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Cut and Run: Bonding, Bankruptcies, and the Orphaned-Oil-Well Crisis

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ABSTRACT

Millions of abandoned oil wells are scattered across the United States ("U.S."), and many of them continuously leak methane into the air. These orphaned wells will only grow more common in the U.S. unless policymakers adopt legal reforms that more adequately hold oil companies responsible for them. Many of the nation's existing oil-well-abandonment regulations are severely outdated, and even those rules often become unenforceable when oil companies land in bankruptcy court. As a result, large quantities of methane—a highly potent greenhouse gas—are constantly escaping into the atmosphere and substantially contributing to global climate change. This Article examines the regulatory deficiencies that have led to high rates of oil-well abandonment in the U.S. and highlights how the oil industry's political influence has enabled those deficiencies to persist for decades. The Article then outlines specific policy strategies and reforms that are capable of proactively addressing the nation's ongoing oil-well-abandonment crisis.

INTRODUCTION

The onset of the COVID-19 pandemic in early 2020 led to record low oil prices in the U.S. as global oil demand and consumption plummeted.[1] In January 2020, this downward price trend commenced in China before spreading across much of the world.[2] By March 2020, the plunging

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1. *See* Alex Dryden, *Why Are Oil Prices Negative?*, J.P. MORGAN (Apr. 21, 2020), https://am.jpmorgan.com/us/en/asset-management/institutional/insights/market-insights/market-updates/on-the-minds-of-investors/why-are-oil-prices-negative/ [https://perma.cc/JTC9-BGFE]. West Texas Intermediate crude oil prices were negative for the first time in history in April 2020. *US Oil Prices Turn Negative as Demand Dries Up*, BBC NEWS (Apr. 21, 2020), https://www.bbc.com/news/business-52350082 [https://perma.cc/53HP-29VV].

2. *See* Kevin M. Camp et al., *From the Barrel to the Pump: The Impact of the COVID-19 Pandemic on Prices for Petroleum Products*, Article in *Monthly Labor Review*, U.S. BUREAU LAB. STAT. (Oct. 30, 2020), https://www.bls.gov

demand for oil triggered a freefall in oil prices.[3] Although market prices started to rebound by April that same year, the economic damage to the U.S. oil industry was already done, making it clear that many domestic oil producers would not recover.[4] On June 28, 2020, Chesapeake Energy Corporation became the highest-valued U.S. oil company to file for bankruptcy that year with $7 billion in debt.[5] The announcement came mere weeks after Chesapeake paid out $25 million in bonuses to its executives.[6] Chesapeake was only one of several oil companies seeking bankruptcy protection that year.[7]

The 2020 spike in oil company bankruptcies subsequently caused a sharp increase in abandoned oil wells across the U.S., which emit large amounts of environmentally harmful methane gas into the atmosphere.[8] The burden of mitigating these increased emissions may ultimately fall on taxpayers, as bankruptcy laws sometimes enable oil companies to shed environmental liabilities for abandoned wells, only to later emerge from bankruptcy and resume oil extraction while tax-funded agencies clean up their old wells.[9] Certain aspects of bankruptcy proceedings may even motivate oil companies to delay repairing methane leaks in wells not yet abandoned.[10] Oil-well abandonments before and during bankruptcies not

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/opub/mlr/2020/article/from-the-barrel-to-the-pump.htm [https://perma.cc/4LE2-6LJB].

3. *Id.*

4. The rebound in oil prices was the product of successful collaboration between OPEC members and Russia to reduce oil production volume, thereby balancing supply and demand. *Id.* The gradual lifting of quarantine and self-isolation restrictions throughout this time also contributed.

5. *See Restructuring Information*, CHESAPEAKE ENERGY, http://chk.com/About/restructuring-information [https://perma.cc/WZ7C-W4NN] (last visited Sept. 13, 2021).

6. Hiroko Tabuchi, *From Boom to Busted: Oil Firms Pay Bonuses as They Hurtle Towards Bankruptcy and Environmental Disaster*, STAR TRIBUNE (July 14, 2020), http://e.startribune.com/Olive/ODN/StarTribune/shared/ShowArticle.aspx?doc=MST%2F2020%2F07%2F14&entity=Ar01902&sk=B7AB4E3B&mode=text [https://perma.cc/7779-WGW2].

7. *See id.* Whiting Petroleum, MDC Energy, and Diamond Offshore Drilling also declared bankruptcy in 2020 shortly after paying executives millions in bonuses. *Id.*

8. Nick Cunningham, *Taxpayers Are Footing the Bill for 100-Year Old Oil Wells*, OILPRICE.COM (June 21, 2020, 12:00 PM), https://oilprice.com/Energy/Energy-General/Taxpayers-Are-Footing-The-Bill-For-100-Year-Old-Oil-Wells.html [https://perma.cc/7W9W-J3E5].

9. *See id.*

10. *See* Tabuchi, *supra* note 6.

only lead to unchecked methane leakage but also often shift the burdens of plugging abandoned wells and curb their methane emissions onto taxpayers.[11]

Failing oil companies' continued ability to force taxpayers to shoulder the burdens of unwanted wells largely results from the U.S. oil and gas industry's outsized influence on oil industry regulation.[12] The industry's long-held political strength has enabled it to postpone necessary updates to oil-well bonding requirements, royalty rates, and other regulations in ways that increasingly harm the country's taxpaying citizens and the natural environment. The U.S. Bankruptcy Code also contributes to this problem through its inadequate prioritization of oil companies' environmental protection obligations during bankruptcy because many of those obligations are not legally categorized as debts.

This Article describes how deficiencies in oil-well and bankruptcy regulations have led to a proliferation of abandoned and leaking oil wells throughout the U.S. and identifies specific strategies for reforming these laws. Part I of this Article provides background information on the regulatory structure governing oil- and gas-well abandonment within the U.S. and describes how that structure is leading to troubling amounts of methane emissions and other adverse environmental impacts. Part II analyzes several regulatory and bankruptcy law shortcomings that contribute to the rising number of oil-well abandonments in the U.S. Part II then examines how the oil industry's political influence contributes to these problems and identifies specific policy strategies for addressing them to ensure oil companies are held more accountable in the future.

I. BACKGROUND

Oil has played a major role in American society for more than a century from the rise of the gas-powered automobile in the early 1900s to today's controversies over the oil industry's contributions to climate change. The first oil wells in the U.S. were largely unregulated, and their potential adverse environmental impacts were not yet understood. Although oil was first discovered in the U.S. in 1859, oil-well drilling

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11. *See* Cunningham, *supra* note 8.

12. *See, e.g.*, Hannah J. Wiseman, *Taxing Local Energy Externalities*, 96 NOTRE DAME L. REV. 563, 582–83 (2020); Inara Scott, *The Trouble with Boycotts: Can Fossil Fuel Divest Campaigns Be Limited*, 57 AM. BUS. L.J. 537, 541 (2020); Rachel Richman & Cadmus Wang, *Too Open for Business? Strengthening Long-Term Protections for Federal Lands*, 56 IDAHO L. REV. 505, 532–33 (2020).

regulations were not introduced until the early 1900s.[13] Unsurprisingly, these early regulations focused more on protecting mineral rights and the integrity and longevity of oil reservoirs than on mitigating environmental harms.[14] Although more environmentally-focused oil extraction rules have evolved, political and economic pressures have gradually led to the under-regulation of certain aspects of oil and gas extraction—including the growing problem of orphaned oil wells.

A. A Brief History of the Oil and Gas Industry in 2020

The U.S. oil industry has always been prone to tumultuous boom-and-bust cycles, and these cycles have long complicated policymakers' efforts to fully hold oil companies liable for their environmental impacts. For more than a century, U.S. oil and gas markets have been notoriously volatile and unpredictable. Oil companies often have strong incentives to aggressively invest in drilling and infrastructure when market prices are high, which makes these companies vulnerable to major financial risks when prices fall.[15] One consequence of this cycle is that when oil companies become insolvent, they often lack sufficient funds to pay their liabilities for environmental harms. This risk could very well increase as the global transition to electric-transportation technologies gradually diminishes the demand for oil in the coming decades.[16]

Additionally, growth in the U.S. renewable energy sector is likely to soften demand for oil and gas over time and put financial pressure on many oil companies. The nation's wind- and solar-energy industries, which account for roughly half of all new electric generating capacity installed in the country today, continue to experience exponential growth.[17] As this shift continues, long-term demand for oil and gas is forecasted to decrease

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13. *See* E. ALLISON & B. MANDLER, AM. GEOSCIENCES INST., U.S. REGULATION OF OIL AND GAS OPERATIONS, PETROLEUM AND THE ENVIRONMENT 21-1 (2018), https://www.americangeosciences.org/sites/default/files/AGI_PE_Regulations_web_final.pdf [https://perma.cc/ZWG4-XMDL].

14. *See id.* at 21-2.

