

Alex Rucker

Urban and Environmental Policy: Senior Comprehensive Project

Last Updated: November 25, 2025

Reimagining Plastic Regulation In California:

Evaluating Senate Bill 54 Using a Just Transition Framework

The Health, Environmental, and Social Inequities of Expanding Global Plastic Production..... 3
Economic Pressure on the Petrochemical Industry, Refinery Closures, and Risks to Workers and Energy Security..... 7
Alternatives to SB 54: Revising SB 54, A Carbon Tax, and Maintaining the Status Quo..... 14
Just Transition Criteria..... 18
Assessing How SB 54 and Its Alternatives Shape Environmental Benefits, Workforce Stability, and California’s Energy Future..... 21
Projected Impacts of SB 54 and Policy Alternatives on Communities and Workers.....23
Policy Recommendation: Diverting PRO Funds to Support Oil and Gas Worker Transition:..... 29
Summary: Aligning California’s Plastic Policy with a Just Transition for Workers:.....30

The Health, Environmental, and Social Inequities of Expanding Global Plastic Production

The influence of plastic materials in the global market has grown rapidly since its introduction in the post-World War II global economy. Plastic production rates stood at 2 million tonnes per year in 1950, but have since grown to almost 450 million tonnes as of 2024.¹ This increase in production has resulted in greater plastic waste, largely due to its widespread use as a single-use packaging material. As plastic's durability and inexpensive production costs grew its popularity, its applications expanded into many industries, leading to the creation of new plastic products with unique polymer blends.² Polymer blends influence the durability of the plastic, allowing for products to become easily moldable, heat resistant, and capable of being pigmented.³ Plastic's durability complicates effective disposal, since its half-life can extend for hundreds of years. Even when plastic decomposes completely, its microparticles continue to cause negative impacts on the environment.⁴

Plastic waste generation has exceeded 6.3 billion tonnes since 1950 with 80 percent of that waste leaking into human and natural environments, causing negative health impacts for various species.⁵ The refinement of crude oil creates petroleum blends that are used to make petrochemical products, like plastic, release pollutants into nearby communities. Corporations target low-income communities with inexpensive products like ultra processed food brands and polyester clothing that are marketed as affordable but that have significant plastic composition.⁶

Plastic is produced using harmful chemicals like phthalates, bisphenol A (BPA), and

¹ Ritchie, Hannah, Veronika Samborska, and Max Roser. 2023. *Plastic Pollution*. Our World in Data. <https://ourworldindata.org/plastic-pollution>.

² Dey, A., C. V. Dhumal, P. Sengupta, A. Kumar, N. K. Pramanik, and T. Alam. 2021. "Challenges and Possible Solutions to Mitigate the Problems of Single-Use Plastics Used for Packaging Food Items: A Review." *Journal of Food Science and Technology* 58 (9): 3251–3269. (p. 1) <https://doi.org/10.1007/s13197-020-04885-6>

³ Jambeck, Jenna R., and Imari Walker-Franklin. "The Impacts of Plastics' Life Cycle." *One Earth* 6, no. 6 (June 16, 2023): 600–606. <https://doi.org/10.1016/j.oneear.2023.05.015>

⁴ WWF-Australia. 2025. "The Life Cycle of Plastics." June 21, 2025. WWF-Australia. <https://www.wwf.org.au/blogs/the-lifecycle-of-plastics/>

⁵ P. G. C. N. T., N. Thathsarani, and A. S. Ratnayake. 2024. "The World of Plastic Waste: A Review." *Cleaner Materials* 11: Article 100220. <https://doi.org/10.1016/j.clema.2024.100220>. (p. 4)

⁶ United Nations Environment Programme. 2021. *Environmental Justice Impacts of Marine Litter and Plastic Pollution*. Nairobi: UNEP. <https://wedocs.unep.org/bitstream/handle/20.500.11822/35417/EJIPP.pdf> (p. 24)

polybrominated diphenyl ether (PBDEs) that can be transferred to the human body from plastic products.⁷ BPA in particular can cause a variety of issues, ranging from chronic respiratory disease to forms of cancer.⁸ As plastic waste accumulates, environmental effects like UV rays from sunlight, wind, and water degrade plastic material and cause the breakdown of microplastics.⁹ These tiny plastic particles, ranging from 1 micrometer to 5 millimeters, are easily inhaled and ingested, with some particles so small that they can absorb into human skin and with it, the harmful chemicals that comprise plastics.¹⁰ Microplastics continue to break down into smaller and smaller particles due to natural processes, showing up in various systems of the human body.¹¹ In 2021, microplastic particles were found for the first time in human placenta, implying that exposure to plastics has generational repercussions as particle absorption can pass onto newborn infants.¹² In its relatively short lifespan, plastic has infiltrated the global market and become a fixture of our daily lives, permeating everything from food packaging and clothing to piping and insulation, rendering our consumption of plastic and our exposure to its environmental and health impacts inescapable.

Around the world, communities of color disproportionately experience the adverse health impacts of plastic waste.¹³ Factors such as diet, food access, consumer good exposure, and proximity to industrial sites increase rates of exposure to plastic particles and promote an unequal relationship where low income communities are surrounded by industries that rely heavily on plastic production and usage.¹⁴ Throughout its life cycle, plastic affects communities

⁷ *Ibid*

⁸ *Ibid*

⁹ Winiarska, E., M. Jutel, and M. Zemelka-Wiacek. 2024. "The Potential Impact of Nano- and Microplastics on Human Health: Understanding Human Health Risks." *Environmental Research* 251: 118535. <https://doi.org/10.1016/j.envres.2024.118535> (p. 1)

¹⁰ *Ibid*, (p. 2)

¹¹ *Ibid* (p. 4)

¹² Ragusa, Antonio, A. Svelato, C. Santacroce, P. Catalano, V. Notarstefano, O. Carnevali, F. Papa, M. C. A. Rongioletti, F. Baiocco, S. Draghi, E. D'Amore, D. Rinaldo, M. Matta, and E. Giorgini. 2021. "Plasticenta: First Evidence of Microplastics in Human Placenta." *Environment International* 146: 106274. <https://doi.org/10.1016/j.envint.2020.106274> (p. 3)

¹³ United Nations Environment Programme. 2021. *Environmental Justice Impacts of Marine Litter and Plastic Pollution*. Nairobi: UNEP. <https://wedocs.unep.org/bitstream/handle/20.500.11822/35417/EJIPP.pdf> (p. 1)

¹⁴ Herrera, Veronica, and Daniel Coffee. 2024. *What Defines a Plastic-Burdened Community? An Environmental Justice Framework for Identifying Exposure Disparities and Informing Mitigation Investment*. UCLA Luskin Center for

that cannot afford to distance themselves from its impacts. Towards the end of its life cycle, plastic ends up in landfills and deposits that leak into surrounding spaces, typically areas populated by low income communities as well as natural spaces. Unequal plastic waste disposal practices between nations has become an issue on a global scale. The movement of transboundary hazardous waste from higher and middle income countries to lower income countries has grown to include plastics, as nations are dumping their waste onto smaller powers that lack the resources to process it properly.¹⁵

The uneven impacts of plastic and its effect on human and environmental health are irrefutable. Addressing these disparities in an industry that is growing rapidly due rising global demand is necessary to ensure that these existing dynamics are not perpetuated. In California, Senate Bill 54 (SB 54), passed in 2022, establishes a system of checks and balances for producers of plastic designed to limit the usage of single-use packaging and increase the recyclability of these materials within the California economy. The bill gained popularity as an alternative to a previous failed ballot initiative that called for a 0.01 cent tax on each polystyrene product intended for sale in California.¹⁶ SB 54 states that by 2032, California will cut single-use packaging by 25%, replace single-use plastic materials with recyclable and compostable alternatives, and recycle 65% of single-use packaging.¹⁷

An important facet of SB 54, and the focus of this policy analysis, is the establishment of Producer Responsibility Plan. Producers participate in the plan by joining a Producer Responsibility Organization (PRO), which is a non-profit industry group that holds producers

Innovation; Black Women for Wellness.

