

FOSSIL FUELS, TAKINGS, AND RAWLSIAN JUSTICE

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ABSTRACT

Effective regulation of the fossil fuel industry is a difficult problem, made more complicated by the possibility that such regulation may be interpreted as a taking under the 5th Amendment. This means that any potential regulation of fossil fuel extraction potentially exposes the federal government to large financial liability. This Note will demonstrate why John Rawls's Theory of Justice ought to inform the measure of compensation for takings. Then it will apply Rawls and the existing takings cases to show that the value of fossil fuel deposits for the purposes of compensation for a taking should be zero.

INTRODUCTION

One of the most pressing public policy concerns in the United States is curtailing emissions from fossil fuels. The President-Elect at the time of writing, Joe Biden, has an ambitious climate plan that will address emissions, among other issues.¹ However, one difficulty unaddressed by these plan is the potential compensation that the federal government might have to pay to owners of fossil fuel deposits and infrastructure, who may claim that regulation involved constitutes a regulatory taking.² The Takings Clause of the Fifth Amendment prevents the federal government from

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1. Juliet Eilperin, Dino Grandoni & Darryl Fears, *A Biden Victory Positions America for a 180-Degree Turn on Climate Change*, WASH. POST (Nov. 7, 2020, 7:59 PM), <https://www.washingtonpost.com/climateenvironment/2020/11/07/biden-climate-change-monuments/> [<https://perma.cc/4DGV-LZT9>]. Joseph Biden's climate plan includes measures to "restrict oil and gas drilling on public lands and waters; ratchet up federal mileage standards for cars and SUVs; block pipelines that transport fossil fuels across the country; provide federal incentives to develop renewable power; and mobilize other nations to make deeper cuts in their own carbon emissions" alongside a vow to eliminate carbon emissions from the private sector by 2035. *Id.* While it is unlikely that all of these policy proposals will be fully carried out, they are indicative of the urgency that political leadership feels towards addressing climate change.

2. A regulatory taking is a taking that occurs "when the value or usefulness of private property is diminished by a regulatory action that does not involve a physical occupation of the property." 26 AM. JUR. 2D *Eminent Domain* § 11 (2020). A non-regulatory taking is the classic case of eminent domain, where the government takes title to or physically invades private property. For more information, see *infra* text accompanying notes 66–71.

taking “private property . . . for public use, without just compensation.”³ The value allegedly lost due to regulatory takings, or even outright takings, would be calculated by reference to the fair market value of the assets or infrastructure.⁴ This would be potentially ruinously expensive; the value of the fossil fuel sector is enormous, with the United States predicted to produce over 11.1 million barrels of crude oil daily in 2021 at an average predicted market price of \$42.00 per barrel.⁵ Economist Bård Harstad has shown that buying and sitting on fossil fuel deposits is an effective way of preventing fossil fuel extraction. If regulators adopt this tactic to fight climate change by purchasing fossil fuel-bearing property, the cost to taxpayers would be prohibitive due to the high market value of these properties.⁶

This note will argue that just compensation for both regulatory and non-regulatory takings of land bearing fossil fuel deposits should not consider the market value of the fossil fuels that could be extracted. Instead, landowners should be compensated merely for the value of the land had it not been used for fossil fuel extraction. Two different justifications for the exclusion of fossil fuel deposits from takings claims will be advanced. First, that the value of fossil fuel deposits ought to be reduced by permissible but unenacted regulations imposed by the state, such as bans on fossil fuel extraction or anti-pollution measures. These reductions should be based on externalities created by the extraction, transport, and burning of fossil fuels for power generation. After these reductions, the real market value of fossil fuels should effectively be zero. Second, that the separable interest in fuel deposits is not an interest that ought to inhere in the title to the land in the first instance. Using land for fossil fuel extraction is so dangerous that it conflicts with the background law of nuisance and the state police power.⁷

While fossil fuel deposits may be valued by the market at certain prices, this does not account for negative externalities produced by extraction and burning. The government should not be forced to compensate individuals for the inflated value of fossil fuel deposits merely because it failed to adequately regulate their extraction in the past.⁸ Additionally, this note will

3. U.S. CONST. amend. V.

4. *Olson v. United States*, 292 U.S. 246, 255 (1934).

5. *Short Term Energy Outlook*, U.S. ENERGY INFO. ADMIN. (Oct. 2020), https://www.eia.gov/outlooks/steo/pdf/steo_full.pdf [<https://perma.cc/3UVT-S7LW>].

6. Bård Harstad, *Buy Coal! A Case for Supply-Side Environmental Policy*, 120 J. POL. ECON. 77, 83 (2012).

7. See *infra* Section IV, text accompanying notes 59–62 for a discussion of the background principles of nuisance as articulated in the *Lucas* decision.

8. The market price of fossil fuels continues to soar even as the externalities of anthropogenic climate, air pollution, and habitat destruction continues unabated. These negative externalities are not

argue that physical takings and the retention of title to fossil fuel deposits by the state is more effective and desirable as a long-term goal than the banning or harsh regulation of fossil fuel extraction. If the state holds title, backsliding and deregulation of the fossil fuel industry under the influence of large corporations and special interest groups is far less likely.⁹ These arguments will be advanced under a Rawlsian theory of justice as fairness, which privileges the maximization of liberty for all members of society. This Note acknowledges that large losses will be borne by those with a reliance interest in the extraction of fossil fuels due to eminent domain or regulatory takings, given that large tracts of land will be far less valuable. However, the above arguments will demonstrate that this loss is best borne by those owning the fossil fuel deposits, rather than saddling the public with the losses caused by allowing an industry unable to internalize its externalities to function.

Section I outlines the Rawlsian theory of justice as fairness and its advantages in crafting a takings jurisprudence. Section II defines “property” and takings under the Fifth Amendment. Section III analyzes the various theoretical justifications for compensation in eminent domain. Section IV examines the application of *Lucas v. South Carolina Coastal Council* and the justification of permissible but unenacted regulations regarding fossil fuel extraction. Section V illustrates the externalities of fossil fuel extraction and power generation, while Section VI applies the above arguments and explicates why, under the Rawlsian conception of justice, the public ought not bear the cost of fossil fuel extraction.

I. RAWLSIAN THEORY: JUSTICE AS FAIRNESS

To assess what just compensation should be for a taking, it is first necessary to define “justice.” This note adopts a Rawlsian view of justice,

factored into the market price of fossil fuels, rendering them an underpriced good. One of the ways in which the state can correct for market failures and the failure to internalize externalities is by regulation or taxation. However, the United States has historically failed to regulate fossil fuel emissions or extractions to the degree necessary to incorporate those externalities. Not only that, but the federal government has also engaged in massive direct subsidies for the fossil fuel industry. Thus, the market price of fossil fuels is entirely disconnected from what their actual value would be in a functional market. See *Global Assessment Report on Biodiversity and Ecosystem Services*, INTERGOVERNMENTAL SCI. POL’Y PLATFORM ON BIODIVERSITY & ECOSYSTEM SERVS. (CH. 2.1) 72, https://ipbes.net/system/tdf/ipbes_global_assessment_chapter_2_1_drivers_unedited_31may.pdf [<https://perma.cc/XZE2-Q5KV>] (working draft).

