTURE, EFFECTIVE RATES, AND REFORM OPTIONS (2015); JAYNI FOLEY HEIN & CAROLINE CECOT, INST. FOR POL’Y INTEGRITY, COAL ROYALTIES: HISTORICAL USES AND JUSTIFICATIONS (2016). Though royalty rate reform is important and became one of the Interior’s priorities in the 2016 draft PEIS, this Article does not examine the topic in depth. *See also infra* note 271.

¹⁷³ *See infra* 174–346 and accompanying text.

market value could undermine the value of any post-Linowes reforms.¹⁷⁴ The GAO worried that the argument over “whether the Powder River coal sold for fair market value . . . could carry over into how new procedures are applied and coal is valued in future sales.”¹⁷⁵ This concern proved to be well-founded. Despite several rounds of attempted reform over the following decades, many of the same problems the GAO and the Linowes Commission highlighted in 1983 still surface in oversight investigations today.¹⁷⁶ Most notably, inconsistent appraisal methods and decisions, inadequate competitive processes, and weak or non-existent leasing level controls have troubled federal coal management for decades.

A. *The Fair Market Value Appraisal Process*

Theoretically, in a competitive sale with enough bidders, the bidding process itself would ensure that the public receives fair market value for federal coal resources.¹⁷⁷ However, coal leasing under the LBA process and in the modern coal market is fundamentally noncompetitive. Of the 107 lease tracts offered at auction by the BLM between 1990 and 2013, ninety-six, or roughly 90%, attracted only a single bidder.¹⁷⁸ In the majority of these cases, that bidder was the company which had proposed the tract originally.¹⁷⁹ Of the remaining 10%, only one tract drew more than two bidders.¹⁸⁰ Because competition cannot be relied upon to assure fair market value, the BLM must play the critical role by determining a presale estimate of fair market value. Under the FCLAA, this estimated fair market value serves as a statutory floor which any acceptable bid for a federal coal lease must exceed.¹⁸¹ In practice, this appraisal functions not just as a safeguard, but also as a substitute for competition. In 2013, the Interior’s Office of the Inspector General (OIG) wrote that fair market value “determination is critical in coal leasing because a competitive market generally does not exist for coal leases.”¹⁸² If the estimate is too low, a noncompetitive auction will result in the public receiving inadequate compensation for the leased tracts.¹⁸³

Furthermore, each fair market value estimate helps to shape future determinations, and by extension, future returns. Final accepted bids become, by definition, fair market value, and are used by the BLM’s analysts as reference

¹⁷⁴ Peach, *supra* note 98, at 8.

¹⁷⁵ *Id.*

¹⁷⁶ See *infra* notes 298, 336 and accompanying text.

¹⁷⁷ See BUREAU OF LAND MGMT., H-3070-1-ECONOMIC EVALUATION OF COAL PROPERTIES (2014) [hereinafter ECONOMIC EVALUATION OF COAL PROPERTIES].

¹⁷⁸ GAO-14-140, *supra* note 55, at 16–17.

¹⁷⁹ *Id.*

¹⁸⁰ *Id.*

¹⁸¹ See *supra* notes 42–49 accompanying text.

¹⁸² COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at 8.

¹⁸³ GAO-14-140, *supra* note 55, at 46.

points to help determine future fair market value for other lease sales.¹⁸⁴ Thus, when the BLM's estimates are too low, allowing for low successful bids, they help to lock in undervaluation of federal coal resources, perpetuating artificially-low prices into the future.¹⁸⁵

The Linowes Commission focused heavily on the definition of fair market value, and on considering what non-market factors should influence the fair market value of federal coal. In the vacuum left by the absence of a statutory definition, the different agencies and offices involved in the coal leasing process operated under different definitions of fair market value, leading to conflicting priorities and compromising the Interior's ability to receive fair payment for federal coal.¹⁸⁶ The Linowes Commission Report accordingly provided a detailed constructed definition for fair market value from the Congressional record, land management needs, and other statutory usages of the term.¹⁸⁷

The Interior did not incorporate all of the Linowes Commission's recommendations on fair market value, however, and several remain relevant today. In particular, the Linowes Commission Report, as well as subsequent GAO and OIG reports, called for increased transparency and independent oversight of the appraisal process, as well as a different definition of fair market value for noncompetitive lease tracts.¹⁸⁸ In addition, the GAO and the OIG have raised concerns about the practice of accepting bids that are below the BLM's presale fair market value estimate.¹⁸⁹

Though the BLM now employs a consistent definition of fair market value, the complexity of the appraisal process means that inconsistent valuation practices have remained a chronic problem in some State Offices.¹⁹⁰ In 2013, the

¹⁸⁴ COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at attachment 1.

¹⁸⁵ TAXPAYERS FOR COMMON SENSE, *supra* note 141, at 8.

¹⁸⁶ LINOWES REPORT, *supra* note 19, at 44–51.

¹⁸⁷ As the Linowes Commission remarked in the course of its own efforts, the fundamental challenge in defining and determining fair market value remains a political one. Different understandings of fair market value prioritize different goals, such as providing coal to the United States economy, achieving maximal return for public resources, or stimulating competition among coal mining corporations. All of these are distinct interests served by different interpretations of fair market value. The lack of a statutory definition means that the Interior and the BLM have fairly broad discretion to determine what non-market factors should influence fair market value for federal coal. See LINOWES REPORT, *supra* note 19, at 51. Today, this discretion gives the Interior the opportunity to consider whether the social and environmental impacts of the coal mining process should be included in estimates of fair market value. See *id.*

¹⁸⁸ See LINOWES REPORT, *supra* note 19, at 365–70; RCED-83-119, *supra* note 83, at 77–78; GAO-14-140, *supra* note 55, at 28, 48; *infra* notes 299, 336–47 and accompanying text.

¹⁸⁹ Peach, *supra* note 98, at 8 (concluding that “it was not clear to us whether the Department's efforts were directed more to supporting preconceived notions of value than at fairly determining it”).

¹⁹⁰ COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at 6–7.

OIG stressed that inconsistent or inaccurate valuation techniques can deflate fair market value, increasing the likelihood of accepting an inappropriately low bid for federal coal.¹⁹¹ The BLM concurred with these concerns and committed to developing a system of external review of State Office appraisals by its Washington Office to provide verification.¹⁹² By increasing opportunities for independent oversight, the BLM can further ensure its appraisal methods remain consistent and accurate.¹⁹³

Despite efforts to encourage competition in leasing, some lease tracts are fundamentally noncompetitive, either by design, geology, or economic limitation. Maintenance tracts present perhaps the most common example.¹⁹⁴ Maintenance tracts allow companies to expand their existing mines by requesting a lease sale for land directly adjacent to those mines.¹⁹⁵ These new tracts are worth much more to the company that owns the adjacent mine than to other potential lessees for two major reasons. First, the established company can access the adjacent section of the coal seam from the exposed face of the existing mine. By contrast, another company would have to excavate down through overburden—the layer of dirt and rock which sits above the coal seam—before beginning to extract coal.¹⁹⁶ Excavation is relatively slow and expensive, creating a higher cost of operation for any new company hoping to bid on the tract. Second, surface coal mining requires extensive local infrastructure, including heavy mining equipment and rail lines, which are expensive to establish or relocate.¹⁹⁷ Existing mines have this infrastructure on hand, and can therefore avoid the delay, organizational challenges, and significant costs of duplicating it before opening a new mine.

These sunk costs make maintenance tracts far more valuable to adjacent companies than to the rest of the industry, resulting in lease sales that are

¹⁹¹ *Id.* at 7.