<https://bwwla.org/wp-content/uploads/2025/04/What-defines-a-plastic-burdened-community-Report.pdf> (p. 36)

¹⁵ Pratt, Laura A. 2011. "Decreasing Dirty Dumping? A Reevaluation of Toxic Waste Colonialism and the Global Management of Transboundary Hazardous Waste." *William & Mary Environmental Law & Policy Review* 35 (2): 581–623. <https://scholarship.law.wm.edu/wmelpr/vol35/iss2/5> (p. 584)

¹⁶ California Attorney General, *Title and Summary of Proposed Initiative Measure to Be Submitted Directly to the Voters (Initiative 19-0028A1: Recycling Products)* (Sacramento: Office of the Attorney General, State of California, January 8 2020),

<https://www.oag.ca.gov/system/files/initiatives/pdfs/19-0028A1%20%28Recycling%20Products%20%29.pdf>

¹⁷ California Legislature. 2022. *SB 54: Solid Waste: Reporting, Packaging, and Plastic Food Service Ware*. LegiScan. <https://legiscan.com/CA/text/SB54/id/2600075>

accountable to the fees and regulations established by SB 54. PROs fees will yield a revenue stream of \$500 million annually which will be utilized to address the impacts of the plastic industry on disadvantaged communities throughout California.¹⁸ SB 54 regulations were set by CalRecycle, California's statewide recycling agency that has been responsible for taking input from industry leaders and environmental groups on fair and desirable regulations.¹⁹

A potential consequence of SB 54 is that the PRO tax and additional fees will put pressure on oil and gas companies that are investing more heavily into petrochemical production. This is beneficial for environmental justice communities that have pushed for refinery closures and the abandonment of the oil and gas facilities in California. However, this rapid transition is potentially harmful for oil and gas workers who require additional support in transitioning out of the oil and gas industry. The implications of these market changes on workers create an additional need for funding to address workers' financial ability to transition out of the oil and gas industry safely and securely. SB 54 does not provide sufficient funding to address the needs of disadvantaged communities, let alone oil and gas workers who could be negatively affected by the bill. This policy analysis evaluates SB 54 under a Just Transition framework and specifically how SB 54 can be revised to address plastics' negative human and environmental impacts and support a clean transition away from petroleum and natural gas that is just for oil and gas workers.

To conduct this policy analysis, I applied thematic coding to newspaper articles and policy reports to examine past climate policies in California and inform my evaluation of SB 54. I incorporated quantitative data on plastic waste, plastic consumption and the state of the oil and gas industry to illustrate the connection between petrochemical production and the proposed SB 54 regulations. Using thematic coding, I developed Just Transition criteria, drawing on literature

¹⁸ *Ibid*

¹⁹ Winters, Joseph. "Gavin Newsom Delayed His Own 'Nation-Leading' Plastic Policy. Why?" *Grist*, March 20, 2025. <https://grist.org/regulation/newsom-delays-nation-leading-sb-54-plastic-policy/>

regarding the history of the Just Transition framework and its global implementation, to evaluate alternatives to SB 54. I define the policy problem in terms of SB 54's potential negative impacts on oil and gas working communities, particularly the financial pressure imposed by the producer fee and provide evidence on how restricting the petrochemical industry could contribute to refinery closures and exacerbate California's energy insecurity. I propose policy alternatives informed by SB 54's structure and prior climate policy, assessing them with Just Transition criteria to project the outcomes and confront economic and political tradeoffs. Ultimately, I recommend revising SB 54 to provide financial resources to oil and gas communities and examine the broader implications such revisions would have on California's climate policy landscape.

Economic Pressure on the Petrochemical Industry, Refinery Closures, and Risks to Workers and Energy Security

SB 54 creates a producer's tax that has the potential to negatively impact the bottom line of oil and gas companies that are investing heavily into the future of global petrochemical production and plastic usage. The structure of SB 54 establishes a Producer Responsibility Plan that requires plastic producers to participate in newly established Producer Responsibility Organizations (PROs). The PROs are tasked with certifying that producers are following the new regulation set for plastic production, distribution, and importation within California through SB 54.²⁰ As producers pay into the responsibility plan, the PROs will monitor their participation, imposing fees if regulations are broken. In addition to these minor regulatory fees, beginning in 2027, PROs will be responsible for collecting yearly tax from producers, amounting to \$500 million per year. Additionally, a \$150 million yearly tax fee will be collected from plastic resin manufacturers who supply producers that are participants of the PRO.²¹ In order to be able to

²⁰ *Ibid*

²¹ *Ibid*

produce as well as refine and distribute plastic resin, oil and gas companies must pay these PRO surcharges. This tax will place significant financial pressure on profit-driven producers, potentially affecting the effectiveness of SB 54.

The financial pressure created by SB 54 could incentivize companies to pull production out of California and potentially shut down refineries within the state. Chevron Phillips, which owns two of the highest producing crude oil refineries in California,²² has recently completed construction on three substantial petrochemical facilities in: Old Ocean, Texas; Cedar Bayou, Louisiana; and Ras Laffen, Qatar. These facilities, expected to start production in 2026, contain ethane and polyethylene units that can produce up to 18 billion pounds of ethane and polyethylene products per year.²³ Since Chevron Phillips is already closing down one of its larger refineries at the Phillips Los Angeles location in early 2026,²⁴ additional taxes and fees, like the PRO created by SB 54 could accelerate the departure of companies like Chevron Phillips that were already transitioning out of the California market.

The powerful lobbying efforts of the oil and gas industry in California have repeatedly blocked progressive climate policies similar to SB 54. Recently, Senate Bill 684, proposing a climate superfund where oil and gas companies pay for the negative impacts of climate disasters on California communities, was blocked by oil and gas lobbyists, who spent at least \$10.6 million on lobbying efforts against the bill, more than 10 times the amount that environmental justice groups spent in their efforts to get it passed.²⁵ The funds created by the superfund bill were also meant to be allocated towards disadvantaged communities, similar to

²² California Energy Commission. 2024. *California's Oil Refineries*. California Energy Almanac. <https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/californias-oil-refineries>

²³ Phillips 66 Company. 2024. *2024 Proxy Materials* [Proxy statement]. https://materials.proxyvote.com/Approved/718546/20240320/10K_566040/16.html

²⁴ Jao, Nichola. 2025. "Phillips 66 to Begin Winding Down Los Angeles-Area Refinery Next Week, Sources Say." *Reuters*, August 28, 2025. <https://www.reuters.com/business/energy/phillips-66-begin-winding-down-los-angeles-area-refinery-next-week-source-s-say-2025-08-28/>

²⁵ Smith, Hayley. 2025. "California's Plan to 'Make Polluters Pay' for Climate Change Stalls Again: Why Oil Companies Are Fiercely Opposed." *Los Angeles Times*, July 7, 2025. <https://www.latimes.com/environment/story/2025-07-07/why-californias-make-polluters-pay-plan-stalled-again>

SB 54. However, oil and gas companies focused their lobbying efforts on the costs that the bill will not only have on their business but also on California residents. Indeed, based on a report by the California Center for Jobs and the Economy, with the implementation SB 684, gasoline prices are expected to rise by 95% by 2027, with natural gas and electricity rates increasing by 117% and 8-16% respectively. The Center projects that there will be an additional 205,000 jobs lost statewide due to consumer spending, with a \$30 billion dollar reduction in GDP and significant loss in state tax revenue.²⁶ The Center also projects that the costs of SB 684 would have been felt by Californian taxpayers, not the oil and gas companies that were targeted. SB 684 shows how California's conflict with the oil and gas industry over climate policy implementation that holds the industry accountable can create policies that pass down the financial burden to consumers.

The abandonment of oil and gas refineries in California will create a greater dependence on sources of imported crude oil that have grown as California has lowered its refining capacity.²⁷ As refinery closures lower the capacity at which California can electrify its grid, the consumption of crude oil cannot be sustained by the production of crude oil within California. As of 2024, California's total electricity generation used approximately 62% renewable and 28% non-renewable sources, with more than one third of the non-renewable production being attributed to natural gas.²⁸ With Phillips Los Angeles and Valero Benicia closing at the end of the year, almost 18% of California's refining capacity will disappear with them.²⁹ Currently California can refine around 1.6 million barrels per day, with the daily consumption sitting around 1.4

²⁶ Center for Jobs & the Economy. n.d. *Superfund Executive Summary* [Executive summary].