15. *See* U.S. GOV'T ACCOUNTABILITY OFF., GAO-19-615, OIL AND GAS: BUREAU OF LAND MANAGEMENT SHOULD ADDRESS RISKS FROM INSUFFICIENT BONDS TO RECLAIM WELLS 23–24 (2019), https://www.gao.gov/assets/710/701450.pdf [https://perma.cc/A7JY-EUN7] [hereinafter GAO-19-615].

16. *See* Nina Chestney, *End New Oil, Gas and Coal Funding to Reach Net Zero, Says IEA*, REUTERS (May 18, 2021, 12:06 AM), https://www.reuters.com/business/environment/radical-change-needed-reach-net-zero-emissions-iea-2021-05-18/.

17. *See* Joshua D. Rhodes, *The State of the US Energy Sector*, 4 OIL & GAS, NAT. RES. & ENERGY J. 547, 557 (2018).

even more.[18] The increasing affordability of clean energy technologies and projected growth in electric vehicle markets point towards a diminished future for oil.[19] The transition from petroleum to renewables, while desirable in itself, could lead to more abandoned wells and accompanying methane emissions unless adequate legal safeguards are put in place to address these trends.

When oil production sites cease operations because of falling demand, they can create "orphaned" or "abandoned" wells. Texas law defines an orphaned well as a well that is inactive, non-producing, and has been dormant for a minimum of 12 months.[20] An abandoned well is a well that either is no longer economically viable for the owner to operate or no longer produces oil or gas. If left uncapped, faulty equipment, aging materials, or busted pipes at these wells often leak methane—a potent greenhouse gas that significantly contributes to climate change and contaminates land and water. Accordingly, state and federal laws require oil companies to decommission unused oil wells by properly capping or plugging them with cement or fly ash to mitigate emissions and other hazards.[21]

Unfortunately, oil companies sometimes fail to properly plug or cap a well after temporarily or permanently ceasing the oil extraction process. Failure to cap wells became a major problem during the onset of the COVID-19 pandemic.[22] The pandemic unexpectedly shocked the oil industry and caused several companies to file for bankruptcy and cease operations.[23] As production halted and workers moved out of the oilfields, many cash-strapped oil companies left wells unplugged or improperly plugged.[24] This most recent spike in abandoned and uncapped wells was

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18. *See* Tabuchi, *supra* note 6.

19. *See* Brian M. Fronk, Richard Neal & Srinivas Garimella, *Evolution of the Transition to a World Driven by Renewable Energy*, 132 J. ENERGY RES. TECH. 021009 (2010).

20. 16 TEX. ADMIN. CODE § 3.15(a)(1) (2021). While this definition is specific to Texas, most other states similarly define the term.

21. *See* Tech. Subgroup, Operations & Env't Task Grp., *Plugging and Abandonment of Oil and Gas Wells* 15 (Nat'l Petrol. Council, Working Paper No. 2-25, 2011), https://www.npc.org/Prudent_Development-Topic_Papers/2-25_Well_Plugging_and_Abandonment_Paper.pdf [https://perma.cc/Z6DN-8JDN].

22. *See* Nichola Groom, *Special Report: Millions of Abandoned Oil Wells Are Leaking Methane, a Climate Menace*, REUTERS (June 16, 2020, 6:14 AM), https://www.reuters.com/article/us-usa-drilling-abandoned-specialreport/special-report-millions-of-abandoned-oil-wells-are-leaking-methane-a-climate-menace-idUSKBN23N1NL [https://perma.cc/A8ZY-97ZV].

23. *See* Tabuchi, *supra* note 6.

24. *Id.*

not the nation's first, and its adverse environmental impacts could persist for decades. Some orphaned and abandoned wells in the U.S. date back to oil busts that occurred more than a century ago, and they continue to leak methane and create environmental risks today.[25]

B. Orphaned Wells Create Serious Hazards for People and the Environment

When regulatory structures for oil-well decommissioning fail, governments and taxpayers are often left to deal with orphaned wells and the consequences. As stated above, unplugged-orphaned-oil wells leak methane. Despite drawing less attention than carbon dioxide emissions, methane emissions have an 86-times-greater global warming impact over a 20-year period.[26] Methane from orphaned-oil wells can also cause groundwater and surface water contamination.[27] Reclaiming well sites reduces these risks, but failure to do so adversely impacts ecosystems for many years to come.[28]

Methane emissions are the second largest contributor to climate change from human activities.[29] With more than 3.2 million abandoned wells in the U.S. releasing an estimated 281 kilotons of methane annually into the atmosphere, methane leakage from abandoned wells alone comprises a significant portion of the country's total annual contribution to climate change.[30] Some wells emit far more methane than others, and the level of methane emissions at any given well depends on the well's physical characteristics, age, and management.[31] Wells that emit large

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25. *See* Cunningham, *supra* note 8.

26. *See* Mary Kang et al., *Identification and Characterization of High Methane-Emitting Abandoned Oil and Gas Wells*, 113 PROC. NAT'L ACAD. SCIS. 13636, 13636 (2016).

27. *See, e.g.*, Mike Soraghan, *Baffled About Fracking? You're Not Alone*, N.Y. TIMES (May 13, 2011), http://www.nytimes.com/gwire/2011/05/13/13greenwire-baffled-about-fracking-youre-not-alone-44383.html [https://perma.cc/MM96-J8NL].

28. *See* GAO-19-615, *supra* note 15, at 6.

29. *See* Cameron Rotblat, *Caring for the Orphans: Approaches for Mitigating Fugitive Methane Emissions From Orphaned Oil and Gas Wells*, 47 ENVTL. L. REP. NEWS & ANALYSIS 10529, 10533 (2017); *Greenhouse Gas Emissions*: *Overview of Greenhouse Gases*, U.S. ENV'T PROT. AGENCY, https://www.epa.gov/ghgemissions/overview-greenhouse-gases [https://perma.cc/2 GS2-DNK2] (last visited Aug. 31, 2021).

30. *See* Rotblat, *supra* note 29, at 10532; *see also* Groom, *supra* note 22.

31. *See* Kang et al., *supra* note 26, at 13636.

amounts of methane may even do so continuously for a number of years.[32] In addition to being a potent greenhouse gas, the leaked methane can also contaminate groundwater and land, and some orphaned wells have even caused major explosions.[33]

The nation's oil-well-abandonment problem has existed for decades, and its costs are increasingly falling onto governments and taxpayers. Old, abandoned wells are still being identified during the initial bonding process for new wells or through bankruptcy proceedings, and some of these orphaned wells are more than 100 years old and lack proper records.[34] Clean-up crews must therefore improvise with the techniques they use when capping these abandoned and orphaned wells, which imposes additional costs on taxpayers. In some states where oil and gas extraction is a major industry, regulators and politicians—recognizing that these companies likely lack the funds to properly manage and decommission the wells—have even been accused of encouraging smaller companies to purchase and develop wells that are reaching their end stages of production.[35]

C. The Existing Regulatory Structure for Oil-Well Plugging and Abandonment

Although state and federal policymakers possess the requisite regulatory authority to more adequately deter and govern well abandonment, existing policies have failed to fully address the problem. Along with other deficiencies, most existing policies do not account for the potential long-term impacts of methane emissions on climate change.[36] Despite widespread scientific knowledge that methane contributes to climate change, only recently have states attempted to curb emissions from oil wells.[37] At the federal level, the Trump Administration in 2020 rolled

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32. *See id.* at 13637.

33. A construction site explosion in California was the result of methane from a leaking well accumulating at the site. *See* Groom, *supra* note 22.

34. Matt Bloom, *Cleaning Up Abandoned Wells Proves Costly to Gas and Oil Producing States*, NAT'L PUB. RADIO (Sept. 6, 2019, 4:23 PM), https://www.npr.org/2019/09/06/758284873/cleaning-up-abandoned-wells-proves-costly-to-gas-and-oil-producing-states [https://perma.cc/S9Z9-Q99E].

35. *See* Christopher S. Kulander, *Surface Damages, Site-Remediation and Well Bonding in Wyoming-Results and Analysis of Recent Regulations*, 9 WYO. L. REV. 413, 442 (2009).

36. Rotblat, *supra* note 29, at 10535.

37. In 2014, Colorado became the first state to enact legislation limiting methane emissions from oil and gas production and requiring such companies to

back an Obama-era regulation that required oil companies to monitor and limit methane leaks from their wells.[38] The Trump Administration's replacement rule eliminated the federal requirement that these companies must use technologies to detect methane leaks based upon the presumption that most oil companies could not afford the compliance costs associated with the previous regulation.[39] The Biden Administration recommitted the U.S. to certain environmental treaties and stopped allowing new oil wells on federal land leases shortly after Biden transitioned into office. However, methane emission regulations at the federal level remained unsatisfactory—especially when viewed through a long-term climate policy lens.[40]

Operators who drill oil wells in the U.S. are legally obligated to follow certain plugging and abandonment ("P&A") regulations after a well's productive or profitable life, but these regulations inadequately address the nation's orphaned wells problem. The U.S. Bureau of Land Management (BLM) regulates oil wells on federal public lands and lands held in federal trust, while state agencies regulate oil wells on privately-owned and state-owned land within their respective borders. The BLM and state agencies both require oil companies to post a decommissioning bond for each well or group of wells they dig.[41] Unfortunately, the amounts of these bonds are significantly lower than what is needed to fully reimburse government agencies for the costs of plugging abandoned wells.

