

# A Broader Vision for Climate Policy: Lessons from California

ALICE KASWAN\*

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*“California’s environmental justice and equity movement is establishing a blueprint for the nation and world.”*

California Air Resources Board, California’s  
2017 Climate Change Scoping Plan: The  
Strategy for Achieving California’s 2030  
Greenhouse Gas Target ES-6 (Nov. 2017)

## INTRODUCTION

As the federal role in addressing climate change shrinks, state and local action is once again taking center stage. States are facing innumerable challenging policy questions about the best mechanisms for addressing climate and energy, and many are looking to California for inspiration. Although California’s comprehensive climate policies have long received national attention for their economy-wide approach and the state’s multiplicity of climate initiatives, less attention has been focused on the numerous laws and policies explicitly addressing the relationship between disadvantaged populations and the state’s climate and energy policies. As decisionmakers grapple with the fundamental and existential shifts associated with a clean energy transition, California’s efforts to incorporate environmental justice—and the state’s broader social, economic, and environmental vision—provide important insights about the potential for comprehensive climate initiatives in other states.

California’s 2006 landmark Global Warming Solutions Act established the broad contours of the state’s climate change policies, and included numerous specific references to maximizing co-pollutant reductions and enhancing environmental and economic benefits for disadvantaged communities. Specific legislation has directed cap-and-trade auction revenue to disadvantaged communities, targeted renewable energy development on affordable housing, and instantiated mechanisms to enhance public participation.

At the same time, the state has embarked on some pathways, like cap-and-trade, long resisted by environmental justice advocates. As a result, environmental justice leaders are skeptical that the state has lived up to the laws’ environmental justice objectives.<sup>1</sup> Recent legislative initiatives on climate targets and cap-and-trade have featured bruising battles over

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1. However, California Senator Henry Stern has observed that environmental justice advocates “defined the terms of the debate even if they don’t feel like they won the debate”). Tony Barboza & Chris Megerian, *Brown Signs Bill Targeting Pollution*, L.A. TIMES, at 2 (July 27, 2017).

the role environmental justice considerations and local pollution control efforts should play in state policy. State actors have been caught between the expectations of environmental justice activists and industry pressures for autonomy and low costs.

Notwithstanding the challenges and trade-offs, however, climate policies that link to a broader vision—like alleviating long-standing air pollution or providing new economic opportunities—present an important model for other states as they re-commit to state and regional initiatives in the wake of the newly emerging federal vacuum. Because different states face differing socioeconomic challenges, states may well frame and orient their climate policies differently. In California, the connection to co-pollutant emissions and access to opportunities has brought environmental justice issues to the fore. In other states, different concerns, like the fate of newly unemployed fossil fuel workers or opportunities for rural rust belt communities, could provide the comprehensive frame that ties GHG reduction efforts to a just and sustainable clean economy transition. The California story provides a snapshot that could inspire other states' conceptions of the opportunities and challenges inherent in comprehensive climate policies.

Given the multiplicity of California's numerous policies, this Article provides an overview—not a full exploration of all the twists and turns that have marked each legislative debate and administrative policy. Moreover, it is too soon to assess implementation of many recent programs, with expectations varying widely. Nonetheless, this Article provides a relatively comprehensive picture of the most significant policies and highlights the opportunities and issues they raise.

Part I introduces California's initial climate policies and the important role that environmental justice concerns played in garnering a legislative majority for the state's early efforts. Part I then provides an overview of the role of environmental justice in the implementation of a wide range of climate change mitigation programs and the ways in which the state has sought to broadly distribute the benefits of a clean energy transition.<sup>2</sup> Because the state's cap-and-trade program has been a flash point for environmental justice concerns, Part I ends by providing further details on the program's operation and reviewing recent studies assessing emissions distributions before and after the program was adopted.

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2. Given the multiplicity of initiatives, this Article does not include every single legislative or agency action. In particular, this Article focuses on the major legislative initiatives and policy initiatives overseen by the California Air Resources Board and included in scoping plans for meeting legislatively required GHG reduction targets. Other agencies, including the Public Utilities Commission, the California Energy Commission, the Strategic Growth Council, the Governor's Office, and more, have established policies likely to reduce GHG emissions as well.

Part II highlights major recent legislative developments: in 2016, setting an emissions target of 40 percent below 1990 emissions by 2030, and, in 2017, extending the state's cap-and-trade program. These legislative accomplishments featured significant debates about environmental justice and its role in California's future climate policy.

Part III crystallizes critical issues and insights that have emerged from California's odyssey, insights relevant not only to understanding the California experience, but to considering the development of climate policy in other states. Part III first highlights the value of California's multipollutant approach, its efforts to distribute the benefits of a clean energy transition broadly, its attention to economic justice, and mechanisms to enhance participatory opportunities for historically marginalized communities. However, the commitment to environmental justice concerns has not been unqualified. Part III analyzes a second issue: how economic and political concerns have resulted in a relatively "light touch" for industry – a result that, while understandable, could dampen emission reductions (and associated co-pollutant reductions) near industrial sources, and ultimately slow the industrial sector's necessary decarbonization. The third issue highlighted by Part III is emerging tension over California's multipollutant focus, which appeared somewhat threatened during administrative and legislative deliberations in 2017, but, overall, appears likely to proceed. Fourth, the 2017 legislation featured a politically charged anti-regulatory trend seen in many states: preemption. The state's legislation preempted local controls on stationary sources and, in the oil and gas sector, preempted both state and local controls. The preemption could complicate integrated controls for GHG and co-pollutant emissions and reflects the sophisticated way in which regulated entities, particularly in the oil and gas sector, have leveraged their political power.

This Article concludes by illuminating the value of linking climate policy to a broader vision that addresses day-to-day environmental, social, and economic vulnerabilities. Even if the environmental justice frame itself lacks traction in other states, a comprehensive vision, however framed, could help garner the political support necessary to counter the strong vested interests arrayed against a change in the status quo.

## I. THE ORIGINS AND IMPLEMENTATION OF ENVIRONMENTAL JUSTICE IN CALIFORNIA CLIMATE LAW

### A. *The Role of Environmental Justice in California's First Comprehensive Climate Initiative, AB 32*

California's two decades of climate action have been punctuated by several major greenhouse gas initiatives and many more diverse energy, environmental, and greenhouse gas bills addressing particular sectors or issues. In 2006, the state enacted its first cross-cutting and major climate law, the Global Warming Solutions Act, often referred to by its bill number: AB 32.<sup>3</sup> AB 32 established an initial GHG target: 1990 levels by 2020, estimated to be 15 percent below 2005 emissions and 30 percent below anticipated 2020 emissions.<sup>4</sup> The law did not specify how the state should reach its target. Instead, it established a comprehensive planning process, coordinated by the California Air Resources Board (CARB), to evaluate reduction opportunities across all sectors of the state and incorporate requirements from the multiple climate initiatives passed by the Legislature and initiated by California agencies both before and after AB 32.<sup>5</sup>

California environmental justice groups played a critical role in garnering a legislative majority for AB 32. Democratic lawmakers representing poor communities of color recognized that the state's climate initiatives could have immediate and significant benefits for poor communities enduring a disproportionate environmental burden from the state's consumption of fossil fuels.<sup>6</sup> Poor communities of color are disproportionately concentrated near many of the states' most intensive air pollution sources, including large

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3. CAL. HEALTH & SAFETY CODE §§ 38500-99 (2006).

4. *Id.* at § 38550 (describing 1990 goal); CAL. AIR RES. BD., CLIMATE CHANGE SCOPING PLAN, at ES-1 (2008) [hereinafter INITIAL SCOPING PLAN] (explaining percentage reductions from current and projected business-as-usual emissions), [https://www.arb.ca.gov/cc/scopingplan/document/adopted\\_scoping\\_plan.pdf](https://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf) [<http://perma.cc/86XG-C4F3>].

5. CAL. HEALTH & SAFETY CODE § 38561; *see* INITIAL SCOPING PLAN, *supra* note 4, at ES-1.

6. *See generally* Julie Sze et al., *Best in Show? Climate and Environmental Justice Policy in California*, 2 ENVTL. JUSTICE 179, 180–83 (2009); Alice Kaswan, *Climate Change and Environmental Justice: Lessons from the California Lawsuits*, 5 SAN DIEGO J. OF CLIMATE & ENERGY L. 1, 4 (2014) [hereinafter Kaswan, *Lessons*].

stationary sources,<sup>7</sup> freeways,<sup>8</sup> and sea ports generating significant pollution from ships and trucks.<sup>9</sup> Because GHG emissions are often strongly correlated with the traditional air pollutants that threaten public health, GHG reductions could lead to air quality benefits.<sup>10</sup>

As a condition for supporting the legislation, key lawmakers and environmental groups backed provisions designed to achieve multiple benefits, including environmental justice. AB 32 included provisions addressing air quality, economic benefits for disadvantaged communities, and opportunities for participation.<sup>11</sup> The law explicitly states that the California Air Resources Board (CARB), the agency responsible for implementing the law, must develop an approach that, among other things, “maximizes additional environmental and economic co-benefits for California, and complements

7. See CAL. EPA, OFFICE OF ENVTL. HEALTH HAZARD ASSESSMENT (OEHHA), TRACKING AND EVALUATION OF BENEFITS AND IMPACTS OF GREENHOUSE GAS LIMITS IN DISADVANTAGED COMMUNITIES: INITIAL REPORT 14–17 (Feb. 2017), <https://oehha.ca.gov/media/downloads/environmental-justice/report/oehhaab32report020217.pdf> [<https://perma.cc/KM3U-L4GK>]. More than fifty percent of all sources, except cogeneration, are within a mile of a “disadvantaged community,” *id.* at 16, while only 25 percent of the state’s census tracts are considered disadvantaged, *id.* at 14.

8. See Tegan K. Boehmer et al., *Residential Proximity to Major Highways – United States, 2010*, 62 MORBIDITY & MORTALITY WKLY. REP. 46, 46 (Nov. 22, 2013 Supplement), <https://www.cdc.gov/mmwr/preview/mmwrhtml/su6203a8.htm> [<https://perma.cc/C3XA-62TN>].

9. See, e.g., Tony Barboza, L.A., *Long Beach Ports Adopt Plan to Slash Air Pollution and Go Zero-Emissions*, L.A. TIMES (Nov. 2, 2017) (describing the port complex as the single largest source of air pollution in Southern California).

10. See JAMES K. BOYCE & MANUEL PASTOR, COOLING THE PLANET, CLEARING THE AIR: CLIMATE POLICY, CARBON PRICING, AND CO-BENEFITS (2012) (analyzing the relationship between co-pollutant and GHG emissions), [https://www.peri.umass.edu/fileadmin/pdf/published\\_study/Cooling\\_the\\_Planet\\_Sept2012-1.pdf](https://www.peri.umass.edu/fileadmin/pdf/published_study/Cooling_the_Planet_Sept2012-1.pdf) [<https://perma.cc/ZWX9-6JHD>]. The correlation is not absolute; industries vary. Boyce and Pastor find that power plants have a high ratio of GHG emissions to traditional pollutants. In contrast, refineries’ GHG and co-pollutant emissions are closely tracked—at least in volume, if not in source. *Id.* at viii. CARB has found that, in California, most industrial GHG emissions stem from combustion, so measures to reduce industrial combustion of fossil fuels would reduce associated co-pollutant emissions. CAL. AIR RES. BD., CALIFORNIA’S 2017 CLIMATE CHANGE SCOPING PLAN: THE STRATEGY FOR ACHIEVING CALIFORNIA’S 2030 GREENHOUSE GAS TARGET 1, 69 (Nov. 2017) [hereinafter NOVEMBER 2017 SCOPING PLAN], [https://www.arb.ca.gov/cc/scopingplan/scoping\\_plan\\_2017.pdf](https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf) [<https://perma.cc/4GF3-VMN7>]. Some co-pollutant emissions are, however, process-related, and are less likely to be reduced by GHG-reduction efforts. *Id.* at 70.

11. See Sze et al., *supra* note 6, at 179–81. A number of traditional environmental groups, like the Environmental Defense Fund and the Natural Resources Defense Council, joined forces with environmental justice groups to back the environmental justice provisions. *Id.*

the state's efforts to improve air quality.”<sup>12</sup> The law further states that CARB must “[e]nsure that the activities undertaken to comply with [its] regulations do not disproportionately impact low-income communities.”<sup>13</sup>

Recognizing that a transition to clean energy and reduced GHG emissions would generate new economic opportunities, the law also provides that CARB “direct public and private investment toward the most disadvantaged communities in California.”<sup>14</sup> From a participatory standpoint, the bill created an “Environmental Justice Advisory Committee,” composed of members of community groups from around the state, to provide focused analysis and advice on AB 32's implementation.<sup>15</sup> In addition, the law requires CARB to hold public workshops on the scoping plan in polluted and disadvantaged communities.<sup>16</sup>

During the initial legislative deliberations over AB 32, the inclusion or exclusion of cap-and-trade proved a contentious issue, and, as discussed below, has continued to be a flash point. Republican Governor Arnold Schwarzenegger hoped legislators would explicitly include cap-and-trade as a central policy mechanism in the bill.<sup>17</sup> Environmental justice groups opposed its inclusion based on long-standing skepticism and concern about the operation of cap-and-trade programs.<sup>18</sup> Given experience with a troubled Los Angeles cap-and-trade program, RECLAIM, and problems with Europe's GHG trading program, the Emissions Trading Scheme

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12. CAL. HEALTH & SAFETY CODE § 38501(h). The full text of the provision states that CARB is to adopt an approach that “minimizes costs and maximizes benefits for California's economy, improves and modernizes California's energy infrastructure and maintains electric system reliability, maximizes additional environmental and economic co-benefits for California, and complements the state's efforts to improve air quality.” *Id.* AB 32 also states that CARB is to “[c]onsider overall societal benefits, including reductions in other air pollutants, diversification of energy sources, and other benefits to the economy, environment, and public health.” *Id.* at § 38562(b)(6). More specifically, AB 32 emphasizes the importance of undertaking activities that complement “efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminant emissions.” *Id.* at § 38562(b)(4).

13. *Id.* at § 38562(b)(2).

14. *Id.* at § 38565.

15. *Id.* at § 38591(a).

16. *Id.* at § 38561(g).

17. See Sze et al., *supra* note 6, at 183.

18. See EJ Matters, *The California Environmental Justice Movement's Declaration on Use of Carbon Trading Schemes to Address Climate Change* [hereinafter *EJ Movement Declaration*], [http://www.ejmatters.org/docs/CA\\_EJ\\_Declaration\\_on\\_Carbon\\_Trading.pdf](http://www.ejmatters.org/docs/CA_EJ_Declaration_on_Carbon_Trading.pdf); EJ Matters, *The Cap and Trade Charade for Climate Change* [hereinafter *The Cap and Trade Charade*], [http://www.ejmatters.org/docs/Cap-Trade\\_FACTSHEET.pdf](http://www.ejmatters.org/docs/Cap-Trade_FACTSHEET.pdf). See also Env'tl. Justice Advisory Comm., Recommendations and Comments of the Environmental Justice Advisory Committee on the Implementation of the Global Warming Solutions Act of 2006 (AB 32) on the Proposed Scoping Plan 1, 18–21 (Dec. 2008), [https://www.arb.ca.gov/cc/ejac/ejac\\_comments\\_final.pdf](https://www.arb.ca.gov/cc/ejac/ejac_comments_final.pdf) [<https://perma.cc/UAN7-8Q67>].