¹⁹² *Id.* at 35–36.

¹⁹³ The BLM has avoided making past appraisal processes public out of concerns that doing so would harm its position as seller by giving future lessees an indication of the minimum acceptable value for a tract up for auction. Though these concerns are well-founded, some evidence suggests that making appraisal data public would not harm the government's position as seller. Since 2010, Montana has released significant information about its fair market value appraisals but continues to receive bids well above its estimates. *See* TAXPAYERS FOR COMMON SENSE, *supra* note 141, at 14–15. Given the potential benefits of improving transparency in the appraisal process, and the evidence that doing so may not impact the Interior's position as seller, making past appraisal information at least partially available to the public may help to keep the federal fair market value appraisal process consistent. *Id.*

¹⁹⁴ For further discussion of maintenance tracts and alternative methods of properly valuing fundamentally noncompetitive tracts, see *infra* notes 293–320 and accompanying text.

¹⁹⁵ LINOWES REPORT, *supra* note 19, at 161.

¹⁹⁶ ENT'L PROT. AGENCY, AP-42: COMPILATION OF AIR POLLUTANT EMISSIONS FACTORS 11.9-1 (5th ed. 1998), <https://www3.epa.gov/ttnchie1/ap42/ch11/final/c11s09.pdf> (last visited Nov. 2, 2018).

¹⁹⁷ *Id.*

competitive in name only. The Linowes Commission, recognizing that “some of the most difficult appraisal issues arise because of these circumstances,” accordingly recommended that captive tracts should not be appraised for fair market value in the same way as competitive tracts.¹⁹⁸ Estimating a nonexistent competitive value for a noncompetitive tract would undervalue the coal purely because of its disadvantageous position, regardless of its higher value to the only company which desires or can extract it.¹⁹⁹ Instead, the Linowes Commission suggested basing fair market value for captive tracts on some portion of the tract’s value to the adjacent mine owner.²⁰⁰ This problem has grown more relevant over time, as leasing of captive tracts has become dominant.²⁰¹

Even when the tract in question has clear competitive value, the BLM has a history of accepting bids that do not meet its own presale estimates of fair market value. In 2013, the OIG found that several BLM State Offices were allowing companies to justify their low bids, after which the office would review the evidence and approve the sale if the justification was deemed satisfactory.²⁰² This practice may violate the FCLAA, which bans the Interior from accepting any bid which is below the government’s presale estimate of fair market value.²⁰³ Regardless of its legality, giving individual officials the authority to accept low bids undermines the established purpose of the fair market value estimate as a floor below which leasing is no longer in the public interest.

Though the justifications offered by the prospective lessees and the reasoning behind accepting their bids may be compelling,²⁰⁴ the GAO found that documentation of these post-sale adjustments was highly inconsistent.²⁰⁵ This is

¹⁹⁸ LINOWES REPORT, *supra* note 19, at 268, xii–xiii.

¹⁹⁹ *Id.* at 268.

²⁰⁰ *Id.* at 271–72. Alternative methods of properly valuing fundamentally noncompetitive tracts are discussed below, see *infra* notes 294–321 and accompanying text.

²⁰¹ Alternately, investigators have consistently called for statutory changes that would allow the BLM to negotiate lease prices for noncompetitive lease tracts. The BLM has objected to this recommendation, noting that it runs contrary to the principles of competitive leasing and that it could harm the BLM’s attempts to achieve fair market value for those tracts. See COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at 36. Given the challenges the BLM faces in consistency and transparency, changing the valuation methods used for these tracts presents a much more feasible alternative. For further discussion of how to structure these valuation methods, and of the growth of maintenance tract leasing, see *infra* notes 294–321 and accompanying text.

²⁰² COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at 10.

²⁰³ See *supra* note 42; see also COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at 10.

²⁰⁴ For instance, the OIG notes that the process of reoffering leases can be slow and resource-intensive, requiring all the administrative components of the lease sale to be repeated. Some lease sales go through multiple rounds of reoffer as companies continue to underbid the fair market value estimate. See COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at 10.

²⁰⁵ GAO-14-140, *supra* note 55, at 28.

especially troubling because it obstructs review and oversight of these decisions. The OIG also noted that potential lessees could exploit this practice by bidding low to exploit leasing procedures in state offices which allow this practice.²⁰⁶ In 2013, the BLM promised to establish supplementary guidelines preventing this practice.²⁰⁷ Since clear existing guidelines on the issue were already in place, however, adding additional guidelines may not be sufficient.²⁰⁸

As the OIG concluded, “even a 1-cent-per-ton undervaluation in the fair market value calculation for a sale can result in millions of dollars in lost revenues.”²⁰⁹ Though many of the most significant challenges facing the Federal Coal Management Program stem either from the structure of its leasing process or changed conditions within the coal industry, addressing the fair market value appraisal process directly offers its own opportunities for improvement.

B. Lease Modifications

The lease modification mechanism allows companies to expand existing mine operations by requesting a designated acreage of contiguous land be added to their existing lease.²¹⁰ Under the Federal Coal Management Program, lease modifications are acceptable only if those modifications “(A) would be in the interest of the United States; (B) would not displace a competitive interest in the lands; and (C) would not include lands or deposits that can be developed as part of another potential or existing operation.”²¹¹ If the BLM accepts the lease modification application, the process becomes similar to the LBA process, except that the addition is noncompetitive, meaning that the applicant pays the BLM’s estimated fair market value directly for the additional land.²¹²

Lease modifications were created under the Federal Coal Management Program to promote MER.²¹³ MER aims to ensure that companies extracting coal from federal land mine all reasonably recoverable coal from a deposit as they progress.²¹⁴ Without prioritizing MER, companies might otherwise choose

²⁰⁶ COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at 10.

²⁰⁷ *Id.* at 20.

²⁰⁸ *Id.* The BLM’s history of accepting bids below its own fair market value estimate runs all the way back to the introduction of the fair market value principle to federal coal leasing and has survived several rounds of intensive reforms. *See supra* note 84 and accompanying text.

²⁰⁹ COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at 1.

²¹⁰ 30 U.S.C. § 203 (2012); *see also Coal Operations*, *supra* note 153.

²¹¹ 30 U.S.C. § 203(a)(2).

²¹² GAO-14-140, *supra* note 55, at 2.

²¹³ COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at 13; *see also supra* notes 44–45 and accompanying text.

²¹⁴ COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at 13.

to bypass recoverable coal that is less accessible or lower quality in the name of economic efficiency, leaving scattered pockets of coal which would be too small to lease or mine in the future.²¹⁵ Concerned with achieving efficient development of public resources, the FCLAA targeted this potential for waste by authorizing the BLM to make carefully-justified and limited additions to a company's lease or modifications to its royalty rate.²¹⁶ The third prerequisite for any lease modification—that no part of the deposit in question can “be developed as part of another potential or existing operation”—ties the modification to MER by limiting its use to only those tracts which would never be separately developed.²¹⁷

However, while investigations into the coal program have shown that royalty rate reductions are appropriately evaluated and employed to achieve MER,²¹⁸ lease modifications have created a significant systemic weakness which dramatically impacts federal receipt of fair market value and threatens the broad competitive principles that govern federal coal management. In 2013, the OIG identified \$60 million in cumulative undervaluation of recent lease modifications.²¹⁹ By comparison, the OIG identified only \$2 million in lost bonus bid revenues for regular competitive lease sales over the same time period.²²⁰ Furthermore, the average approved sale price for lease modifications issued between 2000 and 2013 was 80% lower than that of regular lease sales.²²¹ Because lease modifications are intended to be used on lower-quality tracts which contain less-accessible or lower-quality coal, some difference in the appraised fair market value is to be expected.²²² An average devaluation as large as 80%, though, should require careful justification. Unfortunately, the OIG also found a pervasive lack of documentation by the BLM to support these extremely low prices.²²³

Half of all sample lease modifications inspected were appraised at \$100 per acre, the regulatory minimum price below which no coal may be leased regardless of its fair market value.²²⁴ These appraisals lacked supporting justification and failed to employ the BLM's standardized fair market value assessment process.²²⁵

²¹⁵ *Id.*

²¹⁶ *Id.* at 14.