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fix methane leaks from existing operations. *See* 5 COLO. CODE REGS. § 1001-9 Part F (2021); *see also* Stephanie Paige Ogburn, *Colorado First State to Limit Methane Pollution from Oil and Gas Wells*, SCI. AM. (Feb. 25, 2014), https://www.scientificamerican.com/article/colorado-first-state-to-limit-methane-pollution-from-oil-and-gas-wells/ [https://perma.cc/Z52E-MGQA].

38. Coral Davenport, *E.P.A. to Lift Obama-Era Controls on Methane, a Potent Greenhouse Gas*, N.Y. TIMES (Aug. 10, 2020), https://nytimes.com/2020/08/10/climate/trump-methane-climate-change.html [https://perma.cc/K32R-PNK4].

39. Valerie Volcovici & Timothy Gardner, *Trump Administration Rolls Back Curbs on Oil Industry Methane Emissions*, REUTERS (Aug. 13, 2020, 6:07 AM), https://www.reuters.com/article/us-usa-epa-methane/trump-administration-rolls-back-curbs-on-oil-industry-methane-emissions-idUSKCN2591JJ [https://perma.cc/VG78-QC9L].

40. *See* Exec. Order No. 14,008, 86 Fed. Reg. 7619 (Jan. 27, 2021); *see also* Dino Grandoni, *The Energy 202: Biden Administration Puts Freeze on Federal Fossil Fuel Leases and Permits*, WASH. POST (Jan. 22, 2021, 8:43 AM), https://www.washingtonpost.com/politics/2021/01/22/energy-202-biden-administration-puts-freeze-federal-fossil-fuel-leases-permits/ [https://perma.cc/SZB3-9V2H].

41. 43 C.F.R. §§ 3104.1–.3 (2021); WYO. STAT. ANN. § 30-5-104 (2021).

1. Existing Well-Plugging Requirements

Although current state and federal regulations require the plugging of abandoned wells in many jurisdictions, these rules often fall short in ensuring that oil companies will promptly follow through with their obligations. Under certain temporary-abandonment rules, federal laws sometimes permit oil companies to delay well-plugging. Federal oil lessees are legally obligated to "promptly plug and abandon" wells once production of oil is no longer profitable.[42] However, under BLM oversight, federal oil lessees may temporarily abandon a well for up to 24 months before beginning their plugging operations.[43] During these delay periods, wells can leak methane and other environmental pollutants while remaining largely unmonitored. Moreover, at the expiration of the 24-month period, well operators ought to either resume operations or properly cap and/or plug the well before permanently abandoning it. This is not always the case though as transferring a temporarily abandoned well to a new operator can extend this delay period even longer.[44] Further delay occurs because the first operator's abandonment does not necessarily preclude the new operator from seeking temporary-abandonment rights.[45] Because of these and other regulatory loopholes, wells on federal lands may be left unplugged and subsequently leak methane for extended periods of time without violating federal regulations.

State-level P&A requirements vary greatly, partly depending on the strength of the oil industry within that state. In Texas, plugging operations must begin on an inactive well after one year without drilling.[46] However, a third-party operator is allowed to take over an inactive well during this time and start the clock over, or they may pay a small permit fee that precludes an abandonment finding and thereby allows further avoidance of well-capping enforcement.[47]

Similarly, in North Dakota, a well is considered "abandoned" if it has not produced oil within at least one year.[48] State regulations require

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42. 43 C.F.R § 3162.3-4(a).
43. *See id.* § 3162.3-4(c).
44. *See id.* § 3162.3.
45. *See id.* §§ 3216.3, 3162.3-4(c).
46. *See* 16 TEX. ADMIN. CODE § 3.14(b)(2) (2021).
47. *See id.* § 3.15(f).
48. Amy R. Sisk, *Landowners, Oil Companies Support Plugging Abandoned Wells but Want Concerns Addressed*, BISMARCK TRIB. (June 10, 2020), https://bismarcktribune.com/news/state-and-regional/govt-and-politics/landowners-oil-companies-support-plugging-abandoned-wells-but-want-concerns-addressed/article_3fa707fa-89a4-52e1-a7ae-7e5dd9fc80b0.html [https://perma.cc/H5KS-HP85].

companies to either permanently plug or restart any well that has remained idle for a year. Despite this regulatory policy, the wells identified by the North Dakota Oil and Gas Division are older wells that were drilled during oil booms in past decades.[49]

Wyoming P&A requirements first necessitate an inability to find a responsible party to plug and abandon the well—either due to bankruptcy or to lack of operations by the party within the state.[50] Only after the state designates a well as abandoned can the Wyoming Oil and Gas Commission step in to enforce regulations. This structure, where enforcement for P&A is triggered only after a company has filed for bankruptcy or left the state, makes it relatively easy for oil companies to evade responsibility for their wells after oil extraction activities are concluded.

2. Oil-Well-Decommissioning Bond Requirements

Oil-well-decommissioning bonds have existed for decades, but the bond amounts required today are often too low to fully cover the costs of well-plugging. The BLM and various state agencies first implemented oil-well bonds in the 1950s and 1960s, and they have consistently enforced those bonds as a permitting requirement for new oil-well projects.[51] Both federal and state regulatory systems allow for two types of bonds: single-well bonds and blanket bonds. A single-well bond covers a single well. By contrast, a blanket bond is a larger-dollar bond intended to cover a collection of wells.[52] Typically when blanket bonds are used today, they are supposed to provide for the P&A costs of all covered wells should the oil company posting the bond fail to meet decommissioning requirements and become insolvent.

Although oil-well bonds were intended to fully cover the cost of plugging a well, other policy priorities and political pressures have gradually weakened the bond's ability to serve its intended function. The Interstate Oil and Gas Compact Commission (IOGCC) continues to assert state-level bonds should provide financial assurance that well-plugging and site-reclamation funds will be available for orphaned wells; hdfowever that expectation is rarely met.[53] Bonds should also indirectly

49. *See id.*
50. *See* WYO. STAT. ANN. § 35-11-1206 (2021).
51. *See* GAO-19-615, *supra* note 15, at 16.
52. *See* Kulander, *supra* note 35, at 419.
53. *See* INTERSTATE OIL & GAS COMPACT COMM'N, IDLE AND ORPHAN OIL AND GAS WELLS: STATE AND PROVINCIAL REGULATORY STRATEGIES 17 (2020),

reduce the costs borne by taxpayers to fund state or federal government efforts to step in and plug orphaned wells.[54] Unfortunately, the minimum bond amounts set in the 1950s and 1960s have not been adequately adjusted over time to account for changes in costs, damages, or inflation, so they provide minimal mitigation of the burden on taxpayers to fund government P&A efforts.[55]

Unfortunately, some evidence exists that governments' failures to increase bond amounts over time is intentional due to a fear that oil companies cannot comply with higher amounts. For instance, a Government Accountability Office report found that some BLM officials generally did not want to require full liability bonds because they feared oil and gas companies would not have the liquidity to pay the bonds and simultaneously cover their operating costs.[56] By prioritizing continued oil production over environmental protection, leadership within this major federal agency responsible for managing and protecting public lands has exacerbated the nation's current orphaned-wells problem.

The gap between federal bond amounts and actual oil-well-plugging costs has only widened over the past few decades. The BLM authorizes three categories of bonds: single lease, statewide, and nationwide bonds.[57] Although the specific amount of a bond is set by a contract between the BLM and the oil company, there are established minimums for each bond category.[58] Incredibly, these federal bond minimums have not changed since 1960.[59] As a result, the BLM on average holds a bond of only $890

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https://iogcc.ok.gov/sites/g/files/gmc836/f/documents/2021/2020_03_04_updated_idle_and_orphan_oil_and_gas_wells_report.pdf [https://perma.cc/9DFG-4NLR].

54. *See* GAO-19-615, *supra* note 15, at 10 ("If operators do not reclaim their wells, BLM may redeem the certificate of deposit, cash the check, sell the security, or make a demand on the letter of credit to pay the reclamation costs.").

55. *See id.* at 16.

56. *See* U.S. GOV'T ACCOUNTABILITY OFF., GAO-18-250, BUREAU OF LAND MANAGEMENT NEEDS TO IMPROVE ITS DATA AND OVERSIGHT OF ITS POTENTIAL LIABILITIES 29 (2018), https://www.gao.gov/assets/700/691810.pdf [https://perma.cc/E6QW-GC37].

57. *See* GAO-19-615, *supra* note 15, at 7–8.