9. While the reselling these lands to private developers is a real possibility, this Note contemplates an administration which is already committed to curtailing fossil fuel extraction. As well, the taking of lands would deal a substantial financial blow to fossil fuel producers, potentially reducing the parties with the capital and expertise to effectively utilize the land even in the event of a policy reversion towards fossil fuel extraction.

as advanced in his seminal work *A Theory of Justice*. To Rawls, the purpose of a theory of justice is assigning rights and duties, as well as the benefits and burdens of social cooperation.¹⁰ The theory he advances specifically draws upon and attempts to further abstract conceptions of the social contract exemplified by the theories of John Locke, Rosseau, and Immanuel Kant.¹¹ One of Rawls's principal aims is to provide a workable moral theory that relies on neither intuition nor the concept of utility, which Rawls believes is greatly lacking in modern moral philosophy.¹² This makes a Rawlsian approach particularly valuable in the law, as its aim is to construct a system which relies on Kantian social contract theory and produces concrete rules.¹³ A Rawlsian jurisprudence prefers concrete rules, rather than ad-hoc determinations of utility or the moral intuition of judicial decisionmakers.¹⁴ This focus on concrete rules increases legal certainty, which is always highly desirable and often difficult to obtain.¹⁵ Rawls's theory has a strong history in American jurisprudence; while he only published his *Theory of Justice* in 1971, analogous principles have guided American jurists such as Chief Justice Earl Warren and Chief Justice John Marshall.¹⁶

Rawls proceeds from the assumption that the first aim of a system of law or institution must be Justice.¹⁷ If a law or institution is unjust, no matter how elegant, traditional, or useful, it must be discarded.¹⁸ For this reason, a system of laws that violates rights is unacceptable, even if it serves the whole of society.¹⁹ This reliance on axiomatic and inviolable rights shows the fundamentally Kantian roots of Rawls's theory. While the utilitarian outcomes of actions can be considered, it is impermissible to do things that are categorically unjust merely to serve the public interest.

Rawls's theory also posits that a society organized in service of justice will always experience conflict over how the principles of justice ought to be determined. While "a society is a cooperative venture for mutual

10. JOHN RAWLS, *A THEORY OF JUSTICE* 4–5 (rev. ed. 1999) (1971).

11. *Id.* at 10.

12. *Id.* at xvii–xviii.

13. *Id.*

14. *Id.*

15. See generally James R. Maxeiner, *Legal Certainty: A European Alternative to American Legal Indeterminacy?*, 15 *TUL. J. INT'L & COMPAR. L.* 541 (2007).

16. See generally Michael Anthony Lawrence, *Justice-as-Fairness as Judicial Guiding Principle: Remembering John Rawls and the Warren Court*, 81 *BROOK. L.REV.* 673 (2016).

17. Rawls describes justice as "the way in which the major social institutions distribute fundamental rights and duties and determine the division of advantages from social cooperation." RAWLS, *supra* note 10, at 6.

18. RAWLS, *supra* note 10, at 3.

19. *Id.*

advantage, it is typically marked by a conflict as well as by an identity of interests.²⁰ This conflict results from asymmetrical distribution of the benefits of social cooperation; each individual member of a society naturally prefers to receive a larger share of any gains from social cooperation.²¹ The purpose of the principles of justice is to find some way to adjudicate conflicts between these competing interests and the burdens associated with them.²² Rawls says that in any society, the principles of justice will be an object of contention. When determining which principles of justice one should adhere to, it is preferable to choose the one that produces the best outcomes or has the most desirable consequences.²³

Rawls does state some limitations on his theory of justice. First, his theory does not attempt to provide an explanation for non-distributive situations, or situations which are not concerned with how resources or rights are allocated between two or more parties.²⁴ Second, his theory considers only systems that have perfect compliance with law and the orders of judges.²⁵ These limitations do not hamper the theory when analyzing takings jurisprudence. On the contrary, the takings problem is the perfect arena for the application of justice-as-fairness. Ultimately, takings are a distribution problem. A takings system determines on whom the burdens of a policy regulating or seizing property fall, private citizens or the state. As a highly ordered system administered primarily by federal judges bound by *stare decisis*, there is practically 100% compliance with court orders and the rules of decision set out by the Supreme Court.

When determining principles of justice, Rawls relies on the “veil of ignorance” as a starting point.²⁶ The “veil of ignorance” is a method of determining the morality of an issue. In this method, a theoretical person imagines themselves in a position where they do not know their own social station, economic status, or other unique characteristics.²⁷ Through this thought experiment, a decisionmaker ought to arrive at position-neutral principles of justice that would result from a fair bargain.²⁸ From this position of ignorance, all members of society would make proposals, bargain, and argue over the correct principles to adopt. Rawls argues that

20. *Id.* at 4.

21. *Id.*

22. *Id.*

23. *Id.* at 6.

24. Rawls's theory is only relevant when considering situations dealing with the apportionment and distribution of rights. *Id.*

25. *Id.* at 8.

26. *Id.* at 10.

27. *Id.*

28. *Id.*

this original position is likely to result in the creation of a society which distributes burdens and benefits fairly and in the interest of justice.²⁹

Notably, a Rawlsian conception of justice does not rely on utilitarian considerations.³⁰ While benefits and costs are weighed, Rawls says that it is “not just that some should have less in order that others may prosper.”³¹ Under a Rawlsian system, it is permissible for some individuals to be better situated, although not for one person or a group of persons benefit at the expense of the good of wider society. Most often, one person or a group of persons accumulate more capital due to a policy tradeoff that shifts the burden of some societal good from one party to another party that does not benefit from the good in question.³²

An important element of the veil of ignorance as a decision-making tool is its ability to avoid the advancement of personally advantageous but unjust rules that benefit certain individuals. Rawls uses the example of taxes that support welfare systems: if making decisions without the veil of ignorance, a wealthy person might propose that redistributive policies are unjust, knowing that the imposition of these taxes would injure them.³³ Parties with vested interests would propose irrational policies if there was any chance of success in their adoption. The veil of ignorance avoids this problem by ensuring that decision makers act as if they did not have knowledge of their position, and therefore are forced to consider the fairness of proposed rules to all stakeholders.³⁴

Rawls also assumes that, in the original position, all persons are equal.³⁵ Equality for Rawls is defined as an equal ability to make proposals and argue for their adoption.³⁶ All together, these characteristics of the original position behind the veil of ignorance define the “principles of justice as those which rational persons concerned to advance their interests would consent to as equals when none are known to be advantaged or disadvantaged by social and natural contingencies.”³⁷

29. *Id.* at 12.

30. *Id.* at xvii–xviii. Rawls points out that many of the preeminent modern moral philosophers have espoused utilitarian theories, and that his lack of reliance on utilitarianism differentiates his theory of justice from these philosophical projects.

31. *Id.* at 13.

32. Rawls allows for inequalities if they are to the advantage of the least advantaged members of society. In other words, if inequality means that those with less are better off than they would be if resources were equally distributed, inequality is acceptable. *Id.*

33. *Id.* at 17.

34. *Id.*

35. *Id.*

36. *Id.*

37. *Id.*

These characteristics make Rawlsian notions of justice especially appropriate in the judicial context. Equal protection under the law is an abiding ideal of the American judicial system. Despite imperfect implementation, the United States has endeavored to create a justice system that uniformly applies the law without regard to distinctions between individuals.³⁸ Thus, a Rawlsian notion of justice is a useful tool for crafting legal interpretations. If rules are made as if behind the veil of ignorance, without regard to judges' or litigants' positions, the outcome will maximize justice, rather than affording privilege based on owned capital. Rawlsian theory is essential to creating a just takings jurisprudence. A potential concern about takings is the risk of the state exploiting property owners by taking property for public use in order to serve policy objectives at the former owners' expense. A Rawlsian perspective fosters a takings jurisprudence that does not force private citizens to bear burdens "that rightfully should be borne by the public."³⁹

In a Rawlsian takings jurisprudence, the converse would also necessarily be true. Behind the veil of ignorance, no rational actor would choose to adopt an understanding of the Takings Clause that would allow individuals to force the public to bear the cost of an activity which rightfully should be borne by the individual. Making such a choice would be irrational, as disinterested individuals would hardly consider it a fair bargain to allow a small group of individuals to enrich themselves by forcing burdens onto the general public.⁴⁰ Thus, in a situation where not taking private property would result in the public bearing a burden that rightfully belongs to a private citizen, a taking would be appropriate and justified. A Rawlsian takings jurisprudence would not privilege prior ownership, nor would it allow individuals to shunt their burdens onto the public merely because they have acquired a property right. Instead, the court would determine whether compensation is fair and just for the whole of society, including the person

38. As Hamilton put it: "All men have one common original: they participate in one common nature, and consequently have one common right. No reason can be assigned why one man should exercise any power, or pre-eminence over his fellow creatures more than another; unless they have voluntarily vested him with it." Alexander Hamilton, *A Full Vindication of the Measures of the Congress*, NAT'L ARCHIVES, <https://founders.archives.gov/documents/Hamilton/01-01-02-0054> [<https://perma.cc/XG6U-HFWS>].

