

The Fossil Fuel Phase-Out's Multi-Million Dollar Problem: An Environmental Justice Analysis Of Idle Oil Well Management in California

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ABSTRACT

Throughout the state of California, oil operators will continue to abandon thousands of their oil wells within the coming years.¹ With the growing threats of climate change, local, state and federal policymakers are looking away from fossil fuels and towards supporting renewable energy generation. In April 2021, California Governor Gavin Newsom directed the California Air Resources Board (CARB) to begin evaluating paths to phasing out fossil fuel extraction in the state by 2045.² The economic impact of the COVID-19 pandemic has also increased the risk of operators filing for bankruptcy and thus orphaning their wells. When an oil well stops operating, becoming idle, there are still many environmental and health related hazards remaining at the site. Uncapped idle wells are known to emit toxic and flammable gases, such as

1. JUDSON BOOMHOWER ET AL., ORPHAN WELLS IN CALIFORNIA: AN INITIAL ASSESSMENT OF THE STATE'S POTENTIAL LIABILITIES TO PLUG AND DECOMMISSION ORPHAN OIL AND GAS WELLS, CAL. COUNCIL ON SCI. & TECH. (2018), <https://ccst.us/wp-content/uploads/CCST-Orphan-Wells-in-California-An-Initial-Assessment.pdf> [<https://perma.cc/VH9N-EWK7>].

2. *Governor Newsom Takes Action to Phase Out Oil Extraction in California*, OFF. OF GOVERNOR GAVIN NEWSOM (Apr. 23, 2021), <https://www.gov.ca.gov/2021/04/23/governor-newsom-takes-action-to-phase-out-oil-extraction-in-california> [<https://perma.cc/2U4E-4BFT>].

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methane, a potent greenhouse gas.³ In addition, wells that are left unplugged can contaminate surrounding soil and water supplies.⁴

In California, the process of plugging and decommissioning a well is the operator's responsibility.⁵ However, operators have little incentive to plug and decommission their wells because maintaining their idle wells is generally cheaper.⁶ Properly plugging and decommissioning an onshore well can cost between \$40,000 and \$152,000.⁷ By maintaining their idle wells instead of decommissioning and plugging their wells, operators also preserve the option value of their wells in case oil prices increase.⁸ Additionally, if an oil company becomes insolvent or deserts its wells, making them orphaned wells, that cost of decommissioning and plugging the well is borne by the State.⁹ The State currently lacks sufficient funds to plug and abandon all orphaned wells.¹⁰ Due to that lack of funding, many orphan wells are left unplugged, harming the surrounding communities and contributing to climate change.¹¹

Last year, the California Geologic Energy Management Division (CalGEM) tightened its regulations around idle well management "to create far more stringent testing requirements that better protect public safety and the environment from the potential threats posed by idle wells."¹² This comment will analyze CalGEM's updated regulations and current laws for idle well management. Specifically, the comment will use an environmental justice theoretical framework to assess whether the updated regulations meet CalGEM's goal of "better protect[ing] public safety . . . from the potential threats posed by idle wells," particularly for low-income communities and communities of color in California. The comment will go on to suggest potential areas where CalGEM can strengthen its regulations to better protect communities near idle wells, particularly by: (1) increasing idle well fees, (2) increasing the indemnity bond amount, (3) adding cumulative impacts to CCR section 1772.4 considerations, and (4) allowing for public comment on critical prioritization decisions. While there are certain strengths to the updated regulations and current laws regarding idle well management, they still fall short of appropriately protecting the health and safety of communities throughout California.

3. See Mary Kang et al., *Direct Measurements of Methane Emissions from Abandoned Oil and Gas Wells in Pennsylvania*, 111 PROC. NAT'L ACAD. SCI. 18173 (2014), <https://doi.org/10.1073/pnas.1408315111>.

4. *Id.*

5. BOOMHOWER ET AL., *supra* note 1, at 1.

6. *Id.*; see CAL. PUB. RES. CODE § 3206(a)(1) (West 2021) (requiring operators of idle wells in California to pay between \$150 and \$1,500 a year in idle well fees).

7. BOOMHOWER ET AL., *supra* note 1, at 22, 24.

8. *Id.* at 27.

9. *Id.* at 3.

10. *Id.* at 31.

11. See *id.* at 3.

12. *Idle Well Program*, CAL. DEP'T OF CONSERVATION (2020), https://www.conservation.ca.gov/calgem/idle_well [<https://perma.cc/ZT68-WNF4>].

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INTRODUCTION

To properly assess CalGEM’s updated regulations and current laws for idle well management, an understanding of the current idle well problem is necessary. The following Subpart will provide an overview of the current idle well situation in California and the environmental risks associated with idle wells. This paper will address the two processes of cementing a well and restoring a drill site: “plugging and abandonment” and “decommissioning,” or “plugging and decommissioning.” According to California Public Resources Code (PRC) section 3208, a well is properly abandoned when, “it has been shown . . . that all proper steps have been taken to isolate all oil-bearing or gas-bearing strata encountered in the well, and to protect underground or surface water . . . from the infiltration or addition of any detrimental substance and to prevent subsequent damage to life, health, property, and other resources.” Under CCR section 1760(d), “decommission” means to safely dismantle and remove a production facility and to restore the site where it was located.