58. *See id.* at 2. The current BLM minimum bond amounts are $10,000 for all wells on a single lease; $25,000 for all wells on federally managed land within one state; and $150,000 for all wells nationwide. The statewide and nationwide bond minimums were set in 1951, and the individual lease bond minimum was set in 1960. *Id.*

59. *See id.* at GAO Highlights ("Bonds generally do not reflect reclamation costs because most bonds are set at their regulatory minimum values, and these minimums have not been adjusted since the 1950s and 1960s to account for inflation . . . .").

to $2,691 per oil well it regulates.[60] Well-plugging costs can vary widely, but even the most inexpensive well-plugging jobs tend to cost more than $2,691 per well, and plugging the most expensive wells costs far more than any bond minimum.[61] Of course, when unplugged-oil wells become orphaned and bonds are insufficient to cover P&A costs, the BLM must rely on taxpayer funding to plug the wells.[62] This dilemma, along with a lack of government funding, has led to an ever-increasing backlog of unplugged-orphaned-oil wells across the country.[63]

Additionally, at the state level, oil-well bonding requirements have become increasingly inadequate at assuring the timely plugging or capping of abandoned wells. Most states require operators to post financial assurance bonds for oil wells before drilling may begin.[64] In states such as Texas and North Dakota where oil extraction has historically served as a major economic driver, these bonding requirements have unfortunately done little to curtail the accumulation of orphaned wells.[65] This is because oil companies are allowed to use inexpensive blanket bonds to cover multiple wells under one bond posting.

In Texas, for instance, bonding requirements are far too low to finance state agencies' efforts to remediate abandoned sites. Due in part to Texas's lack of a compulsory unitization statute to naturally limit how many wells

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60. *See id.* at 12 ("As of 2018, individual lease bonds had the highest average bond value per well at $2,691, and nationwide bonds had the lowest average bond per well value at $890. Statewide bonds had an average bond value per well of $1,592.").

61. In 2019, the United States Government Accountability Office reported that estimated reclamation costs of oil wells on federal land range from $3,096 to $603,000 per well. *See id.* at 6 n.15.

62. *See id.* at GAO Highlights ("[W]hen wells are not properly managed, the federal government may end up paying to clean up the wells when they stop producing. Specifically, wells on federal lands that an operator does not reclaim and for which there are no other liable parties fall to BLM to reclaim (restore lands to as close to their original natural states as possible). These wells become orphaned if the operator's bond held by BLM is not sufficient to cover reclamation costs.").

63. The true number of orphaned wells cannot be accurately quantified, as some orphaned wells that have been found are over 100 years old, dating back to a time when wells were unregulated and often unrecorded. This also means potential uncertainty in whether the BLM or a state agency should be responsible for attempting to plug an abandoned well. *See* Bloom, *supra* note 34.

64. See Rotblat, *supra* note 29, at 10533.

65. *See* Jacqueline S. Ho et al., *Managing Environmental Liability: An Evaluation of Bonding Requirements for Oil and Gas Wells in the United States*, 52 ENV'T. SCI. & TECH. 52, 3908 (2018).

or pumps are drilled, Texas leads the nation in abandoned wells.[66] Texas law allows for blanket bonds to cover multiple wells, with the broadest blanket bond requiring a mere $250,000 to cover 100 or more wells.[67] Alternatively, operators may opt for single-well bonds, which equate to about $2 per foot of total well depth.[68] Neither of these bonds are even remotely high enough to cover the costs of plugging wells when site owners or operators abandon them.

Bond requirements in North Dakota fare slightly better than those in Texas but ultimately still fail to adequately serve their intended purpose. For a single well in North Dakota, the minimum bond amount is $50,000.[69] However, for a blanket bond—which the state allows to cover up to six wells—the required bond amount is only $100,000.[70] This means that for each well in a six-well blanket bond, only $16,700 is allocated for P&A purposes. This low figure is just one-tenth of the actual average cost to reclaim a site and plug a well in the state.[71] In a few states, including North Dakota and Texas, statutes enable state agencies to sue oil companies to recover unbonded costs spent on capping a well.[72] However, pursuing that remedy is typically only effective if the offending oil company remains solvent and has not sought bankruptcy protection.[73]

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66. Compulsory unitization would require all holders of property rights within one oil field to effectively operate as a single unit. This strategy has been shown to both increase efficiency in oil recovery and prevent excessive waste, in part by disincentivizing the drilling of excessive numbers of wells. Despite these advantages leading all other states to implement compulsory unitization, Texas lawmakers have continuously refused to adopt such a policy. *See* Matthew K. Trawick, Note, *Cooperative Mineral Interest Development in the Lone Star State: It's Time to Mess with Texas*, 4 MICH. J. ENVTL. & ADMIN. L. 385, 398–99 (2015).

67. *See* 16 TEX. ADMIN. CODE § 3.78(g)(1)(B) (2021).

68. *See id.* § 3.78(a).

69. N.D. ADMIN. CODE 43-02-03-15 (2020).

70. *See id.*

71. The North Dakota State Mineral Resources Director Lynn Helms estimates that "the cost of plugging and reclaiming a site [in North Dakota] averages about $150,000." When a company has a six-well blanket bond of only $100,000 to cover all six wells, the amount divided between each well equates to the low percentile of approximately one-tenth the actual amount needed to recover the site. *See* James Macpherson, *North Dakota Aims to Use COVID-19 Aid to Plug Oil Wells*, ASSOCIATED PRESS (May 14, 2020, 3:47 PM), https://www.usnews.com/news/best-states/north-dakota/articles/2020-05-14/north-dakota-aims-to-use-covid-19-aid-to-plug-oil-wells.

72. *See* Alan Hager & Kevin L. Shaw, *Idle and Deserted Wells: Who Plugs and Who Pays?*, 45 ROCKY MTN. MIN. L. INST. 12-1 (1999).

73. *See id.*

One factor contributing to the perpetuation of lax state-level bonding requirements is the political pressure government officials feel to preserve the competitiveness of a state's oil industry and thereby secure the economic benefits the industry provides. State regulators sometimes fear if they increase bond requirements, oil companies will respond by ceasing operations within the state.[74] Accordingly, some large U.S. oil companies have successfully leveraged their economic influence to preserve less stringent bonding requirements to protect their profits while exposing the state to environmental risks.

D. Inadequate Priority in Bankruptcy Proceedings

The inadequacy of oil-well bonding requirements is particularly problematic because there is no guarantee an insolvent oil company's P&A obligations will survive a bankruptcy proceeding. Existing P&A regulations were generally created based on the assumption that oil companies that abandoned their wells would be solvent and thus capable of paying to clean up their messes.[75] However, well-plugging obligations are seldom classifiable as claims a bankruptcy court must prioritize over other classes of debtor obligations.

Of the six types of bankruptcy proceedings authorized under the U.S. Bankruptcy Code, only Chapter 7 and Chapter 11 proceedings are generally available to oil companies. Oil companies that file for Chapter 7 bankruptcy protection become subject to a process of liquidating their assets to pay off debts, which is carried out by an appointed bankruptcy trustee.[76] In Chapter 7 bankruptcy, debt repayment may be limited by claim priorities and a debtor's asset exemptions.[77] Claim priority rules, set out in 11 U.S. Code section 726 as "classes" of claims, are an important area of focus in the context of oil company bankruptcies. Each of the six classes of bankruptcy claims must be fully paid before the bankruptcy

74. *See* Zack Colman, *'Orphaned' Oil Wells to Squeeze State Coffers*, POLITICO (May 12, 2020, 1:54 PM), https://www.politico.com/news/2020/05/11/orphaned-oil-wells-to-squeeze-state-coffers-249138 [https://perma.cc/26HH-CYQT].

75. *See* GAO-19-615, *supra* note 15 (explaining that regulators failed for decades to adjust bond minimums for inflations, leading to the current crisis of government agencies becoming responsible for well clean up).

76. *See* 28 U.S.C. § 959(b).

77. *See generally* 11 U.S.C. §§ 723–727.

trustee may begin paying claims in the next-lower class.[78] The first class of claims gives priority to potential government and administrative expense claims.[79] However, there are strict guidelines governing which administrative expenses and government claims may qualify for this high prioritization.[80]

Companies declaring Chapter 11 bankruptcy undergo reorganization of their business and debts in an effort to regain solvency.[81] Oil companies declaring Chapter 11 bankruptcies are subject to closer scrutiny by bankruptcy courts than those that undergo Chapter 7 bankruptcies because, in Chapter 11 proceedings, courts have the power to place certain limitations on business operations or on the retention of certain property while the reorganization plan is pending.[82] A Chapter 11 bankruptcy court is also responsible for enforcing and allowing exceptions to the automatic stay placed on debt collection activities when a company files for bankruptcy.[83] Once all legal requirements are satisfied and any objections have been heard, a Chapter 11 court confirms the company's reorganization plan (or sometimes a Chapter 11 liquidation plan).[84] A confirmed plan designates the types and classes of claims and interests for treatment under the reorganization structure.[85]

In both Chapter 7 and Chapter 11 bankruptcies, the court has the power to influence how, when, and if various claims—including well-plugging obligations—are paid by the debtor.[86] Because of the Bankruptcy Code's lack of clarity with regard to oil-well-plugging obligations, bankruptcy courts are largely responsible for interpreting which particular classifications should apply to a well-plugging-related claim. For instance, in the 1998 case of *Texas v. Lowe*, the United States Court of Appeals for the Fifth Circuit found that Texas's costs of plugging oil wells should be

78. *See id.* § 726; *see also* Jeffrey S. Theuer, *Aligning Environmental Policy and Bankruptcy Protection: Who Pays for Environmental Claims Under the Bankruptcy Code?*, 13 T.M. COOLEY L. REV. 465, 476 (1996).