²¹⁷ 30 U.S.C. § 203(a)(2) (2012).

²¹⁸ COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at 14.

²¹⁹ *Id.* at 13.

²²⁰ *Id.*

²²¹ *Id.*

²²² *Id.* at 32. The BLM disagreed with the OIG's valuation methods here for this reason. *Id.*

²²³ COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at 13.

²²⁴ *Id.* For a more detailed discussion of regulatory minimums, see *infra* notes 238–52 and accompanying text.

²²⁵ COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at 13.

Such failures make review and oversight of these decisions impossible and suggest systemic misapplication of the lease modification system, especially as any appraisal process which regularly produces the minimum allowable price deserves extra scrutiny.

The Energy Policy Act of 2005, which made several small adjustments to the coal leasing program, also increased the maximum allowable size for lease modifications six-fold, from 160 acres to 960 acres cumulatively over the life of the lease.²²⁶ By comparison, the average size of a standard LBA lease sale in the Powder River Basin is roughly 1500 acres.²²⁷ Now, according to the BLM itself, use of lease modifications has become “common among companies seeking to expand operations at their mine.”²²⁸ This change has thus made lease modifications a tool for dramatically extending the life and economic viability of a mine, rather than a means for extracting small pockets of less-valuable coal in order to achieve MER. The BLM should acknowledge Congress’ change by treating lease modifications as mechanisms for mine expansion and subjecting them to the same rigorous analysis and approval as standard LBA leasing.

More broadly, though, modern mining practices call into question the value of continuing to use the lease modification system as a tool for mine expansion.²²⁹ Since 1990, more than 90% of all lease applications have been for maintenance tracts, which, like lease modifications, serve to expand mining operations to adjacent coal deposits.²³⁰ Originally, lease modifications were intended to prevent noncompetitive tracts from being bypassed.²³¹ However, lease sale data show that the vast majority of modern leases are noncompetitive regardless of whether they are issued as maintenance tracts or lease modifications.²³²

Though lease modifications are created by statute, the Interior has discretion over whether or not to issue them and is further tasked with ensuring any lease modifications it does issue are in the national interest.²³³ The three major factors

²²⁶ Energy Policy Act of 2005, Pub. L. No. 109–58, § 432, 119 Stat. 594 (codified at 30 U.S.C. § 203(a)(3) (2012) (repealing the 160-acre limitation for coal leases).

²²⁷ *Successful Competitive Lease Sales Since 1990, Wyoming*, BLM, http://www.blm.gov/wy/st/en/programs/energy/Coal_Resources/coaltables.html [https://web.archive.org/web/20170128232412/https://www.blm.gov/wy/st/en/programs/energy/Coal_Resources/coaltables.html] (last updated July 27, 2015).

²²⁸ *BLM Colorado Coal*, BLM, http://www.blm.gov/co/st/en/BLM_Programs/minerals/Coal.print.html [https://web.archive.org/web/20151014100301/http://www.blm.gov/co/st/en/BLM_Programs/minerals/Coal.print.html] (last visited Dec. 15, 2018).

²²⁹ For an overview of these mining practices, see *supra* notes 196–199 and accompanying text.

²³⁰ GAO-14-140, *supra* note 55, at 16; see also *infra* notes 293–320 and accompanying text.

²³¹ See *supra* note 213 and accompanying text.

²³² Peach, *supra* note 98, at 9; GAO-14-140, *supra* note 55, at 8.

²³³ Lease modifications are issued exclusively at the discretion of the Secretary of the Interior. See 30 U.S.C. § 203 (2012); *supra* note 211 and accompanying text.

discussed above now call into question the value of lease modifications as a leasing mechanism. First, tracts leased for mining under the lease modification system are excluded from competitive processes and rigorous fair market value appraisal, and as a result are systemically undervalued.²³⁴ Second, the Energy Policy Act of 2005 has expanded the lease modification system into a program analogous to, but far less effective than, maintenance leasing under the LBA process.²³⁵ Third, other functional and effective mechanisms such as royalty rate reductions exist to encourage MER.²³⁶ By making other reasonable adjustments for lower-quality or less-accessible coal, the Interior can likely achieve MER more efficiently while better fulfilling its mandate to guarantee fair return for public coal. In 2013, in response to OIG's concerns, the Interior pledged to establish stronger guidelines on lease modification appraisals.²³⁷ Regardless of whether these reforms have improved the Federal Coal Leasing Program, they do not address the deeper structural question of whether lease modifications are worthwhile or justifiable.

C. Regulatory Minimums

The regulatory minimum, or reserve price, for federal coal exists to establish a hard floor below which no federal coal may be leased.²³⁸ Even when bids below the fair market value have been accepted, or when fair market value is appraised to be very low, they must still be worth more than the regulatory minimum of \$100 per acre.²³⁹ In 1982, the Interior raised this regulatory minimum from \$25 per acre to its current price, and has not altered it since.²⁴⁰ The next year, the GAO's investigation found that the regulatory minimum, despite its increased price, had contributed to the Interior's failure to receive fair market value for its mammoth lease in the Powder River Basin.²⁴¹ At the time, the GAO raised two concerns: that the dollars-per-acre format of the regulatory minimum price systematically undervalued federal coal, and that the regulatory minimum was being used as the appraised fair market value of federal coal.²⁴²

²³⁴ See *supra* notes 212, 219 and accompanying text.

²³⁵ See *supra* notes 226–32 and accompanying text.

²³⁶ See *supra* notes 216–18 and accompanying text.

²³⁷ COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at 22.

²³⁸ Fair Market Value and Maximum Economic Recovery, 43 C.F.R. § 3422.1(c)(2) (2018).

²³⁹ *Id.*

²⁴⁰ RCED-83-119, *supra* note 83, at 40; see also 43 C.F.R. § 3422.1.

²⁴¹ RCED-83-119, *supra* note 83, at 41–43. The Powder River Basin lease sale took several months and consisted of a number of different tract sales. The sale process spanned the Interior's adoption of its new regulatory minimum, meaning that some tracts examined by the GAO were subject to the Interior's old regulatory minimum of \$25 per acre, while others were subject to the newly instituted \$100 per acre. *Id.*

²⁴² *Id.* at 39, 40–43.