A. *Idle Wells in California*

Although California is the seventh largest oil producer in the United States and has the fifth largest share of crude oil reserves, oil production has declined nearly sixty percent since its peak in 1985.¹³ This is in large part due

13. U.S. ENERGY INFO. ADMIN., *EIA - Independent Statistics and Analysis*, CAL. - STATE ENERGY PROFILE (2020), <https://www.eia.gov/state/analysis.php?sid=CA> [<https://perma.cc/>

to the increased demand for natural gas, which is cheaper than gasoline, made from heavy crude oil.¹⁴ When an operator decides that production costs outweigh the profit from production, an operator is likely to temporarily abandon the well, rendering it idle.¹⁵ An idle well is defined as an oil well that has not produced oil or gas for twenty-four months or more.¹⁶ As of 2018, there were about 229,000 oil and gas wells in the state of California.¹⁷ Of those, around 122,000 have already been plugged, and the remaining 107,000 are active or idle.¹⁸ In the city of Los Angeles alone, there are roughly 819 active wells, 296 idle wells, 3,181 plugged wells, and 933 buried wells.¹⁹ Between January and April 2019, nearly 800 wells became idle throughout the state, and only two of those wells had been given a return to use (RTU) date before April 1, 2020.²⁰ There are currently almost 1,500 idle wells that have been idle for 100 years or more within the state of California.²¹

B. *Environmental and Health Risks of Idle Wells*

There is generally a poor understanding of the environmental and health risks relating to idle wells.²² However, there is enough evidence to show that idle wells pose a significant risk to both the environment and the surrounding community.

Overall, there are three main threats to public health, safety, and the environment associated with idle wells. First, idle wells have the potential to contaminate groundwater. Methane, oil, brine, radionuclides, or surface level pollutants can leak out and contaminate freshwater aquifers when a well's cement or casings have degraded.²³ For example, in 2018, the Environmental Protection Agency (EPA) was notified of several abandoned wells on Navajo

C2YY-9LWY]; Mark Olalde & Ryan Menezes, *The Toxic Legacy of Old Oil Wells: California's Multibillion-Dollar Problem*, L.A. TIMES (Feb. 6, 2020), <https://www.latimes.com/projects/california-oil-well-drilling-idle-cleanup> [<https://perma.cc/QM5U-9Y88>].

14. U.S. DEP'T OF ENERGY'S OFF. OF ENERGY EFFICIENCY & RENEWABLE ENERGY, *Fuel Prices* (2020), <https://afdc.energy.gov/fuels/prices.html> [<https://perma.cc/2PWT-K589>].

15. BOOMHOWER ET AL., *supra* note 1, at 35.

16. CAL. PUB. RES. CODE § 3008(d) (West 2021).

17. BOOMHOWER ET AL., *supra* note 1, at 2.

18. *Id.*

19. OFF. OF PETROLEUM & NAT. GAS - CITY OF L. A., REPORT ON PUBLIC HEALTH AND SAFETY RISKS OF OIL AND GAS (2019), http://clkrep.lacity.org/onlinedocs/2017/17-0447_rpt_BPW_07-29-2019.pdf.

20. *Idle Well Compliance Inventory Work Plan Inventory*, CAL. DEP'T. OF CONSERVATION (2020), https://www.conservation.ca.gov/calgem/idle_well.

21. *Id.* As of April 2019, 330 idle wells across California had a RTU date before April 2020. *Id.*

22. BOOMHOWER ET AL., *supra* note 1, at 20.

23. Jacqueline Ho et al., *Plugging the Gaps in Inactive Well Policy*, RES. FOR THE FUTURE (May 2016), <https://media.rff.org/documents/RFF-Rpt-PluggingInactiveWells.pdf>; Mary Kang et al., *Orphaned Oil and Gas Well Stimulus—Maximizing Economic and Environmental Benefits*, ELEMENTA: SCIENCE OF THE ANTHROPOCENE (2021), <https://doi.org/10.1525/elementa.2020.20.00161>.

Nation lands that were bubbling water at the surface. After some testing, it was confirmed that the wells contained dangerous levels of benzene, chloride, arsenic, and sulfate. Properly plugging these wells would “require major funds,” according to the Navajo Nation Environmental Protection Agency.²⁴ Rather than plug the wells, the local community was advised to not drink the water.²⁵

Second, unplugged idle wells can continue to emit methane gas, a potent greenhouse gas directly contributing to climate change.²⁶ Nationally, abandoned oil and gas wells emitted roughly 281 kilotons of methane in 2018.²⁷ In some cases, the gases emitted from these idle wells have caused explosions.²⁸ Idle wells, such as those in Arvin—a city in Kern County, California—have been known to emit methane from their pipes and casings. For instance, in 2014, flames shot out of wall sockets in a home from explosive levels of gas leaking from a pipe at the end of the block.²⁹ The leak left strong odors and has left the residents with lingering headaches.³⁰ In 2019, at a construction site in Marina del Rey, California, a nearly ninety-year-old abandoned well exploded sending a “geyser of gas and dirt 100 feet into the air.”³¹

Third, idle wells, particularly orphaned wells, can still have old equipment present at the site, contaminated soil from spills, and other waste on the surface.³² These pose safety hazards, particularly for sites located close to residential neighborhoods, farms, or schools.