39. A Rawlsian justification is already partially embedded in takings jurisprudence, seen notably in *United States v. Armstrong*, 364 U.S. 40 (1960). In *Armstrong*, the court stated, "[t]he Fifth Amendment's guarantee that private property shall not be taken for a public use without just compensation was designed to bar Government from forcing some people alone to bear public burdens which, in all fairness and justice, should be borne by the public as a whole." *Id.* at 49. See *infra* text accompanying note 64.

40. This note assumes the rationality of individuals making choices behind the veil of ignorance, as Rawls does.

whose property is being seized. This is in stark contrast to the current takings jurisprudence regarding compensation, which is generally concerned with the notion of fairness to the property owner alone, rather than to society as a whole.⁴¹

These fairness concerns bear strongly on the choice of compensation in the event of a taking. If a seizure of private property by the state is classified as a taking, rather than an exercise of the police power, the public must bear the burden of compensating the individual from whom the property has been taken.⁴² The state must compensate individuals for takings out of government coffers, funded by tax contributions and bond purchases by the general public. Thus, if the state measure overcompensates or compensates a property holder for value that was created by an unjust situation, the public would bear this private burden twice.

II. WHAT IS TAKEN?

In order to more fully examine what might be “taken” through eminent domain or regulatory action of fossil fuel deposits, it is necessary to briefly summarize conceptual severance. Courts have applied “conceptual severance” to determine what has been taken by a given regulation. This began in *Pennsylvania Coal Co. v. Mahon*, where the Supreme Court recognized an interest in a support estate that was owned as part of the subsurface estate as a constitutionally protected property interest separate from ownership of the whole property.⁴³ Conceptual severance interprets a property right in a given thing as a “bundle of rights,” an “essentially abstract set of legal rights—usually with respect to tangible things.”⁴⁴ These rights are expressed not as relationships between an owner and the thing they own, but between the owner and other persons. Others owe duties to the owner vis-à-vis the owned object without a reciprocal duty on the part of the owner.⁴⁵ In this conception, it is possible to divide ownership of

41. “[T]he Fifth Amendment’s guarantee . . . [is] designed to bar Government from forcing some people alone to bear public burdens which, in all fairness and justice, should be borne by the public as a whole.” *Armstrong*, 364 U.S. at 49.

42. While the police power provides an alternative means to deal with fossil fuel extraction, justifying the widespread seizure of property without compensation would likely be politically infeasible. Even the minimal compensation that would be given after discounting the market value of fossil fuel extraction interests can make a taking more palatable than a seizure.

43. *Pennsylvania Coal Co. v. Mahon*, 260 U.S. 393, 414 (1922).

44. Courtney C. Tedrowe, *Conceptual Severance and Takings in the Federal Circuit*, 85 CORNELL L. REV. 586, 590 (2000) (citing RICHARD A. EPSTEIN, *TAKINGS: PRIVATE PROPERTY AND THE POWER OF EMINENT DOMAIN* 57–62 (1985)).

45. *Id.*

something, such as a piece of land, into multiple different property rights. Each of these property rights could potentially be taken by regulation.⁴⁶

The application of conceptual severance is relevant in this context because oil and gas extraction rights could be severed from the interest in the property itself and considered a separate, constitutionally protected right from the ownership of the land under which they lie. If a regulation removed the right to extract fossil fuels from a piece of land, it could be considered a taking of a protected property right. Additionally, the “value” of a piece of property may extend beyond the value of the land itself, as extraction rights for oil and gas may not lie directly underneath the property itself. This is because many U.S. states apply the “rule of capture” to oil and gas deposits.⁴⁷ Under the rule of capture, a landowner can acquire title to oil and gas extracted on their parcel even if the oil and gas had migrated to their land from adjoining parcels.⁴⁸ Thus, a regulatory taking or exercise of eminent domain could potentially require compensation not only for the value of the land itself, but also for the value of the right to extract gas and oil from adjacent parcels.⁴⁹

This note proceeds under the assumption that conceptual severance is not only possible, but necessary in order to consider the right to fossil fuel extraction. For many tracts of land bearing valuable natural resources, the tract’s market value may be almost entirely derived from the rights of mineral extraction that the property holder can transfer along with title to the land. For example, if there was no right to extract oil from land in North Dakota (which is sparsely populated and often contains little in the way of alternate economically beneficial uses), the land would be worth far less. In this case, the value of the land is almost entirely derived from the right to extract fossil fuels from it.

Additionally, the law already recognizes the ability to sever an interest in fossil fuel extraction from the land on which it is contained. Mineral leases and licenses for mineral exploration and extraction are very common in the United States.⁵⁰ Moreover, federal law recognizes the ability to

46. *Id.* at 593.

47. 58 C.J.S. *Mines and Minerals* § 180 (2019).

48. *Id.*

49. There is an argument that there may be no need to compensate for the value of oil and gas extraction rights, as they could be categorized as a species of going concern value, like lost profits in a business. The Supreme Court has already rejected arguments for compensation for going concern value of businesses except in the case of temporary takings. The archetypal example is *Kimball Laundry Co. v. United States*, 338 U.S. 1 (1949), where the Court required compensation for a laundry owner whose property was seized during the Second World War which included the loss of going concern value. *Id.* at 15. However, the value of oil and gas extraction rights may not be best characterized as a going concern value.

transfer a “mineral estate” in much the same way as other real property.⁵¹ This is a particularly common arrangement, as many individual landowners wish to retain ownership of their land and facilitate extraction on it because they do not have the capital to extract the mineral wealth and benefit from it. Much like the support estate in *Pennsylvania Coal v. Mahon*, the mineral estate is a valuable interest independent of the value of the land under which it lies. If any estate or interest in real property might rightfully be severed from the rest of the estate, a mineral estate is the obvious candidate. Mineral extraction rights can be severed from the land above and traded; a purchaser may only have interest in the right to extract minerals rather than the land under which the minerals lie.

III. JUSTIFICATIONS FOR COMPENSATION

To identify the proper measure of compensation for a taking of fossil fuels, it is first necessary to examine the theoretical justifications for “just compensation” generally. Christopher Serkin identified several justifications underlying compensation doctrines.⁵² The most useful to examine here is the impact of permissible but unenacted regulations on the value of property.⁵³ As an example, Serkin uses the Court’s belief that valuation for the purpose of just compensation for riverside property owners landowners on navigable waterways ought not include the value the land acquired by virtue of its proximity to a waterway.⁵⁴ In *United States v. Rands*, the Court reasoned that riverside landowners on “fast lands” (lands above the high watermark) had always been subject to the power granted to the federal government by the Commerce Clause to regulate all navigable waterways.⁵⁵

As Serkin points out, this justification should not be limited to those subjects over which the United States has a plenary power.⁵⁶ In a takings jurisprudence centered on this justification, any permissible but unenacted

50. Gas, oil, and other mineral leases. *See generally* 17 SAMUEL WILLISTON & RICHARD A. LORD, A TREATISE ON THE LAW OF CONTRACTS § 50:57 (4th ed. 1993).