<https://centerforjobs.org/wp-content/uploads/Superfund-Executive-Summary-FINAL.pdf>

²⁷ California Energy Commission. n.d. *Annual Oil Supply Sources to California Refineries*. California Energy Almanac. <https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/annual-oil-supply-sources-california>

²⁸ California Energy Commission. 2024. *2024 Total System Electric Generation*. California Energy Almanac. <https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2024-total-system-electric-generation>

²⁹ California Energy Commission. 2024. *California's Oil Refineries*. California Energy Almanac. <https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/californias-oil-refineries>

million barrels as of 2024.³⁰ After losing capacity, California will not be able to refine crude oil at a rate that sustains the present consumption needed to keep the electricity grid powered as well as meet the demand for transportation fuels. As a result, California will continue a trend of replacing a drop in state refining capacity with imported crude oil products.³¹ As California becomes more dependent on imported crude oil, California oil and gas workers will potentially bear the brunt of the economic impacts associated with the decrease in in-state refining capacity, losing wage and retirement benefits from union contracts at refinery sites.

A lack of appropriate transition planning, including retraining initiatives, financial assistance for workers, and strategies to mitigate declining tax revenues in affected communities has resulted in job loss, diminished financial security, and limited opportunities for workers to obtain comparable employment. At a few Phillips refineries that were shut down in Washington in 2021, property tax revenues decreased by upwards of \$20 million, with approximately 3,400 workers losing their jobs.³² Phillips ended up reinstating a few refineries which were converted into oil terminals and alternative processing units. However, the worker capacity needed to operate these new facilities was dramatically lower compared to the previous refineries, causing a majority of workers to lose their positions.³³ As refineries close without addressing the issues caused by an unplanned transition, oil and gas companies shirk their responsibility to protect their workers in the pursuit of profit. Although liberating the economy from its reliance on non-renewable sources is an important action to protect the environmental interest of communities, refinery shutdowns create new disadvantaged groups of workers. Utilizing a Just Transition framework, which promotes an equitable clean energy transition for working communities, will help policies like SB 54 fulfill California's ambitious

³⁰ *Ibid*

³¹ Ellis, Stan, Michael Mische, and Michael Ariza. *California Energy & Fuel Policies: A Clear and Present Threat to National Security and Force Readiness?*. October 21, 2025. <https://ad32.asmr.org/wp-content/uploads/2025/10/CA-Impact-on-Force-Readiness.pdf>.

³² Moore, Eric. 2022. *The High Costs of Unplanned Oil Refinery Closures* [Report]. Sightline Institute. <https://www.sightline.org/wp-content/uploads/2022/11/Report-High-Costs-of-Unplanned-Refinery-Closures.pdf> (p. 3)

³³ *Ibid*, (p. 4)

environmental goals while protecting formal oil and gas workers who are displaced as a result of policy implementation.

Evaluating SB 54 under a Just Transition framework requires insight into both the framework's definition and history. The Just Transition framework was created in 1993 by Tony Mazziochi, who was Vice President of the Oil, Chemical, and Atomic Worker Union (OCAW) at the time. The OCAW recognized that a transition to cleaner energy sources was inevitable as the need for environmental protection became politically relevant. The OCAW recommended a superfund to address the needs of workers impacted by job loss and job insecurity as a result of environmental protections and policy changes.³⁴ While the core aim of the Just Transition is protecting working communities, its influence has grown in global climate discussions, with the Just Transition referenced in the preamble of the Paris climate accords at the United Nations in 2015. Later, a declaration of the importance of protecting working communities was a product of discussions at the United Nations' COP meeting in 2021, which received signatures from some of the world's largest polluting economies including the United States, China, and the United Kingdom.³⁵ Mazziochi developed the Just Transition framework in order to address the tension within the "Jobs vs. the Environment" narrative that had been pushed onto working communities by companies who convinced their workers that environmental regulations would come with economic costs that would negatively impact working communities.³⁶ Mazziochi recognized that workers bore the brunt of economic impacts due to climate policy implementation and companies were exploiting that insecurity to influence industry workers to oppose climate initiatives that they believed would affect their job security and financial wellbeing.³⁷

³⁴ Wang, X. 2021. "Just Transition: A Conceptual Review." *Sustainable Finance and Investment* 11 (3): 83–111. <https://doi.org/10.1016/j.sfin.2020.100354> (p. 2)

³⁵ Cha, J. Mijin. 2024. *A Just Transition for All: Workers and Communities for a Carbon-Free Future*. Cambridge, MA: The MIT Press. <https://doi.org/10.7551/mitpress/15174.001.0001> (p. 26)

³⁶ J. Mijin Cha, *A Just Transition for All: Workers and Communities for a Carbon-Free Future* (Cambridge, MA: The MIT Press, 2024), <https://doi.org/10.7551/mitpress/15174.001.0001> (p. 29)

³⁷ *Ibid* (p. 30)

The notion that environmental protection interferes with workers' interests is the groundwork for clashes between labor and climate organizing initiatives. The environmental justice movement prioritizes rapid carbon transition over incorporating union leadership and workers from the oil and gas industry, causing labor unions to align with oil and gas companies.³⁸ Additionally, there is disagreement between labor unions over the legitimacy of backing oil and gas companies in policy disputes. In California, United Steelworkers, the successor to the OCAW, sponsored a Just Transition roadmap for California in 2024. The roadmap was created in response to the State Building and Construction Trades Council of California, also known as the Trades, which opposed a progressive climate bill aimed at restricting oil drilling around schools and communities in California.³⁹ The tension between advancing effective climate policies and a green transition, while also addressing the repercussions of these policies on working communities, contributes to the confusion of what a Just Transition should entail.

Further debate has emerged within the Just Transition framework over what principles it should follow to address the needs of both environmental and labor groups. Compensatory, distributive, and procedural justice are considered the most prominent within literature discussing the Just Transition framework. Compensatory and distributive justice establish that communities that have been impacted should be compensated and the burden of climate action should be disproportionately larger for communities that did not suffer from past harms. Procedural justice is achieved by including those same communities of people in the process of implementation and policy creation, so as to include the perspectives of members that have a stake in the future of their communities. Respectively, these forms of justice aim to address past harms of existing inequalities, prioritize unequally impacted communities for resource allocation,

³⁸ Ibid, (p. 3)

³⁹ Bedayn, Jesse. 2022. "‘Just Transition’ Bill for Oil Industry Workers Exposes Labor Rift." CalMatters (February 17). <https://calmatters.org/california-divide/2022/02/just-transition-bill-for-oil-industry-workers-exposes-labor-rift/>

and involve the perspectives of those disproportionately affected in the decision-making process. Creating social dialogue that is inclusive allows communities to play a role in shaping the policies that affect their communal well-being and should involve their desires as a driving force. Incorporating community members also exemplifies the concept of intergenerational justice, which highlights the importance of using generational knowledge in decision-making to create change into the next generation.⁴⁰ Ultimately, implementing change through a Just Transition process requires acknowledging both the long- and short-term effects of policy, and how each of these effects can perpetuate or create new power disparities within communities involved in the decision-making.⁴¹ Effective policy implementation must address both the environmental and labor interests prioritized in the Just Transition movement. Protecting job security and creating positive environmental change can coincide with one another, it is up to policymakers to appeal to both sentiments.

Alternatives to SB 54: Revising SB 54, A Carbon Tax, and Maintaining the Status Quo

To evaluate how California can best utilize SB 54 to achieve a clean energy transition and protect oil and gas workers from financial hardship, it is important to consider alternatives that address the limitations of SB 54's funding allocation. Effective alternatives must provide resources for workers in a pressured California oil and gas industry, reduce harmful plastic usage and single use plastic product pollution rates, as well as promote an effective clean energy transition. Policy alternatives evaluated in this section include: (1) revising SB 54 to allocate funding towards the Displaced Oil and Gas Worker Fund; (2) creating a carbon tax in addition to implementing SB 54; and (3) maintaining the status quo and keeping SB 54 as is. Evaluating these alternatives using a Just Transition framework helps California to achieve

⁴⁰ Tribaldos, Theresa, and Teea Kortetmäki. 2022. "Just Transition Principles and Criteria for Food Systems and Beyond." *Environmental Innovation and Societal Transitions* 43: 244–256. <https://doi.org/10.1016/j.eist.2022.04.005>

⁴¹ Atteridge, Aaron, and Claudia Strambo. 2020. *Seven Principles to Realize a Just Transition to a Low-Carbon Economy* (Policy Report). Stockholm Environment Institute. <https://www.sei.org/wp-content/uploads/2020/06/seven-principles-for-a-just-transition.pdf> (p. 7)

ambitious environmental goals while ensuring an equitable workforce transition and protecting communities disproportionately impacted by the climate crisis.