The first problem, that the dollars-per-acre format failed to account for heterogeneity of coal resources and thus seriously undervalued federal coal, had already been identified by the Interior's Office of Policy Analysis in a report on fair market value in the Federal Coal Management Program.²⁴³ The draft of that report called the existing dollars-per-acre floor price "a nominal price" which failed to offer assurances that fair market value had been received.²⁴⁴ The Office of Policy Analysis and the GAO both recommended replacing the dollars-per-acre format with a region-specific dollars-per-ton version which represented a rough low-end estimate of that coal's value.²⁴⁵ The dollars-per-ton format would be superior as a regulatory minimum price because it would account for some of the variation in coal quality and accessibility, and because not every acre of coal-bearing land owned by the federal government contains the same quantity of coal. A year later, the Linowes Commission repeated this recommendation, but it has never been implemented.²⁴⁶ Meanwhile, the regulatory minimum price remains \$100 per acre, more than three decades after it was last raised.²⁴⁷

The Interior objected to the GAO's 1983 findings and justified its decision not to switch to a dollars-per-ton format by explaining that regulatory minimums were intended to discourage frivolous bidding and not to serve as a second pricing mechanism overlapping with the fair market value appraisal. The GAO responded that:

at the Powder River sale the regulatory minimum . . . became the Department's presale estimate of value which was later used as a basis for accepting bids of \$25.50 [per] acre. Since regulatory minimums can potentially be translated into bid acceptability criteria, in our view, they should somehow be related to coal value.²⁴⁸

The evidence continues to assert that regulatory minimums can and do serve as the appraised fair market value for coal tracts to be leased. Since 1990, successful bids in North Dakota have consistently been \$100 per acre—the regulatory minimum—with no meaningful variation over time.²⁴⁹ Lease modifications are also frequently valued at \$100 per acre.²⁵⁰ Given that those

²⁴³ *Options for Assuring the Receipt of Fair Market Value for a Federal Coal Lease*, DEPT. INTERIOR, OFF. POL'Y ANALYSIS, (1982).

²⁴⁴ RCED-83-119, *supra* note 83, at 40–41. See *Options for Assuring the Receipt of Fair Market Value for a Federal Coal Lease*, *supra* note 243.

²⁴⁵ RCED-83-119, *supra* note 83, at 67.

²⁴⁶ LINOWES REPORT, *supra* note 19, at 507.

²⁴⁷ Fair Market Value and Maximum Economic Recovery, 43 C.F.R. § 3422.1(c)(2) (2018).

²⁴⁸ RCED-83-119, *supra* note 83, at 67.

²⁴⁹ *Id.* at 26.

²⁵⁰ See *supra* note 224–26 and accompanying text.

decisions frequently lack documentation,²⁵¹ Interior officials seem to be either consciously or unconsciously using the regulatory minimum as an indicator of value for less desirable federal coal resources. If this is the case, it is even more important for the Interior to adjust the regulatory minimum to represent a lower bound on regional fair market value. This shift would especially help to guarantee fair market value for smaller, lower-quality, or less-accessible tracts which are currently managed under the lease modification system or on the fringes of standard LBA leasing.²⁵²

D. Leasing Levels

The FCLAA requires the Interior to set total leasing levels, a requirement which the Federal Coal Management Program implements for each Coal Producing Region under federal control.²⁵³ The benefits of determining an overall leasing level were threefold. First, leasing levels provided a safeguard against the speculative behaviors with which Congress was concerned when FCLAA passed by preventing much more coal from being leased than the contemporary market absorb.²⁵⁴ Second, leasing levels encouraged competition in bidding by limiting the total tract acreage available to the industry.²⁵⁵ Third, they reinforced receipt of fair market value by keeping federal coal production rates tied to those of the broader coal market.²⁵⁶

The Interior's first leasing process had sparked the first coal moratorium by leasing tracts to any willing buyer, and its second, EMARS, had been overturned by the courts for failing to give regulators enough control over leasing levels.²⁵⁷ Under the new Federal Coal Management Program, the Interior and the relevant RCTs established leasing levels for each of the designated Coal Producing Regions, ensuring that each area with significant coal leasing activity was subject to region-wide production limits and the multiple-use land planning that those limits enabled.²⁵⁸

Throughout the 1970s and 1980s, however, the Interior was focused not on restraining disproportionately high production of federal coal, but on stimulating

²⁵¹ COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at 13.

²⁵² RCED-94-10, *supra* note 83, at 67.

²⁵³ Squillace, *supra* note 11, at 2; *see also* Regional Leasing Levels, 43 C.F.R. § 320.2 (2018).

²⁵⁴ RCED-94-10, *supra* note 70, at 44.

²⁵⁵ LINOWES REPORT, *supra* note 19, at 65, 71.

²⁵⁶ LINOWES REPORT, *supra* note 19, at 124–29. Recommendation III-3 in the report further emphasizes leasing levels' impact on both fair return and the performance of the domestic coal market. *Id.* at 115–16.

²⁵⁷ U.S. OFF. OF TECH. ASSESSMENT, *supra* note 14, at 231; LINOWES REPORT, *supra* note 19, at 69; *see also supra* note 61–64 and accompanying text.

²⁵⁸ U.S. OFF. OF TECH. ASSESSMENT, *supra* note 14, at 227, 237.

coal production on underutilized federal lands. Despite incremental improvement, federal coal continued to be produced at a rate disproportionately smaller than the government's 60% share of Western coal resources.²⁵⁹ In 1972, federal production accounted for 15% of Western production.²⁶⁰ By 1982, that share had climbed to 38%.²⁶¹ In 1984, the Linowes Commission Report highlighted the record Powder River Basin and Fort Union sales as examples of the federal government's focus on increasing production and devoted an entire chapter to the issue of leasing levels.²⁶² Despite the Report's recommendations to strengthen leasing level controls and ensure that leasing levels reflected market demand, observers at the time felt the Interior's response failed to improve the system.²⁶³

When the Coal Producing Regions were decertified between 1987 and 1992, the BLM stopped setting definitive regional leasing levels.²⁶⁴ Instead of determining how much coal should be leased based on existing market demand and then designating tracts to meet that demand, under the LBA system the BLM defers to industry demand by evaluating each lease as it is requested.²⁶⁵ In the more-than-quarter-century since decertification, the BLM has only once rejected an LBA proposal, and then only due to lack of consent on the part of a private surface owner.²⁶⁶ Today, federal coal makes up a disproportionately large share of total domestic coal production.²⁶⁷

Even before the BLM stopped setting leasing levels due to decertification, the Linowes Commission warned that setting leasing levels too high decreased competition by allowing bidders to disperse their interest over many tracts rather than competing for the same tracts.²⁶⁸ By doing so, high leasing levels directly prevented the government from receiving fair market value for the coal leased.²⁶⁹ The current lack of leasing levels has the same effect, creating an oversupply of leased coal and keeping federal coal prices below market value. Even once sulfur content and heating value are accounted for, federally-dominated Powder River

²⁵⁹ LINOWES REPORT, *supra* note 19, at 16.

²⁶⁰ *Id.*

²⁶¹ *Id.*

²⁶² *Id.* at 65–142.

²⁶³ *E.g.*, Philip Shabecoff, *Changes Proposed for Coal Leasing*, N.Y. TIMES (Mar. 20, 1984), <http://www.nytimes.com/1984/03/20/us/changes-proposed-for-coal-leasing.html>.

²⁶⁴ Squillace, *supra* note 11, at 3.

²⁶⁵ TAXPAYERS FOR COMMON SENSE, *supra* note 141, at 12. This is done under the LBA process.

²⁶⁶ Squillace, *supra* note 11, at 3.

²⁶⁷ BLM FINAL AUDIT REPORT, *supra* note 123, at 1; EIA SHORT TERM ENERGY OUTLOOK, *supra* note 131.

²⁶⁸ LINOWES REPORT, *supra* note 19, at 85.