51. *Wood v. Comm’r*, 274 F.2d 268, 271 (5th Cir. 1960).

52. Christopher Serkin, *The Meaning of Value: Assessing Just Compensation for Regulatory Takings*, 99 NW. U. L. REV. 677 (2005). Serkin points out that the choice between compensation doctrines is not value neutral. Rather, it is a choice between competing philosophical and political conceptions of the purpose of takings doctrines.

53. *Id.* at 692–93. Serkin identifies this justification for compensation as most useful to advance a permissive and deferential attitude towards government legislation, as well as to lower compensation.

54. *Id.* at 694. *See United States v. Rands*, 389 U.S. 121, 123 (1967).

55. *See Rands*, 389 U.S. at 123.

56. Serkin, *supra* note 52, at 694. The example of a polluting factory is rather fortuitous, although this note does not concern fossil fuel infrastructure like power plants.

regulation that is a legitimate exercise of government power must be considered when determining proper compensation.⁵⁷ The takings jurisprudence contains another analogous idea: “reasonable investment backed expectations.” Since *Penn Central Transportation Co. v. City of New York*, one facet of the Supreme Court’s takings analysis is whether or not the “investment backed expectations” of a private entity are impaired by a governmental action.⁵⁸ *Lucas v. South Carolina Coastal Council* recognized that “investment backed expectations” must be considered in light of the background law of property and nuisance.⁵⁹ The loss of a use of land or property that was contradictory to the background law of the state is not compensable, as that right did not properly inhere in the title in the first instance.⁶⁰ Underlying the *Lucas* decision is the notion that the state does not have the obligation to compensate for the loss of property or a use of property that it deems to be dangerous to the public. As stated by Justice Kennedy: “The use of these properties for what are now expressly prohibited purposes was *always* unlawful, and (subject to other constitutional limitations) it was open to the State at any point to make the implication of those background principles of nuisance and property law explicit.”⁶¹

Lucas and other decisions are consistent with the previously described Rawlsian conception of “justice as fairness,” which prescribes that compensation should generally be given to property owners.⁶² This prescription, however, would not dictate compensation to property owners if the use of their property caused harm or impinged on the liberty of others.⁶³ The Court has generally been sympathetic to a Rawlsian notion of fairness; in *Armstrong v. United States*, the Court stated that “[t]he Fifth Amendment’s guarantee that private property shall not be taken for a public use without just compensation was designed to bar Government from forcing some people alone to bear public burdens which, in all fairness and justice, should be borne by the public as a whole.”⁶⁴ Of course, the Fifth

57. *Id.* at n.70. Serkin specifically draws on *Palazzollo v. Rhode Island*, where the court noted that “a landowner may not establish a taking before a land-use authority has the opportunity, using its own reasonable procedures, to decide and explain the reach of a challenged regulation.” 533 U.S. 606, 620 (2001). The court recognizes that the scope of a taking, or indeed whether a taking takes place at all, depends on the reach of the proposed regulation, and that permissible regulations within the power of the government to enact do not constitute a taking.

58. 438 U.S. 104, 105 (1978).

59. 505 U.S. 1003, 1004 (1992).

60. *Id.*

61. *Id.* at 1030.

62. Kevin J. Lynch, *A Fracking Mess: Just Compensation for Regulatory Takings of Oil and Gas Property Rights*, 43 COLUM. J. ENV’T L. 335, 361 (2018).

63. *Id.*

64. *Armstrong v. United States*, 364 U.S. 40, 49 (1960).

Amendment is not designed to bar the government from forcing some people to bear the cost of a private burden that in all justice and fairness should be borne by the individual.

IV. APPLICATION OF *LUCAS* AND THE CONCEPT OF PERMISSIBLE BUT NOT ENACTED REGULATIONS TO EMINENT DOMAIN

If there is an analytic distinction between regulatory and physical takings cases that would prevent the application of precedent from one category to takings of the other category, the above analysis would be more complicated. As *Lucas, Palazzollo v. Rhode Island*, and other cases following them are primarily concerned with regulatory takings, rather than eminent domain, it could be argued that they are inapplicable to the exercise of eminent domain. However, the regulatory takings cases are reasonably applicable to actual takings as an evolution of traditional takings, rather than some entirely separate process. The Takings Clause of the Fifth Amendment prevents the federal government from taking “private property . . . for public use, without just compensation.”⁶⁵ What specific government actions constituted a “taking” of property shifted drastically in 1922, with the recognition by Justice Holmes that a Pennsylvania statute forbidding the mining of coal causing a subsidence for a human dwelling constituted a taking by preventing economically beneficial use of coal.⁶⁶ This was the birth of the “regulatory takings” doctrine, which has continued to the present day.

The same reasoning applied in *Lucas* is applicable to eminent domain and the seizure of fossil fuel and fossil deposits. If it could be shown that the exploitation of fossil fuels created a public nuisance or was otherwise contrary to background expectations, this would alter the reasonable expectations of the property owners. If the right to extraction of fossil fuels did not rightfully inhere in the property in the first instance, it would be unnecessary to compensate for the loss of extraction opportunities if the land is taken for public use.

While the Court has created an analytical distinction between regulatory and physical takings, this dichotomy is theoretically difficult. This distinction was articulated by Justice Stevens in *Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg'l Planning Agency* as:

This longstanding distinction between acquisitions of property for public use, on the one hand, and regulations prohibiting private uses,

65. U.S. CONST. amend. V.

66. *Pennsylvania Coal Co. v. Mahon*, 260 U.S. 393, 414 (1922).

on the other, makes it inappropriate to treat cases involving physical takings as controlling precedents for the evaluation of a claim that there has been a “regulatory taking,” and vice versa.⁶⁷

This distinction, Justice Stevens argues, is born of the fact that, “[t]he first category of cases [physical takings] requires courts to apply a clear rule; the second [regulatory takings] necessarily entails complex factual assessments of the purposes and economic effects of government actions.”⁶⁸ Stevens argues that this distinction has a pragmatic element: should physical and regulatory takings be analyzed in the same fashion, there would necessarily be compensation springing from almost any land-use regulation or other regulatory scheme.⁶⁹

Andrea L. Peterson provides a compelling reason to doubt Justice Steven’s division of regulatory and physical takings. As she points out, the overriding concern of whether compensation is required is “fairness.”⁷⁰ Even in physical invasions of property by the government, such as the destruction of infected trees in *Miller v. Schoene*, the Court was willing to admit that state police power was a sufficient justification to negate the necessity of compensation.⁷¹

Establishing that there is no functional distinction between physical and regulatory takings, and therefore showing that precedent from one category ought to be applied to another, is important when considering the application of eminent domain to fossil fuel deposits. While in theory a fossil fuel extraction ban would achieve the same policy goals as physically seizing the fossil fuel deposits and preventing extraction, regulation is far more vulnerable to changing political whims. Regulations can be a political liability, as politicians often disapprove of burdensome regulatory schemes administered by the federal government.⁷² Republican candidates have

67. *Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg’l Planning Agency*, 535 U.S. 302, 323 (2002).

68. *Id.*

69. *Id.* at 323–24.

70. Andrea L. Peterson, *The False Dichotomy Between Physical and Regulatory Takings Analysis: A Critique of Tahoe-Sierra’s Distinction Between Physical and Regulatory Takings*, 34 *ECOLOGICAL Q.* 381, 392 (2007) (citing *Pennsylvania Cent. Transp. Co. v. New York City*, 483 U.S. 104, 124 (1978)).