I. ANALYSIS OF CALIFORNIA’S IDLE WELL PROGRAM

This Part will provide an overview of current regulations and laws around idle wells in California and a brief introduction to environmental justice. It will go over the environmental justice theoretical framework that will be used to assess the current laws and regulations. It will then apply the environmental justice framework to CalGEM’s latest idle well regulations to assess their strengths and weaknesses.

24. Nichola Groom, *Special Report: Millions of Abandoned Oil Wells Are Leaking Methane, a Climate Menace*, REUTERS (June 16, 2020), <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/26CN-FUT6>].

25. *Id.*

26. Eric D. Lebel et al., *Methane Emissions from Abandoned Oil and Gas Wells in California*, 54 ENV’T SCI. & TECH. 14617, 14622 (2020).

27. U.S. ENV’T PROT. AGENCY, INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS AND SINKS: 1990–2018 2–7 (2020), <https://www.epa.gov/sites/production/files/2020-04/documents/us-ghg-inventory-2020-main-text.pdf>.

28. Groom, *supra* note 24.

29. Olalde & Menezes, *supra* note 13.

30. *Id.*

31. Groom, *supra* note 24.

32. E. Allison & B. Mandler, *Abandoned Wells: What Happens to Oil and Gas Wells When They Are No Longer Productive?*, AM. GEOSCIENCES INST. (June 18, 2019), <https://www.americangeosciences.org/geoscience-currents/abandoned-wells>.

A. *Current Laws and Regulations of Idle Wells*

Prior to drilling or acquiring a well, an operator must provide to the State a type of a security, called an indemnity bond.³³ The amount of the bond for an individual well depends on the depth of the well (\$25,000 for wells that are less than 10,000 feet deep, and \$40,000 for wells that are 10,000 feet deep or more).³⁴ However, if an operator is drilling or altering³⁵ twenty or more wells at any time, then the operator can instead file a blanket indemnity bond.³⁶ Under PRC section 3205(a), an operator can file a blanket indemnity bond of \$200,000 for up to 50 wells in the state, \$400,000 for up to 500 wells, \$2 million for up to 10,000 wells, and \$3 million for more than 10,000 wells. This means that operators with more wells are paying less per well than if they had filed indemnity bonds for each individual well (e.g., an operator with 200 wells pays \$400,000 under the blanket indemnity bond but would pay \$5 million to \$8 million depending on the well depth for individual indemnity bonds for each well). These bonds are released upon properly abandoning the operator's wells.³⁷

If the operator files for bankruptcy, it relinquishes its leases, and the costs for properly plugging and decommissioning the orphaned wells fall on the state or local government.³⁸ The State can then use the operator's indemnity bond to fund the process of properly abandoning the well. However, the bond itself is rarely enough to cover the costs of plugging and decommissioning an orphaned well. The cost for onshore plugging and decommissioning varies based on several factors, such as the location and age of the well.³⁹ The average cost of plugging and abandonment ranges from \$40,000 to \$152,000 depending on the CalGEM district. It costs nearly three times as much to plug and

33. CAL. PUB. RES. CODE § 3204 (2018).

34. *Id.*

35. An "'alteration' of a production facility means any action that changes by more than ten percent the total processing capacity, or storage volume of the production facilities within a given secondary containment. [This] does not include activities such as maintenance, replacement, or minor modification of production facilities, or installation of temporary production facilities." CAL. CODE REGS. tit. 14, § 1760(b) (2019).

36. CAL. PUB. RES. CODE § 3205 (2018).

37. *Id.* § 3207. "[A] well is properly abandoned when it has been shown, to the satisfaction of the supervisor, that all proper steps have been taken to isolate all oil-bearing or gas-bearing strata encountered in the well, and to protect underground or surface water suitable for irrigation or farm or domestic purposes from the infiltration or addition of any detrimental substance and to prevent subsequent damage to life, health, property, and other resources. For purposes of this subdivision, proper steps include the *plugging of the well, decommissioning the attendant production facilities of the well, or both*, if determined necessary by the supervisor." *Id.* § 3208 (emphasis added).

38. BOOMHOWER ET AL., *supra* note 2, at 3. An orphan well is a well deserted by an insolvent operator.

39. *Id.* at 22.

abandon idle wells in the CalGEM Southern District, which is more densely populated than other districts.⁴⁰

In the short-term, it is significantly cheaper for operators to keep their wells idle than to properly plug and decommission them.⁴¹ When an operator decides to maintain an idle well, they must pay annual idle well fees unless they have filed an Idle Well Management Plan (IWMP).⁴² The annual fees range from \$150 to \$1,500, depending on how long the well has been classified as idle.⁴³ These funds go into the Idle-Deserted Well Abatement Fund, which the State can use to help cover the cost of properly abandoning orphaned wells. These funds are currently insufficient to cover the cost of plugging and abandoning orphaned wells in the State.⁴⁴ In 2018, the State received \$4.3 million in idle well fees, though it is estimated that it will cost the State \$500 million to plug and abandon orphan wells.⁴⁵

An operator can instead decide to file an IWMP to manage or eliminate their long-term idle wells, and thus not be subject to the annual idle well fees.⁴⁶ An operator can file an IWMP to show the State that it will plan on properly abandoning its long-term idle well, that the well has maintained production of oil or gas, or that the well had been used for injection for a continuous six months since becoming idle. If the operator decides to eliminate its long-term idle wells, then the annual rate at which it must reduce (plug and decommission) its wells depends on the number of wells it has in the state. If an operator has 250 or fewer wells, then the operator must reduce 4 percent of its long-term idle wells annually, 5 percent for operators with up to 1,250 wells, and 6 percent for operators with 1,250 or more wells.