(ETS), environmental justice advocates were skeptical that cap-and-trade would reduce GHGs.<sup>19</sup> For example, at least in its early years, the RECLAIM program failed to reduce emissions,<sup>20</sup> failed to prompt investments in pollution control,<sup>21</sup> and was plagued by poor emissions information that undermined performance.<sup>22</sup>

In addition, because cap-and-trade programs allow companies to determine their own emissions, environmental justice groups were concerned that industries in disadvantaged communities would continue to emit GHGs and associated co-pollutants, purchasing allowances rather than reducing emissions. As a consequence, even though GHG emissions might go down in some places, they might not go down in the state's most polluted areas.<sup>23</sup> And industry autonomy to make its own emission choices means that surrounding communities and government agencies have less input on emissions choices than is the case in more traditional regulatory programs.<sup>24</sup>

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19. See Richard T. Drury et al., *Pollution Trading and Environmental Injustice: Los Angeles' Failed Experiment in Air Quality Policy*, 9 DUKE ENVTL. L. & POL'Y FORUM 231, 251–68 (1999) (describing wide-ranging environmental justice critiques of Los Angeles' RECLAIM trading program); Alice Kaswan, *Environmental Justice and Domestic Climate Change Policy*, ENVTL. L. REP. 10287, 10295–98 (2008) (describing efficacy concerns); Kaswan, *Lessons*, *supra* note 6, at 35–41 (discussing environmental justice movement's efficacy concerns); Lesley K. McAllister, *The Overallocation Problem in Cap-and-Trade: Moving Toward Stringency*, 34 COLUM. J. ENVTL. L. 395, 411–12 (discussing the ETS' challenges); *The Cap and Trade Charade*, *supra* note 18, at 1–3 (describing failure of the European ETS).

20. Lesley K. McAllister, *Beyond Playing "Banker": The Role of the Regulatory Agency in Emissions Trading*, 59 ADMIN. L. REV. 269, 291 (2007) (describing RECLAIM's failure to reduce emissions in its early years).

21. See Kaswan, *supra* note 19, at 10296–97 (discussing circumstances in which cap-and-trade could fail to induce innovation and providing examples from the ETS and RECLAIM trading programs); McAllister, *supra* note 20, at 291–93; Drury et al., *supra* note 19, at 277.

22. For example, marine terminals purchasing allowances reportedly underestimated their emissions, and under-purchased allowances—by many orders of magnitude—thereby failing to account for their actual emissions. See Drury et al., *supra* note 19, at 259–60 (stating that, according to one analysis, marine terminal emissions were from 10 to 1000 times greater than the facilities had projected).

23. See *The Cap-and-Trade Charade*, *supra* note 18, at 4–5 (discussing hot spot risk in connection with Los Angeles' RECLAIM trading program); Kaswan, *Lessons*, *supra* note 6, at 24–29.

24. See Env'tl. Justice Advisory Comm., *The California Environmental Justice Movement's Declaration in Support of Carbon Pricing Reform in California* (approved Feb. 15, 2017), <https://www.arb.ca.gov/cc/ejac/meetings/02142017/20170215ca-ej-declaration-on-carbon-pricing-reform-approved.pdf> [<https://perma.cc/UxF3-MSZP>] (stating that “carbon trading is undemocratic because it allows entrenched polluters, market designers, and commodity traders

In the end, due largely to concerns about environmental justice, AB 32 did not explicitly include cap-and-trade, leaving the decision about specific policy mechanisms to CARB.<sup>25</sup> Anticipating that CARB might adopt a market-based mechanism like cap-and-trade, however, the law stated that, before adopting such a program, CARB must “[c]onsider the potential for direct, indirect, and cumulative emission impacts from these mechanisms, including localized impacts in communities that are already adversely impacted by air pollution.”<sup>26</sup> And AB 32 stated that, if CARB chose a market mechanism, it must be designed “to prevent any increase in the emissions of toxic air contaminants or criteria air pollutants.”<sup>27</sup>

*B. Environmental Justice in the Implementation of California  
Greenhouse Gas Mitigation Policies*

AB 32 thus left the crucial implementation details to the executive branch. Governor Schwarzenegger continued to support cap-and-trade, and the December 2008 scoping plan, which laid out the state’s initial plans to reach its 2020 target, included an over-arching cap-and-trade program designed to constrain emissions from sources representing 85 percent of the state’s emissions.<sup>28</sup> Although the cap-and-trade program “covers” eighty-five percent of emissions, many sectors are subject to emission reduction strategies in addition to the cap-and-trade program. In fact, analysts suggest that the majority of emission reductions achieved to date have resulted from numerous programs affecting the transportation and electricity sectors, as well as the recession.<sup>29</sup> To date, the cap-and-trade program has operated like a backstop to ensure the cap is met rather than as a significant driver of reductions.

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to determine whether and where to reduce greenhouse gases and co-pollutant emissions without allowing impacted communities or governments to participate in those decisions”).

25. CAL. HEALTH & SAFETY CODE § 38570(a) (stating that CARB “may” (not must) develop “market-based compliance mechanisms”).

26. CAL. HEALTH & SAFETY CODE § 38570(b)(1) (2007).

27. *Id.* at (b)(2).

28. INITIAL SCOPING PLAN, *supra* note 4, at 30–38. In the Scoping Plan to meet the state’s 2030 target, CARB states that the cap-and-trade program will cover 80 percent of the state’s emissions. NOVEMBER 2017 SCOPING PLAN, *supra* note 10, at ES 16.

29. According to Chris Busch, “California’s suite of performance standards—such as efficiency standards for buildings and appliances, the renewable electricity standard for utilities, and the low carbon fuel standard for transportation fuels—are principally responsible for falling emissions”—not the cap-and-trade system. Chris Busch, *Comment: California’s Cap-and-Trade Program—the Crisis that Wasn’t*, CARBON PULSE (Aug. 2, 2016), <http://carbon-pulse.com/22969/> [<https://perma.cc/TE7S-EZVQ>].

## 1. Electricity Sector

In the electricity sector, California has promoted renewable energy and energy efficiency for decades. In 1998, the California Energy Commission established its Renewable Energy Program,<sup>30</sup> and, by 2015, the state's Renewable Portfolio Standard had increased to fifty percent renewables by 2030.<sup>31</sup> The state's track record in consumer energy efficiency traces back to the 1970s, when the state initiated extensive appliance and building efficiency programs that have continued to evolve.<sup>32</sup> Most recently, in 2015, the state committed to increasing energy efficiency yet another fifty percent beyond current levels by 2030.<sup>33</sup> In 2006, the same year the state adopted AB 32, the legislature effectively prohibited new reliance on coal-fired power by adopting an "electricity performance standard" that precludes supplying electricity from sources emitting more than state-of-the-art natural gas facilities.<sup>34</sup>

Environmental justice groups have strongly advocated for increasing renewable energy and energy efficiency, and associated decreasing reliance on fossil fuels, based on both climate and air pollution control objectives. In fact, they have advocated 100 percent renewable energy by 2030,<sup>35</sup> well beyond the state's commitment to fifty percent renewables, and propose numerous aggressive energy efficiency measures, many with assistance

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30. See Cal. Energy Comm'n, *History of California's Renewable Energy Programs*, <http://www.energy.ca.gov/renewables/history.html> [https://perma.cc/9Y7K-NQE6] (last visited Apr. 2, 2017).

31. See Cal. Energy Comm'n, *Renewable Portfolio Standards*, <http://www.energy.ca.gov/portfolio/> [https://perma.cc/VXN8-9PQ7] (last visited Aug. 11, 2017). The 50 percent renewables by 2030 goal was established by SB 350 in 2015. See S.B. 350, Stats. 2015, ch. 547, § 20 (Cal. 2015); CAL. PUB. UTIL. CODE § 399.15(b)(2)(B) (2016).

32. See CAL. PUB. UTIL. COMM'N, REGULATION ENERGY EFFICIENCY: A PRIMER ON THE CPUC'S ENERGY EFFICIENCY PROGRAMS (2016), [http://www.cpuc.ca.gov/uploadedFiles/CPUC\\_Public\\_Website/Content/News\\_Room/Fact\\_Sheets/English/Regulating%20Energy%20Efficiency%200216.pdf](http://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/News_Room/Fact_Sheets/English/Regulating%20Energy%20Efficiency%200216.pdf) [https://perma.cc/YD3Z-CXD7].

33. S.B. 350, *supra* note 31, § 6; CAL. PUB. RES. CODE § 25301(c)(1) (West 2016).

34. Cal. Energy Comm'n, *SB 1368 Emission Performance Standards*, [http://www.energy.ca.gov/emission\\_standards/](http://www.energy.ca.gov/emission_standards/) [https://perma.cc/ETR6-V3SF] (last visited Aug. 12, 2017) (describing SB 1368 limits on high-carbon generation); CAL. PUB. UTIL. CODE § 8341(d) (West 2008).

35. See Env'tl. Justice Advisory Comm., *Recommendations for Proposed 2030 Target Scoping Plan Update*, at 7 (Dec. 22, 2016), [https://www.arb.ca.gov/cc/ejac/ejac\\_recommendations\\_proposed\\_plan122216.pdf](https://www.arb.ca.gov/cc/ejac/ejac_recommendations_proposed_plan122216.pdf) [https://perma.cc/T38K-JBL3] (Recommendation #1 in Energy section).

for disadvantaged areas.<sup>36</sup> In addition to overarching RPS and energy efficiency requirements, they have also advocated for specific limits on all large emissions sources, including energy-generation facilities.<sup>37</sup> The state has not adopted this approach, instead relying on general RPS and efficiency goals, coupled with the cap-and-trade program, to reduce electricity-source emissions. The only law directly addressing electricity source emissions in vulnerable communities is AB 1937, adopted in 2016, which discourages new natural gas facilities in communities suffering from cumulative environmental burdens.<sup>38</sup>

## 2. Transportation Sector

In the transportation sector, in 2002, California required CARB to develop GHG vehicle emission standards,<sup>39</sup> which CARB promulgated in 2004.<sup>40</sup> Under the Obama Administration, California and the federal government integrated GHG emission standards, an integration manifested in California’s “Advanced Clean Cars” program, adopted in 2012.<sup>41</sup> Recognizing significant emissions from freight transport, the state has developed a Sustainable Freight Action Plan for more sustainable freight and goods movement, including a commitment to zero and low-emission vehicles and equipment.<sup>42</sup> Relatedly, the state has, over many years, developed strong rules to control diesel particulates that are anticipated to have significant GHG reduction benefits,<sup>43</sup>

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36. *Id.* at 8–9 (Recommendations 14–19 in the Energy section).

37. *Id.* at 5 (Recommendation 4 in the Industry section).

38. A.B. 1937, Stats. 2016, ch. 664 (Cal. 2016). The law states that, when electrical corporations solicit bids for new gas-fired generating units, they should seek bids that are not in communities burdened by pollution.

39. CAL. HEALTH & SAFETY CODE § 43018.5 (West 2003) (added by Stat. 2002, ch. 200).

40. *See* CAL. AIR RES. BD., GREENHOUSE GAS EMISSIONS FROM MOTOR VEHICLES, <https://www.arb.ca.gov/regact/grnhs gas/grnhs gas.htm> [<https://perma.cc/FC2U-XPKE>] (last visited Oct. 23, 2017).

41. *See* Cal. Air Res. Bd., *Advanced Clean Cars Program*, <https://www.arb.ca.gov/msprog/acc/acc.htm> [<https://perma.cc/M3B5-HVNA>] (last visited Oct. 23, 2017).

42. *See* Cal. Air Res. Bd., *Sustainable Freight Transport*, <https://www.arb.ca.gov/gmp/sfti/sfti.htm> [<https://perma.cc/P2SY-4DNQ>] (last visited Oct. 23, 2017); CAL. DEP’T OF TRANSP. ET AL., CALIFORNIA SUSTAINABLE FREIGHT ACTION PLAN (2016), [http://www.dot.ca.gov/hq/tpp/offices/ogm/cs\\_freight\\_action\\_plan/Documents/CSFAP\\_Main%20Document\\_FINAL\\_07272016.pdf](http://www.dot.ca.gov/hq/tpp/offices/ogm/cs_freight_action_plan/Documents/CSFAP_Main%20Document_FINAL_07272016.pdf) [<https://perma.cc/H6WH-QL59>]. The Plan emerged from a 2015 Executive Order, EO B-32015, from Gov. Jerry Brown. *Id.* at 1.

43. Diesel particulates are a source of “black carbon,” a potent short-lived climate pollutant. To meet air quality objectives, California adopted stringent diesel particulate requirements for trucks in 2000 as part of its Diesel Risk Reduction Plan, which required an 85 percent reduction in diesel particulates by 2020. CAL. AIR RES. BD., SHORT-LIVED CLIMATE POLLUTANT REDUCTION STRATEGY [hereinafter SLCP], at 48 (2017). The plan not only imposes limitations on new trucks, it also includes “in-use” performance standards that require measures to reduce emissions from existing trucks. *Id.* Since 2005, CARB credits

and to dramatically reduce exposures near ports and along freight corridors to the benefit of neighboring disadvantaged communities.<sup>44</sup>

On the fuel side, CARB developed a low-carbon fuel standard to reduce the carbon intensity of the state’s transportation fuels.<sup>45</sup> However, a 2015 effort to establish a statewide goal of reducing oil consumption by fifty percent by 2030 failed to pass in the face of vehement oil industry opposition that arguably influenced legislative votes.<sup>46</sup>

Recognizing that transportation emissions are also affected by “vehicle miles traveled” (VMT)—by how much people drive—the state enacted SB 375, the Sustainable Communities and Climate Protection Act of 2008, which required CARB to establish 2020 and 2035 regional GHG reduction targets for the state’s large metropolitan areas.<sup>47</sup> Metropolitan Planning Organizations, the entities historically responsible for transportation planning, were then required to develop “Sustainable Communities Strategies” (SCS) that would orient housing, transportation, and land use patterns to achieve the regional reduction goal.<sup>48</sup> All of these measures are likely to offer significant co-pollutant reduction benefits. Because the SCS strategies must address regional housing needs for all segments of the population, they

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the diesel reduction plan with reducing diesel particulates at ports by 70 percent and at the highest risk rail-yards by 50 to 70 percent. *Id.* at 49.

44. CARB notes that “[m]any of the sources and sectors responsible for SLCP emissions are concentrated in communities with high levels of pollution or unemployment, which could especially benefit from targeted investments to improve public health and improve public health.” SLCP, *supra* note 43, at 3–4. Although the SLCP Reduction Strategy includes numerous provisions, including methane in agricultural, landfill, and oil and gas settings, the black carbon controls on diesel particulates are key to the strategy’s public health benefits.