71. *Id.* at 395–96. Peterson cites Justice Stevens’ discussion of *Miller v. Schoene*, 276 U.S. 272 (1928) within his opinion in *Keystone Bituminous Coal Ass’n v. DeBenedictis*, 480 U.S. 470, 490 (1987). *Id.* In *Miller*, the State of Virginia destroyed a number of infected cedar trees to prevent the spread of a blight, and the Court ruled that there was no need for the State of Virginia to compensate the owners of the trees. *Id.* Peterson goes on to explain that she believes that fairness seems to animate the court’s decisions, as well as pointing out that the court seems to not find takings when a government regulation punishes blameworthy behavior or prevents harm to the public. *Id.* at 397–404.

72. President Trump’s 2016 election campaign heavily featured promises of deregulation, especially of the energy and coal industry. See, e.g., John W. Miller, *Donald Trump Promises*

made large political gains in recent years through repeals and promises of reform to the regulatory state.⁷³ The unpopularity of regulations leaves them vulnerable to backsliding under an adverse administration or Congress, which retains the ability to enact new legislation or repeal old legislation should it become inconvenient.

However, physical seizure of property and mineral rights is more durable, and less prone to reversal under a new administration. Should the government enact a physical taking and pay compensation, it now holds title to the land. While there may be initial litigation to determine the just compensation owed to a holder of title, there is unlikely to be any further litigation or ability to challenge possession by the state. Once a taking has occurred, the only issue for litigants is whether the compensation given by the state is sufficient.⁷⁴

Furthermore, a taking with compensation more closely maps to a Rawlsian notion of fairness. In the event that the state takes title to lands bearing fossil fuel deposits and gives some compensation, even if only for the value of the land absent the market value of the fossil fuels or the right to extract them, the landowner still receives some compensation. As demonstrated above, there are good reasons to discount the value of these extractive rights from the award of just compensation. Without the fair market value, regulations could be passed that nearly entirely prohibit extractive activity, with little to no compensation. That land may end up entirely valueless without the ability to extract fossil fuels. This could leave owners with no buyers for large parcels, out hundreds of thousands or millions of dollars. If, however, the state takes title and condemns the land, they must still pay the fair market value of the land, irrespective of whether there would be a potential buyer. This leaves owners with the most compensation they are reasonably entitled to while also forcing the public to internalize the costs of rendering a large tract of land entirely economically unproductive. The public still must internalize these costs even if the actual monetary value is marginal due to the land losing some of the value the market would assign to it.

Once the state owns the land on which the deposit lies, it can immediately proceed to enact other development, or implement

Deregulation of Energy Production, WALL STREET J. (Sep. 22, 2016, 1:45 PM), <https://www.wsj.com/articles/donald-trump-promises-deregulation-of-energy-production-1474566335> [<https://perma.cc/THS8-8KLN>].

73. Devin Henry, *Trump Signs Bill Undoing Obama Coal Mining Rule*, HILL (Feb. 16, 2017, 3:54 PM), <https://thehill.com/policy/energy-environment/319938-trump-signs-bill-undoing-obama-coal-mining-rule> [<https://perma.cc/4D8E-5QR5>].

74. Absent procedural or constitutional deficiencies in the takings process.

conservation plans.⁷⁵ However, if the state decides that the land acquired is better used by not developing it at all, it would retain the option to do so.⁷⁶ In either scenario, the state would be able to regulate the extraction and consumption of fossil fuels, and completely bar it if deemed necessary to mitigate climate change. Despite these strong arguments for eminent domain, a compensation rule that does not include market value of fossil fuel deposits would also be of great use in the regulatory arena and would substantially reduce the cost of implementing regulatory bans on fossil fuel extraction.

V. THE EXTERNALITIES OF FOSSIL FUEL EXTRACTION

Fossil fuel extraction produces significant externalities. When the good being produced is fairly priced by accounting for the costs on society imposed by its manufacture (or does not produce large negative externalities) it would be unjust for the state to take title to it or not to compensate for the destruction of an interest in it.⁷⁷ Such a seizure would amount to a looting by the state of private property for the states' enrichment or to serve ancillary policy goals. Although the health effects, economic and environmental damage, and destruction of indigenous land enumerated below are not an exhaustive list, they are sufficient to show that fossil fuel extraction and consumption are dangerous enough that the taking of deposits is justified.

Fossil fuels create horrific health effects. Coal power plants emit polluting gasses and aerosols, increasing cancer rates and mortality at a rate of 24.5 to 32.6 deaths per terawatt-hour of energy generated.⁷⁸ The economic impact of coal extraction are also staggering; by one estimate from the Clean Air Task Force, coal extraction and burning costs the United States over \$100 billion in healthcare expenses every year.⁷⁹ Fossil fuels

75. Note that there is no requirement that the state engage in any development on land acquired through eminent domain; as noted in *Ruckelshaus v. Monsanto Co.*, "the public use requirement of the Takings Clause is 'coterminous with the scope of a sovereign's police powers.'" 467 U.S. 986, 1014 (1984) (quoting *Hawaii Hous. Auth. v. Midkiff*, 467 U.S. 229, 240 (1984)).

76. *Ruckelshaus*, 467 U.S. at 1014.

77. Allowing a taking in this circumstance would be unjust from a Rawlsian perspective; the owner of a factory producing fairly priced goods is not denying anyone their due or seizing what belongs to another; a taking would in fact be denying the factory owner their due. See RAWLS, *supra* note 10, at 6.

78. Erica Burt, Peter Orris & Susan Buchanan, *Scientific Evidence of Health Effects from Coal Use in Energy Generation*, HEALTHCARE RSCH. COLLABORATIVE 4 (2013), https://noharm-uscanada.org/sites/default/files/documents-files/828/Health_Effects_Coal_Use_Energy_Generation.pdf [<https://perma.cc/69AF-832A>].

79. Conrad Schneider & Jonathan Banks, *The Toll from Coal: An Updated Assessment of Death and Disease from America's Dirtiest Energy Source*, CLEAN AIR TASK FORCE 4 (2016),

also contribute to anthropogenic climate change, emitting billions of metric tons of CO₂ every year.⁸⁰ These costs are not borne by sellers of coal; rather, they are borne by the public who pay for healthcare. The costs are not limited to immediate health impacts, however.

The 2018 National Climate Assessment, produced by the U.S. Global Change Research Program (“USGCRP”), estimates that the cost of continued climate change to the U.S. economy could cause damages in the hundreds of billions of dollars by the end of the century in lost labor hours alone.⁸¹ Alongside healthcare costs, labor costs, and the economic damage caused by displacement, the economic impact of fossil fuel extraction can hardly be overstated. The fossil fuel industry does not internalize these externalities when selling fossil fuels; no taxation mechanisms, fines, or other public policies exist to ensure that the cost of these harms is borne by the corporations that extract them. Many of these companies received enormous tax breaks and paid zero federal income tax in 2019.⁸²

The impacts are, of course, not limited merely to economic damages. One of the most severe effects of climate change and fossil fuel extraction is the loss of vast amounts of biodiversity. The mere act of extraction drives much of this loss of biodiversity, which often takes place in extremely species-rich and biodiverse environments.⁸³ Fossil fuels contribute to a loss of over 20% of originally-present biodiversity globally.⁸⁴ Although the direct impact of human beings of this loss of biodiversity is not entirely

http://www.catf.us/wp-content/uploads/2010/09/CATF_Pub_TheTollFromCoal.pdf
[<https://perma.cc/8ZMB-9JXL>].