²⁶⁹ *Id.*

Basin coal is cheaper than average prices across the domestic coal market.²⁷⁰ Mine-mouth prices, on which federal royalty revenues are assessed, are lower for federal coal than for coal almost anywhere else on the planet.²⁷¹

Speculation over federal coal resources inspired the first decade-long federal coal moratorium and led to the FLPMA, the FCLAA, and the Federal Coal Management Program.²⁷² Now, forty years later and once again lacking leasing levels, federal coal management is plagued by some of the same problems that initially prompted these reforms.²⁷³

Reinstituting regional leasing level controls would also provide a partial solution to the challenge of creating competition, especially for maintenance tracts. By limiting the total acreage of leasable coal, the BLM encourages companies to consider and compete for tracts that are not adjacent only to their mine. Tracts adjacent to multiple mines are more likely to receive multiple bids than tracts captive to a single mine.²⁷⁴ Limiting companies' ability to request their own individual tract auctions would create an additional impetus to compete for mutually-accessible coal. On their own, leasing levels can only offer a partial solution to the pervasive problem of creating competition.²⁷⁵ Nonetheless, restoring regional leasing levels would help to encourage competitive behavior among lessees.

E. Coal Exports

American coal companies first began to consider exporting federal thermal coal in the early 1980s, when producers hoped to use Powder River Basin coal to meet burgeoning Japanese demand.²⁷⁶ However, despite low production costs, the high costs of transporting that coal across the western United States and

²⁷⁰ See *infra* note 144.

²⁷¹ Squillace, *supra* note 11, at 4. This particular problem may also indicate that sales of federal coal are not “arms-length”—sold between unaffiliated entities on a competitive market. Because royalty rates are assessed on federal coal’s mine-mouth price rather than its end-use price, mining companies have an incentive to deflate initial sale prices and make up for it in a later sale. A series of third-party reports have highlighted this problem as another opportunity to improve receipt of fair market value. However, this issue is not considered at length in this report. For more information, see MARK HAGGERTY & JULIA HAGGERTY, HEADWATER ECON., AN ASSESSMENT OF U.S. FEDERAL COAL ROYALTIES: CURRENT ROYALTY STRUCTURE, EFFECTIVE ROYALTY RATES, AND REFORM OPTIONS (2015). For further resources on royalty rate reform, see *supra* note 174 and accompanying text.

²⁷² See *supra* note 23–29 and accompanying text.

²⁷³ Squillace, *supra* note 11, at 4.

²⁷⁴ GAO-14-140, *supra* note 55, at 18.

²⁷⁵ See *supra* notes 164–73.

²⁷⁶ LINOWES REPORT, *supra* note 19, at 19.

Pacific Ocean meant that American producers were ultimately outcompeted by other sources.²⁷⁷ Recently, the American thermal coal industry has again turned its attention to Pacific Rim markets, but both the domestic and international coal markets are markedly different than they were thirty years ago.²⁷⁸

In the past, export markets were seen as a marginal supplement to strong and reliable domestic demand for thermal coal. Nonetheless, the BLM's fair market value appraisal guidelines have long contained stipulations covering consideration of export markets.²⁷⁹ In the 21st century, though, American coal exports have increased along with global trade in coal to meet growing international demand for power.²⁸⁰ In response, export levels and exported coal prices both more than doubled between 2007 and 2012.²⁸¹ Though only 1.6% of Powder River Basin coal was being exported by 2013, coal companies in the region and on coal lands across the country began to plan on the long-term growth of exports.²⁸²

Because forecasts predict that long-term domestic demand for thermal coal will remain flat in even the most optimistic scenarios, growth in the American coal industry is now centered on the prospects of exporting coal.²⁸³ In recent years, leading American coal companies have restructured to vertically integrate mines with export facilities, signed long-term export agreements, and sought supply contracts with Asian utilities.²⁸⁴ Most significantly, the coal industry has pushed hard to expand coal terminals in the Pacific Northwest and British Columbia, seeking greater future capacity to sell Western coal—and thus federal coal—abroad.²⁸⁵ Coal companies, including several of the largest holders of

²⁷⁷ *Id.*

²⁷⁸ Export markets for metallurgical and coking coal are very different from that of thermal coal and demand for the two are driven by different factors—namely, by industrial manufacturing in the former case and demand for electrical power in the latter. The US has a long history of exporting metallurgical coal from bituminous mines. These mines are concentrated on the East Coast in private ownership. Historically, this metallurgical coal has made up the majority of United States' coal exports abroad. Only relatively recently has this coal begun to make up a significant portion of total US coal exports. This Article only discusses exports of thermal coal. *See* GAO-14-140 *supra* note 55, at 13.

²⁷⁹ TAXPAYERS FOR COMMON SENSE, *supra* note 141, at 9; *see also* ECONOMIC EVALUATION OF COAL PROPERTIES, *supra* note 177.

²⁸⁰ GAO-14-140, *supra* note 55, at 5.

²⁸¹ COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at 7; *see supra* notes 134–40 and accompanying text.

²⁸² *Id.* at 24.

²⁸³ TODAY IN ENERGY, *supra* note 125.

²⁸⁴ WILLIAMS-DERRY, *supra* note 133, at 1; *see also* TAXPAYERS FOR COMMON SENSE, *supra* note 141, at 2.

²⁸⁵ GAO-14-140, *supra* note 55, at 5.

federal coal leases, have recently sought new federal leases explicitly to improve their capacity to export coal.²⁸⁶

Despite the high-profile growth of federal coal's export potential, in 2013 both the GAO and the OIG found that the BLM did not consistently account for present or likely future export values when appraising fair market value.²⁸⁷ Direct statements by coal companies indicate that these companies see significant benefits to exporting coal rather than continuing to sell it domestically, and this assessment is supported by much higher prices of international coal.²⁸⁸ Given this, by excluding the value of exported coal when estimating fair market value, the BLM is likely undervaluing federal coal.

Since 2013, swings between high demand and serious oversupply in international thermal coal markets have called the feasibility of exports into question.²⁸⁹ Despite this, the investments coal companies have made in export infrastructure and capacity are long-term, and it remains likely that coal being sought now is being leased at least partially as reserves for future export.²⁹⁰ Even when export volumes are low and export potential is weak, as they were as recently as 2016, coal mining is a long-term enterprise where leases and investments last for decades, and valuation practices for those leases should match this reality by accounting for current and future export potential.²⁹¹

As the BLM wrote in a recent Record of Decision before issuing a lease, one of the main goals of the Federal Coal Management Program is “the reduction of the United States’ dependence on foreign sources of energy.”²⁹² Given the social, economic, and environmental costs of coal mining, and the significant long-term negative impacts that burning coal overseas has on the United States, its resources, and its citizens, it is worth considering whether exporting federal coal is always in the interest of the United States.

²⁸⁶ WILLIAMS-DERRY, *supra* note 144, at 1–2.

²⁸⁷ GAO-14-140, *supra* note 55, at 36–37; COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at 7.

²⁸⁸ WILLIAMS-DERRY, *supra* note 133, at 1–2.

²⁸⁹ For more discussion of recent trends in coal export markets, see *supra* notes 135–53 and accompanying text.

²⁹⁰ TAXPAYERS FOR COMMON SENSE, *supra* note 141, at 9.

²⁹¹ COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at 24. In response to the GAO and the OIG’s concerns, the BLM agreed to examine its existing guidance on accounting for export potential and consider issuing additional guidance. *Id.* at 19–20. It is difficult to determine whether any changes the BLM has made have proved effective without public access to more recent fair market value appraisals. See *supra* note 194.

²⁹² BUREAU OF LAND MGMT., WYOMING STATE OFFICE, HIGH PLAINS DISTRICT OFFICE, RECORD OF DECISION: SOUTH PORCUPINE COAL LEASE APPLICATION WYW176095, at 10 (2011). For this sentiment’s roots in the OPEC oil crisis of the early 1970s, see *supra* note 52.