45. 17 CAL. CODE REG. § 95480 *et seq.*

46. Dan Morain, *How Oil Won the Battle for SB 350*, SACRAMENTO BEE (Sept. 12, 2015), <http://www.sacbee.com/opinion/opn-columns-blogs/dan-morain/article34976295.html> [<https://perma.cc/4YN7-J2ED>].

47. CAL. GOVT. CODE § 65080(b)(2)(A) (West 2018).

48. *Id.* at (2)(B). Local governments are not required to conform their land use plans to the Sustainable Communities Strategy (SCS). *Id.* at § 65060.8; *see* Dorothy J. Glancy, *Vehicle Miles Traveled and Sustainable Communities*, 46 MCGEORGE L. REV. 23, 47–48 (2014). Nonetheless, the planning process provided a forum for regional communication and planning that could prompt initiatives even if they are not mandatory. In addition, the law provides exemptions from the California Environmental Quality Act, California’s environmental assessment law, for projects consistent with the regional SCSs, *see* Glancy, *supra*, at 43, 46–47 (2014), and transportation funding will be available only for projects conforming to the Metropolitan Planning Organization’s SCS, *id.* at 46. These features could increase compliance with SCSs even if they are not legally binding.

provide a vehicle (so to speak) for integrating land use, affordable housing, transportation, and environmental concerns.<sup>49</sup>

### 3. *Agricultural Sector*

California has also grappled with methane emissions from the agricultural and food sectors. Although shorter-lived than carbon, methane's global warming potential—its “greenhouse” effect, is around 80 times that of carbon.<sup>50</sup> CARB's Short-Lived Climate Pollutant Reduction Strategy outlines strategies and goals for reducing methane emissions from landfills and for converting landfill and manure emissions to useable energy.<sup>51</sup> In 2016, the California Legislature stepped in with legislation that codified and shaped the strategy.<sup>52</sup> To the frustration of environmental justice and other advocates, the legislation weakened CARB's goals for the dairy industry, delaying the first firm requirements until 2024.<sup>53</sup> Nonetheless, through a variety of measures in food, agriculture, and other sectors, the state remained committed to reducing methane emissions by forty percent below 2013 levels by 2030.<sup>54</sup>

### 4. *Industrial Sector*

The state has fewer direct regulatory initiatives to control industry sector emissions than in the electricity and transportation sectors. California's industrial sector includes refineries, oil and gas drilling and transport, computer technologies, aerospace, cement plants, food processing, and other manufacturing.<sup>55</sup> Carbon emissions come from on-site combustion to provide energy for industrial facilities, as well as from industrial process-

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49. See generally INST. FOR LOCAL GOV'T, UNDERSTANDING S.B. 375: REGIONAL PLANNING FOR TRANSPORTATION, HOUSING, AND THE ENVIRONMENT, at 13 (2011) [http://www.ca-ilg.org/sites/main/files/file-attachments/resources\\_Understanding\\_SB\\_375\\_Regional\\_Planning\\_Guide\\_0.pdf](http://www.ca-ilg.org/sites/main/files/file-attachments/resources_Understanding_SB_375_Regional_Planning_Guide_0.pdf) [<https://perma.cc/S2AJ-VPZ5>].

50. SLCP, *supra* note 43, at 42.

51. *Id.* at 61–77.

52. S.B. 1383, Stat. 2016, ch. 395, (Cal. 2016). SB 1383 provided substantial specific direction to the SLCP Strategy.

53. See Sarah Duffy, *Revised SLCP Strategy Demonstrates the Impact of SB 1383*, LEGAL PLANET BLOG (Dec. 5, 2016), <http://legal-planet.org/2016/12/05/revised-slcp-strategy-demonstrates-the-impact-of-sb-1383/> [<https://perma.cc/XCT5-9HKU>]; Cal. Env't Justice Alliance, *Environmental Justice Wins in the 2016 Legislative Session*, <http://caleja.org/2016/09/environmental-justice-in-the-2016-legislative-session/> [<https://perma.cc/37LA-RGCD>] (last Visited Feb. 4, 2018) (noting that the dairy industry had weakened regulatory measures).

54. S.B. 1383, *supra* note 52, at § 2 (adding CAL. HEALTH & SAFETY CODE § 39730.5(a)).

55. NOVEMBER 2017 SCOPING PLAN, *supra* note 10, at 69.

based emissions.<sup>56</sup> An early strategy required large facilities to conduct energy efficiency audits and identify potential co-pollutant reduction benefits.<sup>57</sup> The audits have been completed, and, according to CARB, most of the identified and feasible energy efficiency measures that would generate co-pollutant benefits have already been completed or are on-going.<sup>58</sup>

The state's Short-Lived Climate Pollutant Reduction Strategy<sup>59</sup> has also led to new controls on methane emissions from oil and gas production, distribution, and storage that are intended to reduce methane emissions from oil and gas wells and associated infrastructure by 40 to 45 percent by 2025.<sup>60</sup> For other industrial sources of methane and black carbon (in the form of particulates), the strategy is relying upon cap-and-trade and other programs to create market signals to incentivize efficiency, as well as on local state implementation planning processes to control criteria air pollutants.<sup>61</sup> As the state works to dramatically reduce on-road mobile sources of black carbon, the strategy anticipates that, by 2030, fuel combustion and industry will represent an increasing percentage of remaining black carbon emissions.<sup>62</sup> In other words, black carbon from fuel combustion and industry will be less controlled relative to other sources.

Overall, the primary constraint on industry emissions is the cap-and-trade program. It is telling that CARB's web pages devoted to specific sectors put "cap-and-trade and industry" together as one web page, in contrast to other sectors, which have web pages devoted to their sector-specific

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56. See *id.* (noting that industrial sector GHG emissions primarily result from fuel combustion, but also include some process-related emissions).

57. See INITIAL SCOPING PLAN, *supra* note 4, at 54–55; Cal. Air Res. Bd., *Energy Efficiency and Co-Benefits Assessment for Large Industrial Sources—Regulatory Activities* (Feb. 5, 2018), <https://www.arb.ca.gov/cc/energyaudits/energyaudits.htm> [<https://perma.cc/5UCK-WBH5>].

58. See CAL. AIR RES. BD. & CAL. EPA, ENERGY EFFICIENCY AND CO-BENEFITS ASSESSMENT PUBLIC REPORTS WORKSHOP (June 30, 2015), <https://www.arb.ca.gov/cc/energyaudits/meetings/063015/presentation.pdf> [<https://perma.cc/UB42-E4P2>] (PowerPoint presentation). Although CARB indicated it would complete an "ARB Findings Report" documenting the results of the industry reports and third-party assessments of them, *see id.* at 31, the report does not appear on the agency website (which, as of this writing, has not been updated since Nov. 3, 2015), Cal. Air Res. Bd., *Energy Efficiency and Co-Benefits Assessment for Large Industrial Sources—Regulatory Activities* (last visited Dec. 3, 2017).

59. SLCP, *supra* note 43, at 56.

60. 17 Cal. Code Reg. § 95665.

61. SLCP, *supra* note 43, at 51.

62. *Id.* at 53 (noting that, in 2030, fuel combustion and industry are expected to contribute 24 percent of black carbon emissions).

strategies.<sup>63</sup> The cap-and-trade program affects industries in two ways: they must hold allowances to cover their direct emissions from on-site fuel combustion and industrial processes. In addition, to the degree they utilize fuels on site, the cost of the fuels incorporates the effect of the cap-and-trade program on fuel distributors, which must hold carbon allowances for the carbon content of the fuels they distribute. Given the centrality of environmental justice concerns about cap-and-trade and its role in debates about the future contours of California's climate program, the topic is discussed in more detail below.<sup>64</sup>

### *C. Environmental Justice and the Distribution of Clean Energy Benefits*

Environmental justice efforts have also focused on distributing the benefits of climate reduction efforts to disadvantaged communities. The November 2017 Scoping Plan states that “investments and policies that both lift up the poor and reduce wealth disparities will address the multiple problems of climate change mitigation, adaptation, and health inequities.”<sup>65</sup> It states further that “[i]t is critical that communities of color, low-income communities, or both, receive the benefits of the cleaner economy growing in California, including its environmental and economic benefits.”<sup>66</sup>

Cap-and-trade revenue has provided the opportunity for significant benefits. In 2012, California legislation required that 25 percent of cap-and-trade auction revenues from the state's “Greenhouse Gas Reduction Fund” (GGRF) be used to benefit disadvantaged communities.<sup>67</sup> In 2016, the legislature required that more of the funds be used within disadvantaged communities and required that an additional 10 percent of the funds be used to benefit low-income households and communities.<sup>68</sup> Communities are

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63. See Cal. Air Res. Bd., *Economic Sectors Portal*, <https://www.arb.ca.gov/cc/ghgsectors/ghgsectors.htm> [<https://perma.cc/4DTL-CH7H>] (last visited Oct. 23, 2017).

64. See *infra* section I(D).

65. NOVEMBER 2017 SCOPING PLAN, *supra* note 10, at 49.

66. *Id.* at 15.

67. California Global Warming Solutions Act of 2006: Greenhouse Gas Reduction Fund, S.B. 535, Stat. 2012, ch. 830 (Cal. 2012). Of that 25 percent, 10 was required to be devoted to projects located within disadvantaged communities. *Id.*

68. A.B. 1550, ch. 369, (Cal. 2016). The 2016 legislation dedicated revenue specifically for low-income communities based on evidence that some low-income communities needing assistance were not classified as “disadvantaged” under the state's definition. See Emi Wang, *Addressing the Climate Gap: California Legislature Delivers for Frontline Communities*, The Greenlining Institute (Sept. 14, 2016), <http://greenlining.org/blog/2016/addressing-climate-gap-california-legislature-delivers-frontline-communities> [<https://perma.cc/6N47-DBL3>].

As of November 2017, 50 percent of auction proceeds had benefited disadvantaged communities, and 34 percent were in such communities. See Cal. Climate Investments,



defined as “disadvantaged” based on “geographic, socioeconomic, public health, and environmental hazard criteria,” including disproportionate exposures to environmental pollution and concentrations of people with low socioeconomic indicators.<sup>69</sup> To identify disadvantaged communities, California has gathered extensive data and developed a computer program, CalEnviroScreen, that integrates information into maps that allow policymakers to overlay multiple characteristics and identify areas experiencing multiple challenges.<sup>70</sup> The communities with scores in the top twenty-five percent, as well as certain other low-population but high-pollution communities, are considered “disadvantaged.”<sup>71</sup> To date, of the 1.2 billion in auction revenue being implemented in concrete projects, fifty percent benefits disadvantaged communities and thirty-four percent is physically located within disadvantaged communities.<sup>72</sup>

Projects eligible for GGRF funds are expected to reduce GHG emissions in ways that, to the extent feasible, “[m]aximize economic, environmental, and public health benefits,” by providing jobs, improving air quality, and engaging “businesses, public agencies, nonprofits, and other community

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*Disadvantaged Communities*, <http://www.caclimateinvestments.ca.gov/disadvantaged-communities/> [<https://perma.cc/TPC3-RC53>] (last visited Nov. 10, 2017). Remaining auction revenues are being used for a variety of other purposes. For example, the funding is essential to the development of the state’s planned high-speed rail, connecting the San Francisco Bay Area, the Central Valley, and Los Angeles, a project that has already received \$800 million in auction revenue funding. See Cal. Air Res. Bd., *Auction Proceeds Funded Programs*, <https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/ggrfprogrampage.htm#Transportation> [<https://perma.cc/UX3F-L63Q>].

69. CAL. HEALTH & SAFETY CODE § 39711. The 2016 legislation expanding the percentage level to 35 percent specified that the state should disburse 10 percent to benefit low-income communities that might not meet the full range of criteria. A.B. 1550, ch. 369, (Cal. 2016).

70. See Cal. Office of Env’tl Health and Hazard Assessment, *About CalEnviroScreen*, <https://oehha.ca.gov/calenviroscreen> [<https://perma.cc/RDC9-78PG>] (last visited Nov. 10, 2017).

71. See CalEPA, *California Climate Investments to Benefit Disadvantaged Communities*, <http://calepa.ca.gov/envjustice/ghginvest/> [<https://perma.cc/W34R-BFAC>] (last visited Nov. 10, 2017).

72. CAL. CLIMATE INVESTMENTS, ANNUAL REPORT TO THE LEGISLATURE ON CALIFORNIA CLIMATE INVESTMENTS USING CAP-AND-TRADE AUCTION PROCEEDS, at v (Nov. 2017), [https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/cci\\_annual\\_report\\_2017.pdf](https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/cci_annual_report_2017.pdf) [<https://perma.cc/K532-M2YY>]. Overall, the GGRF has funded 30,000 residential energy efficiency measures, provided over 100,000 rebates for zero or low-emission vehicles, funded 200 transit projects, and supported over 1000 new affordable housing units. NOVEMBER 2017 SCOPING PLAN, *supra* note 10, at ES 17.

institutions.”<sup>73</sup> Potential projects include improving energy efficiency, installing distributed energy at universities, public buildings, and industrial sites, measures to reduce transportation emissions, funding for sustainable infrastructure and waste reduction, and investments in research.<sup>74</sup>

Moreover, to provide a more cohesive framework for community investments and facilitate community-driven planning, in 2016 the state passed the “Transformative Climate Communities Program” to facilitate community-wide planning in revenue-eligible communities.<sup>75</sup> In 2016, \$140 million of GGRF funds were committed for the “development and implementation of neighborhood-level transformative climate community plans that include multiple, coordinated greenhouse gas emissions reduction projects that provide local economic, environmental, and health benefits to disadvantaged communities. . .”<sup>76</sup> The program supports and enables integrated and bottom-up community-based planning.

Additional laws have sought to enhance renewable energy development in disadvantaged communities. A law that encourages utility investment in renewable energy explicitly states that utilities should “give preference to renewable energy projects that provide environmental and economic benefits to communities afflicted with poverty or high unemployment, or that suffer from high emission levels of toxic air contaminants, criteria air pollutants, and greenhouse gases.”<sup>77</sup> To address disparities in the distribution of renewable energy and energy efficiency investments, the most recent RPS legislation, SB 350, ordered a study of potential obstacles in and opportunities for these investments in low-income communities (the Barriers Study).<sup>78</sup> The November Scoping Plan states that it will “implement the recommendations of the Barriers Study for increasing access to renewable energy generation for low-income customers, energy efficiency and weatherization investments for low-income customers, and contracting opportunities for local small business in disadvantaged communities.”<sup>79</sup> More broadly, SB 350 encouraged the relevant state agencies to take a multi-pollutant approach in considering energy choices, seeking technologies that would have the lowest possible

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73. CAL. HEALTH & SAFETY CODE § 39712(b) (Westlaw 2018).