Alternatively, an operator can file an Idle Well Testing Waiver Plan to schedule the plugging and abandonment of its idle wells for up to eight years in the future in exchange for a waiver from the testing requirements discussed below. At least 10 percent of the idle wells covered in the plan must be plugged and abandoned each year. The operator must also prioritize certain wells based on considerations in CCR section 1772.4.

40. *Id.* at 24.

41. *Id.* at 3.

42. CAL. PUB. RES. CODE § 3206 (2019).

43. *Id.* § 3206(a)(1).

44. *Id.* § 3206(b); BOOMHOWER ET AL., *supra* note 2, at 3.

45. Heather Henry, *Requirements for Idle Well Testing and Management*, CAL. DEP'T OF CONSERVATION OIL, GAS, & GEOTHERMAL RES. (2019), https://www.conservation.ca.gov/calgem/idle_well/Documents/Idle_Well_workshop_regs/IW_Implementation_Workshop_Slides_March2019.pdf; *Report: \$550 Million Needed to Plug Abandoned California Oil, Gas Wells*, CTR. FOR BIOLOGICAL DIVERSITY (Jan. 24, 2020), <https://biologicaldiversity.org/w/news/press-releases/report-550-million-needed-plug-abandoned-california-oil-gas-wells-2020-01-24> [<https://perma.cc/T9NR-U6E7>].

46. A “long term idle well” is defined as a well that has been idle for eight or more years. CAL. PUB. RES. CODE § 3008(e) (2018).

CalGEM recently updated their regulations regarding idle well management to include provisions requiring an idle well Testing Compliance Work Plan.⁴⁷ The regulations require that all operators conduct a pressure test and a clean out tag⁴⁸ before April 2025, with the exception of wells that have already been properly abandoned or are scheduled to be properly abandoned under an IWMP.⁴⁹ The operators must submit a Testing Compliance Work Plan outlining how they will stagger and prioritize their testing over the coming years based on considerations listed in CCR section 1772.4 and in compliance with the timeline set out in the regulations in order to meet the April 2025 deadline.⁵⁰ If an operator fails to conduct the requisite tests, CalGEM will impose a penalty.⁵¹ The penalty requires the operator of the well to do one of four things: (1) bring the well into compliance; (2) partially plug and abandon the well; (3) plug and abandon the well; or (4) schedule the well to be plugged and abandoned under an IWMP.⁵²

The updated regulations also include a provision outlining the various considerations that need to be taken into account when prioritizing which wells to be plugged, abandoned, and tested first.⁵³ There are ten factors in total: (1) whether the idle well is a critical well, in an urban area, or has an environmentally sensitive wellhead⁵⁴; (2) whether the idle well is located in an area of known geologic hazard; (3) whether the idle well has pressure in the casing or tubing at the surface, and whether the well is open to the atmosphere; (4) whether the idle well has surface obstacles or other impediments preventing access to the wellhead; (5) whether the idle well has known down-hole issues that would make it difficult to either reactivate the well or plug and abandon the well; (6) whether the fluid level in the idle well is above the base of freshwater; (7) whether the fluid level in the idle well is above the base of an underground source of drinking water (USDW); (8) the age of the idle well; (9)

47. CAL. CODE REGS. tit. 14, § 1772.1.4 (2019).

48. A “clean out tag” is used “to determine the ability [of the idle well] to reach the current Division-approved depth of the well using either open-ended tubing or a gauge ring demonstrated to the Division to be of the minimum diameter of the tubing necessary to properly plug and abandon the well.” *Id.* § 1772.1(a)(3).

49. *Id.* § 1772.1.4.

50. *Id.*

51. *Id.* § 1772.1.4(f).

52. *Id.* § 1772.1(b).

53. *Id.* § 1772.4.

54. “Urban area” means a cohesive area of at least twenty-five businesses and/or residences the perimeter of which is 300 feet beyond the outer-limits of the outermost structures. *Id.* § 1760(y). “Environmentally sensitive” means either: (a) a production facility within 300 feet of a public recreational area, or a building intended for human occupancy such as residences, schools, hospitals and businesses (which are not necessary for the production operation); or (b) a production facility within 200 feet of any officially recognized wildlife preserve or environmentally sensitive habitat that is designated on a USGS topographical map, designated waterways, or other surface waters such as lakes, reservoirs, rivers, canals, creeks, or other water bodies that contain water throughout the year. *Id.* § 1760(f).

any other indications that the idle well potentially poses a threat to life, health, property, or natural resources; and (10) operational or economic efficiencies that may be achieved by ordering work in the a particular manner.⁵⁵ CalGEM is able to adjust the order of idle wells to be tested or plugged and abandoned in an IWMP, a Testing Compliance Work Plan, or a Testing Waiver Plan based on the above considerations.⁵⁶