The first alternative to consider is revising SB 54 to divert a portion of PRO tax revenue to the State of California General Fund for the Displaced Oil and Gas Workers. Under SB 54, a producer responsibility tax requires a \$500 million surcharge from plastic manufacturers and distributors, as well as a \$150 million surcharge from plastic resin manufacturers.⁴² The General Fund for Displaced Oil and Gas Workers fund currently receives grants from the California state government, which it uses to fund private organizations that create training programs for oil and gas workers as well as financial advice and transition plans.⁴³ The funding generated by the PRO tax is currently allocated toward disadvantaged communities within California. California legislature designates disadvantaged communities through the definition introduced in SB 535, which states that the California Environmental Protection Agency (CalEPA) is responsible to use evaluative criteria based on environmental, geographic, and socioeconomic hazards to distinguish which communities are priority for investment.⁴⁴ CalEPA utilizes CalEnviroScreen (CES) 4.0, a place-based model that uses pollutant indicators and population characteristics to calculate a relative score for each neighborhood; the higher the score, the more that community faces and is vulnerable to exposure to harmful environmental health hazards.⁴⁵

CES 4.0 measures the negative impacts of exposure to industrial sites, including upstream sites at the beginning of the plastic manufacturing process. Upstream sites, such as

⁴² California Legislature. 2022. *SB 54: Solid Waste: Reporting, Packaging, and Plastic Food Service Ware*. Chapter 75, Statutes of 2022. <https://legiscan.com/CA/text/SB54/id/2600075>

⁴³ Employment Development Department. 2024. "The EDD Awards \$26.7 Million to Provide Job Training and Support Services to Displaced Oil and Gas Industry Workers" [News release, February 8, 2024]. https://www.edd.ca.gov/en/about_edd/news_releases_and_announcements/the-edd-awards-%2426.7-million-to-provide-job-training-and-support-services-to-displaced-oil-and-gas-industry-workers/

⁴⁴ California Legislature. 2012. *SB 535: California Climate Investments and Disadvantaged Communities* (Chapter 830, Statutes of 2012). <https://legiscan.com/CA/text/SB535/id/662107>

⁴⁵ Office of Environmental Health Hazard Assessment. 2021. *CalEnviroScreen 4.0 Report*. California Environmental Protection Agency. <https://www.oehha.ca.gov/sites/default/files/media/downloads/calenviroscreen/report/calenviroscreen40reportf2021.pdf>

oil refineries and gas wells, expose surrounding communities to toxic air pollutants and volatile organic compounds, which leak into surrounding natural spaces and neighborhoods. As explained above, exposure can cause adverse health impacts, including cardiovascular and respiratory issues, leaving community members impacted.⁴⁶ However, focusing on surrounding communities of upstream sites to distinguish disadvantaged communities leaves out workers who experience similar environmental health impacts from plastic production but are not considered a priority for investment through the current definition of disadvantaged communities. While the oil and gas workers may live in the disadvantaged communities that surround their worksites, the current legislation does not take into account the economic impact on their job security.

In order to address this disparity in allocated resources, SB 54 could be revised to allocate a portion of the PRO tax revenue to the existing Displaced Oil Gas Workers Fund as a means to acknowledge workers as a disadvantaged community and support not only their health but also protect their economic interests. The Oil and Gas Workers fund received \$26 million from the Employment Development Department in 2024,⁴⁷ which was celebrated as a step by the California government to provide financial support for oil and gas workers, however the fund is in need of additional resources. The fund's resources are distributed to private entities such as trade unions and environmental justice organizations that use the funding to provide programming for their members. These entities need upwards of 1.3 billion dollars to provide sufficient programming to their members.⁴⁸ Reallocated SB 54 revenue would make a

⁴⁶ Herrera, Veronica, and Daniel Coffee. 2024. *What Defines a Plastic-Burdened Community? An Environmental Justice Framework for Identifying Exposure Disparities and Informing Mitigation Investment*. UCLA Luskin Center for Innovation; Black Women for Wellness.

<https://bwwla.org/wp-content/uploads/2025/04/What-defines-a-plastic-burdened-community-Report.pdf> (p. 15)

⁴⁷ Employment Development Department. 2024. "The EDD Awards \$26.7 Million to Provide Job Training and Support Services to Displaced Oil and Gas Industry Workers" [News Release, February 8].

https://www.edd.ca.gov/en/about_edd/news_releases_and_announcements/the-edd-awards-%2426.7-million-to-provide-job-training-and-support-services-to-displaced-oil-and-gas-industry-workers/

⁴⁸ Pollin, Robert, Jeannette Wicks-Lim, Shouvik Chakraborty, Caitlin Kline, and Gregor Semieniuk. 2021. *A Program for Economic Recovery and Clean Energy Transition in California*. Amherst, MA: Political Economy Research Institute, University of Massachusetts Amherst.

<https://peri.umass.edu/wp-content/uploads/joomla/images/CA-CleanEnergy-6-8-21.pdf> (p. 9)

contribution to the enormous sum required to effectively initiate a clean energy transition to support working Californian communities.

The second alternative to consider is maintaining the existing SB 54 policy and complementing it with a statewide carbon tax in California. Revenue generated from the carbon tax could be allocated towards oil and gas worker transition initiatives. It could also be distributed to compensate communities that have been historically impacted by climate events in California as well as other working communities impacted by the transition out of non-renewable energy. Carbon taxes that were implemented in the UK and at the municipal level in the U.S. have been used for carbon mitigation programs as well as directly returning funds back to customers.⁴⁹ Creating a carbon tax would replace the existing cap-and-trade system, where instead of using carbon tax credits, a carbon tax base rate would be created and implemented on a per unit basis. A cap-and-trade system places a “cap,” or an upper limit, on carbon emissions that decreases each year and allows polluters to buy and sell credits. Companies are provided allowances to pollute that can be transferred between one another, adjusting their pollution rates. The issue with this structure is that wealthier companies that exceed their carbon allowances can afford to purchase unused allowances from smaller entities. This allows larger companies to use allowances to pollute at comparatively high rates than before the implementation of cap and trade.⁵⁰ In California, this system has caused certain communities to feel the effects of increased pollution rates from surrounding industrial sites. As certain facilities have purchased allowances and increased their GHG emissions, the rates of co-pollutant exposure have risen as well. The term “Co-pollutants” describe PM2.5 and other smaller emissions that have higher exposures rates within neighborhoods in immediate proximity to facilities. Although a cap limits the total GHG emissions in the state, high-emitting

⁴⁹ Sumner, Jenny, Lori Bird, and Heather Dobos. 2011. “Carbon Taxes: A Review of Experience and Policy Design Considerations.” *Climate Policy* 11 (2): 922–943. <https://doi.org/10.3763/cpol.2010.0093> (p. 4)

⁵⁰ Metcalf, Gilbert E. 2021. “Carbon Taxes in Theory and Practice.” *Annual Review of Resource Economics* 13: 245–265. <https://doi.org/10.1146/annurev-resource-102519-113630> (p. 255)

facilities continue to generate co-pollutants, exacerbating negative impacts on disadvantaged communities in California. Cap and trade raises ethical concerns regarding its legitimacy in promoting an equitable cleaner energy transition when it is creating newly disadvantaged communities.⁵¹

In a global context, regression analysis on data comparing EU countries with a carbon tax and a control group of EU nations without a carbon tax reveal how existing carbon tax systems have been considered ineffective due to their implementation, as tax exemptions as well as relatively low tax rates influence the effectiveness of a carbon tax in developing substantial revenue to incentivise markets to shift.⁵² Additionally, concerns regarding the revenue stream generated by carbon tax has created distrust in North America with government systems and their publicly perceived ability to allocate tax revenue fairly back into the economy.⁵³ To respond to these global conflicts in carbon tax policy, an ideal California carbon tax would adopt a high rate with few exemptions and dedicate its revenues to Just Transition initiatives, thereby mitigating concerns over governmental allocation of carbon-tax funds.