F. Competitive Processes and the Lease by Application System

In its testimony to the Linowes Commission, the GAO identified an overarching flaw at the heart of federal coal management. “Under the present statutory framework,” the GAO argued, “Interior’s task is difficult at best. The present law assumes all coal lease tracts are competitive. It does not recognize that essentially noncompetitive production maintenance tracts not only exist but are in many cases desirable.”²⁹³

The high costs of developing new coal mining and transportation infrastructure create a strong industry preference in favor of expanding existing mines rather than opening new ones.²⁹⁴ As far back as 1983, the GAO found that this trend of mine expansion was “well established—growing from years of noncompetitive leasing and speculation.”²⁹⁵ Cumulatively, federal law, industry practice, and the practical realities of coal mining combine to steer new coal development towards current mining areas. As a result, mine expansion via maintenance tract leasing has become dominant in federal coal leasing. The last new mine on federal land within the Powder River Basin opened in 1982.²⁹⁶

In general, this reality benefits everyone. Mine expansion produces more efficient, economic mining for companies, and helps to encourage MER of all the coal in each developed deposit. Mine expansion also limits environmental impacts to already-impacted areas and concentrates reclamation demands. Lastly, mine expansion mitigates some of the social and economic impacts of coal mining. By concentrating mining operations, mine expansion reserves larger contiguous swaths of unmined public lands for ranching, recreation, preservation, and development of other resources.²⁹⁷

Whatever benefits mine expansion offers, though, it also encourages non-competition, as each mine seeks to expand its own boundaries rather than competing for new resources. Referring to this section’s introductory quote, in 2013 the GAO wrote:

In 1983, we noted a similar lack of competition for federal coal leases . . . and concluded that the market for coal leasing was largely noncompetitive because lease tracts sold ‘appear captive to adjacent mining operations.’ According to BLM

²⁹³ Peach, *supra* note 98, at 10.

²⁹⁴ See *supra* note 199 and accompanying text.

²⁹⁵ Peach, *supra* note 98, at 9.

²⁹⁶ GAO-14-140, *supra* note 55, at 17.

²⁹⁷ Peach, *supra* note 98, at 9.

officials, this same issue remains relevant today, and it is difficult to attract multiple bidders on a lease tract if it is not adjacent to multiple mines.²⁹⁸

The reality is that coal mining has some fundamentally noncompetitive aspects. In response to this reality, a series of reports over the years have recommended that Congress consider giving the Interior tools to negotiate in noncompetitive situations.²⁹⁹ Congress has never acted on this recommendation, leaving the Interior with its original competitive mandate. Under these conditions, in some cases noncompetitive single-bidder lease sales are likely unavoidable. However, the Interior can do far better than its current LBA process, which is entirely inadequate to secure competition. The LBA system has proved to be an especially poor mechanism for creating competition or satisfying the multiple-use mandates of federal coal management. Under the LBA process, noncompetition has become a crisis.

The LBA process was originally included in the Federal Coal Management Program as a minor alternate leasing system for tracts outside the Coal Producing Regions, in areas where little coal production occurred.³⁰⁰ When all six Coal Producing Regions were decertified between 1987 and 1992, however, the LBA process became the default leasing method for all federal coal.³⁰¹

Because the LBA process was designed as an auxiliary for the system of Coal Producing Regions, its mechanisms for assessing potential lease tracts' suitability for leasing were curtailed.³⁰² Although the BLM continues to carefully review each lease tract requested under the LBA process and can reject any application to protect multiple-use priorities, in reality it has never done so. In fact, the BLM has rejected only one LBA request in the more than twenty-five years since decertification.³⁰³ The BLM also stresses that it modifies proposed tracts

²⁹⁸ GAO-14-140, *supra* note 55, at 17–18.

²⁹⁹ See, e.g., COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at 10–11; Peach, *supra* note 98, at 9.

³⁰⁰ See *supra* note 71 and accompanying text.

³⁰¹ See *supra* note 114 and accompanying text.

³⁰² In particular, the LBA process skips the critical steps of developing regional leasing levels and carefully prioritizing lands based on their suitability for strip mining. Under the system of Coal Producing Regions, the Interior uses these steps to fulfill its statutory mandate for comprehensive pre-leasing land-use planning. LBA's process, under which the Interior determines which lands are acceptable for coal mining and then checks a single industry-proposed tract against that allocation, shifts the initiative of leasing and tract selection from the Interior, to whom the FCLAA assigns it, to the lessee. See 30 U.S.C. § 201(a)(1) (2012). In this regard, while the LBA process may still fulfill the letter of the law, it certainly abrogates the spirit.

³⁰³ In that case, it did so because a private surface rights owner had refused to consent. See *supra* note 266 and accompanying text.

when it can to encourage competition during the lease sale.³⁰⁴ However, when the GAO examined the BLM's use of tract modifications, which it employed in 23% of recent lease sales, it found that no modified tracts had received multiple bids.³⁰⁵ Despite the BLM's best efforts to encourage competition under the LBA system, industry's ability to select entirely noncompetitive tracts remains the dominant force.³⁰⁶

When the Coal Producing Regions were decertified, the BLM rapidly received requests for large lease sales.³⁰⁷ As explanation, the BLM cited "pent-up demand for coal stemming from the fact that the Interior had not leased major coal reserves since the last regional sale in 1984,"³⁰⁸ despite finding during those same years that there was no demand for federal coal. The BLM had in fact used that lack of demand to justify decertifying the Coal Producing Regions in the first place.³⁰⁹ The GAO found that applications for lease sales skyrocketed in each region immediately after decertification, suggesting that the LBA process offered coal companies significant benefits that the system of Coal Producing Regions did not.³¹⁰ More recently, a mining industry consulting firm explained the advantages of the LBA process in a contracted report for a coal mining company: "As a practical matter, most companies will attempt to define LBA tracts that, because of location or geometry, are of interest only to the nominating company. This minimizes competitive bidding on the tract, and may result in a lower cost lease."³¹¹ The data support these industry principles: Since decertification, 90% of all lease sales attracted only a single bidder, and in most cases that bidder was the company that had submitted the application.³¹²

The LBA process creates other problems as well. Because under the LBA process each requested lease sale is analyzed and appraised separately when it is proposed, the process makes it difficult for the BLM to account for the cumulative market impacts of its own leasing, a critical component of robust fair market valuation. Thus, the LBA process' piecemeal structure obstructs the BLM's ability to determine whether it should be approving the lease requests it is receiving

³⁰⁴ GAO-14-140, *supra* note 55, at 19.

³⁰⁵ *Id.*

³⁰⁶ TAXPAYERS FOR COMMON SENSE, *supra* note 141, at 12; *see also supra* note 302.

³⁰⁷ RCED-94-10, *supra* note 70, at 19–20.

³⁰⁸ *See id.* at 20.

³⁰⁹ *Id.* at 19–20.

³¹⁰ *Id.*

³¹¹ TAXPAYERS FOR COMMON SENSE, *supra* note 141, at 12 (quoting The John T. Boyd Company).