Lastly, the updated regulations call for an annual Idle Well Inventory and Evaluation.⁵⁷ Operators are supposed to submit an Idle Well Inventory and Evaluation every year to CalGEM, which includes several data points listed under CCR section 1772(a), such as the API number and name of the well, the date of the most recent mechanical integrity testing for the well, whether the idle well penetrates freshwater, and whether the idle well is a critical well, is in an urban area, or has an environmentally sensitive wellhead.⁵⁸

B. *Outline of the Environmental Justice Frameworks*

Environmental justice as a movement has garnered a substantial amount of public attention in recent years. The basic concept of environmental justice is “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies.”⁵⁹ The EPA defines “fair treatment” to mean that “no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies.”⁶⁰ Studies have shown that low-income communities and communities of color bear a disproportionate number of environmental harms.⁶¹ Furthermore, there is evidence to show that environmental benefits, such as public parks, transportation funding, and environmental law enforcement, are disproportionately lacking in those same communities.⁶²

Within this general framework, there are diverse understandings in the political and theoretical realms of environmental justice.⁶³ This is in large part due to the broad scope of environmental justice and the various interests that come into play. To simplify the approach to environmental justice, Professor

55. *Id.* § 1772.4.

56. *Id.* § 1772.4(b).

57. *Id.* § 1772.

58. *Id.*

59. *Learn About Environmental Justice*, U.S. ENV'T PROT. AGENCY (Sept. 24, 2020), <https://www.epa.gov/environmentaljustice/learn-about-environmental-justice> [<https://perma.cc/5FS3-3TBK>].

60. *Id.*

61. Clifford Rechtschaffen, *Advancing Environmental Justice Norms*, 37 U.C. DAVIS L. REV. 95, 97 (2003).

62. *Id.*

63. David Schlosberg, *Reconceiving Environmental Justice: Global Movements and Political Theories*, 13 ENV'T POLS. 517, 536–37 (2004).

Robert Kuehn has proposed four categories of “justice” that are encompassed in environmental justice: (1) distributive justice, (2) procedural justice, (3) corrective justice, and (4) social justice.⁶⁴

Distributive justice is defined as “the right to equal treatment, that is, to the same distribution of goods and opportunities as anyone else has or is given.”⁶⁵ This approach focuses more on fair outcomes rather than the process of getting to the outcomes.⁶⁶ Distributive justice is a framework commonly used to address disproportionate public health and environmental risks that low-income and communities of color must bear.⁶⁷

Procedural justice is “the right to treatment as an equal. That is the right, not to an equal distribution of some good or opportunity, but to equal concern and respect in the political decision about how these goods and opportunities are to be distributed.”⁶⁸ Unlike distributive justice, procedural justice is more focused on the way in which decisions are made, rather than the outcome of those decisions.⁶⁹ Procedural justice emphasizes the democratic decision-making process, which encompasses inclusion, representation, parity, and communication.⁷⁰ Environmental justice efforts based on procedural justice can look like advocating for greater public participation and access to information for impacted communities.

Corrective justice is defined as fairness in the way that punishments for wrongdoing are assigned and how harms to individuals and communities are addressed.⁷¹ The aim of corrective justice is to attempt to restore the conditions the victim was in prior to the wrongdoing and to justly administer punishment.⁷² A call for corrective justice is seen in the environmental justice movement in calls to hold polluters strictly liable.

Finally, social justice is “that branch of the virtue of justice that moves us to use our best efforts to bring about a more just ordering of society—one in which people’s needs are more fully met.”⁷³ Key demands of social justice include that everyone in every class has enough resources to have their human needs met and that the more privileged classes are accountable to the rest of society as to how they use their privileges.⁷⁴ A social justice framework to environmental justice looks at the sociological factors, such as race, class, and

64. Robert R. Kuehn, *A Taxonomy of Environmental Justice*, 30 ENV’T L. REP. 10681, 10681 (2000).

65. *Id.* at 10683 (citing RONALD DWORKIN, *TAKING RIGHTS SERIOUSLY* 273 (1977)).

66. *Id.* at 10684.

67. *Id.*

68. *Id.* at 10688 (citing RONALD DWORKIN, *TAKING RIGHTS SERIOUSLY* 273 (1977)).

69. *Id.*

70. *Id.*

71. *Id.* at 10693.

72. *Id.*

73. Robert E. Rodes Jr., *Social Justice and Liberation*, 71 NOTRE DAME L. REV. 619, 620 (1996).

74. Kuehn, *supra* note 64, at 10698.

political power, that impact environmental decision-making. The social justice framework is much broader and more holistic than the other three frameworks, as it looks to societal structures and agents when deciding how to assess and address environmental harms.⁷⁵

One of the broader principles of environmental justice that was adopted by hundreds of activists at the First National People of Color Leadership Summit in 1991 are known as the Principles of Environmental Justice. Key principles included in the Principles of Environmental Justice are, inter alia: (a) the right of environmental self-determination, and the full participation of all peoples at all levels of decision making; (b) that past and current polluters should be held strictly accountable for cleaning up contamination they have caused; and (c) the right to a healthy natural world for future generations, and a sustainable planet for humans and other living things.⁷⁶

Oil wells and drilling operations have become a central part of the environmental justice conversation in California. Around 5.4 million people live within a mile of one or more oil or gas wells, with more than a third of them living in areas identified by CalEPA as the most burdened areas of environmental pollution.⁷⁷ Of those living in these heavily polluted areas (mainly in Los Angeles and Kern County), ninety-two percent are people of color.⁷⁸

Given the likelihood of people of color living near oil wells and of them already being burdened by pollution, it is necessary to use environmental justice frameworks to assess the laws and regulations on idle well management.