The final alternative is to allow SB 54 to be implemented as it stands now. If no changes are made, SB 54, through its implementation of the PRO tax, will successfully create a yearly tax revenue that resembles the failed proposed Superfund in SB 684, which attempted to force oil and gas companies to pay for the negative environmental, social, and economic impacts that climate changes and plastic pollution have had on Californian communities. SB 54 will put economic pressure on oil and gas companies, which will have negative impacts on workers and the state of California's energy security, however putting pressure on oil and gas companies is

⁵¹ Cushing, Lara, Dan Blaustein-Rejto, Madeline Wander, Manuel Pastor, James Sadd, Allen Zhu, and Rachel Morello-Frosch. 2018. "Carbon Trading, Co-pollutants, and Environmental Equity: Evidence from California's Cap-and-Trade Program (2011–2015)." *PLOS Medicine* 15 (7): e1002604. <https://doi.org/10.1371/journal.pmed.1002604>

⁵² Metcalf, Gilbert E. 2021. "Carbon Taxes in Theory and Practice." *Annual Review of Resource Economics* 13: 245–265. <https://doi.org/10.1146/annurev-resource-102519-113630> (p. 254)

⁵³ Hsu, Shi-Ling. 2011. *The Case for a Carbon Tax: Getting Past Our Hang-ups to Effective Climate Policy*. Washington, DC: Island Press. (p. 27)

necessary in a clean transition in order to create economic change that develops a cleaner economy. SB 54 and its ambitious recycling program will decrease the usage of single-use packaging materials and create new industries surrounding sustainable packaging products in California. Dropping single-use plastic usage rates will benefit California communities who are negatively impacted by plastic pollution and the health burdens that it creates for communities. SB 54 will be effective in its ability to reduce plastic usage and production in California. However evaluating SB 54 using Just Transition criteria creates points of growth for SB 54 to expand its reach in supporting a clean energy transition.

Just Transition Criteria: Inspired by Foundational Just Transition Principles

The criteria chosen to evaluate SB 54 are based on the foundational principles of justice that guide the Just Transition framework outlined by Atteridge and Strombo.⁵⁴ Compensatory and distributive justice and political and administrative feasibility are the key elements of an effective Just Transition. In the case of SB 54, these elements will drive the evaluation of alternative policy changes and be used to determine their success. Listed are the four criteria as they apply to oil and gas workers, in particular:

1. **Compensatory Justice:** Alternatives must provide sufficient compensation to oil and gas working communities in California in response to the economic pressures that SB 54 will put on the oil and gas industry to potentially shut down facilities. Resources provided by alternatives will contribute to covering the economic costs of transitioning into new job opportunities and protect oil and gas workers throughout later stages of their careers.
2. **Distributive Justice:** Identify who benefits and who is burdened by the implementation of each alternative. This criteria aims to address the shortcomings of progressive climate

⁵⁴ Atteridge, Aaron, and Claudia Strambo. 2020. *Seven Principles to Realize a Just Transition to a Low-Carbon Economy* (Policy Report). Stockholm Environment Institute. <https://www.sei.org/wp-content/uploads/2020/06/seven-principles-for-a-just-transition.pdf> (p. 7)

policies in California, such as the cap-and-trade system, which allows oil and gas companies to pollute at higher rates at the expense of disadvantaged communities. Trade-offs need to be considered as to what extent the burdens and benefits of these changes affect stakeholders and what effects must be accepted in order for greater positive impact.

3. **Political feasibility:** Assess the support that the alternative will garner from key stakeholders. Labor groups, industry leaders, political leaders, and environmental justice organizations will be considered. Identify how this support will affect implementation and efficacy. Analyzing past responses from these stakeholders to similar changes will reveal what future political hurdles the implementation of alternatives could incur.
4. **Administrative Feasibility:** Assess whether there are sufficient resources available to implement each alternative to its highest potential for positive change. Identify where the money is coming from and where it will go, acknowledging the political nature of resource transfer in government.

Assessing How SB 54 and Its Alternatives Shape Environmental Benefits, Workforce Stability, and California's Energy Future

Implementing the current version of SB 54 will curb the production of single-use plastic products and limit the disposal of single-use plastic waste in disadvantaged communities in California. Further into its implementation, SB 54 will create demand for compostable and recyclable materials and shift market dependency away from petrochemical production in the packaging sector. Strict regulations will mandate increasing the usage rates of compostable and recycled materials while creating labeling restrictions on single-use products. SB 54 establishes

the Producer Responsibility Plan, requiring producers to adhere to the regulations established by CalRecycle to achieve SB 54's goals. A producer tax will lead to revenue allocated towards disadvantaged communities that have been disproportionately impacted by plastic pollution in California. SB 54 ensures that the recyclability of single-use plastic materials increases to the desired rate by 2032, while promoting compostable products and compensating communities for past effects of plastic production and pollution from upstream and downstream sites. The positive impacts of SB 54 in its effectiveness in holding petrochemical and plastic resin manufacturers accountable for the plastic crisis in California cannot be understated.

Implementing SB 54 will contribute to an already stringent regulatory environment for oil and gas companies in California that has recently led to the shutdown of refineries across the state. The high value of the PRO tax and its strict regulations will increase the cost of operating in the state for oil and gas companies, incentivizing them to relocate their operations out of California to meet their bottom lines. As refineries shut down, the supply of refined crude oil that meets the environmental standards in California will drop significantly, leading to a state of energy security where the in-state demand is higher than the supply. The state will ultimately put a financial burden on consumers as demonstrated by the refinery closures at Phillips Los Angeles and Valeri Benficia that are estimated to cause a \$1.21 increase in gasoline prices in 2026. This could result in California gasoline prices being over \$2.50 higher than in the rest of the country.⁵⁵ The added financial burden on consumers from climate policies like SB 54 weighs on oil and gas workers, who will deal with higher prices on carbon-intensive products that contribute to financial insecurity through a high cost of living in California.

A revision of SB 54 requiring a partial diversion of funds to the Displaced Oil and Gas Worker Fund will provide funding to transition programming that offers resources to workers

⁵⁵ Colina, Armando R., Bulat Gafarov, and Jens Hilscher. 2025. "California Gas Prices Are Set to Increase Significantly in 2026." *ARE Update* 28, no. 5 (May/June): 9-11. Giannini Foundation of Agricultural Economics, University of California. <https://giannini.ucop.edu/filer/file/1750172952/21349/> (p. 11)

affected by refinery closures and layoffs throughout the state. Allocating resources to these organizations will strengthen programming to prepare for future stages of a clean energy transition. Funding mitigates the negative impacts that inadequate retraining initiatives and later stage career benefits will have on the well-being of oil and gas workers who need extra resources to protect their financial well-being and find new job placement. Just Transition programming, funded by oil and gas companies through the PRO tax, will hold companies accountable for their historical lack of support for workers who are reluctant to leave positions without assurance of opportunities outside of the refinery. In California, policies like cap-and-trade and SB 54 promote a clean energy transition through systematically phasing out the need for the oil and gas industry. Revising SB 54 to provide funding for transition programming for oil and gas workers will anticipate the unintended consequence that these climate policies have in promoting a transition that leads to facilities shutting down and subsequent job loss. Diverting a portion of PRO tax surcharge funds from the Plastic Pollution Mitigation Fund to the Displaced Oil and Gas Worker Fund would reduce the amount of funds sent to communities in California that have been identified as disadvantaged by CalEPA. Reduced funding could limit the potential for the positive impact that the initial allocated sum had in these communities. Opening up new funding streams for oil and gas workers, however, will broaden the scope of what classifies disadvantaged communities in California and bring oil and gas workers into the fold.

Maintaining the status of SB 54 and implementing a state-wide carbon tax with a per-unit tax rate will create additional tax revenue that can be used to fund just transition programming as well as support disadvantaged communities in California. The impacts of SB 54 on the plastic industry will proceed as predicted above, while California's existing cap-and-trade system will be replaced by the carbon tax. Due to implementation that encapsulates a larger share of economic activity, carbon tax revenues would exceed revenues generated by the current

cap-and-trade system.⁵⁶ Increased tax revenue is beneficial for state and local governments, which ideally reallocates funds towards clean energy transition initiatives or back into the carbon tax structure. A carbon tax will reduce greenhouse gas emissions long-term, while holding companies financially accountable for the negative impacts that emissions have had on the natural and human environment. The costs of climate taxes are passed down to consumers, who end up paying for the environmental costs of carbon-intensive products. This leads to higher prices of carbon-intensive goods, including gas prices, which in California have already been higher compared to the rest of the nation. The increase in the cost of living due to higher carbon-intensive product prices will be burdensome for low-income communities that already deal with high living costs in California. The positive impact of the carbon tax in the case of SB 54 would be its revenue stream, which could provide significant funding for initiatives like the Displaced Oil and Gas Worker Fund.