³¹² GAO-14-140, *supra* note 55, at 16–17. This fact is also due to the dominance of maintenance tract leasing in conditions favorable only to adjacent mines. *See supra* notes 195–98 and accompanying text.

under the LBA process.³¹³ Similarly, the LBA process prevents any meaningful consideration or control of cumulative federal leasing levels.³¹⁴

The dominance of fundamentally noncompetitive maintenance tracts under the LBA process makes that process' failures even more acute. In 1983, the GAO and the Linowes Commission both urged the BLM to stop leasing maintenance tracts in its regular lease sale process as the practice "only creates the pretense of competition and offers little assurance that the Government will receive a reasonable return for its coal."³¹⁵ Because maintenance tracts are intended to expand existing mines, they are generally only of interest to the mines they border, and only in very specific circumstances does a maintenance tract border two mines equally.³¹⁶ The Interior did not act on the GAO's recommendation at the time, and transitioning to the LBA process allowed prospective lessees to design maintenance leases to be even less competitive. Despite these realities, the Interior continues to treat maintenance tract leasing like standard new-mine leasing. This constitutes a twenty-five-year abdication of the Interior's statutory responsibility to create competition.

In 2009, the Interior turned down a petition to recertify the Powder River Basin on the grounds that it felt the region was more effectively managed as a decertified area.³¹⁷ Whatever the merits of this argument, the Federal Coal Management Program's regulatory text does not appear to give the Interior the discretion to make that decision.³¹⁸ Those laws do, however, give the Interior significant leeway in how it encourages competition through the leasing process, allowing for a range of solutions to the causes of noncompetition. Despite this, the Interior has consistently declined to experiment with new regulatory solutions, despite urging by both oversight agencies and outside experts.³¹⁹ The Interior's policies should acknowledge that maintenance tracts are the preferred method of leasing, beneficial both for coal companies' production efficiency and for the federal government's interest in concentrating the social and environmental impacts of coal mining. This situation reveals an urgent need for a coal leasing regime which can generate competition while accommodating the coal industry's preference for expanding its existing mines.

³¹³ TAXPAYERS FOR COMMON SENSE, *supra* note 141, at 10–11.

³¹⁴ See *supra* notes 264–67 and accompanying text.

³¹⁵ LINOWES REPORT, *supra* note 19, at 209–11; Peach, *supra* note 98, at 10.

³¹⁶ Peach, *supra* note 98, at 1.

³¹⁷ Squillace, *supra* note 11, at 5.

³¹⁸ See Coal Production Regions, 43 C.F.R. § 3400.5 (2018). The Code of Federal Regulations does not provide any language for decertifying an existing Coal Producing Region, or for deviating from its leasing process in coal producing areas. Note that the Federal Coal Management Program never defines "Coal Producing Region"—but its meaning seems plain. Regardless of whether industry is currently requesting new leases, it is hard to imagine that the Powder River Basin does not qualify as a Coal Producing Region.

³¹⁹ See, e.g., Peach, *supra* note 98, at 6.

Several alternate competitive processes have been proposed over the years by Interior analysts and outside experts, some of them repeatedly. One of them, intertract bidding, was first suggested by the Linowes Commission as a preferred bidding system in many lease scenarios.³²⁰ A slightly modified version is proposed below as one possible solution to the challenge of creating competition for federal coal.³²¹

G. Modified Intertract Bidding

Intertract bidding³²² seeks to reintroduce competition during lease sales even when individual tracts are noncompetitive by auctioning the right to extract a certain amount of coal, regardless of which tract contains it.³²³ This requires the reintroduction of regional leasing levels, which determine the overall quantity of coal available at auction. To begin the lease sale, the BLM either offers more tracts for sale, or proceeds with more industry lease requests, than are allowed under the leasing level.³²⁴ The interested companies then all bid simultaneously on the tract or tracts they most prefer, submitting these bids in dollars-per-ton or dollars-per-British-thermal-unit (Btu).³²⁵ These bids are next ranked by their per-ton or per-Btu value.³²⁶ The ranked bids are subtracted from the overall leasing level, starting with the highest bid, until the accepted bids meet the leasing level, and the remaining bids are rejected.³²⁷ The accepted bids are then matched to their tracts, subjected to post-sale review to guarantee they exceeded their fair market value appraisals, and finally leased.³²⁸

This system creates competition by requiring companies to bid not for specific tracts but for the right to mine a portion of the total quantity of coal up for lease. By doing so, it restores regional planning and leasing levels, while also accommodating mine expansion as the dominant and preferred form of leasing. Even if each tract involved in the lease receives only one bid, those bids are still all competing to have their specified tracts designated for production under the leasing level. This structure also does away with the need for

³²⁰ LINOWES REPORT, *supra* note 19, at 216–21.

³²¹ See *infra* notes 322–35 and accompanying text.

³²² *But see* notes 329–34 and accompanying text (comparing intertract bidding with modified intertract bidding).

³²³ LINOWES REPORT, *supra* note 19, at 217.

³²⁴ *Id.*; see also SCOPING REPORT, *supra* note 2.

³²⁵ The British thermal unit (Btu) is a unit of energy equivalent to 1055 Joules, and is commonly used to represent the heat content of fossil fuel stocks.

³²⁶ LINOWES REPORT, *supra* note 19, at 217; see also SCOPING REPORT, *supra* note 2.

³²⁷ LINOWES REPORT, *supra* note 19, at 217; see also SCOPING REPORT, *supra* note 2.

³²⁸ LINOWES REPORT, *supra* note 19, at 218. The Commission did not present a detailed methodology of intertract bidding, providing only this general outline of a plan. Implementation would clearly require a number of important details to be resolved. *Id.* at 220–21.

noncompetitive lease modifications by providing a standard mechanism for expanding mine operations.

Modified intertract bidding³²⁹ furthers this principle of abstracting specific lease tracts into quantities of coal. Using a modified intertract bidding procedure, instead of designating a leasing level in acreage, the BLM sets a regional leasing level in terms of maximum tonnage or number of Btus. All interested companies within the region then bid against each other for the right to extract their preferred quantities of coal. These bids could be accepted in a first-past-the-post system, where “each bidder bids for a specified quantity of coal, and the highest bidders’ quantities are subtracted in order from” the predetermined leasing level. “Alternately, bids could be accepted on a proportional basis where each bidder wins a proportion of the total leasing level equivalent to the value of their bid. The former option consolidates production among the highest bidders, while the latter ensures that every reasonable bidder receives some production.” The choice depends on the Interior’s discretionary ability to balance its multiple land management priorities. Importantly, because the coal being auctioned has not yet been divided into tracts, each newly-designated lessee remains able to allocate its lease across any available land adjacent to its existing mine. Each company then submits its preferred distribution of its new coal rights to the BLM for standard post-sale review and approval.

By tying the leasing level to a quantity of coal produced rather than a number of acres under production, the modified intertract bidding system gives the Interior a more robust method for ensuring that leasing levels match market demand. By allowing each lessee to directly bid for the amount of coal they want to produce, the system also allows each mine to directly consider how much that production is worth, further internalizing geological and geographic variables that otherwise inhibit competition.

This modified method also addresses one of the coal industry’s biggest concerns about intertract bidding. Coal executives testified to the Linowes Commission that standard intertract bidding would greatly increase their administrative costs, forcing them to evaluate each of the other bidders’ interest in each of the tracts up for lease to be reasonably confident of their likelihood of winning a bid.³³⁰ Similarly, standard intertract bidding would increase the

³²⁹ Modified intertract bidding, as its name suggests, is an adjusted version of the Linowes Commission’s proposed system of intertract bidding for coal lease tracts. See Josh Lappen, *Federal Coal Management Then and Now: Comparative Analysis of the History and Economics of Coal on Federal Land*, (Stanford University, internship sponsor; Dep’t Interior, Off. Pol’y Analysis, internship host, 2016) (available with author). This modified version was first proposed in an unpublished version of this paper in early 2016. Since then, this idea has circulated among outside observers, and was submitted by a stakeholder group to the Interior. PEIS, S.O. 3338, *supra* note 2; 2 U.S. DEP’T INTERIOR BUREAU OF LAND MGMT., FEDERAL COAL PROGRAM: PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT - SCOPING REPORT APPENDICES (2017); see also SCOPING REPORT, *supra* note 2.