74. CAL. HEALTH & SAFETY CODE § 39712(c) (Westlaw 2018).

75. CAL. PUB. RES. CODE § 75240 (Westlaw 2018).

76. *Id.* at § 75240. CALIFORNIA STRATEGIC GROWTH COUNCIL, *Transformative Climate Communities (TCC)* (2016) <http://sgc.ca.gov/programs/tcc/vision/> [<https://perma.cc/GG32-76LE>].

77. CAL. PUB. UTIL. CODE § 399.13 (codifying SB 43, enacted in 2013).

78. CAL. PUB. RES. CODE § 25327 (codifying the study provision in SB 350, the 2015 legislation that established California’s 50 percent RPS standard).

79. NOVEMBER 2017 SCOPING PLAN, *supra* note 10, at 68.

“emissions of greenhouse gases, criteria pollutants, and toxic air contaminants onsite.”<sup>80</sup>

The 2015 “Multifamily Affordable Housing Solar Roofs Program” dedicates up to one billion dollars, over 10 years, to installing solar power on multi-family apartment buildings for low-income tenants. The funds are expected to lower utility bills for 200,000 low-income apartments.<sup>81</sup> And to reduce the risk that solar arrays will increase property values, leading to gentrification, the law authorizes the agency to require covenants and deed restrictions to ensure that the property continues to be rented to low-income residents.<sup>82</sup> The law explicitly integrates economic development, renewable energy, and GHG reduction goals.<sup>83</sup>

The state has also worked to provide disadvantaged communities with the benefits of low-emission transportation options that reduce greenhouse gas and co-pollutant emissions. In 2015, the legislature enacted SB 1275, the “Charge Ahead California Initiative,” to direct the benefits of the state’s on-going zero- and low-emission vehicle programs to low-income and environmentally stressed communities.<sup>84</sup> In addition to establishing an overarching goal of placing 1 million zero- and near zero-emission vehicles onto California roads by 2023, the bill explicitly stated its goal “to increase access for disadvantaged, low-income, and moderate-income communities and consumers . . . to enhance air quality, lower greenhouse gases, and promote overall benefits for those communities and consumers.”<sup>85</sup> With the benefit of funds from GHG auction revenue, CARB’s Clean Vehicle Rebate Program has increasingly focused on rebates for low-income consumers, with all rebates to be reserved for low-income consumers

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80. CAL. PUB. UTIL. CODE § 400(b).

81. CAL. PUB. UTIL. CODE § 2870(c). Funding for this program stems from the allowance allocation process. CARB issues allowances to utilities for free, but requires them to use the proceeds for rate-payer benefit, including clean energy. *Id.* at § 748.5(c).

82. *Id.* at § 2870(f)(2).

83. *See id.* (stating that: “[i]n installing . . . solar energy systems in disadvantaged communities can provide local economic development benefits while advancing the state’s renewable energy policies and policies to reduce greenhouse gas emissions”). A.B. 693, Stat. 2015, ch. 582, § 1(c) (Cal. 2015), [https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\\_id=201520160AB693](https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160AB693) [<https://perma.cc/58HY-G7PN>] (legislative findings).

84. S.B. 1275, Stat. 2014, ch. 530 (Cal. 2014). The Charge Ahead Program built on earlier legislation providing resources to help low-income consumers (as well as other consumers) retire and replace high-polluting cars and trucks. *See* A.B. 8, Stat. 2013, ch. 401 (Cal. 2013).

85. CAL. HEALTH & SAFETY CODE § 44258.4(b).

beginning in late 2016.<sup>86</sup> In addition to vehicle rebates, SB 1275 further directed CARB to establish programs to facilitate access to electric transportation, including financing mechanisms (in addition to the rebates), car-sharing programs, and “[d]eployment of charging infrastructure in multiunit dwellings in disadvantaged communities.” The bill’s legislative findings clearly intertwined the state’s twin concerns about greenhouse gas emissions and on-going pollution in disadvantaged communities.<sup>87</sup>

As the foregoing description of California’s legislative initiatives suggests, California has adopted a dizzying array of policies to reduce emissions and to spread the benefits of climate change actions. Before addressing the recent legislation shaping the future of California’s climate policy and analyzing the environmental justice features and implications of these measures, however, a few additional words on the state’s cap-and-trade program are warranted.

#### *D. Environmental Justice Flashpoint: The Cap-and-Trade Program*

##### *1. The Cap-and-Trade Program*

Controversy over cap-and-trade has marked the implementation of AB 32 and been central to debates about the state’s future trajectory. Industry has supported cap-and-trade as the most cost-effective reduction strategy.<sup>88</sup> At the same time, as discussed above, environmental justice advocates have been concerned about its efficacy in reducing GHG emissions, its capacity to deliver associated co-pollutant benefits where they are most needed, and the lack of democratic participation in industry emission decisions.<sup>89</sup>

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86. See Rob Nikolewski, *California tweaks electric car rebates: Will it work?*, SAN DIEGO UNION TRIB. (Oct. 27, 2016), <http://www.sandiegouniontribune.com/business/sd-fi-rebates-changed-20161025-story.html> [<https://perma.cc/J5FF-43JR>]; Cal. Air Resc. Bd., Clean Vehicle Rebate Project, <https://www.arb.ca.gov/msprog/aqip/cvrp.htm> [<https://perma.cc/QUP5-HSVB>].

87. The legislature found that over 40 percent of California residents live close to “busy roadways and . . . may be exposed to an elevated risk of air pollution and health impacts.” S.B. 1275, § 1(a). The legislature also observed that “[c]ars and trucks are the single largest source of greenhouse gas emissions in California . . . [and] the largest contributor to air pollution that harms public health.” *Id.* at § 1(d). It further found that “California’s low-income and disadvantaged populations continue to face disproportionate impacts from substandard air quality.” *Id.* at § 1(b).

88. See *The Climate v. Local Pollution*, L.A. TIMES, at 19 (July 2, 2017). Melanie Mason et al., *The Environment, Cool Reception: Progressives, Environmentalists are Ambivalent on Cap-Trade Plan*, L.A. TIMES, at 1 (July 12, 2017).

89. See *supra* notes 18–24 and accompanying text.

In its initial phase, from 2012-2015, California’s cap-and-trade program applied to large energy and industrial sources.<sup>90</sup> Beginning in 2015, the program was extended to entities, like natural gas providers and refineries, that bring transportation, industrial and heating fuels into commerce.<sup>91</sup> Covered entities must demonstrate that they are holding sufficient allowances or “offsets” to cover their emissions during the preceding three years.<sup>92</sup>

Allowance allocation and offsets provisions have been controversial. Initially, CARB distributed most, but not all, of the allowances for free.<sup>93</sup> In the industrial sector, CARB provided free allowances because it feared that requiring certain industries to purchase allowances would result in “leakage:” industries would shift production outside of California, hurting the economy and defeating the state’s emission reduction objectives.<sup>94</sup> In the electricity sector, CARB provided free allowances to utilities and natural gas suppliers to avoid increasing electricity costs, but required them to use any value obtained from the allowances for the benefit of ratepayers rather than shareholders.<sup>95</sup>

CARB also adopted an extensive offset program to allow covered entities to purchase offsets—to pay and get credit for reductions undertaken by

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90. The program covers electricity generating and industrial sources emitting at least 25,000 metric tons CO<sub>2</sub> per year. 17 CAL. CODE REG. § 95812.

91. INITIAL SCOPING PLAN, *supra* note 4, at 31. Fuel distributors must hold allowances to cover the carbon content of the fuels they distribute. All told, the cap-and-trade program applies to approximately 450 entities. See Cal. Air Res. Bd., *Overview of ARB Emissions Trading Program*, [https://www.arb.ca.gov/cc/capandtrade/guidance/cap\\_trade\\_overview.pdf](https://www.arb.ca.gov/cc/capandtrade/guidance/cap_trade_overview.pdf) [<https://perma.cc/A7UL-M93L>].

92. See CAL. AIR RES. BD., REGULATORY GUIDANCE DOCUMENT, Chapter 3: What Does My Company Need To Do to Comply with the Cap-and-Trade Regulation?, at 8 (Apr. 2013), <https://www.arb.ca.gov/cc/capandtrade/guidance/20130419%20Guidance%20Document%20Ch%203%20posting.pdf> [<https://perma.cc/Y6JH-GSDW>] (chart demonstrating triennial compliance obligation, with partial compliance in preceding two years and primary compliance in third year). Emitting facilities are accountable for their direct emissions, while fuels distributors are accountable for the carbon content of the fuels they distribute.

93. See CENTER FOR CLIMATE AND ENERGY SOLUTIONS, CALIFORNIA CAP-AND-TRADE PROGRAM SUMMARY, at 2 (2014), <https://www.c2es.org/docUploads/calif-cap-trade-01-14.pdf>.

94. CAL. AIR RES. BD., PROPOSED REGULATION TO IMPLEMENT THE CALIFORNIA CAP-AND-TRADE PROGRAM J-18-21 (APPENDIX J, ALLOWANCE ALLOCATION), <https://www.arb.ca.gov/regact/2010/capandtrade10/capv4appj.pdf> [<https://perma.cc/EAG9-YMKU>].

95. 17 CAL. CODE REG. § 95892(d) (allowance allocation for ratepayer benefit applicable to electric utilities); *id.* at § 95893(a) (allowance allocation for ratepayer benefit applicable to natural gas suppliers).

entities outside the program.<sup>96</sup> For example, a covered entity could purchase forestry offsets that represent the carbon sequestered by a preserved forest.<sup>97</sup> The agency developed the offset program to stimulate reductions in unregulated sectors and as a cost-containment mechanism, since offsets could be cheaper to achieve than allowances, and a greater supply of compliance options would reduce demand for allowances and, accordingly, allowance prices.<sup>98</sup> Unlimited use of offsets from uncontrolled sectors could, however, result in few, if any, actual reductions by California sources subject to the cap-and-trade program. Recognizing this risk, the Scoping Plan limited offset use to no more than 49 percent of the overall reductions to be achieved.<sup>99</sup> The regulations allow covered entities to use offsets to cover eight percent of their overall emissions.<sup>100</sup> Because the climate program as a whole was expected to reduce emissions by around fifteen percent from 2005 levels and approximately 30 percent from projected 2020 business-as-usual emissions,<sup>101</sup> the ability to cover eight percent of all emissions with offsets constitutes a significant percentage of the overall anticipated reductions.

During implementation of AB 32, EJAC and environmental justice groups continued to strongly oppose cap-and-trade, raising concerns about efficacy in reducing GHG emissions and the failure to maximize co-pollutant benefits.<sup>102</sup> They argued the state should more directly control GHG emissions in key industries and do more to guide a clean energy transition.<sup>103</sup> They were also strongly opposed to the allowance allocation and offset provisions. By distributing allowances for free, environmental justice advocates believed CARB had missed an opportunity to push polluters to pay for their pollution by purchasing allowances at allowance auctions.<sup>104</sup> And, in addition to

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96. INITIAL SCOPING PLAN, *supra* note 4, at 36–38; CAL. CODE REG. § 95820(b) (allowing ARB-issued offsets for compliance); *id.* at § 95821 (allowing other types of offsets for compliance).

97. See CAL. AIR RES. BD., COMPLIANCE OFFSET PROTOCOL: U.S. FOREST PROJECTS (Nov. 2014).

98. INITIAL SCOPING PLAN, *supra* note 4, at 36–37.

99. *Id.* at 37. The limit to 49 percent derived from principles established by the Western Climate Initiative, an initiative to develop a western states’ regional cap-and-trade program. *Id.*

100. CAL. CODE REG. § 95854(b) (identifying “quantitative usage limit” for offsets as 0.08). The regulation restricts the use of sector-based offsets in the first two compliance periods to 2.5 percent and expands use of them to 5 percent in the third compliance period. *Id.* at §95854(c).

101. See *supra* note 4 and accompanying text.

102. See *supra* notes 18–24 and accompanying text.

103. See EJAC 2008, *supra* note 18.

104. See, e.g., Letter from Tara Marchant, Greenlining Institute, to Mary Nichols, Chair, Cal. Air Res. Bd., Econ. and Allocation Advisory Comm. (EAAC) at 2 (Jan. 11, 2010) (advocating for allowances to be auctioned rather than distributed for free), <https://>

questioning the degree to which offsets represented legitimate and verifiable reductions, they feared the offset provisions would reduce pressure on in-state polluters to reduce emissions, deflating the program's potential co-pollutant benefits.<sup>105</sup> Since offsets can be purchased from out-of-state providers, environmental justice groups were concerned that the benefits of offset projects would not accrue to Californians.

Recognizing AB 32's explicit limits on increasing pollution in disadvantaged communities, CARB adopted an "adaptive management" approach to assess whether GHG trading is leading to increasing pollution concentrations.<sup>106</sup> The adaptive management policy requires the state to determine whether emissions increases have occurred at covered facilities, determine whether they were caused by the cap-and-trade program (or, instead, by other economic or industry variables), and determine whether the increased emissions will have a localized adverse effect.<sup>107</sup> If so, the policy states that CARB will work with local air districts to assess policy options to limit that effect.<sup>108</sup>

Initially, environmental justice groups pursued litigation against the cap-and-trade program. In 2009, six months after CARB's approval of the Scoping Plan and its inclusion of cap-and-trade, environmental justice groups brought suit against CARB, arguing that the agency had failed to sufficiently consider alternative mechanisms for reducing emissions besides cap-and-trade and that its analysis of the potential effects of a cap-and-trade program was inadequate.<sup>109</sup> The district court upheld the agency's

[www.arb.ca.gov/lists/dec-14-pdr-ws/119-20100111\\_gli\\_comment\\_ab32\\_capandtrade.pdf](http://www.arb.ca.gov/lists/dec-14-pdr-ws/119-20100111_gli_comment_ab32_capandtrade.pdf) [<https://perma.cc/7MSW-AM7D>].

105. See Letter from Tara Marchant, *supra* note 104, at 3; Kaswan, *Lessons*, *supra* note 6, at 28–29; Alan Ramo, *The California Offsets Game: Who Wins and Who Loses*, 20 HASTINGS W.-N.W.J. ENVTL. L. & POL'Y 109, 131 (2014).

106. CAL. AIR RES. BD., ADAPTIVE MANAGEMENT PLAN FOR THE CAP-AND-TRADE REGULATION (2011), [https://www.arb.ca.gov/cc/capandtrade/adaptive\\_management/plan.pdf](https://www.arb.ca.gov/cc/capandtrade/adaptive_management/plan.pdf) [<https://perma.cc/A5U2-3NP4>].

107. *Id.* at 6.

108. *Id.* at 27–28.