80. Chris Mooney & Brady Dennis, *In Blow to Climate, Coal Plants Emitted More Than Ever in 2018*, WASH. POST (Mar. 25, 2018, 7:21 PM), <https://www.washingtonpost.com/climate-environment/2018/03/26/blow-climate-coal-plants-emitted-more-than-ever/> [<https://perma.cc/KZ3U-YXZD>].

81. U.S. GLOBAL CHANGE RESEARCH PROGRAM, IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES: FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME II 50 (2018).

82. See Matthew Gardner, Steve Wamhoff, Mary Martellotta & Lorena Roque, *Corporate Tax Avoidance Remains Rampant Under New Tax Law*, INST. ON TAX’N & ECON. POL’Y 2–3 (2019), https://itep.sfo2.digitaloceanspaces.com/04119-Corporate-Tax-Avoidance-Remains-Rampant-Under-New-Tax-Law_ITEP.pdf [<https://perma.cc/GE8H-L4T6>]. For example, Chevron, Kinder Morgan, Haliburton, and Occidental Petroleum all had effectively negative tax rates in 2019 despite posting high profits.

83. See Michael B. J. Harfoot, Derek P. Tittensor, Sarah Knight, Andrew P. Arnell, Simon Blyth, Sharon Brooks, Stuart H. M. Butchart, Jon Hutton, Matthew I. Jones, Valerie Kapos, Jörn P. W. Scharlemann & Neil D. Burgess, *Present and Future Biodiversity Risks from Fossil Fuel Exploitation*, CONSERVATION LETTERS (2018). As summarized in the paper, the majority of fossil fuel extraction currently takes place in low-altitude environments and close to shore in the case of marine extraction. These environments are much richer in biodiversity than more remote, higher altitude and further off-shore regions, although low-diversity environments can still have vital ecological roles.

84. *Global Assessment Report on Biodiversity and Ecosystem Services*, INTERGOVERNMENTAL SCI. POL’Y PLATFORM ON BIODIVERSITY & ECOSYSTEM SERVS. (CH. 2.2) 72, https://ipbes.net/system/tdf/ipbes_global_assessment_chapter_2_2_nature_unedited_31may.pdf?file=1&type=node&id=35276 [<https://perma.cc/CE8W-M984>] (working draft).

understood, the collapse of large parts of the biosphere due to a loss of biodiversity will surely have an impact on the ability of the planet to sustain human life in an adequate way.⁸⁵

Fossil fuel extraction often takes place on lands which traditionally belong to indigenous peoples, resulting in the destruction of indigenous communities and ways of life.⁸⁶ For example, the Trump administration has proposed allowing exploitation of lands in southeast Utah which are sacred to the Pueblo of Acoma tribe.⁸⁷ Pipeline infrastructure can be immensely disruptive to native communities. The Dakota Access Pipeline is an illustration of these deleterious effects; as of January 2018, after only 6 months in operation, the Dakota Access Pipeline had already leaked over five times.⁸⁸ These leaks, regardless of size, are incredibly impactful on native communities, and “damages to tribal natural and cultural resources along that pipeline’s pathway are ‘not quantifiable’ and ‘cannot be mitigated.’”⁸⁹

These negative externalities show that compensation for the taking of fossil fuel extraction rights would be principally unjust. The value of a given oil field or coal deposit is dependent on the price of that oil or coal. If the market price of these commodities is currently so divergent from their true value, compensating for the fair market value would not be just compensation, as required by the Fifth Amendment. The fair market value of a commodity or the right to extract that commodity should not be a measure of compensation in any circumstance in which a commodity is heavily underpriced. Along with the Rawlsian justifications spelled out throughout this note, this argument appeals to the intuition that companies should not be able to extract value from the public above the actual value of the goods or services provided. When the federal government is already

85. See Tim Hirsch, Kieran Mooney & David Cooper, GLOBAL BIODIVERSITY OUTLOOK 5 (2020).

86. Maura Grogan, *Native American Lands and Natural Resource Development*, REVENUE WATCH INST. 6 (2011), https://resourcegovernance.org/sites/default/files/RWI_Native_American_Lands_2011.pdf [<https://perma.cc/8AH5-MVK3>].

87. Zak Podmore, *Oil and Gas Drilling Threaten Indigenous Cultural Sites*, SIERRA (Feb. 28, 2019), <https://www.sierraclub.org/sierra/2019-2-march-april/protect/oil-and-gas-drilling-threaten-indigenous-cultural-sites> [<https://perma.cc/8AH5-MVK3>].

88. Aileen Brown, *Five Spills, Six Months in Operation: Dakota Access Record Highlights Unavoidable Reality – Pipelines Leak*, INTERCEPT (Jan. 9, 2018, 2:38 PM), <https://theintercept.com/2018/01/09/dakota-access-pipeline-leak-energy-transfer-partners/> [<https://perma.cc/6GJQ-CKFX>].

89. *Id.* The reasons for this unquantifiability are varied and more complex than this note could summarize. As well, it is perhaps not the place of a white author to write about the connections of the native peoples of Turtle Island to their land and attempt to speak for the colonized. However, not to acknowledge it is also unacceptable.

heavily subsidizing an industry, to pay compensation for the loss of value to that industry because of government action effectively asks the taxpayer to pay for the good twice. When the industry has large externalities, the company effectively extracts value from the state at the point of sale due to underpricing. They also extract value at the point of production, as health effects, environmental effects, and economic damage are shunted onto federal or state programs to pay for (or more often not pay for, leaving private citizens holding both the state and private industry's bag). Lastly, they extract value in taxes, as many have effective negative income tax rates. One of the purposes of the veil of ignorance as a decision-making tool is to prevent exactly the situation above. Fossil fuel executives and owners receive a much greater share of the benefits than the attendant duties and harms that result from fossil fuel extraction. This is fundamentally unjust. No rational decision maker would choose this system of rights allocation without prior knowledge that they were an owner of or extractor of fossil fuels.

VI. RAWLSIAN JUSTICE: WHO SHOULD BEAR THE COST?

In an eminent domain or regulatory takings case concerning fossil fuels, a court decides whether individuals who own the land should internalize the costs that burning fossil fuels produces. A decision to exclude the value of fossil fuels from the fair market value of the land so regulated, or not to compensate for the total destruction of the economically productive use of the land in fossil fuel extraction, will necessarily create a large loss for the fossil fuel owner. However, under a Rawlsian conception of fairness, the cost is most reasonably borne by the owner of the fossil fuel deposit. Although the public seemingly benefits from the presence of cheap energy, the profit from the industry is massive, and the externalities are enormous. Given the already established costs to the public of the fossil fuel industry, asking the state to use taxpayer dollars to pay individuals for damaging fossil fuel extraction would be unjust. The public is already forced to bear the burden of healthcare costs, climate change mitigation, and disaster preparation, much of which can be laid at the feet of fossil fuel extraction. To allow fossil fuel producers impacted by regulatory takings or eminent domain to be compensated for the value of their fossil fuel deposits would amount to the public both subsidizing the costs of their destruction and paying them for the privilege.

Those sympathetic to the fossil fuel industry might respond that the market clearly demands access to cheap energy, and that fossil fuel extraction is mandated by the need of the American economy to access cheap energy. By allowing the seizure and regulation of fossil fuels, the

courts would be ignoring the needs and desires of the American consumer to access cheap energy sources. While the economics of this argument are beyond this article, it is worth noting that renewable energy sources are rapidly decreasing in cost while increasing in effectiveness and ease of use.⁹⁰

At the same time, the argument that the economy requires cheap energy is a utilitarian, consequentialist argument. Aggregate utility might be higher in a world in which fossil fuel extraction continues unabated and unregulated due to government fear. However, the public, and especially the most marginalized and vulnerable in society, are forced to bear the cost.