C. *Assessing the Current California Regulations for Idle Well Management Through an Environmental Justice Lens*

Given the public health, safety, and environmental risks associated with unplugged idle wells, California must act promptly to ensure that idle wells are properly plugged and abandoned. The risks of oil drilling and idle wells are not shared equally amongst Californians, so regulators should take the most impacted communities into consideration when making decisions regarding the process of plugging and abandoning idle wells. One method of analyzing the current laws and regulation of idle wells is by looking at them through the environmental justice theoretical frameworks.

This Subpart will assess the strengths and weaknesses of the updated California laws and regulations for idle well management, considering both

75. *Id.*

76. *Principles of Environmental Justice*, in PROCEEDINGS OF THE FIRST NATIONAL PEOPLE OF COLOR ENVIRONMENTAL LEADERSHIP SUMMIT xiii, xiii-xiv (Charles Lee ed., 1992) http://rescarta.ucc.org/jsp/RcWebImageViewer.jsp?doc_id=32092eb9-294e-4f6e-a880-17b8bbe02d88/OhCIUCC0/00000001/00000070&pg_seq=1&search_doc= [https://perma.cc/3F3S-XEW3]; Rechtschaffen, *supra* note 61, at 98–99.

77. Miriam Rotkin-Ellman, *Drilling in California: Who's at Risk?*, NAT. RES. DEF. COUNCIL (Oct. 23, 2014), <https://www.nrdc.org/resources/drilling-california-whos-risk> [https://perma.cc/AZY4-3B27].

78. *Id.*

the broader principles of environmental justice and the four environmental justice frameworks mentioned above: distributive justice, procedural justice, corrective justice, and social justice

1. Distributive Justice

Distributive justice focuses on the equitable distribution of environmental burdens and benefits. While the new regulations address distributive justice better, they still fall short of acknowledging and prioritizing those who are and have been the most impacted by oil drilling and idle wells.

There are several strengths that the California regulations have from a distributive justice perspective. According to CCR section 1772.4, operators must consider whether a well is in an urban area, has an environmentally sensitive wellhead, or whether there are indications that the idle well potentially poses a threat to life, health, property, or natural resources when prioritizing wells to be tested, plugged, and abandoned. In theory, this would encourage operators to test and plug wells that pose the greatest risks to communities first.

However, there are several weaknesses in the current regulations that a distributive justice framework raises. First, nowhere in CCR section 1772.4 does an operator need to consider the severity of the pollution in a well's vicinity when deciding to prioritize certain wells for testing, plugging, and abandonment. This may allow operators to delay testing and plugging for some wells that are leaking methane or other toxic gases into the surrounding community. As stated above, ninety-two percent of the communities that live within a mile of at least one oil or gas well in areas already burdened by pollution are communities of color. There is likely some overlap between wells that are in urban or environmentally sensitive areas and these communities. However, requiring operators to consider the current levels of pollution in the area surrounding their wells would better ensure that these communities are protected and that idle wells located in these communities are prioritized in plugging and decommissioning.

Second, the regulation defines "environmentally sensitive" to only encompass production facilities within 300 feet of buildings intended for human occupancy such as residences, schools, hospitals, and businesses. Although the current understanding of environmental harms posed by idle wells is limited, scientists have set the "safe" distance between 1,500 and 6,600 feet from active wells.⁷⁹ Although these setback recommendations are for active wells rather than idle wells, they are not entirely irrelevant. From a distributive justice perspective, while the idle wells were active, they were harming the community up to 1,500 to 6,600 feet away from it. Therefore, that community has already borne a disproportionate amount of the environmental burden from

79. Nicole J. Wong, *Existing Scientific Literature on Setback Distances from Oil and Gas Development Sites*, STAND-L.A. (Nov. 2017), https://www.stand.la/uploads/5/3/9/0/53904099/2500_literature_review_report-v2-share.pdf [<https://perma.cc/6AXV-46UL>].

these wells. Since these communities lived with the environmental burdens of the oil well while it was active, they should also be prioritized in the idle well testing, plugging, and abandonment process.

Lastly, although CCR section 1772.4 requires that operators and CalGEM take the location of the well into account when prioritizing wells, it need not be the deciding factor. Operators are allowed to take economic efficiency into account.⁸⁰ So, in theory, an operator can decide to prioritize the wells that would be cheaper to plug and decommission and to leave its more expensive wells, such as those in dense urban areas, for last. This would place communities, particularly low-income and communities of color, at more risk for more time.