109. See *Ass'n of Irrigated Residents v. Cal. Air Res. Bd.*, 206 Cal. App. 4th 1487, 1493 (2012) (describing lawsuit). The plaintiffs included the Association of Irrigated Residents, California Communities Against Toxics, Coalition for a Safe Environment, Communities for a Better Environment, Society for Positive Action, West County Toxics Coalition, and several environmental justice activists as individual petitioners. In addition, several environmentalists, sharing environmental justice concerns about the integrity of offsets, sued CARB over the offset provisions, arguing that the offset protocols did not sufficiently guarantee the legitimacy of the emission reductions generating the offsets. See *Citizens Climate Lobby v. CARB*, No. 12-519554 (Cal. Jan. 25, 2013), <http://www.acoel.org/file.axd?file=2013%2F1%2FOffset+ruling+1.25.13.pdf.pdf.pdf.pdf> [<https://perma.cc/G7S2->

analysis of the program's likely effects.<sup>110</sup> However, the court ruled that CARB had failed to consider alternatives and remanded the plan back to CARB to further analyze alternative approaches and re-consider and re-explain its choice to adopt a cap-and-trade program.<sup>111</sup> CARB then provided a supplemental analysis of regulatory options, which the district court approved,<sup>112</sup> paving the way for the cap-and-trade program's operation.

Concerns about cap-and-trade also led environmental justice advocates and sympathetic legislators to address CARB's decision-making structure. In 2015, the state adopted a bill adding two new members to the California Air Resources Board, which has ultimate authority over the state's climate regulations and strategies.<sup>113</sup> The law specifies that the two new members, appointed by the legislature rather than the governor, should be people "who work[] directly with communities in the state that are most significantly burdened by, and vulnerable to, high levels of pollution, including, but not limited to, communities with diverse racial and ethnic populations and communities with low-income populations."<sup>114</sup>

## 2. *The Distribution of Emissions*

Given environmental justice concerns about the potential distributional consequences of cap-and-trade, a critical question has been the effect of the state's climate policies on the distribution of emissions. In light of the multiplicity of policies in place and the number of variables that impact emissions decisions, it is difficult to determine cause and effect. Nonetheless, environmental justice advocates pose a central question: have the air pollution improvements expected from the state's climate policies, including cap-and-trade, materialized in the state's most impacted communities?

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7QUB]. Recognizing the difficult challenges the agency faced, the court upheld CARB's approach to validating offsets. *Id.* at 33–34. I discuss the lawsuits challenging the scoping plan's cap-and-trade program in more detail in Kaswan, *Lessons*, *supra* note 6.

110. The district court dismissed the petitioners' substantive challenges to the Scoping Plan, *Citizens Climate Lobby*, *supra* note 109, at 1493, and the appellate court upheld the dismissal of these claims. *Id.* at 1495–1506.

111. *Id.*

112. *Id.* at 1494.

113. California Legislative Information, AB-1288 Air resources, [http://leginfo.ca.gov/faces/billNavClient.xhtml?bill\\_id=201520160AB1288](http://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=201520160AB1288) [https://perma.cc/4JMY-CMZZ]. See Liam Dillon, *Air Board Focus Shift Urged; Lawmakers Want State Environmental Agency to Pay More Attention to Low-Income Areas*, L.A. TIMES (Apr. 24, 2016) (describing political backdrop to appointment of environmental justice members to CARB).

114. *Id.* (amending HEALTH & SAFETY § 39510(e)).



*a. Emissions Studies*

As noted above, CARB committed to an adaptive management process to assess and respond to potential emissions increases resulting from the cap-and-trade program.<sup>115</sup> In a November 2016 presentation, the agency noted that it had identified over eighty environmental justice communities potentially impacted by large GHG-emitting facilities.<sup>116</sup> Of the ten communities initially analyzed, six had maintained or decreased criteria pollutant emissions during the first two years of the cap-and-trade program in 2013 and 2014, relative to emissions prior to the adoption of the program.<sup>117</sup> However, four of the ten areas—Richmond, Oakland, Fresno, and downtown Los Angeles—experienced an increase in one or more criteria pollutant emissions.<sup>118</sup> More in-depth analyses have not yet been published.

Several academic researchers have also studied the environmental justice implications of the cap-and-trade program. In *A Preliminary Environmental Equity Assessment of California's Cap-and-Trade Program*, Prof. Lara Cushing and faculty at a range of California universities observed that high-GHG emitting facilities are disproportionately located in communities of color.<sup>119</sup> The authors compared PM<sub>2.5</sub> emissions in 2011 and 2012, before the full operation of the cap-and-trade program, with emissions in 2013 and 2014. They found that emissions from cement plants, oil and gas production and supply, and hydrogen plants increased, rather than decreased.<sup>120</sup> Even though overall electricity emissions decreased, emissions from in-state source increased slightly. Utilities appear to have reduced their greenhouse gas emissions by reducing reliance on high-carbon out-of-state sources, while

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115. See *supra* note 106 and accompanying text.

116. Cal. Air Res. Bd., *California's Clean Air Approach and Update on the Cap-and-Trade Adaptive Management Process*, at 25 (Nov. 17, 2016) (power point presentation), <https://www.arb.ca.gov/board/books/2016/111716/16-10-5pres.pdf> [<https://perma.cc/SF2E-MB5W>].

117. *Id.* at 24 (displaying the communities with maintained or decreasing emissions, including Wilmington, Barrio Logan, Brawley, San Bernadino, Bakersfield, and Sacramento).

118. *Id.*

119. Lara J. Cushing et al., *A Preliminary Environmental Equity Assessment of California's Cap-and-Trade Program*, at 2–5 (Sept. 2016), [http://dornsife.usc.edu/assets/sites/242/docs/Climate\\_Equity\\_Brief\\_CA\\_Cap\\_and\\_Trade\\_Sept2016\\_FINAL2.pdf](http://dornsife.usc.edu/assets/sites/242/docs/Climate_Equity_Brief_CA_Cap_and_Trade_Sept2016_FINAL2.pdf) [<https://perma.cc/C7DU-W9RZ>].

120. *Id.* at 6. See also Cal. Air Res. Bd., *California Greenhouse Gas Inventory for 2000-2015 – by Category as Defined in the 2008 Scoping Plan* (last updated June 6, 2017) (providing data on sectoral emissions), [https://www.arb.ca.gov/cc/inventory/data/tables/ghg\\_inventory\\_scopingplan\\_sum\\_2000-15.pdf](https://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_sum_2000-15.pdf) [<https://perma.cc/73CE-R47R>].

maintaining or increasing generation from lower-carbon in-state sources.<sup>121</sup> For refineries, the data indicates that emissions decreased at the median, but that the average level of emissions increased,<sup>122</sup> suggesting that some facilities had large increases while more facilities had small decreases. Moreover, in 2014, overall refinery emissions increased relative to the years preceding the cap-and-trade program.<sup>123</sup>

The Cushing study also reported that large facilities used offsets extensively; the total offset use exceeded the emission reduction expected from 2013 to 2014.<sup>124</sup> The use of these offsets replaced what would otherwise have been in-sector emission reductions.<sup>125</sup> Offset use did not necessarily lead to increased emissions, but may have reduced the pollution reduction benefits of the climate program. In terms of the potential benefits from offset projects, other analysts have reported that over seventy-five percent of offset projects were located out-of-state.<sup>126</sup>

In addition, in early 2017, the California Office of Environmental Health Hazard Assessment (OEHHA) released a report entitled *Tracking and Evaluation of Benefits and Impacts of Greenhouse Gas Limits in Disadvantaged Communities: Initial Report*.<sup>127</sup> Like the Cushing study, the report documented the disproportionate location of large GHG and co-pollutant-emitting facilities in disadvantaged communities.<sup>128</sup> To the extent possible with existing data, the report analyzed the correlation between GHG emissions, toxic emissions, and criteria pollutants in a number of differing industries and found moderate to strong correlations for many industries.<sup>129</sup> Given facility locations and the connection between GHGs and co-pollutants, the study concluded that changes in GHG emissions, whether from the cap-and-trade program or

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121. Cushing, et al., *supra* note 119, at 6. Based on CARB's 2017 emissions inventory, which includes data through 2015 (one year past the Cushing study), in-state emissions have been essentially constant, hovering around 50 million tons of CO<sub>2</sub>e per year. In contrast, emissions from out-of-state sources have decreased around 10 million tons of CO<sub>2</sub>e since the advent of the cap-and-trade program. *California GHG Inventory—by Category*, *supra* note 120, at 1.

122. See Cushing, et al., *supra* note 119, at 6 (Figure 4, indicating median and mean levels of refinery emissions before and after initiation of the cap-and-trade program).

123. See *id.* at 7 (Figure 5, indicating overall sector emissions in years 2011, 2012, 2013, and 2014).

124. *Id.* at 7–10.

125. *Id.* at 8. In addition, 76 percent of the offset projects were out-of-state. *Id.*

126. See Rahul Rana, et al., *An Impact Analysis of AB 398 on California's Cap-and-Trade Market*, AM. CARBON REGISTRY (July 2017) (noting that California has provided almost one-quarter of the program's offsets), [http://californiacarbon.info/wp-content/uploads/2017/07/AB398-Impact\\_Analysis.pdf](http://californiacarbon.info/wp-content/uploads/2017/07/AB398-Impact_Analysis.pdf) [<https://perma.cc/KRW2-WP8L>].

127. OEHHA, *supra* note 7.

128. *Id.* at ix.

129. *Id.* at 49 (summarizing conclusions); *id.* at 33–37 (analyzing GHG-toxics correlation); *id.* at 37–40 (analyzing GHG-criteria pollutant correlation).

otherwise, and whether GHG increases or decreases, would likely have a disproportionate effect on disadvantaged communities.<sup>130</sup> Except for providing maps overlaying two key industries—cement plants and refineries—with disadvantaged communities,<sup>131</sup> the report did not, however, have sufficient data to analyze specific impacts on disadvantaged communities.<sup>132</sup>

Lastly, a draft study by Prof. Kyle Meng has analyzed whether, on average, emissions have increased or decreased in disadvantaged communities relative to advantaged communities.<sup>133</sup> The study observed that emissions have decreased in both kinds of communities, with a possibility of somewhat greater decrease, on average, in disadvantaged communities.<sup>134</sup> However, from an environmental justice perspective, shifts in average emissions tell an important but only a partial story. Having emissions decrease in one community does not compensate for maintained or increased emissions in another; averages do not provide assurances of more broadly distributed benefits.

Thus, although the state is witnessing a steady decline in GHG emissions,<sup>135</sup> and that decline has improved co-pollutant emissions in some areas, the state's program has not, to date, led to dramatic reductions in GHGs and co-pollutants in some of the state's most disadvantaged communities. That does not mean that the cap-and-trade program has itself caused increases; a growing economy, low fuel prices, and other factors are likely to be critical factors as well. But it is also possible that the relatively modest 2020 target, coupled with readily available allowances and offsets, has created little pressure for actual reductions from at least some industrial sources.

#### *b. CARB Response to Emissions Data*

CARB's adaptive management process, designed to address potential emissions increases, has not yet resulted in concrete action. CARB is engaged

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130. *Id.* at 49.

131. *Id.* at 41 (map overlaying cement plants and disadvantaged communities); *id.* at 46 (map overlaying refineries and disadvantaged communities).

132. *Id.* at 48–49.

133. Kyle C. Meng, *Is Cap-and-Trade Causing More Greenhouse Gas Emissions in Disadvantaged Communities?* (Apr. 2017) (unpublished), <http://www.kylemeng.com/research>.

134. *Id.* at 7.

135. CAL. AIR RES. BD., 2017 EDITION, CALIFORNIA EMISSIONS INVENTORY: CALIFORNIA GREENHOUSE GAS EMISSIONS FOR 2000-2015 – TRENDS OF EMISSIONS AND OTHER INDICATORS (2017), [https://www.arb.ca.gov/cc/inventory/pubs/reports/2000\\_2015/ghg\\_inventory\\_trends\\_00-15.pdf](https://www.arb.ca.gov/cc/inventory/pubs/reports/2000_2015/ghg_inventory_trends_00-15.pdf) [<https://perma.cc/BG92-YZU8>].

in evaluating community impacts, but, as of November 2017, has not yet issued the reports (or actions) originally contemplated by the Adaptive Management Plan.<sup>136</sup> Although CARB does not appear to have officially renounced its adaptive management policy, environmental justice representatives have reported that CARB does not intend to proceed with further analysis in light of the progress it expects to achieve by implementing 2017 legislation, AB 617, which requires localized pollution assessment and controls.<sup>137</sup> (AB 617 is discussed further below, in section II(B).)

Even if CARB were to have made greater progress in the adaptive management process, it is not clear whether the program would have addressed fundamental environmental justice concerns. The adaptive management response is triggered only if it can be demonstrated that the GHG trading program “caused” an increase.<sup>138</sup> Given the multiplicity of factors that can determine actual emissions, including economic and population factors, it would be difficult to prove that the GHG trading program itself is the “cause” of an identified increase.<sup>139</sup> Moreover, many environmental justice communities had hoped that the climate program would not simply maintain the status quo, but bring significant co-benefits. The adaptive management process is designed to address only emissions increases, not the lack of co-pollutant benefits.<sup>140</sup>

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136. The Adaptive Management Plan indicated that the agency would release annual reports beginning in December 2012. CAL. AIR RES. BD., *supra* note 106, at 28. CARB’s adaptive management webpage does not refer to or link to any completed reports. *See* Cal. Air Res. Bd., *Adaptive Management – Localized Air Quality Impacts*, <https://www.arb.ca.gov/cc/capandtrade/adaptivemanagement/adaptivemanagement.htm> [<https://perma.cc/9UBB-ZYBU>] (last reviewed June 14, 2017). The November 2016 presentation indicated CARB’s intent to release a report in summer 2017. *California’s Update on Adaptive Management*, *supra* note 116, at 28. A July 2017 blog posted by “CALmatters[,] . . . a nonprofit, nonpartisan media venture” focusing on California politics, reported that an ARB spokesman said that the adaptive management “group was moving forward with its work.” HUFFINGTON POST: CALMATTERS, TRYING TO BREATHE: AS CALIFORNIA TOASTS ENVIRONMENTAL WIN, POLLUTION STILL PLAGUES (July 31, 2017), [https://www.huffingtonpost.com/entry/trying-to-breathe-as-california-toasts-environmental-win\\_us\\_597f7035e4b07c5ef3dc1731](https://www.huffingtonpost.com/entry/trying-to-breathe-as-california-toasts-environmental-win_us_597f7035e4b07c5ef3dc1731) [<https://perma.cc/DGN5-L99R>]. An environmental justice activist, Brent Newell of the Center on Race, Poverty & the Environment, said that CARB was supposed to address pollution increases, but “[t]hey haven’t.” *Id.*

137. E-mail communication, Katie Valenzuela Garcia, Principal Consultant, Joint Legislative Committee on Climate Change Policies (Jan. 2, 2018); Personal communication, Amy Vanderwerker, Senior Policy Strategist, California Environmental Justice Alliance (Feb. 2018).

138. Cal. Air Res. Bd., *supra* note 106, at 26 (describing the “causation” requirement).

139. *Id.* (acknowledging multiple factors and difficulty demonstrating causation); *see also* Kaswan, *Lessons*, *supra* note 6, at 32 (quoting concerns expressed by Alegria de la Cruz, Legal Director for the Center for Race, Poverty, and the Environment).