Fifth Amendment jurisprudence as it currently stands is not designed to ensure the most economically efficient outcome; rather, by the very language of “just” compensation, it is designed to ensure that justice is served when and if the state must take private property.⁹¹ Concerns about under-compensation are most obvious, but the opposite problem of overcompensation would itself be unjust for the public.

Behind the veil of ignorance, individuals would agree to rules that would not compensate individuals for fossil fuels seized through the process of eminent domain. Absent financial incentives fossil fuel ownership creates, it is unlikely that individuals would choose to have society bear the cost of compensating property owners for the costs of fossil fuel extraction. Instead, the rational actor would consider the fair outcome to be fossil fuel owners bearing the loss of losing access to extraction. As extraction and consumption are so damaging to the general public and individuals, it would be irrational for a person behind the veil of ignorance to prefer it since they cannot be confident that they would benefit from it.

These are not entirely new insights on takings jurisprudence. Indeed, the framework laid out by Joseph Sax in his influential 1968 article provides a way of organizing different justifications for a takings regime. Sax points out that twentieth century property doctrines do not incorporate any concept of “public rights,” relying instead on laws of private nuisance to regulate

90. See Dominic Dudley, *Renewable Energy Costs Take Another Tumble, Making Fossil Fuels Look More Expensive Than Ever*, FORBES (May 29, 2019, 7:00 AM), <https://www.forbes.com/sites/dominicdudley/2019/05/29/renewable-energy-costs-tumble/#67983fbe8cea> [https://perma.cc/7PWK-VWZH]. The average cost of hydroelectric, wind, and solar are all rapidly becoming more competitive with fossil fuels and are projected to continue to fall throughout the next decades. While there are externality problems with most forms of alternative and renewable energy sources, such as the sourcing of lithium for batteries, disruption of riverways by dams, etc., arguments about these externalities are non-responsive to the problems extant in the fossil fuel industry.

91. See Paul Niemann & Perry Shapiro, *Efficiency and Fairness: Compensation for Takings*, 28 INT'L REV. L. & ECON. 157 (2008).

conduct by private actors.⁹² This leads to situations in which individuals with property rights to engage in injurious practices, such as strip mining, could be compensated by the courts for any regulatory imposition that damaged those rights, irrespective of the fact that the exercise of those property rights might be highly injurious to neighboring landowners.⁹³ Noting that there is always a conflict between various uses, some of which impose costs on neighbors or others, Sax argues that it is inappropriate to find a taking merely because one property right was curtailed.⁹⁴ In his view, the government need not compensate an individual merely for making a policy choice between two competing property rights.⁹⁵ Sax confines his analysis to those cases in which there is a “spillover effect” (externality), positing that the externalities to public rights created by some private uses of land give rise to justification to curtail them without the payment of any compensation.⁹⁶

Sax articulates three different types of externalities that originate from land. The first are those direct spillover effects that restrict the use of neighboring land, such as drainage from a mine, or in the fossil fuel context, the disposal of fracking fluid onto neighboring properties.⁹⁷ The second are externalities resulting from the impairment of use of a common that another landowner has the right to use, like a stream or the air.⁹⁸ The third is a use of property that affects the health or safety of other property owners or puts affirmative obligations on the general public.⁹⁹

Each of these categories could be applied to various fossil fuel extraction or consumption methods. In Sax’s framework, all these externalities justify government taking of property without compensation.¹⁰⁰ However, the clearest example of externalities created by fossil fuels is the emission of greenhouse gases. This type of spillover effect falls squarely in the third category, uses that affect the health and safety of other property owners. Only considering homeowners, data from the National Oceanic and Atmospheric Administration (“NOAA”) suggest that nearly two million homes may be at risk of flooding or entirely underwater by the year 2100 as

92. Joseph L. Sax, *Takings, Private Property and Public Rights*, 81 YALE L.J. 149, 155 (1971).

93. *Id.* at 152.

94. *Id.* at 154–55.

95. *Id.*

96. *Id.* at 161.

97. *Id.*

98. *Id.* at 161–62.

99. *Id.* at 162.

100. *Id.*

a result of anthropogenic climate change.¹⁰¹ This would cause catastrophic economic damage; an estimated \$885 billion in lost homes alone.¹⁰² Regardless of the rights that the owners of fossil deposits have in the extraction of assets from their land, the exercise of that right has the potential to deprive millions of individuals of rights in their own properties.

Additionally, there are other impairments on the rights of owners of abutting or nearby parcels that fit neatly into Sax's second category. One of the most immediately apparent is the disposal of fracking fluids. An often-overlooked impairment, however, is spills from pipelines. The Keystone pipeline provides a representative example; in 2016, 2017, and 2019, multiple large spills endangered rural wetlands and agricultural areas in North and South Dakota.¹⁰³ Pipelines create problems on a large scale; because of their extremely large profile and length, the potential rights holders who are exposed to potential violations are numerous. Sax uses the example of strip mining, which can contaminate land for hundreds of miles around the site of the strip mine and destroy the rights of adjacent owners in bodies of water or other commons.¹⁰⁴ The strip mine example still has relevance; most coal is extracted by strip mining, a process with impacts ranging from the creation of large holes to the utter levelling of entire mountaintops.¹⁰⁵ The impact is felt far from abutting parcels, however; mountaintop removal changes in water chemistry, river courses, and the livelihood of those dependent on fish and healthy river ecosystems.¹⁰⁶

Sax's first category of externality is often a result of fossil fuel extraction. One of the most vivid examples of this is the devastation caused by hydraulic fracturing, or "fracking." Fracking is a process by which water is pumped into a borehole in order to fracture shale or other low-permeability subsurface petroleum bearing formations, at which point most of the water injected ostensibly flows back up the borehole to be recaptured.¹⁰⁷ However, fracking often causes severe impacts to both

101. Krishna Rao, *Climate Change and Housing: Will a Rising Tide Sink All Homes?*, ZILLOW (Jun. 2, 2017), <https://www.zillow.com/research/climate-change-underwater-homes-12890/> [https://perma.cc/DAN4-B8L7].

102. *Id.*

103. Phil McKenna, *Keystone Pipeline Spills 383,000 Gallons of Oil into North Dakota Wetlands*, INSIDE CLIMATE NEWS (Nov. 1, 2019), <https://insideclimatenews.org/news/01112019/oil-spill-keystone-pipeline-tar-sands-north-dakota-wetlands-kxl> [https://perma.cc/B276-XAUW].

104. Sax, *supra* note 92, at 154.

105. Jedediah Britton-Purdy, *The Violent Remaking of Appalachia*, ATLANTIC (Mar. 21, 2016), <https://www.theatlantic.com/technology/archive/2016/03/the-violent-remaking-of-appalachia/474603/> [https://perma.cc/7BRR-LN3Q].

106. *Id.*

107. *The Process of Unconventional Natural Gas Production*, ENV'T PROT. AGENCY, <https://www.epa.gov/uog/process-unconventional-natural-gas-production> [https://perma.cc/GG3A-6D3A].

adjacent and distant parcels. The story of Stacey Haney, a resident of Amityville, Pennsylvania, is a perfect illustration. After a fracking company, Range Resources, began operations on her property, she and her family suffered several horrific medical maladies and dangers.¹⁰⁸ Animals began to sicken and die, while she and her children suffered from wounds that wouldn't heal, personality changes, and mouth ulcers, to name some of the problems.¹⁰⁹ Importantly to Sax's theory, fracking also interfered with the use of her well.¹¹⁰ One of the oldest rights guaranteed to property owners is the right to the use of water contained within the boundaries of their properties;¹¹¹ interference with this right constitutes a severe imposition on owners of property adjacent to fracking operations. Ms. Haney's story example shows the importance of a Rawlsian conception of justice as fairness; fracking might distribute some benefits to a small minority of shareholders and other stakeholders and provide marginal benefits to large amounts of American consumers in the form of cheap natural gas. However, under a Rawlsian system, this tradeoff is unacceptable, as the utilitarian considerations of cheap liquid natural gas are overwhelmed by the intrinsic rights to water and health of those on adjacent parcels.