79. *See* 11 U.S.C § 507(a)(2), (8).

80. *See* Mary J. Koks & Tim Million, *Environmental Issues in Bankruptcy*, 40 TEX. ENVTL. L.J. 43, 46 (2009).

81. *See* 11 U.S.C. § 1123.

82. *Compare* 11 U.S.C. §§ 1106, 1108, *with* 11 U.S.C. § 704. Chapter 11 trustees have far more extensive duties to the court than do Chapter 7 trustees, and Chapter 11 trustees are accountable for maintaining business operations during the pendency of bankruptcy proceedings whereas Chapter 7 trustees are primarily responsible for winding down business operations to prepare for liquidation.

83. *See* Theuer, *supra* note 78, at 487–88.

84. *See* Koks & Million, *supra* note 80, at 44.

85. *See* 11 U.S.C. § 1123(a)(1).

86. *See id.* §§ 502–503.

awarded "administrative expense" claim priority.[87] Prior to that decision, P&A costs were rarely given this high-priority designation during bankruptcy proceedings.[88] Even after *Texas v. Lowe*, however, bankruptcy judges maintain considerable discretion when weighing the necessary factors to determine which environmental claims receive priority.[89] Judges also have discretion in determining which debts, if any, are "dischargeable" and thus release a debtor from that particular liability.[90] For example, in the environmental law context, if a state or federal agency submits a clean-up order for an abandoned well site, that order may be converted into an obligation dischargeable in bankruptcy.[91] The considerable discretion afforded to bankruptcy judges can have major impacts when an insolvent oil company fails to plug several wells and consequentially seeks bankruptcy protection.

II. ANALYSIS

As described in Part I, the existing regulatory structure governing the management of oil wells in the U.S. fails to adequately guard the nation against associated environmental harms. Current bonding requirements for oil wells are artificially low in many jurisdictions, and debtors' well-plugging obligations are not sufficiently prioritized in bankruptcy proceedings. Consequently, it is far too easy for oil companies to avoid these obligations, and the financial risks and responsibilities for well-plugging fall too heavily on governments and taxpayers. The current

87. *See* Texas v. Lowe (*In re* H.L.S. Energy Co.), 151 F.3d 434, 436 (5th Cir. 1998).

88. The court in *Texas v. Lowe* relied upon *Reading Co. v. Brown*, a case from 1968 that defined what an "actual and necessary" expense was in order to grant administrative priority to that debt. In doing so, the court quoted *Reading*, which stated that it was "sounder to treat tort claims arising during [a bankruptcy] as actual and necessary expenses" than it would be to afford the same categorization to pre-existing debts of the bankrupt [like P&A costs are]. *See id*. at 437 (citing Reading Co. v. Brown, 391 U.S. 471, 483 (1968)). Though the court referenced this case, it held that P&A costs did qualify as administrative expenses and granted that priority on this occasion. *See id.* at 439.

89. *See id.* at 436, 439. *Texas v. Lowe* makes it clear that the definition of what qualifies as an administrative expense is fluid and fact-specific. This court itself even refrained from determining whether post-petition P&A costs qualified and only characterized the pre-petition debts as such. *See id.*

90. See 7 U.S.C. § 727, on the types of debts that may be dischargeable. *See also* 11 U.S.C. § 1141 (discussing the effect of a judge approving a liquidation plan).

91. *See, e.g.*, Ohio v. Kovacs, 469 U.S. 274, 275 (1985).

regulatory system governing oil-well decommissioning creates a moral hazard by excessively shielding oil companies from financial risks associated with their actions. It also fails to correct the problems associated with oil companies internalizing the full social costs of orphaned wells. Fortunately, as political support for climate change remediation grows under this new presidential administration, new opportunities to overcome the political rent seeking and regulatory capture problems that have long perpetuated these policy failures are coming into existence. Ideally, this support will spark reform of well-abandonment laws and trigger the institution of more effective regulatory structures.[92]

Negative externality problems arise in the oil-well decommissioning context whenever an oil company is able to avoid bearing the full cost of its failure to plug an abandoned well. In short, unless oil companies internalize the costs they impose on society from such actions, they are incentivized to under-protect against well-abandonment-related risks.[93] The regulatory structures currently in place throughout much of the U.S.—with their inadequate bonding requirements and soft bankruptcy provisions for oil companies—have created market failure within the oil industry. These existing regulatory regimes have also produced moral hazard problems. Namely, some oil companies drill excessive numbers of wells without adequate funding reserved to plug them because of a reliance on the protection afforded to them by the Bankruptcy Code against the consequences of such risky actions.[94]

To correct the deficiencies in the state and federal regulations, which have fueled the nation's orphaned-oil-well problem, policymakers must find ways to ensure oil companies internalize more of the costs of

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92. On his Inauguration Day in 2021, President Biden rejoined the Paris Climate Agreement through Executive Order. Other environmental Executive Orders since signed have already strengthened methane emissions standards in the U.S., although rent-seeking activities and political influence by oil industry stakeholders have continued to keep state and federal bonding requirements excessively low. *See* Jonathan Baert Wiener, *On the Political Economy of Global Environmental Regulation*, 87 GEO. L.J. 749, 754–58 (1999) (describing political rent seeking in the environmental context).

93. *See* Richard A. Epstein, *Positive and Negative Externalities in Real Estate Development*, 102 MINN. L. REV. 1493, 1496–97 (2018).

94. *See* Mollie Lee, *Environmental Economics: A Market Failure Approach to the Commerce Clause*, 116 YALE L.J. 456, 477–80 (2006) ("From an economic perspective, environmental damage can often be explained as the inefficient use of environmental goods due to market failure . . . . The public good nature of many environmental assets is another cause of environmental market failures . . . . [T]he net effect of a series of decisions can lead to unsustainable use that has both public and private consequences.").

abandoned wells and bear more of the financial risks associated with well abandonment. The following subsections contain several potential policy strategies aimed at reforming oil-well-abandonment laws with these primary goals in mind.

A. Bonding Requirement Increases and Other Risk Reallocation Strategies

One obvious strategy for ensuring oil companies internalize more of the costs of well-plugging is to significantly increase minimum decommissioning bond amounts for oil wells across the country. Such bond increases would mitigate the negative externality problems associated with well drilling by ensuring oil companies bear more of the abandonment costs up front. Increasing bond requirements could also help limit the moral hazard problems associated with well abandonment by exposing oil companies to the inevitable financial consequences following risky oil-well-development behavior.

In addition to raising minimum bond amounts, policymakers can attempt to mitigate these problems by collecting more P&A funds from oil companies while the companies are still solvent. Reforms and expansions of pre-production P&A funding programs could help ensure that state and federal agencies have a greater requisite funding available for P&A when wells are orphaned by bankrupt companies. New built-in mechanisms, such as periodic inflation adjustments, can ensure that the actual P&A costs are reflected in bonding fee structures over time. However, updating bond minimums to more effectively serve their intended function requires more than simply adjusting bonds based on the inflation rate. In recent decades, the oil industry's rent-seeking activities stifled efforts to introduce more appropriate bonding policies.[95] Ideally, governments would resist this influence and more intently take market conditions and rising prices of materials into account when setting and adjusting pre-production oil drilling fees over time. Instead, the trend often maintains a strategy of attempting to collect these rising costs from oil companies that have already declared bankruptcy.[96]

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95. *See, e.g.*, Groom, *supra* note 22 ("Oil-industry lobbyists have been fighting state and federal efforts to increase the bonding, arguing it would hurt jobs and economic growth during an already tough time for the industry.").

96. *See* Hager & Shaw, *supra* note 72.