Projected Impacts of SB 54 and Policy Alternatives on Communities and Workers

In this section, I evaluate each of the alternatives to SB 54 based on the Just Transition criteria. The following table shows the projected trade-offs of each alternative, providing a comparison of their strengths, weaknesses, and alignment with a Just Transition framework. w

Table: Summary of trade-offs based on a Just Transition framework

Alternative	Compensatory Justice	Distributive Justice	Political Feasibility	Administrative Feasibility
-------------	----------------------	----------------------	-----------------------	----------------------------

⁵⁶ Carl, Jeremy, and David Fedor. "Tracking Global Carbon Revenues: A Survey of Carbon Taxes Versus Cap-and-Trade in the Real World." *Energy Policy* 96 (2016): 50–77. <https://doi.org/10.1016/j.enpol.2016.05.023> (p. 52)

Maintain SB 54 (status quo)	Limited compensation for oil and gas workers; PRO funds benefit disadvantaged communities but not working communities affected by economic pressures.	Benefits recyclable and compostable single use product producers and California policymakers; oil and gas workers bear burdens from employer financial pressures.	Already implemented; supported by policymakers and environmental groups; opposition from industry may continue.	Administrative structures already in place (PRO tax collection, fund distribution); limited scope for new allocation to oil and gas workers.
Divert SB 54 PRO funds to Oil & Gas Workers Fund	Provides compensation to oil and gas workers for retraining, end-of-career support and time to find new positions; supports worker transition throughout later stages of careers.	Benefits oil and gas workers but reduces funding for the Plastic Pollution Mitigation Fund; disadvantaged communities receive fewer resources for waste removal and other services.	Likely supported by lawmakers who voted for SB 54; opposed by oil and gas companies who see workforce transition funding as a threat to worker retention.	Requires reallocation of PRO tax funds. Reduces resources for other programs; implementation involves legislative amendment and Governor approval.
Implement a state-wide carbon tax	Generates revenue that could fund just transition programs benefiting oil and gas workers, covering some economic costs of the transition.	Burden consumers with higher prices on carbon-intensive goods; benefits oil and gas workers if revenue is allocated to transition programs; distributes costs differently compared to the current cap and trade system.	Faces opposition from policymakers supporting cap and trade and from oil and gas companies exploiting current credits; consumer opposition likely due to higher prices.	Requires administration via ballot initiative and new tax collection system; transitioning from cap and trade is politically and administratively complex; large-scale coordination needed.

Senate Bill 54 does not currently provide support or compensation for oil and gas workers who might potentially lose their jobs as a result of this legislation. The PRO tax surcharge provides benefits to communities that CalEPA designates as disadvantaged; however, it fails to account for other constituencies, including workers who experience the economic repercussions of aggressive climate policies. The bill expands the reusable single-use product market and benefits sustainable product producers that can meet the increased demand in California, as recycled materials are expected to account for 60% of consumption rates by 2032. SB 54 also benefits California policymakers who are able to push their broader environmental goal of producing a cleaner economy. While policymakers and some industry groups benefit significantly, working communities in the petrochemical and oil and gas industries in California will be financially burdened by strict environmental regulations like those established under SB 54.

While SB 54 has unintended consequences that will burden California communities, it is a landmark bill that represents a shift in plastic regulation towards addressing the longstanding negative impacts of plastic production and a huge share of the single-use plastic product industry globally and within California. The \$650 million fund can sufficiently cover the yearly cost of \$490 million that California cities collectively spend on waste removal from human-made and natural spaces.⁵⁷ If the funds of SB 54 are allocated accordingly to disadvantaged communities, the surcharge can cover their lower waste removal costs relative to the greater cumulative cost of waste removal for California cities. SB 54 adequately addresses existing disparities in plastic pollution exposure, holds oil and gas companies financially accountable and uses those funds to aid in cleaning up communities.

⁵⁷ Monroe, Leila, *Waste in Our Waterways: Unveiling the Hidden Costs to Californians of Litter Clean-Up*. Issue brief, Natural Resources Defense Council, August 2013. <https://www.nrdc.org/sites/default/files/ca-pollution-in-waterways-IB.pdf> (p. 3)

Diverting a portion of SB 54 PRO funds to the Displaced Oil and Gas Worker Fund provides compensation to private organizations that provide substantial transition programming for oil and gas workers. Oil and gas workers would benefit from more resources invested into retraining costs, end-of-career compensation, as well as buy time for workers to find positions with sufficient wages. In order to divert funds, the funding stream from SB 54 would change, reducing the amount of money that is allocated towards the Plastic Pollution Mitigation Fund. This would cut financial resources that would otherwise be allocated towards disadvantaged communities and used towards waste removal and other services. In order to implement the diversion of funds, a new amendment could be authored by a general assembly committee member calling for a change in funding allocation from the PRO tax. If voted through by the committee, the amendment would be brought to both houses for majority approval before receiving a final signature from the Governor. This amendment would likely be supported by lawmakers who already voted in favor of the first edition of SB 54. Pro SB 54 lawmakers would be incentivized to vote in favor of the revision because it broadens the scope of the funding's impact to a wider range of communities. Oil and gas companies are not only held accountable for the impacts of plastic but also the transition security of their workers. This could cite a negative response from oil and gas companies that see additional funding going towards transition programming as a threat to workforce retention.

Oil and gas companies have restricted the release of training certificates for workers, limiting their ability to leave their position and find work elsewhere. In a recent development, Senate Bill 513 (SB 513) passed, prohibiting companies from withholding training records for employees.⁵⁸ SB 513 limits oil and gas companies' power in preventing their workers from leaving in light of the dwindling prospects of the oil and gas industry and shutdowns of refineries in California. In tandem with additional funding going towards transition programming,

⁵⁸ California Legislature. *Senate Bill 513: Personnel Records*. 2025–26 Reg. Sess. California Legislature. Chapter 654. Enrolled October 11, 2025. https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202520260SB513

companies will potentially see workers leaving their positions instead of being forced to hold out until the refinery officially closes. Ultimately, with newly allocated funding made available from the PRO, the amount will not be sufficient to cover the 1.3 billion dollar estimated yearly cost of adequate steady and episodic transition programming in California.⁵⁹ The funds diverted through this alternative would be a step in the right direction, paving the way for further policy reform that prioritized ending funding to just transition initiatives in the state.

Implementing a state-wide carbon tax would generate tax revenue, which in turn could be allocated towards Just Transition programming that benefits oil and gas working communities. This would require a per unit emissions tax paid by CO2 emitters, burdening consumers with higher prices on carbon intensive goods and services. In a carbon tax structure, oil and gas companies would pay for the environmental costs of emissions, creating funds that could be recycled to benefit state wide funds geared towards combatting the negative impacts of climate issues and their effects on workers. The tax would be implemented through a ballot initiative, gathering signatures from California residents to secure a spot on an upcoming ballot.

The carbon tax would likely face opposition from consumers who are concerned about the affordability repercussions of the tax. In the United States, consumers have shown a willingness to pay far less than the social cost of CO2, showing relatively low willingness to pay rates compared to realistic rates with carbon tax implementation.⁶⁰ Additionally, the carbon tax would replace the already existing cap-and-trade system, which uses its revenue to prioritize green initiatives in the state. Allocation of revenue from a California carbon tax would resemble carbon taxes that have already been implemented on a global scale, where a significant portion

⁵⁹ Pollin, Robert, Jeannette Wicks-Lim, Shouvik Chakraborty, Caitlin Kline, and Gregor Semieniuk. *A Program for Economic Recovery and Clean Energy Transition in California*. Amherst, MA: Political Economy Research Institute, University of Massachusetts Amherst, June 2021.