140. *Id.*

From an environmental justice perspective, the emissions results to date validate earlier fears. Given maintained or increased emissions in some disadvantaged urban communities, as well as extensive use of offsets, activists observe that the benefits some had expected to result from cap-and-trade have failed to materialize.<sup>141</sup> Although the climate program appears on track to easily achieve its 2020 GHG reduction targets, its success in reducing GHG emissions has not led to co-pollutant benefits in some of the state's most polluted areas. These views critically informed the tense debates in 2016 and 2017 over a new GHG reduction target and the extension of cap-and-trade, discussed below.<sup>142</sup>

## II. THE ROLE OF ENVIRONMENTAL JUSTICE IN DETERMINING THE FUTURE OF CALIFORNIA CLIMATE POLICY: THE 2030 TARGET AND THE FATE OF CAP-AND-TRADE

By 2015, almost ten years after passing AB 32 and with the 2020 target approaching quickly, the California Legislature once again confronted big questions about California climate policy: the need for a post-2020 GHG reduction target and the primary mechanisms for achieving that target. Environmental justice considerations were a central issue in legislative negotiations.

### *A. The Role of Environmental Justice in Setting the 2030 Greenhouse Gas Target*

After a year of tough negotiating and failed efforts, in 2016 the California legislature passed SB 32,<sup>143</sup> which established a demanding 2030 greenhouse

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141. See Env'tl. Just. Advisory Comm., *supra* note 24, Clause 11. Fran Pavley, a co-author of AB 32, said that, although the law was not specifically designed to address traditional air pollutants, "it envisioned the program would bring cleaner air to the low-income neighborhoods located near regulated facilities." CALMATTERS, *supra* note 136. Martha Argüello, Executive Director of Physicians for Social Responsibility, stated that: "[t]here was a promise with cap and trade not to make things worse. The data shows that's happening. Promise broken." *Id.*

142. See Tony Barboza and Chris Megerian, *Gov. Brown Tours Polluted L.A. Neighborhoods to See Firsthand Where Progress Lags*, L.A. TIMES (May 23, 2017) (describing California lawmakers' concern that, although California widely touts its environmental policies, "many areas haven't felt the benefits"), <http://www.latimes.com/local/lanow/la-me-ln-brown-environmental-justice-20170523-story.html> [<https://perma.cc/5Y83-KVTU>].

143. HEALTH & SAFETY CODE § 38566 (Deering 2017). For a revealing article on the legislative history of the bill, including the role of industry, environmental justice, and

gas reduction target: 40 percent below 1990 GHG emission levels, a level much more demanding than the achievement of 1990 levels slated for 2020. The Governor, Jerry Brown, and numerous lawmakers had hoped that the legislation would explicitly incorporate an extension of the cap-and-trade program.<sup>144</sup> However, environmental justice advocates and their legislative allies opposed inclusion of the cap-and-trade program, arguing that the program, to date, had failed to achieve co-pollutant reduction benefits in many disadvantaged communities and should not continue as a mainstay of the state's climate program.<sup>145</sup>

Environmental justice advocates not only opposed the inclusion of cap-and-trade into SB 32, they played a key role in the development and adoption of AB 197, a companion bill that explicitly prioritized direct emission reductions and furthered several additional environmental justice goals.<sup>146</sup> AB 197 and SB 32 traveled the legislative path as a pair. SB 32, setting the target, would take effect only if AB 197, including a range of environmental justice provisions, was adopted.<sup>147</sup>

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political partnerships and maneuvers, see Chris Megerian & Melanie Mason, *California's New Climate Change Laws Almost didn't happen this year. Here's how lawmakers pulled it off*, L.A. TIMES (Sept. 2, 2016), <http://www.latimes.com/politics/la-pol-sac-climate-deal-inside-look-20160902-snap-htmlstory.html> [<https://perma.cc/TRC7-CPUS>].

144. David Siders, *This is What the Climate Bill Jerry Brown Signed Means*, SACRAMENTO BEE (Sept. 8, 2016), <http://www.sacbee.com/news/politics-government/capitol-alert/article100734142.html>. While the Legislature was negotiating S.B. 32, the courts were adjudicating a case challenging the cap-and-trade program as an unlawful tax. Lawmakers hoped to enshrine cap-and-trade in the statute in order to insulate the future cap-and-trade program from legal challenge. In April 2017, in a split decision, a California appellate court affirmed a district court's holding that the program did not impose an unlawful tax. *Cal. Chamber of Commerce v. State Air Res. Bd.*, 216 Cal. Rptr. 3d 694, 700 (Ct. App. 2017), [http://webshare.law.ucla.edu/Emmett/Opinion\\_April\\_2017-Ct\\_App.pdf](http://webshare.law.ucla.edu/Emmett/Opinion_April_2017-Ct_App.pdf) [<https://perma.cc/J9GJ-R3VG>].

145. See Megerian & Mason, *supra* note 143 (observing that poor areas that suffer some of "the worst air quality in the country . . . have felt left behind [California's environmental gains]"); Center for Race, Poverty & the Environment, *Cap-and-Trade in California* (describing environmental justice opposition to the extension of cap-and-trade), <https://crpe-ej.org/resources/policy/cap-and-trade/> [<https://perma.cc/E7WM-2R8G>] (last visited Feb. 15, 2018).

146. See Legislative Counsel Bureau, *Assembly Bill No. 197 Chapter 250: Legislative Counsel's Digest, State Air Res. Bd.: Greenhouse Gas: Regulations*, [https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\\_id=201520160AB197](https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160AB197) [<https://perma.cc/S3PS-CX72>]; California Environmental Justice Alliance, *Front and Center in Climate Policy: Environmental Justice Plays Key Role in Winning Next Generation Of Climate Policies* (Aug. 25, 2016), <http://caleja.org/2016/08/front-and-center-in-climate-policy-environmental-justice-plays-key-role-in-winning-next-generation-of-climate-policies/> [<https://perma.cc/HEA4-QWWB>].

147. See Legislative Counsel Bureau, *Senate Bill No. 32 Chapter 249: Legislative Counsel's Digest, California Global Warming Solutions Act of 2006: emissions limit*, [https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\\_id=201520160SB32](https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB32) [<https://perma.cc/Z749-MZQ4>]. Other AB 197 provisions required CARB to incorporate the social cost of carbon—the benefits of averting climate change. HEALTH & SAFETY CODE § 38562.5 (Deering 2017). In addition, AB 197 contained a number of procedural mechanisms to

The most significant substantive provision in AB 197 provided that the agency was to “prioritize . . . direct emission reductions” from large sources and mobile sources.<sup>148</sup> At a minimum, this provision suggests that carbon offsets, which achieve the target through reductions by non-covered sources, should not be prioritized. Although it does not rule out reductions achieved through the operation of cap-and-trade (since cap-and-trade, without offsets, would in fact lead to reductions from the large sources subject to the program), commentary suggests legislative intent to maximize the use of direct regulation of (not just direct emission reductions at) large and mobile sources.<sup>149</sup>

The strength of the environmental justice agenda in 2016 was further actualized through a slate of additional environmental and social justice bills.<sup>150</sup> They included several of the justice-oriented policies discussed above, like increasing investment of auction revenue in disadvantaged communities, targeting low-emission vehicle rebates in low-income communities, and creating the local community planning program.<sup>151</sup> As one reporter described

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facilitate the achievement of environmental justice goals, including new ways to more effectively report and display GHG and co-pollutant emissions data. *See id.* § 38531 (2017). The requirements were intended to overcome the significant challenges researchers have encountered in tracking the relationship between facilities’ GHG, toxic, and criteria emissions. *See* Cushing, et al., *supra* note 119, at 11 (providing several recommendations to better facilitate tracking the public health and equity aspects of cap-and-trade); OEHHA, *supra* note 7, at x (noting that data on GHG, toxics, and criteria pollutants is collected under different programs, complicating data analysis). In addition, to address the fragmentation of legislative oversight over CARB’s many GHG reduction programs, overseen by a diverse array of legislative committees, AB 197 created the Joint Legislative Committee on Climate Change Policies, consisting of members from both the state Assembly and Senate. CAL. GOV’T CODE § 9147.10 (Deering 2017). The Committee is intended to provide the Legislature with a more holistic mechanism for understanding and assessing implementation of the state’s climate laws.

148. HEALTH & SAFETY CODE § 38562.5 (Deering 2017). AB 197 instructs ARB to “prioritize . . . (a) Emission reduction rules and regulations that result in direct emission reductions at large stationary sources of greenhouse gas emissions sources and direct emission reductions from mobile sources,” as well as rules and regulations that lead to direct emission reductions from other sources. *Id.* § 38562.5 (2017).

149. Ann Carlson, *Does AB 197 Mean the End of Cap and Trade?*, LEGAL PLANET BLOG (Aug. 24, 2017), <http://legal-planet.org/2016/08/24/does-ab-197-mean-the-end-of-cap-and-trade-in-california/> [https://perma.cc/ZV8T-6MGD].

150. *See* California Environmental Justice Alliance, *5 Environmental Justice Bills Advance to Governor Brown’s Desk!* (Sept. 15, 2016), <http://caleja.org/2016/09/5-environmental-justice-bills-advance-to-governor-browns-desk/> [https://perma.cc/5RKJ-CA8W].

151. *See* Liam Dillon, *City & State: Climate Change Funding Climbs; Brown Signs Four Bills to Boost Spending on Emission-Curbing Efforts, with More for Low-income Communities*, L.A. TIMES (Sept. 14, 2016), <http://www.latimes.com/politics/essential/la->

it, these measures “were advanced . . . as many lawmakers representing low-income communities of color made themselves a force in the state’s climate change debate after complaints that existing policies weren’t doing enough to benefit the districts they represent.”<sup>152</sup>

### *B. The Role of Environmental Justice in Extending the Cap-and-Trade Program*

Although the Brown Administration was unable to codify the cap-and-trade program in 2016, the Administration continued to work toward that goal, a goal shared by industry interests perceiving cap-and-trade as cheaper than more direct emission controls or requirements.<sup>153</sup> In 2017, the Legislature, Governor’s Office, and an array of stakeholders engaged in highly contentious discussions over competing cap-and-trade bills. Recognizing persistent concentrations of air pollution in disadvantaged communities notwithstanding existing air pollution control efforts, as well as environmental justice activists’ opposition to cap-and-trade,<sup>154</sup> legislators hotly debated whether and how to incorporate environmental justice concerns.

#### *1. AB 378: An Unsuccessful Effort to Integrate Cap-and-Trade and Environmental Justice*

During Spring 2017, California Assembly member Cristina Garcia, who represents East Los Angeles, contended that the current climate program has reduced carbon emissions, ““but it hasn’t been equitable across the

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pol-sac-essential-politics-updates-gov-brown-signs-new-laws-to-boost-1473881012-html story.html [https://perma.cc/NX3Z-LMXH].

152. *Id.* See also California Environmental Justice Alliance, *supra* note 150 (describing role of environmental justice interests in passing SB 32/AB 197 package).

153. See *The Climate v. Local Pollution*, *supra* note 88 (observing that cap-and-trade provides a cheaper mechanism for controlling emissions and that “industry groups are lobbying hard to preserve the cap and trade program”).

154. A February 2017 declaration adopted by the Environmental Justice Advisory Committee stated that “[t]he California Environmental Justice Advisory Committee . . . DECLARES that we will oppose at every turn all efforts to extend the California Cap and Trade system in California beyond 2020 . . . .” Environmental Justice Advisory Comm., *supra* note 24. They further resolved “that the California Environmental Justice Movement will oppose efforts by our state government to extend Cap and Trade, because this program will not reduce greenhouse gas emissions at the pace called for by the international scientific community, it will not result in a shift to clean and sustainable energy sources, it will support and enrich the state’s worst polluters, it will fail to address the existing and future inequitable burden of pollution, [and] it will deprive communities of the ability to protect and enhance their communities.” *Id.*



state”<sup>155</sup> and has failed to bring economic or public health benefits to “predominantly low-income and minority communities.”<sup>156</sup> In an effort to “‘meaningfully integrate[] cap and trade with air quality,’”<sup>157</sup> she introduced AB 378, which extended cap-and-trade to 2030 but incorporated numerous environmental justice constraints.<sup>158</sup> The bill would have tasked CARB with adopting “the most effective and equitable mix of emission reduction measures to achieve the 2030 goal,” and with ensuring “that emission reduction measures collectively and individually support achieving air quality and other environmental and public health goals.”<sup>159</sup>

More specifically, referencing AB 197, the 2016 bill that prioritized direct emission reductions, AB 378 provided that CARB could “complement direct emission reductions” with “market-based” limits through 2030,<sup>160</sup> thereby extending cap-and-trade. To further emission reductions in polluted areas, AB 378 authorized CARB to “adopt no-trade zones or facility-specific declining greenhouse gas emissions limits where facilities’ emissions contribute to a cumulative pollution burden that creates a significant health impact.”<sup>161</sup> In addition, reflecting concerns that existing sources are inadequately regulated, the law directly required CARB to establish criteria and toxic air pollution standards for industrial facilities.<sup>162</sup> It then provided that CARB could not distribute GHG allowances to industrial facilities violating these standards.<sup>163</sup>

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155. Alexei Koseff, *Lawmakers push for ‘environmental justice’ in California carbon reduction policy*, SACRAMENTO BEE (Feb. 9, 2017), <http://www.sacbee.com/news/politics-government/capitol-alert/article131809264.html> [<https://perma.cc/PB9C-K3D6>].

156. *Id.* Prior to the Assembly’s vote, Rep. Garcia commented that her district, East Los Angeles, “has been treated like a ‘wasteland,’ and that the key question is: ‘Do we all matter?’” Katy Murphy, *Climate change and bail reform bills fall short in California Assembly*, MERCURY NEWS (June 1, 2017), <http://www.mercurynews.com/2017/06/01/climate-change-and-bail-reform-bills-fall-short-in-the-california-assembly/> [<https://perma.cc/4UGS-GNBU>].

157. John Meyers, *With Democrats Divided, Assembly Rejects a Plan to Extend California’s Cap-and-Trade Program*, L.A. TIMES (June 1, 2017).

158. Greenhouse gases, criteria air pollutants, and toxic air contaminants, AB 378, 2017-2018 Sess. (Cal. 2017), [http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\\_id=201720180AB378](http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB378) [<https://perma.cc/CJ2N-ETXF>] [hereinafter AB 378].

159. *Id.* at Sec. 4 (proposing to add HEALTH & SAFETY § 38567).

160. *Id.* at Sec. 2 (proposing to amend HEALTH & SAFETY § 38562.5(b)).

161. *Id.* (proposing to amend HEALTH & SAFETY § 38562.5(c)).

162. *Id.* (proposing to amend HEALTH & SAFETY § 38562.6(b)).

163. *Id.* at Sec. 3 (proposing to add HEALTH & SAFETY § 38562.6(c)).