1. Allocating More Royalties to Well-Plugging Funds

Two straightforward ways to increase solvent oil companies' contributions to government P&A work are to either increase oil production royalty rates or allocate more of all collected royalties directly to oil-well P&A funds. In 2019 alone, the federal government collected approximately $2.931 billion in oil royalties from federal lands.[97] Texas, the nation's leading state in oil production, separately collected approximately $2.2 billion in state-level oil royalties.[98] Like all other oil and gas policies, federal and state royalty collection rates vary greatly as do the rules for allocating those revenues. At least at the federal level, however, the royalty rate set in a lease agreement may only be adjusted downward and never upward.[99] Accordingly, collecting additional royalties under existing federal oil and gas leases to help fund P&A would be difficult. This industry-friendly prohibition on upward adjustments of royalty rates is particularly concerning as the BLM's standard royalty rate is just 12.5%, an amount that has remained unchanged since 1920.[100] Texas, by contrast, currently has an average royalty rate of 20–25% despite its regulatory minimum rate being 12.5%.[101]

Another likely obstacle to allocating royalties to P&A funds is that most states' royalty revenues are already earmarked for other purposes. Texas, among other states, currently uses royalty revenues as a major funding source for public education.[102] For Texas alone, this amounted to

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97. *See* BRANDON S. TRACY, CONG. RSCH. SERV., R46537, REVENUES AND DISBURSEMENTS FROM OIL AND NATURAL GAS PRODUCTION ON FEDERAL LANDS 13 (2020), https://crsreports.congress.gov/product/pdf/R/R46537 [https://perma.cc/D34U-8QHK].

98. *See* TEX. OIL & GAS ASS'N, ANNUAL ENERGY & ECONOMIC IMPACT REPORT 2019 3 (2020), http://docs.txoga.org/files/1464-economic-impact-report-1.14.20.pdf [https://perma.cc/YHQ3-CG8U].

99. *See* 30 C.F.R. § 1202.52 (2021).

100. *See* Nicole Gentile, *Federal Oil and Gas Royalty and Revenue Reform*, CTR. FOR AM. PROGRESS (June 19, 2015, 12:01 AM), https://www.americanprogress.org/issues/green/reports/2015/06/19/115580/federal-oil-and-gas-royalty-and-revenue-reform/ [https://perma.cc/3MQE-PURS]; *see also* 43 C.F.R. § 3103.3-1.

101. *See* TEX. NAT. RES. CODE ANN. § 52.022 (Vernon 1993); *see also Overview*, TEX. GEN. LAND OFF., https://www.glo.texas.gov/energy-business/oil-gas/mineral-leasing/overview/index.html [https://perma.cc/MP5S-P6SN] (last visited Sept. 6, 2021).

102. *See* Edith Camargo-Renteria, *Texas Oil and Gas Industry Breaks Historical Records, Fills State Coffers*, ENERGY DEPTH TEX. (Jan. 17, 2020), https://www.energyindepth.org/texas-oil-and-gas-industry-breaks-historical-records-fill s-state-coffers/ [https://perma.cc/FX3G-BW9V].

$2.1 billion in 2019.[103] Tying public education funding to the oil industry surely increases regulatory capture risks for oil companies in the state. Boom-and-bust oil towns like those in western Texas that use tax revenue and royalties for their education system would likely prefer that the money goes to their budgets rather than toward plugging abandoned wells.

A strategy to redirect more federal oil royalties toward P&A funding would face similar politically motivated challenges. Royalties collected by the Office of Natural Resources Revenue are disbursed to a variety of parties and interests, including states, the Reclamation Fund, the BLM Permit Processing Improvement Fund ("PPIF"), and the Treasury General Fund ("TGF").[104] The Reclamation Fund was established in 1902 to support irrigation systems in western states and is completely unrelated to oil-well reclamation efforts.[105] To reallocate federal oil royalties to P&A funding, the path of least resistance may lie in reducing disbursements to the TGF. As the name suggests, revenues placed in the TGF are not earmarked for any specific purpose, so their allocation should not generate contentious debates comparable to those surrounding Texas's public education funding. In 2019, approximately $444 million was disbursed to the TGF from oil royalties.[106] Reallocating some percentage of such revenues to a specific P&A fund rather than the TGF, while not a complete solution, would be a productive start toward raising the substantial funding needed to plug orphaned wells on federal lands across the country.

2. Creating Additional Fees to Fund Well-Plugging

Adding new standard provisions to future federal oil and gas leases requiring periodic P&A-fund fee payments could serve as another efficient mechanism to collect the requisite funding from oil companies. Funds generated from such fees could be specifically allocated to cover future P&A costs inherited by the federal government from bankrupt oil companies. Industry resistance to these new fees may be mitigated if a portion of the fee was refundable once an oil company properly plugged and decommissioned its wells. Such an approach may potentially deter oil companies from evading P&A responsibilities.

One strategy proposed by the Government Accountability Office (GAO) is to raise P&A funding amounts by introducing one-time or

103. *See id.*
104. *See* TRACY, *supra* note 97, at 15.
105. *See id.* at 10 n.47.
106. *See id.* at 15.

conditional oil-drilling fee structures for that purpose.[107] The GAO, arguing that the BLM has the authority to impose and collect such fees under the Energy Policy Act of 2005—a claim the BLM openly disputes—has recommended to both increase drilling application fees and to assess a new annual fee on inactive wells.[108] According to the GAO, implementing these fees could raise enough funds to plug existing orphaned wells and at-risk wells in approximately ten years.[109] However, calls for such an approach would surely face strong political opposition from the oil industry. Relying solely on this approach would likewise preclude the federal government from getting ahead of the pace of wells becoming orphaned, especially in the wake of 2020's influx of orphaned wells and the potential for many more due to the impending energy transition. Such a one-time fee would also fail to prevent new wells from becoming orphaned or provide a sustainable source of income for oil companies or the appropriate regulatory body to address the issue over the long term.[110]

A combination of new drilling application fees and periodic fees based on a well's "active" status could create a greater capacity to collect the necessary funding. Drilling application fees, as suggested by the GAO, would be immediately payable to the BLM for plugging already-orphaned wells.[111] Then, if a fee of a few hundred dollars per year was assessed on each active well and placed into a trust, contingency funds could

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107. *See* GAO-19-615, *supra* note 15, at 22 ("According to BLM data, the agency processes more than 3,500 applications to drill each year, on average, and has over 14,000 inactive wells. Based on our calculations, a separate fee of about $1,300 charged at the time a drilling application is submitted (in addition to the current drilling application filing fee, which is $10,050), or an annual fee of less than $350 for inactive wells could generate enough revenue to cover, in a little over a decade, the entire $46 million potential reclamation costs field offices identified to us.").

108. *Id.* at 21–22 ("The Energy Policy Act of 2005 (EPAct 2005) directs Interior to establish a program that, among other things, provides for the identification and recovery of reclamation costs from persons or other entities currently providing a bond or other financial assurance for an oil or gas well that is orphaned, abandoned, or idled…In commenting on a draft of this report, BLM stated that it does not have the authority to seek or collect fees from lease operators to reclaim orphaned wells.").

109. *See id.* at 22.

110. *See id.* The one-time fee suggested by the BLM would help reclaim old wells, but the backlog of existing orphaned wells is considerable. Likely, a one-time fee would be unable to prevent new wells from becoming orphaned based upon these pre-existing abandoned wells, and the funds would run out before any newer abandoned wells could be addressed.

111. *See id.*

accumulate and help cover the costs of decommissioning future orphaned wells.

3. Implementing New Bond Minimums and Eliminating Blanket Bonds

Discontinuing the option of blanket bonds for all new oil-drilling permits would further address the externality and moral hazard problems that contribute to the high rates of oil-well abandonment. Blanket bonds rarely account for the full cost of reclaiming every well covered. Some states even allow for blanket bonds not calibrated based on the number of wells and instead use broad categories ranging from one to ten wells, ten to one hundred wells, and so on.[112] This imprecise bonding approach magnifies moral hazards as oil companies know they likely will never have to pay the full cost to remediate sites if excessive risk-taking ultimately plunges them into insolvency. Increasing minimum bond amounts can be an effective strategy only if such amounts are high enough to cover P&A expenses for every well under a given bond. Achieving this objective without discontinuing the use of blanket bonds will be very difficult. North Dakota is currently the only state that even sets a *limit* on the number of wells their statewide bonds can cover—up to six. However, oil companies operating in North Dakota may still purchase as many six well bonds as they desire.[113] The BLM and other states currently have no such limits in place. Eliminating blanket-bond structures and mandating single-well bonds would create a relatively simple way to address this under-bonding problem.

State blanket bonds have proven to be inadequate in mitigating the Bankruptcy Code's shortcomings in addressing abandoned wells. For example, in Texas, a blanket bond for a small oil producer with ten or fewer wells is just $25,000, yet actual P&A costs have an estimated average of between $20,000–$30,000 *per well*.[114] Even more concerning are Texas's laws allowing for blanket bonds of just $250,000 for oil companies with 100 or more wells.[115] Under such laws, Texas oil producers that operate over 100 wells can do so while posting a total bond amount capable of covering P&A costs for only about 12 abandoned

112. *See* 16 TEX. ADMIN. CODE § 3.78(g)(1)(B) (2021).

113. *See* N.D. ADMIN. CODE 43-02-03-15.2 (2020).