<https://peri.umass.edu/wp-content/uploads/joomla/images/CA-CleanEnergy-6-8-21.pdf> (p. 9)

⁶⁰ Jenkins, Jesse D., and Valerie J. Karplus. 2016. *Carbon Pricing under Binding Political Constraints*. WIDER Working Paper No. 44/2016. Helsinki: UNU-WIDER. <https://www.wider.unu.edu/sites/default/files/wp2016-44.pdf>

of carbon tax revenues are returned to taxpayers or used for general government funds.⁶¹ Comparatively, the revenue generated by the current California cap-and-trade system is deposited into the Greenhouse Gas Reduction Fund, which supports projects such as the high speed rail program, local transit development, as well as drinking water cleanup and forest management.⁶² Implementing a carbon tax would cite political opposition from policymakers who fought for the establishment of cap-and-trade and the allocation of those funds towards climate initiatives. Additionally, there will be further opposition from oil and gas companies who have exploited the cap-and-trade carbon emissions credit structure to purchase additional credits to pollute at higher rates than before implementation.⁶³ The potential of the cap-and-trade system to raise significant revenue through higher carbon credit rates and its extension through 2045⁶⁴ make abandoning the program to implement a carbon tax politically and financially infeasible. The political effort that is required to incentivize industry groups and political leaders to create an ideal carbon tax structure that raises revenues and still provides the same funding benefits as cap and trade is too great to justify a switch to a carbon tax.

⁶¹ Carl, Jeremy, and David Fedor. "Tracking Global Carbon Revenues: A Survey of Carbon Taxes Versus Cap-and-Trade in the Real World." *Energy Policy* 96 (2016): 50–77. <https://doi.org/10.1016/j.enpol.2016.05.023> (p. 53)

⁶² Marzorati, Guy. "How California Cap-and-Trade Works — and How Newsom Wants to Change It." *KQED*, May 19, 2025 (updated May 28, 2025).

<https://www.kqed.org/news/12040286/how-california-cap-and-trade-works-and-how-newsom-wants-to-change-it>

⁶³ Cushing, Lara J., Madeline Wander, Rachel Morello-Frosch, Manuel Pastor, Allen Zhu & James Sadd. *A Preliminary Environmental Equity Assessment of California's Cap-and-Trade Program*. Research Brief, September 2016. Joint Legislative Committee on Climate Change Policies, State of California.

https://climatechange.policies.legislature.ca.gov/sites/climatechange.policies.legislature.ca.gov/files/Climate_Equity_Brief_CA_Cap_and_Trade_Sept2016_FINAL2.pdf

⁶⁴ Lazo, Alejandro, and Jeanne Kuang. "California Lawmakers Extend Cap-and-Trade Through 2045, in Sweeping Climate-Energy Package." *CalMatters*, September 2025.

<https://calmatters.org/environment/2025/09/climate-change-package-legislature/>

Policy Recommendation: Diverting PRO Funds to Support Oil and Gas Worker Transition:

Based on the analysis of SB 54, it is recommended to amend SB 54 to divert a portion of PRO surcharge funds from the Plastic Pollution Mitigation Fund to the Displaced Oil and Gas Worker Fund. Currently, resources provided to the Displaced Oil and Gas Worker Fund are limited, with the state granting only \$30 million in the last fiscal year, an insufficient amount in comparison to the estimated \$1.2 billion annual costs of supporting steady and episodic transition programming for an ideal clean energy transition in California.

The proposed revision anticipates SB 54's impacts on oil and gas working communities whose employers are pressured financially by the PRO tax surcharge, limiting their ability to meet their financial bottom line as they struggle to keep business afloat with past climate policy establishing a strict regulatory environment in California. While reallocating money from SB 54 will benefit oil and gas workers, this will subsequently reduce funding in the Plastic Pollution Mitigation Fund, reducing the budget for California communities that have been disproportionately impacted by plastic pollution and production in the petrochemical industry. Allocating resources to oil and gas communities broadens the interpretation of what the state government defines as a disadvantaged community prioritized for funding from revenue generated by progressive climate policies in California like SB 54. Ideally, this revision promotes a Just Transition through creating a financial tie between climate policies that affect the oil and gas industry and transition programming. This serves as a step in the right direction towards a climate future in California where positive economic and political policy implementation acknowledges the scope of its impacts and feeds resources into communities that will be left behind, creating long-term stability for oil and gas workers and just climate governance across the state.

Summary: Aligning California's Plastic Policy with a Just Transition for Workers:

The rates of plastic product usage in California are significant, leading to plastic waste generation that has led to communities being disproportionately impacted by the negative health and environmental impacts caused by plastic production and disposal. California lawmakers responded with SB 54, a law introducing ambitious recycling regulations to the packaging industry, as well as establishing a surcharge to hold oil and gas companies responsible for the societal and environmental costs of plastic's rise in the global market. Holding producers accountable is a just means of distributing burden in the clean energy transition, but without acknowledging the subsequent impacts that oil and gas working communities face as a result of a sunseting oil and gas industry, California lawmakers are leaving people behind. These oil and gas workers are unionized Californians who deserve protection from the implementation of climate policies like SB 54 that affect their job security and financial well-being.

In order to do so, the state government must revise SB 54 to provide financial protections for these workers and their families. A clean energy transition in California can effectively reduce reliance on non-renewable sources without jeopardizing the lives of Californian citizens, who should not suffer because of their employer's wrongdoing in contributing to the greater climate change crisis. California lawmakers have a responsibility to protect the interests of oil and gas industry workers and use the revenue generated from SB 54 to support all working communities who find themselves jobless and in need of support. Adequate funding offers opportunities for retraining as well as retirement security for skilled workers whose participation in the refinement of crude oil and other products throughout their careers has fueled the California economy. Embedding financial protections into SB 54 for transition programming for oil and gas workers advances California's environmental goals while recognizing the important role that oil and gas workers have played in providing California with a secure energy environment.

Bibliography

1. Ritchie, Hannah, Veronika Samborska, and Max Roser. 2023. *Plastic Pollution*. Our World in Data. <https://ourworldindata.org/plastic-pollution>.
2. Dey, A., C. V. Dhumal, P. Sengupta, A. Kumar, N. K. Pramanik, and T. Alam. 2021. "Challenges and Possible Solutions to Mitigate the Problems of Single-Use Plastics Used for Packaging Food Items: A Review." *Journal of Food Science and Technology* 58 (9): 3251–3269. <https://doi.org/10.1007/s13197-020-04885-6>
3. Jambeck, Jenna R., and Imari Walker-Franklin. "The Impacts of Plastics' Life Cycle." *One Earth* 6, no. 6 (June 16, 2023): 600–606. <https://doi.org/10.1016/j.oneear.2023.05.015>
4. WWF-Australia. 2025. "The Life Cycle of Plastics." June 21, 2025. WWF-Australia. <https://www.wwf.org.au/blogs/the-lifecycle-of-plastics/>
5. P. G. C. N. T., N. Thathsarani, and A. S. Ratnayake. 2024. "The World of Plastic Waste: A Review." *Cleaner Materials* 11: Article 100220. <https://doi.org/10.1016/j.clema.2024.100220>.
6. Winiarska, E., M. Jutel, and M. Zemelka-Wiacek. 2024. "The Potential Impact of Nano- and Microplastics on Human Health: Understanding Human Health Risks." *Environmental Research* 251: 118535. <https://doi.org/10.1016/j.envres.2024.118535>
7. Ragusa, Antonio, A. Svelato, C. Santacroce, P. Catalano, V. Notarstefano, O. Carnevali, F. Papa, M. C. A. Rongioletti, F. Baiocco, S. Draghi, E. D'Amore, D. Rinaldo, M. Matta, and E. Giorgini. 2021. "Plasticenta: First Evidence of Microplastics in Human Placenta." *Environment International* 146: 106274. <https://doi.org/10.1016/j.envint.2020.106274>
8. United Nations Environment Programme. 2021. *Environmental Justice Impacts of Marine Litter and Plastic Pollution*. Nairobi: UNEP. <https://wedocs.unep.org/bitstream/handle/20.500.11822/35417/EJIPP.pdf>
9. Herrera, Veronica, and Daniel Coffee. 2024. *What Defines a Plastic-Burdened Community? An Environmental Justice Framework for Identifying Exposure Disparities and Informing Mitigation Investment*. UCLA Luskin Center for Innovation; Black Women for Wellness. <https://bwvla.org/wp-content/uploads/2025/04/What-defines-a-plastic-burdened-community-Report.pdf>
10. Pratt, Laura A. 2011. "Decreasing Dirty Dumping? A Reevaluation of Toxic Waste Colonialism and the Global Management of Transboundary Hazardous Waste." *William & Mary Environmental Law & Policy Review* 35 (2): 581–623. <https://scholarship.law.wm.edu/wmelpr/vol35/iss2/5>
11. California Legislature. 2022. *SB 54: Solid Waste: Reporting, Packaging, and Plastic Food Service Ware*. LegiScan. <https://legiscan.com/CA/text/SB54/id/2600075>
12. California Attorney General, *Title and Summary of Proposed Initiative Measure to Be Submitted Directly to the Voters (Initiative 19-0028A1: Recycling Products)* (Sacramento: Office of the Attorney General, State of California, January 8 2020), <https://www.oag.ca.gov/system/files/initiatives/pdfs/19-0028A1%20%28Recycling%20Products%20%29.pdf>
13. Winters, Joseph. "Gavin Newsom Delayed His Own 'Nation-Leading' Plastic Policy. Why?" *Grist*, March 20, 2025. <https://grist.org/regulation/newsom-delays-nation-leading-sb-54-plastic-policy/>
14. California Energy Commission. 2024. *California's Oil Refineries*. California Energy Almanac. <https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/californias-oil-refineries>