Around the same time, lawmakers introduced SB 775,<sup>164</sup> another cap-and-trade extension bill that included several provisions that appealed to environmental justice activists.<sup>165</sup> The bill required all allowances to be auctioned rather than distributed for free,<sup>166</sup> and prohibited the use of offsets.<sup>167</sup> In addition, it featured the return of climate dividends to consumers, a mechanism that could mitigate the cost of transitioning to a low-carbon economy.<sup>168</sup> Amy Vanderwarker and Kay Cuajunco, of the California Environmental Justice Alliance, said the dividend is “[o]ne of the most exciting aspects of the bill from an environmental justice perspective” and noted the importance of “find[ing] a way to ease the cost burden for our most vulnerable residents” given the large proportion of their income spent on energy costs.<sup>169</sup>

These bills did not, however, move forward. SB 775 did not appear to have come up for a vote. AB 378, with its extensive environmental justice provisions, was just shy of a majority.<sup>170</sup> According to one observer, business-aligned moderate Democrats and Republicans resisted the effort to link traditional air pollution and GHG emissions measures.<sup>171</sup> Moreover, although the legislature and CARB have routinely embraced environmental justice goals and the value of linking climate and air pollution objectives, they have consistently resisted efforts to integrate co-pollutants into the actual operation of the cap-and-trade program, one of AB 378’s most controversial features.

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164. S.B. 775 California Global Warming Solutions Act of 2006: market-based compliance mechanisms, 2017-2018 Sess. (Cal. 2017), [https://leginfo.ca.gov/faces/billTextClient.xhtml?bill\\_id=201720180SB775](https://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB775) [<https://perma.cc/Q8NU-CZJB>] [hereinafter S.B. 775].

165. See Amy Vanderwarker and Kay Cuajunco, *Equity at the Center: SB 775 and AB 378 Create New Path towards More Equitable, Effective, Climate Policy*, LEGAL PLANET BLOG (May 12, 2017), <http://legal-planet.org/2017/05/12/guest-bloggers-amy-vanderwarker-and-kay-cuajunco-equity-at-the-center-sb-775-and-ab-378-create-new-path/> [<https://perma.cc/RH7J-TJNP>].

166. S.B. 775 Sec. 4 (proposing to add HEALTH & SAFETY § 38574.5(b)(5)).

167. *Id.* (proposing to add HEALTH & SAFETY § 38574.5(b)(11)).

168. *Id.* at Sec. 6 (proposing to add HEALTH & SAFETY § 38577.2, creating a California Climate Dividend Program).

169. See Vanderwarker & Cuajunco, *supra* note 165.

170. AB 378, *supra* note 158 (history page, noting June 1, 2017, 39–34 vote against passage). One reporter notes that the bill “died amid heavy lobbying from the oil industry.” *The Climate v. Local Pollution*, *supra* note 88.

171. See Meyers, *supra* note 157.

## 2. AB 398 and AB 617: A New Cap-and-Trade/Environmental Justice Legislative Package

In July 2017, a different legislative package succeeded. The legislature adopted AB 398,<sup>172</sup> which extended the cap-and-trade program to 2030, coupled with AB 617, which included environmental justice provisions. AB 398 did not simply extend the existing program for ten years; to obtain the desired two-thirds vote, it included numerous changes in the program and concessions to various interests, some to address environmental concerns, but most to address industry interests, particularly in the oil and gas sector.<sup>173</sup>

To address industry concerns, AB 398 provided firmer cost containment measures than in the state's existing program, including a price ceiling.<sup>174</sup> In addition, the law preserved free allowances for industry.<sup>175</sup> The bill also preempted local air districts from imposing GHG reduction requirements on stationary sources in the state's cap-and-trade program,<sup>176</sup> effectively halting GHG control efforts underway in the Bay Area.<sup>177</sup> Lastly, the law explicitly prevented not only local air districts, but CARB itself from adopting any additional limitations on refineries and oil and gas production beyond existing controls—gutting CARB's then-proposed direct refinery limits.<sup>178</sup>

On the environmental justice side, AB 398 reduced, but did not eliminate, permissible levels of offset use. From 2021 to 2025, covered entities can

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172. A.B. 398, ch.135, (Cal. 2017).

173. See Mason et al., *supra* note 88; Katy Murphy, *Jerry Brown Implores Lawmakers to Take the 'Most Important Vote of Your Life,'* THE MERCURY NEWS (July 13, 2017).

174. HEALTH & SAFETY § 38562(c)(2)(A)(i). The bill left the determination of the specific price ceiling to CARB. In addition, the bill offers “price containment points” to alleviate high prices before the ceiling is reached. *Id.* at § 38562(c)(2)(B). CARB must use the revenue generated from the sale of price-containing allowances to fund emissions reductions. *Id.* at § 38562(c)(2)(A)(ii)(II).

175. AB 398 preserves the “industry assistance factors,” which established the ratio of free to auctioned allowances, that were in place from 2015-2017. *Id.* at § 38562(c)(2)(G). The original cap-and-trade program provided free allowances to industry at the outset to help them adjust to the program, and then anticipated that, after 2020, the free allowances would be phased out and industry would be required to purchase allowances. See Jason Ye, Center for Climate and Energy Solutions, *Summary of California's Extension of its Cap-and-Trade Program 2* (Aug. 2017), <https://www.c2es.org/site/assets/uploads/2017/09/summary-californias-extension-its-cap-trade-program.pdf> [<https://perma.cc/Z227-SVDX>].

176. HEALTH & SAFETY § 38594(b).

177. See *infra* notes 305–09 and accompanying text.

178. HEALTH & SAFETY § 38592.5(a)(1). CARB can, however, still limit methane and fugitive emissions from refineries and oil and gas production, and maintains its authority over clean cars and fuel content. *Id.* at § 38592.5(a)(3).

use offsets to cover only four percent of their emissions, rather than the eight percent currently permitted.<sup>179</sup> From 2026 to 2030, when the program’s caps will be more demanding, entities can use offsets to cover up to six percent of their emissions.<sup>180</sup> In addition, reflecting concern that the majority of offset projects have been located outside of California,<sup>181</sup> one-half of the offsets must “provide direct environmental benefits” to California.<sup>182</sup> Given the political and environmental stakes associated with offsets, the bill also created the “Compliance Offsets Protocol Task Force.”<sup>183</sup> The law specified that the task force should include a broad range of stakeholders and should prioritize offsets that benefit disadvantaged communities.<sup>184</sup> The law also created priorities for the use of auction revenue post-2020. The first priority is reductions in air toxics and criteria air pollutants from stationary and mobile sources, followed by numerous additional initiatives to foster sustainability, research, and climate adaptation.<sup>185</sup>

AB 617,<sup>186</sup> the companion environmental justice legislation, provided a separate path for addressing co-pollutant concerns. The law includes new monitoring requirements and a pathway to state and local measures to reduce cumulative burdens. Recognizing that, at best, air quality monitoring captures general levels of regional air quality and fails to capture localized hot spots,<sup>187</sup> AB 617 requires the state to convene multiple stakeholders to develop a plan for better monitoring toxics and criteria pollutants and to select the highest priority areas for deploying community monitoring systems.<sup>188</sup> To better understand the sources of community exposures, local air districts are

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179. A.B. 398, ch. 135, Sec. 4 (Cal. 2017); Ye, *supra* note 175.

180. A.B. 398, ch. 135, Sec. 4 (Cal. 2017); Ye, *supra* note 175.

181. See *supra* note 126 and accompanying text.

182. A.B. 398, ch. 135, Sec. 4 (Cal. 2017). “Direct environmental benefits in the state” is defined as “the reduction or avoidance of any air pollutants in the state or the reduction or avoidance of any pollutant that could have an adverse impact on waters of the state.” *Id.*

183. HEALTH & SAFETY § 38591.1.

184. *Id.*

185. *Id.* § 38590.1(a).

186. AB-617 *Nonvehicular air pollution: criteria air pollutants and toxic air contaminants*, CAL. LEGIS. INFO. (2017), [https://leginfo.ca.gov/faces/billTextClient.xhtml?bill\\_id=201720180AB617](https://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=201720180AB617) [<https://perma.cc/X2WC-A3BN>].

187. See Ann E. Carlson, *The Clean Air Act’s Blind Spot: Microclimates and Hot Spot Pollution* (draft, on file with author).

188. HEALTH & SAFETY § 42705.5. The law indicates that the highest priority areas “shall be communities with high exposure burdens for toxic air contaminants and criteria air pollutants.” *Id.* § 42705.5(c). Local air districts are then responsible for deploying the community monitoring systems by July 1, 2019. *Id.* CARB will continue to identify high priority areas over time and, as such areas are identified, local air districts will have one year to establish community monitoring systems. *Id.* § 42705.5(d). In addition, recognizing continuing challenges in obtaining accurate and consolidated emissions data, AB 617 requires CARB to develop a statewide protocol for emissions reporting. *Id.* § 39607.1(b)(1).

empowered to require large stationary sources to deploy fenceline monitoring.<sup>189</sup> In addition, the law requires the state to identify areas experiencing the most significant cumulative emissions burdens.<sup>190</sup>

Based on the data resulting from improved monitoring, the state, by October 2018, is required to develop a statewide strategy for reducing toxic air contaminants and criteria air pollutants in communities with high cumulative burdens.<sup>191</sup> That strategy will then lay the groundwork for specific community emission reduction programs.<sup>192</sup>

AB 617 included several other provisions to accelerate direct controls on toxic and criteria pollutants. AB 617 accelerates deadlines for existing stationary sources in nonattainment areas to install the “best available retrofit control technology” (BARCT).<sup>193</sup> The acceleration of BARCT requirements provides at least a partial response to AB 398’s preemption of local air district controls on stationary sources. However, the provision does not guarantee reductions at all eligible sources; it allows facilities to use “emission reduction credits” to meet the BARCT emissions rate requirements in lieu of physically upgrading technology.<sup>194</sup>

Overall, the cap-and-trade extension process revealed the high political, economic, and environmental stakes associated with the state’s climate policies. Compromises abounded, with industry achieving significant concessions in the primary cap-and-trade extension and environmental justice stakeholders achieving a companion bill that, although not directly addressing concerns about cap-and-trade, nonetheless renews attention on the cumulative burdens many communities continue to endure. It appears that, to get the Governor’s sought-after two-thirds vote, all key players obtained significant benefits—and these key players decided to endure the concessions made to their adversaries in order to hold onto their own achievements.

### *C. The 2030 Scoping Plan*

As noted above, California’s mechanism for integrating its many programs and demonstrating how it will attain its GHG target is the scoping plan

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189. *Id.* § 42705.5(c).

190. *Id.* § 44391.2(b)(1).

191. *Id.* § 44391.2(b).

192. *Id.* § 44391.2(c).

193. *Id.* § 40920.6(c). Facilities are to upgrade at the earliest feasible time, and no later than December 31, 2023. *Id.* To encourage compliance, the law establishes clear and specific penalties for air pollution violations. *Id.* §§ 42400, 42402.

194. *Id.* § 40920.6(c).

process. In December 2017, the Air Resources Board approved a new plan to achieve the GHG reduction target of 40 percent below 1990 levels by 2030.<sup>195</sup> The 2030 emissions limit is 260 million metric tons of carbon-dioxide equivalent (MMTCO<sub>2</sub>e).<sup>196</sup> CARB is focused not only on the 2030 target itself, but on cumulative emissions throughout the period from 2021-2030.<sup>197</sup> In order to ensure reductions throughout the next decade, CARB has set a goal of reducing cumulative emissions by 621 MMTCO<sub>2</sub>e.<sup>198</sup>

Because California has been passing legislation and CARB had already been developing measures to meet the 2030 target—first established by Executive Order in 2015—the 2030 Scoping Plan largely relies on the many initiatives for the transportation, energy, industrial, agricultural, and housing sectors described above.<sup>199</sup> A general summary of the measures, their estimated contribution to achieving reductions between 2021 and 2030, and their percentage contributions to the cumulative reductions are summarized in the table below.

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195. Cal. Air Res. Bd., *Resolution 17-46: 2017 Climate Change Scoping Plan Update*, at 9, <https://www.arb.ca.gov/board/res/2017/res17-46.pdf> [<https://perma.cc/U6FY-VQFJ>].

196. *Id.* at 26.

197. *Id.* CARB notes that “[a] cumulative construct provides a more complete way to evaluate the effectiveness of any measure over time, instead of just considering a snapshot for a single year.” *Id.*

198. *Id.*

199. *See supra* notes 30–63 and accompanying text (describing current implementation steps). *See* NOVEMBER 2017 SCOPING PLAN, *supra* note 10, at 25 (Table 1, describing policy scenario, which—aside from cap-and-trade—consists primarily of “known commitments” based upon existing legislation and policies). Not all sector-specific goals are achievable based on known commitments. For example, the Scoping Plan states the goal of reducing light-duty vehicle miles traveled (VMT) by 15 percent by 2050, but, recognizing that the existing regional planning mechanism, SB 375, will probably be insufficient to achieve that target, stipulates the need for additional measures. *See id.* at 78.

TABLE 1  
ESTIMATED CUMULATIVE EMISSION REDUCTION  
MEASURES (2021-2030)<sup>200</sup>

TYPE OF MEASURE	ESTIMATED REDUCTION IN MMTCO <sub>2</sub> E	PERCENT OF TOTAL CUMULATIVE EMISSION REDUCTION
<b>50 % RPS</b>	16	2.6% <sup>201</sup>
<b>Biofuels</b> (18% Low Carbon Fuel Standard)	25	4%
<b>Energy Efficiency</b> (residential, commercial, industry, agriculture, and TCU <sup>202</sup> )	64	10.3%
<b>Mobile sources</b> (mobile sources clean fuels and technology program; clean freight measures)	64	10.3%
<b>Short-Lived Climate Pollutants</b> (high global warming potential gases, LCFS, direct measures to reduce methane, etc.)	217	35%
<b>Cap-and-Trade Program</b>	236	38%
<b>Total</b>	621	100% <sup>203</sup>

200. The measures and estimated tons of reductions are drawn from Figure 7 in the November Scoping Plan, “Scoping Plan Scenario—Estimated Cumulative GHG Reductions by Measure (2021-30).” *Id.* at 28.

201. The relatively small contribution of the RPS is surprising. It is possible that substantial renewables investments expected to be in place by 2020 reduce the additional investment needed to meet the 2030 RPS target.

202. “TCU” stands for “transportation, communications, and utilities.” NOVEMBER 2017 SCOPING PLAN, *supra* note 10, at 109.

203. Rounding of the measure-specific percentages leads to 100.2%, rounded down here to 100%.

Although sector-specific prescriptive measures were largely responsible for achieving the 2020 emission reduction target, currently planned measures will not achieve the 2030 target. By 2030, there is a 236 MMTCO<sub>2</sub>e gap between the estimated reductions from known commitments and the 621 MMTCO<sub>2</sub>e cumulative emissions reduction goal—38 percent of the total reductions to be achieved by 2030.<sup>204</sup> At present, CARB is primarily relying on the cap-and-trade program to fill that gap.