114. *See* TEX. ADMIN. CODE § 3.78(g)(1)(B); *see also It's Closing Time: The Huge Bill to Abandon Oilfields Comes Early*, CARBON TRACKER INITIATIVE 10 (2020), https://carbontracker.org/reports/its-closing-time/ [https://perma.cc/JJ9B-UBKJ].

115. *See* TEX. ADMIN. CODE § 3.78(g)(1)(B)(iii).

wells.[116] Wyoming's blanket-bonding scheme is even more troublesome because it allows a single bond amounting to just $100,000 to cover as many wells as needed, regardless of depth or type.[117]

In light of the many disadvantages, blanket-bonding schemes ideally would be phased out and ultimately replaced with single-well bonding requirements with minimum amounts that cover the full reclamation and capping costs for every well. Such an updated scheme would also adjust minimum bonding amounts for inflation and possibly even follow the Wyoming model of adjusting every three years. Most states set single-well bonds at specific dollar amounts per foot, ranging from $2 in Texas to $10 in Wyoming.[118] Setting such amounts to continuously ensure adequate decommissioning funds are available for every well—though surely an unpopular proposition among oil companies—would act as a valuable guarantee the oil companies, and not taxpayers, pay to cap every well.

At the federal level, the BLM likewise should face the reality that nationwide blanket bonds are not a viable approach to securing adequate P&A funds. As of 2001, 65 of the 77 companies with nationwide bonds for production on Indian trust lands alone did not have adequate coverage for their wells.[119] Further, across those 77 blanket bonds, a liability of approximately $343.5 million existed for the BLM in potential reclamation costs.[120] Despite such clear data as far back as 2001, the BLM still has neither substantially modified nor eliminated its practice of issuing nationwide bonds. The Department of the Interior did not even contemplate the eradication of nationwide bonds in its 2001 recommendations to the BLM and Bureau of Indian Affairs.[121] As the oil and gas industry in the U.S. has expanded immensely in the last 25 years,

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116. *See id.* (detailing that an operator with 100 or more wells may aggregate the bond amount into a blanket bond covering all wells for the price of $250,000). Based on Carbon Tracker data indicating that the federal average cost for a regulator to reclaim a well is at least $20,000, the Texas blanket bond mechanism would only pay for 12.5 wells, reclaimed in full. This would still leave over 85 abandoned wells to leak methane into the environment, exacerbating the climate change issue and placing an even heavier burden on taxpayers to cover the unpaid costs associated with P&A. *See It's Closing Time: The Huge Bill to Abandon Oilfields Comes Early*, *supra* note 114.

117. *See* 055.0001.3 WYO. CODE R. § 4(b)(i)((B) (LexisNexis 2020).

118. *See id.* § 4(b)(i)(A)–(C); *see also* 16 TEX. ADMIN. CODE § 3.78(g)(1)(A).

119. OFF. INSPECTOR GEN., U.S. DEP'T INTERIOR, Report No. 01-I-421, SELECTED ACTIVITIES ON BONDING FOR OIL AND GAS LEASES ON INDIAN TRUST LANDS 6 (2001), https://www.govinfo.gov/content/pkg/GPO-DOI-IGREPORTS-01-i-421/pdf/GPO-DOI-IGREPORTS-01-i-421.pdf [https://perma.cc/2NG6-CFSW].

120. *See id.*

121. *See id.* at 6–7.

such bonding policies have required the BLM and taxpayers to take on the P&A liabilities of several bankrupt oil companies as oil's boom-and-bust nature continues.[122] At the very least, if nationwide bonds continue to be available, they should have much stricter regulations such as maximum numbers of covered wells and creditworthiness requirements for continued eligibility.

Federally implemented statewide bonds pose the same, if not even greater, risks as nationwide bonds. As of 2010, the BLM held 2,552 statewide bonds and 393 nationwide bonds.[123] While most statewide bonds do not cover as many wells as a typical nationwide bond, this high volume of statewide bonds creates immense risk. Even if each of these bonds ultimately required the BLM to incur the expense of decommissioning one abandoned well, the resulting cost to federal taxpayers would likely exceed $5 million.[124] Accordingly, a more thorough and critical reevaluation is needed to determine whether continuation of the current statewide bonds provides adequate protection against newly orphaned wells.

B. Bankruptcy Laws Should Prioritize Well-Plugging Obligations

Congress could also reform the Bankruptcy Code to help reduce the nation's growing orphaned-oil-well problem. Currently, the bankruptcy process prioritizes the restructuring of an oil company's assets over settling claims against the company for its environmental liabilities and liens. Under this prioritization approach, the oil company's creditors may recover more on their claims while the company's environmental liabilities are forced upon the state or federal government. With this structure, the financial risks associated with oil-well decommissioning in a boom-and-bust economy often lie more with the regulators and taxpayers than with the oil companies themselves.

If higher priority in bankruptcy was given to environmental remediation and well-plugging obligations, oil companies could be held responsible for excessive risk-taking that results in abandoned wells. Upon

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122. *See BLM Oil and Gas Bonding Rules Leave Lands a Mess and Taxpayers Responsible*, W. ORG. RES. COUNCIL, shttp://www.worc.org/media/2020.04-Oil-and-Gas-Bonding-Federal-vs-State-sm2.pdf [https://perma.cc/NM8D-4NWS] (last visited Oct. 7, 2021).

123. U.S. GOV'T ACCOUNTABILITY OFF., GAO-10-245, OIL AND GAS BONDS: BONDING REQUIREMENTS AND BLM EXPENDITURES TO RECLAIM ORPHANED WELLS 35 (2010), https://www.gao.gov/assets/310/300218.pdf [https://perma.cc/LRU7-LA78].

124. Even assuming a very low P&A cost of just $2,000 per well, the total cost would be (2,552 wells)*($2,000 per well) = $5,104,000.

filing a bankruptcy petition, oil companies often cannot be held fully liable for cleaning up well sites or capping abandoned wells.[125] If bankruptcy courts prioritized well-decommissioning obligations above most other claims, state and federal agencies could better ensure bankrupt companies assume those environmental liabilities. Amending Chapter 11 section 503 of the Bankruptcy Code could prioritize oil-well decommissioning and certain other specified types of environmental remediation obligations and create such enhanced enforcement through the administrative priority process.[126] Even a less aggressive Bankruptcy Code amendment through Chapter 11 section 554(a) that merely increases judges' discretion to prioritize the satisfaction of debtors' environmental obligations would help to address this problem.[127]

1. Environmental Liens in Oil and Gas Bankruptcy Proceedings Should Have Highest Priority

Oil companies' obligations to reimburse the costs incurred by state and federal government entities to fulfill neglected P&A obligations should also receive higher priority in bankruptcy proceedings. Existing Bankruptcy Code provisions do not afford super-priority to liens for well-remediation costs. The Code gives federal tax liens enhanced priority, yet provides no such advantage to the BLM for its claims seeking recovery of P&A costs. At the state level, such remediation liens do not receive priority until the post-petition stage because the state can argue the expenses are administrative liens or relate to work that increased a parcel's value and should thus be reimbursable.[128]

Ideally, government agencies seeking reimbursement of P&A costs for orphaned wells would be entitled to administrative expense priority for such claims from the beginning of an oil company's filing for bankruptcy.

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125. Under the Bankruptcy Code's automatic stay provisions, which halt any enforcement of liens or judgments unless otherwise permitted, enforcing the use of a bond to recover polluted lands is permissible only if the state effectively argues that it is exercising police and regulatory power. Outside of that context, the exception to the automatic stay provisions that enables bond money to be used for its actual purpose rather than going to the estate is often not available. *See* Safety-Kleen, Inc. (Pinewood) v. Wyche, 274 F.3d 846, 864–66 (4th Cir. 2001).

126. *See* 11 U.S.C. § 503 (speaking to the requirements for filing an administrative expense claim to recoup costs expended to preserve an estate).

127. *See id.* § 554(a) (addressing how a trustee may abandon property of an estate if it is burdensome to the estate).

128. *See In re* Am. Coastal Energy Inc., 399 B.R. 805, 811 (Bankr. S.D. Tex. 2009).

Presently, agencies may only request such administrative priority through a filing after the bankruptcy proceeding is already underway. Today, a state agency's claim to recover costs of plugging wells for an insolvent oil company during a bankruptcy proceeding is typically unsecured.[129] To enable these claims to qualify for administrative expense priority under the Bankruptcy Code, state legislatures must update statutory laws to specify that compliance requirements exist even before bankruptcy petition filings and stipulate that non-compliant wells have long-term environmental effects exceeding present financial constraints.[130] The "from the moment of filing" structure and resulting higher priority would help make it more difficult for oil companies to discharge well-remediation-related claims in bankruptcy.[131]

Existing allowances for post-petition priority under the Bankruptcy Code offer a possible avenue for gaining priority but are ultimately insufficient to ensure oil companies bear their decommissioning obligations. Under today's post-petition priority rules, a state agency may file P&A obligations as an administrative expense and potentially receive priority status for certain liens as a later creditor in bankruptcy.[132] These liens may relate to the remediation costs *already incurred* by the state and attach to the property underlying the remediated site or to the equipment

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129. *See id.* at 807.