15. Phillips 66 Company. 2024. *2024 Proxy Materials* [Proxy statement].
https://materials.proxyvote.com/Approved/718546/20240320/10K_566040/16.html
16. Jao, Nichola. 2025. "Phillips 66 to Begin Winding Down Los Angeles-Area Refinery Next Week, Sources Say." *Reuters*, August 28, 2025.
<https://www.reuters.com/business/energy/phillips-66-begin-winding-down-los-angeles-area-refinery-next-week-sources-say-2025-08-28/>
17. Smith, Hayley. 2025. "California's Plan to 'Make Polluters Pay' for Climate Change Stalls Again: Why Oil Companies Are Fiercely Opposed." *Los Angeles Times*, July 7, 2025.
<https://www.latimes.com/environment/story/2025-07-07/why-californias-make-polluters-pay-plan-stalled-again>
18. Center for Jobs & the Economy. n.d. *Superfund Executive Summary* [Executive summary].
<https://centerforjobs.org/wp-content/uploads/Superfund-Executive-Summary-FINAL.pdf>
19. California Energy Commission. 2024. *2024 Total System Electric Generation*. California Energy Almanac.
<https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2024-total-system-electric-generation>
20. California Energy Commission. 2024. *California's Oil Refineries*. California Energy Almanac.
<https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/californias-oil-refineries>
21. California Energy Commission. n.d. *Annual Oil Supply Sources to California Refineries*. California Energy Almanac.
<https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/annual-oil-supply-sources-california>
22. Moore, Eric. 2022. *The High Costs of Unplanned Oil Refinery Closures* [Report]. Sightline Institute.
<https://www.sightline.org/wp-content/uploads/2022/11/Report-High-Costs-of-Unplanned-Refinery-Closures.pdf>
23. Wang, X. 2021. "Just Transition: A Conceptual Review." *Sustainable Finance and Investment* 11 (3): 83–111. <https://doi.org/10.1016/j.sfin.2020.100354>
24. J. Mijin Cha, *A Just Transition for All: Workers and Communities for a Carbon-Free Future* (Cambridge, MA: The MIT Press, 2024),
<https://doi.org/10.7551/mitpress/15174.001.0001>
25. Tribaldos, Theresa, and Tea Kortetmäki. 2022. "Just Transition Principles and Criteria for Food Systems and Beyond." *Environmental Innovation and Societal Transitions* 43: 244–256. <https://doi.org/10.1016/j.eist.2022.04.005>
26. Atteridge, Aaron, and Claudia Strambo. 2020. *Seven Principles to Realize a Just Transition to a Low-Carbon Economy* (Policy Report). Stockholm Environment Institute.
<https://www.sei.org/wp-content/uploads/2020/06/seven-principles-for-a-just-transition.pdf>
27. California Legislature. 2012. *SB 535: California Climate Investments and Disadvantaged Communities* (Chapter 830, Statutes of 2012).
<https://legiscan.com/CA/text/SB535/id/662107>
28. Office of Environmental Health Hazard Assessment. 2021. *CalEnviroScreen 4.0 Report*. California Environmental Protection Agency.
<https://www.oehha.ca.gov/sites/default/files/media/downloads/calenviroscreen/report/calenviroscreen40reportf2021.pdf>
29. Employment Development Department. 2024. "The EDD Awards \$26.7 Million to Provide Job Training and Support Services to Displaced Oil and Gas Industry Workers" [News Release, February 8].
https://www.edd.ca.gov/en/about_edd/news_releases_and_announcements/the-edd-aw

- [ards-%2426.7-million-to-provide-job-training-and-support-services-to-displaced-oil-and-gas-industry-workers/](#)
30. Pollin, Robert, Jeannette Wicks-Lim, Shouvik Chakraborty, Caitlin Kline, and Gregor Semieniuk. 2021. *A Program for Economic Recovery and Clean Energy Transition in California*. Amherst, MA: Political Economy Research Institute, University of Massachusetts Amherst.
 31. Metcalf, Gilbert E. 2021. "Carbon Taxes in Theory and Practice." *Annual Review of Resource Economics* 13: 245–265.
<https://doi.org/10.1146/annurev-resource-102519-113630>
 32. Hsu, Shi-Ling. 2011. *The Case for a Carbon Tax: Getting Past Our Hang-ups to Effective Climate Policy*. Washington, DC: Island Press.
 33. Atteridge, Aaron, and Claudia Strambo. 2020. *Seven Principles to Realize a Just Transition to a Low-Carbon Economy* (Policy Report). Stockholm Environment Institute.
<https://www.sei.org/wp-content/uploads/2020/06/seven-principles-for-a-just-transition.pdf>
 34. Carl, Jeremy, and David Fedor. "Tracking Global Carbon Revenues: A Survey of Carbon Taxes Versus Cap-and-Trade in the Real World." *Energy Policy* 96 (2016): 50–77.
<https://doi.org/10.1016/j.enpol.2016.05.023>
 35. Monroe, Leila, *Waste in Our Waterways: Unveiling the Hidden Costs to Californians of Litter Clean-Up*. Issue brief, Natural Resources Defense Council, August 2013.
<https://www.nrdc.org/sites/default/files/ca-pollution-in-waterways-IB.pdf>
 36. California Legislature. *Senate Bill 513: Personnel Records*. 2025–26 Reg. Sess. California Legislature. Chapter 654. Enrolled October 11, 2025.
https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202520260SB513
 37. Jenkins, Jesse D., and Valerie J. Karplus. 2016. *Carbon Pricing under Binding Political Constraints*. WIDER Working Paper No. 44/2016. Helsinki: UNU-WIDER.
<https://www.wider.unu.edu/sites/default/files/wp2016-44.pdf>
 38. Carl, Jeremy, and David Fedor. "Tracking Global Carbon Revenues: A Survey of Carbon Taxes Versus Cap-and-Trade in the Real World." *Energy Policy* 96 (2016): 50–77.
<https://doi.org/10.1016/j.enpol.2016.05.023>
 39. Marzorati, Guy. "How California Cap-and-Trade Works — and How Newsom Wants to Change It." *KQED*, May 19, 2025 (updated May 28, 2025).
<https://www.kqed.org/news/12040286/how-california-cap-and-trade-works-and-how-newsom-wants-to-change-it>
 40. Lazo, Alejandro, and Jeanne Kuang. "California Lawmakers Extend Cap-and-Trade Through 2045, in Sweeping Climate-Energy Package." *CalMatters*, September 2025.
<https://calmatters.org/environment/2025/09/climate-change-package-legislature/>
 41. Colina, Armando R., Bulat Gafarov, and Jens Hilscher. 2025. "California Gas Prices Are Set to Increase Significantly in 2026." *ARE Update* 28, no. 5 (May/June): 9-11. Giannini Foundation of Agricultural Economics, University of California.
<https://giannini.ucop.edu/filer/file/1750172952/21349/>