³³⁰ *Id.* at 219–20.

BLM's administrative costs by forcing the BLM to appraise and prepare more tracts than would be leased at every lease sale.³³¹ By contrast, in the modified system each lessee bids on a production quantity rather than a tract. This allows both the bidders and the BLM to forgo site-specific evaluations until after the lease sale, when options are constrained to each mine's preferred locations.

Lastly, modified intertract bidding allows lessees to allocate their production quantities however they wish, within the constraints of the BLM's multiple-use mandate and environmental reviews. This allows each mine to optimize its expansion according to its needs, its infrastructure, and current market conditions, rather than proposing a tract designed to prevent competition during the bidding process.

In an effort to improve competition, the BLM currently uses tract modifications to alter proposed maintenance leases which too clearly preference a specific mine.³³² While this method may have the potential to marginally improve competition under the LBA process, it also directly decreases the tract's utility to the applicant, who is almost invariably the winning bidder.³³³ By eliminating this conflict, modified intertract bidding decreases the BLM's administrative costs while improving companies' ability to extract coal efficiently, all without impacting competition in the lease sale.

These two systems of intertract bidding address many of the interlocking problems confronted in this Article. They create competition, ensure fair market value, accommodate the Western coal industry's preference for mine expansion, and restore leasing level controls to the coal management process. They also produce efficiencies both in the lease sale process and during mining. If the Interior does not wish to address the LBA process' clear and pervasive failures by restoring the system of Coal Producing Regions,³³⁴ alternatives such as these systems of intertract bidding offer an even stronger solution.

H. Consistent Decision-Making and Independent Review

Federal coal management has struggled with inconsistent implementation for its entire history:

Correcting the deficiencies identified in this report will be a challenge because the BLM Washington Office does not have direct lines of authority for the coal program. Specifically,

³³¹ *Id.*

³³² See *supra* note 304 and accompanying text.

³³³ In a recent survey of the BLM's usage of tract modifications, none of the modified tracts attracted multiple bidders. See *supra* note 305 and accompanying text.

³³⁴ See *supra* note 318 and accompanying text.

although the Washington Office manages the coal program, it does not directly control the program in the many State and field offices that oversee coal leases. Without strong, centralized management, State and field office personnel may interpret official standards, processes, and procedures inconsistently.³³⁵

The above passage, from the OIG's 2013 report, closely matches the GAO's concerns in its 1983 and 2013 investigations.³³⁶ In a number of situations, BLM officials still do not adequately document their actions.³³⁷ The problem of inadequate documentation is especially pronounced when officials have appraised low fair market values or accepted final bids below the appraised fair market value.³³⁸ As the GAO explained in 1983, decisions like these which deviate from standard practice or make special allowances demand extra justification.³³⁹

The BLM's coal inspection program suffers from similar problems, jeopardizing enforcement of lease terms and weakening the government's ability to ensure receipt of fair market value. The OIG's 2013 investigation found that the BLM's mine inspection procedures failed to incorporate a variety of best practices, from rotating inspectors to quality assurance.³⁴⁰ In addition, the OIG found inspection documentation was sometimes inadequate or incomplete.³⁴¹ Given that coal inspectors often work informally with mining companies to address infractions, inspection documentation is particularly critical.³⁴² These records establish a company's compliance history and provide a valuable means for the BLM to assess both the effects of its current regulations and the need for new ones.³⁴³ By comparison, the OIG found the BLM's oil and gas inspection program to be centralized, well-documented, up-to-date, and consistent.³⁴⁴ The BLM concurred with the OIG's 2013 findings and agreed to issue additional

³³⁵ COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at 6.

³³⁶ See, e.g., GAO-14-140, *supra* note 55, at 28; Peach, *supra* note 98, at 4–8.

³³⁷ See *supra* notes 205, 223 and accompanying text.

³³⁸ GAO-14-140, *supra* note 55, at 28.

³³⁹ In the case of the Powder River Basin lease sales, the GAO found that many of these poorly-documented actions had been made without adequate information and by unqualified individuals, resulting in serious undervaluation of federal coal. Such decisions, the GAO insisted, should be considered “neither supportable nor warranted” wherever they occurred. See Peach, *supra* note 98, at 3.

³⁴⁰ COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at 1, 15.

³⁴¹ *Id.* at 15.

³⁴² The BLM's oil and gas inspectors have a series of penalties available to address different types and levels of noncompliance, but as of 2013 the BLM's coal inspectors could not impose financial penalties to prevent noncompliance. In response to the OIG's 2013 report, the BLM agreed to consider its statutory authorities and consider creating new penalties. Issues of inspection and enforcement are not discussed in this paper. See *id.* at 16.

³⁴³ *Id.*

³⁴⁴ *Id.* at 15.

or updated guidance on reporting, inspection, and enforcement.³⁴⁵ However, since consistent documentation and uniform official behavior are necessary to verify successful implementation of the OIG's recommendations, it is inherently challenging to assess the BLM's progress.

Inconsistent decision-making and weak oversight have hamstrung implementation of reforms across the Federal Coal Management Program in the past. Without a robust set of practices to ensure consistency, the BLM will continue to face challenges as it attempts to modernize federal coal management.³⁴⁶

VI. CONCLUSION

Over the past half-century, federal coal leasing policy has undergone a series of transformations in response to contemporary concerns. The rounds of investigation and reform which mark this history have never fully succeeded in resolving the fundamental challenges of noncompetition and failure to obtain fair market value which continue to trouble the Federal Coal Management Program. The expanding use of lease modifications and the collapse of the system of Coal Producing Regions have exacerbated federal coal leasing's noncompetitive trends, undermining the government's ability to obtain fair market value for federal coal even as the associated social and environmental costs of federal coal mining continue to rise.

Within the world of energy policy, historical analysis offers an important and largely untapped perspective on the current complex challenges posed by the energy transition. Understanding the Federal Coal Management Program's origins and its progression through several periods of failure and reform, including Interior's most recent incomplete attempt to overhaul the leasing process, helps to clarify the structural and conceptual roots of the program's ongoing struggle to obtain fair market value and create a competitive leasing environment.

This Article has addressed the tangled legacy of federal coal leasing by tracing the history of the Federal Coal Management Program, examining how foundational misconceptions and shifting industry trends have given rise to the program's current shortcomings. One solution to these shortcomings is reform-oriented: Modified intertract bidding offers one example of a reform which accepts the discrepancy between the coal program's competitive mandate and its noncompetitive realities and resolves it by reconceiving which portion of the

³⁴⁵ *Id.* at 37–39.

³⁴⁶ In 2013, the BLM responded to most of the OIG's findings by issuing supplemental guidance and updating its handbooks. However, its long history of inconsistently or improperly using its own coal management guidance and regulations calls into question the value of attempting to solve these management problems in this way. *See* COAL MANAGEMENT PROGRAM EVALUATION, *supra* note 118, at Attachment 2.

leasing process should be competitive. The alternate solution is to move beyond reform and alter the principles of federal resource management. Reform as an approach to federal coal leasing may no longer be equal to the scope and severity of challenges such as climate change. These challenges demand policy solutions which are not merely thorough and thoughtful, but also radical.