2. Procedural Justice

Procedural justice focuses on a just and democratic decision-making process rather than the outcome. On the whole, the idle well management process does not allow for much public participation. For example, the decisions over testing, fees, prioritization, plugging, and abandonment are made by either the operators or by CalGEM with no public notice or hearing requirement. The impacted community from such decisions is seemingly kept out of the room. While the current regulations lack the basic structure to allow impacted communities and the broader public to weigh in on the decision-making process, there are some aspects of the regulations that could increase public involvement in decision-making. The new regulations call for an annual idle well inventory and evaluation.⁸¹ This annual inventory has the potential to increase public awareness of where idle wells are near their community, though it remains unclear what information from the inventory will be readily available to the public. Furthermore, PRC section 3206.2, added by AB 1328 in the 2019–2020 California legislative session, requires CalGEM, along with CARB, to conduct a study into fugitive emissions from idle wells. The section requires that the results of the study be published on CalGEM's website on or before January 1, 2023.⁸² The results of this study will allow the public to have a greater understanding of the risks associated with living near idle wells.

3. Corrective Justice

Corrective justice focuses on how punishment for wrongdoing is allocated. It aims to restore the victim to the situation they were in prior to the wrongdoing. Analyzing the situation through a corrective justice lens, there are several strengths and weaknesses to the current California laws and regulations for idle wells. When an operator decides to stop using its well, the operator bears the cost of properly plugging and decommissioning the well. This would be in line with a corrective justice framework of having the

80. CAL. CODE REGS. tit. 14, § 1772.4(a) (2021).

81. *Id.* § 1772.

82. CAL. PUB. RES. CODE § 3206.2(e) (Deering 2019).

“wrongdoer,” who in this case is the operator, punished for their actions—the polluter-pays principle. The polluter-pays principle could arguably also reflect a distributive justice framework in that the polluter internalizes the negative externalities, thus minimizing the costs borne by the surrounding community.

In practice, however, there are situations in which the polluter does not have to pay, such as when an operator goes bankrupt. When an operator goes bankrupt, the cost of plugging and decommissioning the newly orphaned well shifts to the State. While the State can use funds from the polluter’s indemnity bond to plug and decommission the well, the bond rarely, if ever, covers the cost of properly plugging and abandoning an idle well. Therefore, the cost of orphaned wells is ultimately borne by the “victims” of oil extraction—in this case, the surrounding communities. Currently, there is not an effective system for mitigating the issue of unplugged and abandoned wells or restoring those impacted in the surrounding community back to the position they were in prior to the oil production operation.

Additionally, the current regulations incentivize operators to keep their wells idle rather than properly plugging and abandoning their wells. Under a corrective justice framework, the low idle well fees that an operator pays while its wells sit idle do not adequately “punish” or deter the polluter, as the system allows the polluter to delay paying for its harms (plugging and decommissioning its wells). Despite the fact that the idle well fees collected by CalGEM during the time the operator keeps the well idle are used to plug and decommission orphan wells, those fees are simply too low to operate as a deterrent.

While under a corrective justice framework there are strengths to the current regulations—namely, that there is a nominal cost borne by the operator of plugging and decommissioning the well—the regulations ultimately fall short of ensuring that the wrongdoer is properly held to account.

4. Social Justice

Social justice focuses on the broader societal structures and agents that undergird environmental harms. Under a social justice framework, one may look at either the problem of idle wells or the problem of oil and gas extraction as broader issues connected to wealth inequality issues and racist housing policies. Many of those who live the closest to oil wells, particularly active wells, are low-income individuals who cannot afford to move to another neighborhood farther from a well.⁸³ Given the scope and complexity of the social justice implications of oil wells, there is little that CalGEM alone can do to address the issue. There are other avenues that can be explored to mitigate bigger picture factors, such as wealth inequality and structural racism, but those go beyond the scope of this comment.

83. Rotkin-Ellman, *supra* note 77.

II. PROPOSALS

Considering the four environmental justice frameworks noted above, there are four steps that CalGEM and/or the California State Legislature can take to better address the issue of idle well management while keeping low-income communities and communities of color in California protected. Both corrective justice and distributive justice would encourage laws and regulations which make the polluter internalize any negative externalities from its operations. Increasing the idle well fees and the indemnity bond amounts would help ensure that the “polluter pays,” and would discourage operators from leaving their wells idle in the long term. From a distributive justice perspective, adding cumulative impacts to the CCR section 1772.4 considerations would help regulators better protect the communities that have already borne the disproportionate impact of pollution from oil wells. Increasing idle well fees will both encourage operators to either plug and abandon their wells or to return their wells to use promptly rather than leave them idle. Lastly, procedural justice calls for more public participation in the decision-making process around idle well management. By taking these four steps, CalGEM and the California State Legislature can better protect the low-income and communities of color who have been impacted the worst from oil drilling.

A. *Increase Idle Well Fees*

Increasing idle well fees would help the State cover the costs of plugging and decommissioning orphaned oil wells. The fees collected by the State go into the Idle Deserted Well Abatement Fund, which the State can use to plug orphaned wells. In 2018, the State received \$4.3 million in idle well fees, though it is estimated to cost upwards of \$500 million to plug and abandon the orphan wells in the state.⁸⁴ Therefore, increasing the idle well fee amounts would help close that gap and enable the State to plug and abandon orphaned wells. Further, increasing idle well fees would encourage well operators to either return their wells to use or to plug and abandon their wells themselves with an IWMP, rather than leave them idle. Increasing the idle well fees will likely require an amendment to PRC section 3206.