More perniciously, the release of greenhouse gasses due to fossil fuel combustion creates a public obligation which the state must then fund. Sax uses the example of development in a rural area, requiring police protection, as a public obligation created by exercise of a property right.¹¹² This is particularly relevant in the context of anthropogenic climate change. Many coastal cities in the United States have already implemented or are planning to implement seawalls in order to mitigate damage from rising sea levels and storm surges.¹¹³ The federal, state, and municipal governments have affirmative duties to protect their citizens from the harms imposed by environmental catastrophes like rising sea level, duties which could cost over four hundred billion dollars by 2040.¹¹⁴ Not only does this impose an affirmative duty on the state, it also imposes an obligation on the taxpayer by burdening them with the costs created by climate change. Thus, fossil

108. Sarah Jones, *A Broken Land*, NATION (Apr. 2, 2019), <https://www.thenation.com/article/amity-prosperity-eliza-griswold-book-review/> [<https://perma.cc/DT4D-BKYG>].

109. *Id.*

110. *Id.*

111. See generally Anthony Scott & Georgina Coustalin, *The Evolution of Water Rights*, 35 NAT'L RES. J. 821, 846 (1995).

112. Sax, *supra* note 92, at 162.

113. Niall McCarthy, *U.S. Expected to Pay Over \$400bn on Seawalls up to 2040*, STATISTA (Jun. 21, 2019), <https://www.statista.com/chart/18457/estimated-expected-cost-of-seawall-construction/> [<https://perma.cc/FJL7-T6F7>].

114. *Id.*

fuel owners are imposing massive costs on society. Under Sax's conception of public rights, should not be entitled to compensation for lost rights in fossil fuel extraction.¹¹⁵ Other public obligations are created by fossil fuel burning and extraction, which is a dangerous activity that the federal government often has to clean up after. In particular, the process of decommissioning and cleaning up old wells and extraction sites often falls on the Department of the Interior.¹¹⁶ The estimated cost of this cleanup as of early 2018 was over six billion dollars, an amount which dwarfs the surety bonds that fossil fuel companies are supposed to post before drilling operations commence on federal land in order to ensure that there are adequate funds for cleanup.¹¹⁷ In this case, fossil fuel companies not only created a public obligation to clean up these orphan wells, but also extracted value in the form of leases on federal land to extract the oil in the first instance.

In instances such as above, compensation for the seizure of fossil fuel extraction rights ought not be given. Doing so would be incongruent with a Rawlsian conception of fairness or even intuitive notions of justice. If compensation was given, fossil fuel extractors and burners would receive both a benefit from the provision of public services to prevent ecological disasters, as well as a windfall of compensation if prevented from causing the damage in the first instance by virtue of regulation. The only actors that would consider a system where holders of a dangerous commodity are compensated regardless of its production would be those who already have a vested interest in that commodity. Behind the veil of ignorance, it would be irrational for any person to support such a compensation scheme. A just distribution of the benefits and duties associated with fossil fuel extraction would necessarily place the burden of cleanup on fossil fuel companies, and ensure that those who had previously owned fossil fuels were not allowed to profit at the public and environments expense.

This analysis applies to the interests in extraction and ownership of the fossil fuel deposits, but not to the land under which they lie. As the interests in the fossil fuel deposits and the land they lie under are conceptually severable, it is possible to craft a judicial rule in which one interest is

115. Sax, *supra* note 92, at 162.

116. Mark Hand, *Outdated Rules Mean Taxpayers, Not Industry, End up Paying for Abandoned Oil and Gas Wells*, THINKPROGRESS (Feb. 26, 2018, 4:42 PM), <https://thinkprogress.org/cleaning-up-after-oil-gas-drilling-d1786d488a6f/> [<https://perma.cc/LPK6-JVD7>].

117. *Id.* This article identifies several interesting solutions that would help address this problem, including increasing the value of surety bonds that a firm must post before they can commence drilling operations. As pointed out, if the \$10,000 dollar bond mandated was indexed to inflation, the total bond amount of approximately \$64,000 would closely track the actual costs of reclamation for an orphaned well.

compensable and the other, due to the injurious nature of its exercise, is not. Thus, by conceptually severing the interest in land from the interest in the fossil fuel extraction, the state can condemn the land while paying fair market value for the interest in the land itself. This eliminates the need for prohibitively expensive and unjust compensation for the rights in fossil fuel extraction. One way to frame this rule to avoid any unintended consequences for other types of extractive industries would be to craft a judicial rule that the effective value of fossil fuels is zero. Both approaches have merit; a categorical rule that the confiscation of fossil fuel wealth is not a taking because of its noxious nature is clean and easy. However, the potential precedent set that the confiscation of rights in potentially noxious objects would severely harm judicial certainty, as many other commodities and their production processes cause similar harms as the fossil fuel industry. On the other hand, the judicial rule that the value of a fossil fuel interest is zero makes the inquiry fact specific. Some confiscated assets may have a fair value that is well below market value, but still nonzero. The choice between the two rules is non-obvious; however, either one is still vastly superior to a decision to pay fair market value.

CONCLUSION

Developing a takings jurisprudence that accommodates the realities of market failures in commodities has always been difficult, as foregrounded by the interaction of fossil fuel deposits with eminent domain. A Rawlsian theory of justice provides a useful framework to evaluate the justice of a takings program. This theory and a close reading of the extant doctrine illuminates three major problems with the current paradigm of fair market value. First, fair market value compensation causes a windfall to fossil fuel extractors and owners, as the extraction of wealth in the form of fair market value compensation would result in significantly higher compensation due to subsidies given to fossil fuel extractors. From a Rawlsian perspective, this makes fair market value an illogical compensation scheme, as no person would choose a scheme that rewards a small number of individuals while disadvantaging most of society from behind the veil of ignorance. Second, the payment of fair market value for fossil fuel extraction rights compensates owners for a right that should never have been part of the title, under the holding of *Lucas*. Finally, Sax and other commentators have pointed out that the creation of externalities by fossil fuel extraction makes the compensation for the taking of the right to extract theoretically fraught.

The federal courts would likely be reluctant to apply these arguments in a fossil fuel takings case, and the legislature and executive are unlikely to ever provide the courts a chance. Fossil fuel companies are an extremely

powerful segment of the American and global economies, and the externalities created by them are often diffuse.¹¹⁸ Even in acute instances, garnering the political will to challenge the longstanding assumptions of takings jurisprudence regarding commodities and their productions may be difficult for the legislature and executive.¹¹⁹ However, when considered in light of the objective of the Takings Clause, a valuation scheme in which fossil fuel deposits are not compensated at fair market value is most consistent with precedent and fairness.

This political sensitivity will not last forever. While the issue of regulatory takings or eminent domain for fossil fuel deposits garners fewer headlines or policy soundbites from candidates, it is only a matter of time until a President or Congress attempts some action that could be construed as a taking regarding fossil fuel deposits. Voters and interest groups will eventually demand action to address climate change, and the legislature and executive will be forced to respond. The constitutional controversy will arise; the only question is how the court chooses to respond. Their choice will determine whether the vested interests of the fossil fuel industry continue to hold the future of our planet hostage, or whether political actors will be given the tools to avert certain climate catastrophe.

118. See *supra* text accompanying notes 78–90.

119. See Eilperin, *supra* note 1, for a small sample of the strife President-Elect Biden's relatively modest policies are causing in Washington.