130. *See id.* (holding that an oil company's obligation to expend funds to bring the estate into compliance with state health and safety law is not contingent upon whether the obligation arose before or after the bankruptcy filing and noting that, because state law imposes a continuing duty to plug the wells at issue and thereby makes expenditures necessary to conform with those laws actual and necessary costs of preserving the estate, such obligations are entitled to administrative expense priority).

131. An alternative way to address under-bonding risks and to prevent oil companies from evading decommissioning obligations through bankruptcy would be to create a government-supported insurance policy program and require oil companies to purchase such insurance as a condition to receiving well permit approvals. Such a requirement could specify how to calculate the required amount of insurance based on the number of permitted wells, the ages and types of the wells, and other factors. As other commentators have noted, these insurance plans would ensure that, if a company files for bankruptcy, government agencies could still recover reimbursements for decommissioning costs. *See* David A. Dana & Hannah J. Wiseman, *A Market Approach to Regulating the Energy Revolution: Assurance Bonds, Insurance, and the Certain and Uncertain Risks of Hydraulic Fracturing*, 99 IOWA L. REV. 1523, 1593 (2014); *see also* Hager & Shaw, *supra* note 72.

132. *See In re* ATP Oil & Gas Corp., No. 12-36187, 2013 WL 3157567 (Bankr. S.D. Tex. June 19, 2013).

left on the site.[133] In these situations, however, the state restoration lien may only allow for recovery of the value added to the real property through reclamation of the site.[134] While these types of environmental liens are a commendable start, they rarely allow for full recovery of an agency's actual capping cost.[135] Providing for guaranteed administrative priority would thus more effectively ensure the recovery of P&A costs by establishing a perfected lien against the bankrupt party.[136] Accordingly, even states that already award post-petition administrative expense priority for P&A costs should also designate claims seeking reimbursement of such costs as receiving pre-petition administrative priority.[137]

Greater prioritization of P&A-cost liabilities could also be provided through codified changes to Chapter 11 of the Bankruptcy Code that will establish general statutory priority for environmental remediation and climate-change-related obligations over financial considerations. Codifying such priority rules for environmental claims would enable judges and trustees to advocate for more favorable treatment of a wider range of environmental claims, including those for oil-well-decommissioning costs. The Bankruptcy Code's current structure pushes P&A expenses onto government agencies with a hope that through civil remedies and fines they may recoup their costs post-bankruptcy petition.[138] If Bankruptcy Code provisions were amended to require that judges incorporate climate-related environmental issues into their decisions, these agencies would have a greater likelihood of actually recovering the full costs they expend to cap orphaned wells.

Amending the Bankruptcy Code to reclassify unfulfilled oil-well-remediation obligations as fines rather than debts would be another way to hold oil companies accountable for orphaned wells. Claims for expenses incurred by government agencies that plug abandoned wells are currently classified as dischargeable debts.[139] However, if Congress revised Chapter 11 of the Bankruptcy Code to classify such expenses as fines and penalties for preserving the estate, the trustee would be unable to discharge those debts and would need to ensure repayment through the liquidation or

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133. *See* N.D. CENT. CODE §§ 38-08-04.8–.9, .12 (2021).

134. *See* WYO. STAT. ANN. § 35-11-1206 (2021).

135. *See* Hager & Shaw, *supra* note 72.

136. *See In re* Nordyke, 43 B.R. 856, 863–64 (Bankr. D. Or. 1984).

137. *See In re* Am. Coastal Energy Inc., 399 B.R. 805, 811 (Bankr. S.D. Tex. 2009).

138. *See* Trawick, *supra* note 66, 405–06.

139. *Id.* at 385; *see also In re* Nat'l Gypsum Co., 139 B.R. 397 (Bankr. N.D. Tex. 1992).

restructuring process.[140] Such revisions would codify a new standard for bankruptcy judges and replace the array of conflicting holdings currently plaguing this issue.[141]

2. Creating Policy That Reconciles Environmental Statutes with the Bankruptcy Code

Lastly, Congress could amend the Bankruptcy Code to provide judges clearer guidelines for resolving conflicts between environmental statutes and the Code. These conflicts have historically fueled inconsistencies and confusion in their application, which hampers environmental enforcement against oil companies. As a public policy matter, conserving oil and gas and consistently enforcing the duties and obligations of oil- and gas-well operators would promote greater economic stability, protect environmental assets, and improve public health.[142] However, the primary focus of most bankruptcy trustees and judges is prioritizing the restructure of companies to maintain their business operations. If judges were expressly required under the Bankruptcy Code to prioritize public health and environmental interests over business preservation, bankrupt oil companies would be held more accountable for their excessive risks and neglect of their P&A obligations.

One potential way to reconcile the public policy goal of well remediation is through amendments to the public safety provisions of the Bankruptcy Code. Under Chapter 11 section 544(a) of the Code, a trustee may not abandon property if abandonment would interfere with state statutes or regulations designed to protect public safety.[143] This provision dissuades companies from petitioning to abandon certain property if public safety is threatened. Under this abandonment limitation, a bankrupt party cannot abandon property, and creditors may not be paid until the debtor develops conditions to adequately protect the public's health and safety.[144] This provision is presently incompatible with environmental policy concerns, however, because existing case law has not established

140. *See* Cumberland Farms v. Fla. Dep't of Env't Prot., 116 F.3d 16 (1st Cir. 1997).

141. *Compare In re* Chateaugay Corp., 944 F.2d 997, 1009–10 (2d Cir. 1991) (finding that certain fines and penalties are not dischargeable claims), *with In re* Exide Techs., 613 B.R. 79, 81 (Bankr. D. Del. 2020), *appeal filed*, No. 20-1858 (3d Cir. Apr. 23, 2020) (holding that fines and penalties were dischargeable claims).

142. *See* Pro Gas, Inc. v. Har-Ken Oil Co., 883 S.W.2d 485, 487 (Ky. 1994).

143. Midlantic Nat'l Bank v. N.J. Dep't of Env't. Prot., 474 U.S. 494 (1986).

144. *In re* Venoco, LLC., 572 B.R. 105 (Bankr. D. Del. 2017).

that climate change, methane emissions, or abandoned wells constitute an "imminent and identifiable harm."[145]

Until Congress amends the Bankruptcy Code to expressly afford higher priority to oil-well decommissioning and other environmental remediation claims, judicial decisions could gradually elevate the importance of environmental issues. Methane emissions pose a significant danger to the public, and when a debtor's estate contains uncapped wells, the debtor is noncompliant with those regulations and endangers the public and the environment.[146] Following this rationale, judges could limit those dangers by treating climate change mitigation as a more important factor in bankruptcy proceedings. All state and federal laws require inactive wells to be capped after a period of time, and as failure to do so violates those laws in ways that threaten public safety, this topic arguably deserves heightened attention in bankruptcy proceedings.[147] Advancing such arguments in bankruptcy case law could be an additional way to help move the needle toward more consistent and effective enforcement against well abandonment by insolvent oil companies.

CONCLUSION

Oil-well abandonments have been rapidly increasing across the U.S. and could escalate further in the coming years as electrification of the nation's transportation system gradually reduces oil and gas demand. Unless governments find better ways to deter oil-well abandonments, harmful methane emissions from orphaned wells will continue to rise. Fortunately, as highlighted in this Article, there are policy strategies available capable of confronting the nation's growing orphaned-well problem. Any optimal set of policies aimed at reducing well abandonment needs two main features: (1) the policies must collect much larger payments from oil companies up front while still solvent to fund the capping of abandoned wells, and (2) the policies must also make it more difficult for oil companies to escape well-plugging obligations through bankruptcy protections. Achieving such reforms will be difficult given the

145. *See id.* at 114–15 (holding that "abandonment power is not to be fettered by laws or regulations not calculated to protect the public health or safety from imminent and identifiable harm" and that, if no evidence is provided showing how the presence of certain materials can or will affect the public health or safety, a finding of imminent harm will not be made).

146. *See Pro Gas, Inc*., 883 S.W.2d at 487.

147. *See In re* Am. Coastal Energy Inc., 399 B.R. 805, 811 (Bankr. S.D. Tex. 2009) (holding that debtors in possession must manage the bankruptcy estate in compliance with state and federal environmental and safety laws).

oil industry's formidable political strength and long history of influence on its own regulatory structure. However, with renewable energy technologies and electric vehicles becoming ever-more affordable and popular, there has never been a better time to pursue these changes. By aggressively remediating existing orphaned-oil wells and preventing additional well abandonments, today's policymakers can advance the nation toward a day when former oil-well sites are nothing more than innocuous relics of a distant past.