B. *Increase Indemnity Bond Amounts*

Current indemnity bond amounts are insufficient to adequately cover the cost of properly plugging and decommissioning orphaned wells. With the lack of incentives for operators to plug and abandon their wells, the task and expense of properly plugging the wells will likely fall to the State. In light of this reality, the State needs to ensure that it has the necessary funds to properly plug these orphaned wells. The State can do so by increasing the amount of individual indemnity bonds and revising its categories for blanket indemnity bonds to increase the bond per well amounts. Enabling the State to properly

84. Henry, *supra* note 45; Ctr. for Biological Diversity, *supra* note 45.

plug and abandon orphaned wells in a timely manner will better protect communities near these wells from toxic and flammable emissions. Further, increasing the indemnity bond amounts to match the average cost it takes to plug and abandon a well in each location may also discourage new drilling in urban areas where it is more expensive to properly plug and decommission a well. Discouraging new drilling in urban areas will proactively protect the low-income communities and communities of color that typically incur the harms associated with urban oil drilling.

However, since an operator only files a bond when it engages in a new drilling operation or alters an existing well,⁸⁵ increasing the indemnity bond amount would not impact the thousands of wells already in operation or those that are idle.

Increasing the indemnity bond amount will likely require an amendment to PRC section 3204.

C. *Add Cumulative Impacts to CCR § 1772.4 Considerations*

CCR section 1772.4 provides a list of ten considerations that operators and CalGEM need to consider when deciding how to prioritize which wells to test, plug, and abandon. Of these considerations, cumulative impacts are not mentioned. Cumulative impacts are “exposures and public health or environmental effects from all sources of pollution in a geographic area.”⁸⁶ This includes factors that may make a person more vulnerable to the impact of pollution, such as age, economic status, race, and education.⁸⁷ Taking cumulative impacts into account may also help overcome the shortfalls of the regulatory definition of “environmentally sensitive” areas.⁸⁸

One could argue that such considerations could fall under CCR section 1772.4(9)—“any other indications that the idle well potentially poses a threat to life, health, property, or natural resources”—or that the areas already burdened by pollution would be encompassed in CCR section 1772.4(1)—“whether the idle well is a critical well, in an urban area, or has an environmentally sensitive wellhead.” However, since it is not explicitly stated in this regulation, it is not a necessary factor that operators or CalGEM must consider when prioritizing wells for testing and plugging and abandonment. There are already resources available through California’s Office of Environmental Health Hazard Assessment to indicate cumulative impacts in each area such as CalEnviroScreen. CalEnviroScreen is a tool which maps out which communities in California are most impacted by pollution and are vulnerable to its effects.⁸⁹ CalGEM

85. CAL. PUB. RES. CODE § 3204.

86. *About CalEnviroScreen*, CAL. OFFICE OF ENV’T HEALTH HAZARD ASSESSMENT, <https://oehha.ca.gov/calenviroscreen/about-calenviroscreen> [<https://perma.cc/4GHC-9XBB>] (last visited Nov. 18, 2020).

87. *Id.*

88. *See supra* discussion Part III.C.i.

89. *About CalEnviroScreen*, *supra* note 86.

could utilize such a tool when deciding which wells to prioritize with plugging, abandonment, and testing. This would likely require CalGEM to revise CCR section 1772.4 to include a cumulative impacts assessment to the prioritization of well plugging and abandonment and testing.

D. *Allow for Public Comment on Critical Prioritization Decisions*

The current idle well management program does not leave room for the public to participate in the process; rather, it leaves the management process to the operator and CalGEM. Allowing for the public to participate in the decision-making process, particularly regarding the prioritization of when certain wells are tested, plugged, and abandoned, will further ensure that operators are taking the community impact into account instead of just what is economically efficient for their company. In addition, allowing for public comment will likely bring greater awareness to the idle well problem in California. Greater awareness will hopefully lead to a reduction in accidents such as the 2019 explosion in Marina del Rey or the 2014 leak in Arvin. Greater public awareness will hopefully lead to more pressure on regulators to be diligent and vigilant with testing and properly decommissioning wells impacting communities in the state. Additionally, more awareness around the idle well problem will put construction crews and residents on alert when digging or working around an idle well site. Requiring public notice and comment during the prioritization process will likely require new legislation.

CONCLUSION

As California continues to phase out its oil and gas operations, more oil wells will become idle or orphaned. When a well is no longer active, the risk to the surrounding community and to the environment persists. A prompt and proper plugging and decommissioning of an idle well is necessary to best protect the surrounding community. Although CalGEM recently tightened its regulations for idle well management, these regulations still fall short of CalGEM's goal of "better protect[ing] public safety and the environment from the potential threats posed by idle wells."⁹⁰

When applying four environmental justice frameworks to analyze the new regulations, the regulations still fail to properly hold the operators accountable for cleaning up their wells and to ensure that the surrounding community does not end up bearing the environmental burden. To further tighten their regulations, CalGEM and or the state legislature need to: (1) increase idle well fees, (2) increase the indemnity bond amount, (3) add cumulative impacts to CCR section 1772.4 considerations, and (4) allow for public comment on critical prioritization decisions.

90. *Idle Well Program*, *supra* note 12.