However, it is possible that CARB will adopt additional direct actions between now and 2030, lessening reliance on cap-and-trade. In virtually every sector, the Scoping Plan lists “potential additional actions” that could increase emissions reductions from more direct sector-based policies. For example, in the energy sector, CARB suggests that it will continue to explore efforts to increase renewable energy use and storage capacity, continue to promote and expand energy efficiency and the electrification of buildings, and other measures.<sup>205</sup> In the industry sector, CARB anticipates exploring greater use of renewable energy at industrial sources, partnering “with California’s local air districts to effectively use BARCT to achieve air quality and GHG reduction co-benefits at large industrial sources,” and other measures.<sup>206</sup>

In sum, the scoping plan continues to include substantial direct measures to reduce emissions. However, given the much more demanding target, the gap between what direct measures are expected to accomplish and the target is much greater than it was for the 2020 target. Although CARB or the state legislature may add some additional direct measures, it is likely that a higher proportion of the reductions for the 2030 target will be driven by the cap-and-trade program than occurred in the past.

### III. INSIGHTS AND LESSONS LEARNED FROM THE CALIFORNIA EXPERIENCE

As the preceding pages reveal, California has incorporated an unprecedented degree of attention to environmental justice in its climate policies. At the same time, environmental justice advocates have been disappointed that some of their hoped-for policy choices have not been adopted. In this part, I highlight substantive and procedural environmental justice achievements and then turn to a number of limitations that have emerged.

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204. See NOVEMBER 2017 SCOPING PLAN, *supra* note 10 (discussing the known commitments described in the scoping plan, which are expected to bring emissions down to 320 MMTCO<sub>2</sub>e, leaving a gap of 60).

205. *Id.* at 69.

206. *Id.* at 73.



### *A. Integrating Environmental Justice into Climate Change Policy*

In both its rhetoric and its specific programs, California has integrated environmental justice considerations into its climate policies. Substantively, that integration is visible in programs that integrate climate and traditional pollutants and in programs that distribute environmental and economic benefits to disadvantaged communities. Procedurally, environmental justice representatives have obtained defined participatory opportunities that help amplify the voices of often-marginalized communities.

#### *1. Substantive Provisions*

##### *a. A Multipollutant Approach*

One of the most important features of California's climate initiatives is their integration of climate and traditional air pollutant objectives, particularly in the energy and transportation sectors. Multipollutant strategies allow policymakers to maximize GHG and co-pollutant reduction benefits, where these benefits align, and to explicitly address tradeoffs where they do not.<sup>207</sup> In general, because combustion generates both GHGs and co-pollutants that flow through the same smokestacks and tailpipes, efforts to limit fossil-fuel combustion will achieve reductions in both types of emissions.<sup>208</sup> Strategies to reduce or control combustion are thus likely to maximize pollution reduction co-benefits.

Moreover, where emissions of GHGs and co-pollutants are not correlated, a multipollutant approach allows policymakers to deliberately consider the tradeoffs and make informed decisions about the best path forward. So, for example, biomass combustion, even if considered neutral from a

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207. See generally Alice Kaswan, *Climate Change, The Clean Air Act, and Industrial Pollution*, 30 UCLA J. ENVT'L. & POL'Y 51, 69–72 (2012) (discussing the administrative and technical benefits of multi-pollutant approaches), <https://escholarship.org/content/qt6qr7z0d4/qt6qr7z0d4.pdf> [<https://perma.cc/2TQW-UR3P>].

208. Office of Air Quality Planning and Standards et al., *PSD and Title V Permitting Guidance for Greenhouse Gases*, 29, 41 (Mar. 2011), <https://www.epa.gov/sites/production/files/2015-07/documents/ghgguid.pdf> [<https://perma.cc/6LC7-AUDK>].

GHG perspective,<sup>209</sup> generates co-pollutant emissions<sup>210</sup> that should be considered in determining the appropriate role for biomass as a GHG-control strategy. Conversely, some co-pollutant control strategies, like scrubbers to reduce air pollutants, reduce energy efficiency, and thus have adverse GHG consequences that should be considered in determining the best modes for co-pollutant controls.<sup>211</sup>

A multi-pollutant approach does not guarantee environmental justice results. As discussed further below, generalized approaches to pollution control could fail to direct reductions where they are most needed.<sup>212</sup> Nonetheless, strategies that integrate GHG and co-pollutant goals increase the likelihood that the state's climate policy will improve air quality, a critical environmental justice objective.

Scholars and policymakers have recognized the value of a multipollutant approach. In 2004, the National Academy of Sciences criticized single-pollutant policies, stating that “[i]ntegrated assessments that consider multiple pollutants (ozone, particulate matter, and hazardous air pollutants) and multiple effects (health, ecosystem, visibility, and global climate change) in a single approach are needed.” Although generally constrained by the Clean Air Act’s pollutant-by-pollutant approach, EPA has attempted to encourage multi-pollutant approaches where possible. Under the Obama Administration’s Clean Power Plan, which was designed to control GHG emissions from existing power plants, EPA encouraged states, in developing state implementation plans to control GHG emissions from their power plants, to take a multi-pollutant approach.<sup>213</sup> And, although EPA never carried

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209. See U.S. Energy Info Admin., *Biomass Explained: Biomass and the Environment* (last visited Feb. 16, 2018), [https://www.eia.gov/energyexplained/index.cfm?page=biomass\\_environment](https://www.eia.gov/energyexplained/index.cfm?page=biomass_environment) [<https://perma.cc/J3Q2-XQUK>] (suggesting that biomass can be considered carbon-neutral because the combusted plants sequester the released carbon when they are grown). Cf. 17 CODE REG. § 95852.2 (stating that California’s cap-and-trade program exempts biomass-derived GHG emissions from the cap-and-trade program, although sources must report their emissions).

210. See R.L. Bain et al., *Biopower Technical Assessment: State of the Industry and Technology*, 6-1-6-7 (Mar. 2003), <http://www.nrel.gov/docs/fy03osti/33123.pdf> [<https://perma.cc/MDT2-ZRXM>].

211. See Stephen P. Holland, *Spillovers from Climate Policy* 3 (Nat’l Bureau of Econ. Research, Working Paper No. 16158, 2010), <http://www.nber.org/papers/w16158.pdf> [<https://perma.cc/NK3W-XH3U>] (observing that measures to increase natural gas combustion efficiency to lower GHG emissions could increase nitrogen oxide emissions, and so may not present an optimal strategy for reducing GHG emissions).

212. See *infra* note 238 (discussing concern that generalized environmental control approaches fail to adequately reduce localized hot spots of pollution).

213. See Env’tl. Protection Agency, *Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electrical Generating Units*, 80 FED. REG. 64661, 64918 (Oct. 23, 2015), <https://www.gpo.gov/fdsys/pkg/FR-2015-10-23/pdf/2015-22842.pdf> [<https://perma.cc/HB5D-Y56Q>] (codified at 40 C.F.R. pt. 60, <https://www.gpo.gov/fdsys/pkg/CFR-2017-title40-vol8/xml/CFR-2017-title40-vol8-part60.xml> [<https://perma.cc/6LXS-R7LH>]).

through, the agency’s initial plan for reducing GHG emissions from refineries contemplated “a comprehensive approach of simultaneously addressing different types of air pollution (GHG, toxics and “criteria” pollutants) from different points at the refinery at the same time. . . .”<sup>214</sup>

AB 32, the original climate law, made clear that the state’s climate policies should complement efforts to achieve air quality to the extent feasible.<sup>215</sup> A principal author of the law, legislator Fran Pavley, stated that they intended to launch a “multi-benefit approach . . . As we reduce greenhouse gas emissions, we would also be able to reduce criteria air pollutants which have . . . localized direct health impacts.”<sup>216</sup> Regional air districts, on the front lines for achieving air quality objectives in a state still struggling to achieve public health standards, have likewise focused on the relationships between GHGs and their co-pollutants.<sup>217</sup>

California’s multipollutant approach to address climate change flows in part from the state’s longstanding efforts to address its persistent air quality challenges.<sup>218</sup> The twin goals of reducing GHGs and improving air quality are repeatedly referenced in the November 2017 Scoping Plan.<sup>219</sup> For example, it states that

214. U.S. Env’tl. Protection Agency, *Fact Sheet: Settlement Agreements to Address Greenhouse Gas Emissions from Electricity Generating Units and Refineries: Fact Sheet*, <https://19january2017snapshot.epa.gov/sites/production/files/2013-09/documents/settlement-factsheet.pdf> [https://perma.cc/T5KU-59YN] (last visited Jan. 19, 2017).

215. HEALTH & SAFETY § 38562(b)(4) (stating that, to the extent feasible and consistent with achieving the GHG emissions limit, CARB should “[e]nsure that activities undertaken pursuant to the regulations complement, and do not interfere with, efforts to achieve” air quality standards and toxics reductions).

216. Julie Cart, ‘Trying to breathe’—As CA toasts environmental win, pollution still plagues, CALMATTERS (July 27, 2017), <https://calmatters.org/articles/california-environmental-success-poor-communities-remain-polluted/> [https://perma.cc/7QMA-NYXN].

217. See *infra* notes 228–37 and accompanying text (discussing Bay Area and southern California air quality plans integrating GHG and co-pollutant reduction efforts).

218. See NOVEMBER 2017 SCOPING PLAN, *supra* note 10, at 14 (observing that several Plan strategies were designed to achieve air quality standards but will also reduce GHGs), [https://www.arb.ca.gov/cc/scopingplan/scoping\\_plan\\_2017.pdf](https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf) [https://perma.cc/J9PR-B4H4].

219. See, e.g., *id.* at ES-1 (describing multiple goals, including both GHG and traditional air pollution reduction), ES-7 (describing industry policies to reduce both GHG and traditional pollutants), ES-15 (describing Plan’s non-GHG co-benefits), 1 (stating that the plan’s strategies will “deliver climate, air quality, and other benefits), 5 (observing that the plan creates a path to make progress on both climate and air quality, and stating that GHG reduction requirements will complement criteria and air toxic requirements), 14 (observing that the state’s actions will create “a sustainable future that considers both climate and air quality

The State's climate goals require a comprehensive approach that integrates and builds upon multiple ongoing State efforts. As we address future mobility, we identify how existing efforts . . . can complement each other while providing multiple environmental benefits, including air quality and climate benefits. The collective consideration of these efforts illuminates the synergies and conflicts between policies.<sup>220</sup>

The Scoping Plan notes that the mobile source strategies “were specifically developed with the goal of achieving health-based air quality standards by reducing criteria and toxics emissions as well as GHG emissions simultaneously.”<sup>221</sup> Diesel controls (now partially integrated into the short-lived climate pollutant's black carbon reduction strategy)<sup>222</sup> and programs to transition to zero or near-zero emission vehicles<sup>223</sup> are intended to accomplish significant climate and air pollution reduction objectives that are likely to benefit disadvantaged communities who are disproportionately located close to the state's roadways.<sup>224</sup> In addition, the state's efforts to address freight transport and port pollution are likely to reduce GHG emissions and air pollution in the heavily burdened communities located close to major ports in both northern and southern California.<sup>225</sup>

Although the state's energy objectives have not met environmental justice recommendations in scale or in terms of facility-specific limits, the state's renewable portfolio standard and energy efficiency objectives have been designed to achieve both climate and air pollution benefits. The November 2017 Scoping Plan states that “renewable energy and energy efficiency measures can result in significant public health and climate

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objectives”), 47 (noting that the scoping plan's mobile source provisions were designed to reduce criteria and GHG emissions simultaneously).

220. *Id.* at 12–13.

221. *See id.* at 47.

222. *See supra* note 43.

223. *See* NOVEMBER 2017 SCOPING PLAN, *supra* note 10, at 1.

224. For example, a guiding principle for the state's Short-Lived Climate Pollutant Strategy is to “maximize air pollutant reductions and other co-benefits, especially considering disadvantaged communities,” SCLP, *supra* note 43, at 4. The plan emphasizes that it has developed an “integrated mobile source strategy to meet air quality and climate mandates, reduce petroleum use, and reduce near source risk.” *Id.* at 49. CARB observes that the strategy would improve air quality and reduce health effects and that “[t]hese and other health benefits can be maximized as part of an integrated approach to ensure that strategies used to reduce SLCP emissions all help to improve air quality and water quality on a regional basis”). *Id.* at 13.

225. *See* SUSTAINABLE FREIGHT ACTION PLAN, *supra* note 42, at 1, 6–7. In November 2017, the Ports of Los Angeles and Long Beach (the San Pedro Bay Ports), adopted their 2017 Clean Air Action Plan, designed to sharply reduce diesel emissions by shifting to zero-emission cargo-handling equipment by 2030 and zero-emission trucks by 2035. *See* SAN PEDRO PORTS, CLEAN AIR ACTION PLAN 2017 41 (Nov. 2017) (noting zero-emission goal for trucks) and 58 (noting zero-emission goal for cargo-handling equipment), <http://www.cleanairactionplan.org/documents/final-2017-clean-air-action-plan-update.pdf> [https://perma.cc/TS7L-HKMW].

benefits by displacing air pollution and GHG emissions from fossil-fuel based energy sources, as well as by reducing the health and environmental risks . . . [from producing, transporting, and storing] fossil fuels, especially for communities living near fossil-fuel based energy operations.”<sup>226</sup> In-state electricity emissions do not appear to have been reduced to date,<sup>227</sup> but the state’s more ambitious 2030 target, energy efficiency goals, and RPS are likely to lead to reductions in in-state GHG and co-pollutant emissions in the long-term.

California air districts with on-going air quality issues have also recognized the value of a multi-pollutant approach. The Bay Area Air Quality Management District (BAAQMD) has been taking a multi-pollutant approach since its 2010 clean air plan.<sup>228</sup> In its 2017 plan, “Spare the Air, Cool the Climate” (“*Spare the Air*”), the District continues to lay out a multi-pollutant long-term strategy. *Spare the Air* states that the plan is “a multi-pollutant strategy to simultaneously reduce emissions and ambient concentrations of ozone, fine particulate matter, toxic air contaminants, as well as greenhouse gases . . .”<sup>229</sup> The plan states that, “[s]ince pollutants that impact the air and the climate are often emitted by the same sources, emission control programs will provide co-benefits in reducing both types of pollutants.”<sup>230</sup> In the industrial sector, the plan envisions efforts to reduce combustion-related emissions, focusing on the three largest emissions sources in the Bay Area: “oil refineries, power plants, and cement[] plants.”<sup>231</sup>

The South Coast Air Quality Management District (SCAQMD), along with CARB and the San Joaquin air quality district, have also explored multipollutant approaches. In their 2012 “Draft Vision for Clean Air: A Framework for Air Quality and Climate Planning,” the agencies stated that “[m]any of the same technologies will address both air quality and climate

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226. NOVEMBER 2017 SCOPING PLAN, *supra* note 10, at 66.

227. As noted above, this could be attributable to a shift from higher-emitting out-of-state emissions to lower-emitting in-state sources. *See supra* note 121. Other factors can also influence electricity sector emissions, including the degree to which drought decreases hydropower availability and requires greater use of fossil-fuel resources, economic activity, weather, and other variables.

228. *See* BAY AREA AIR QUALITY MGMT. DIST., SPARE THE AIR, COOL THE CLIMATE, A BLUEPRINT FOR CLEAN AIR AND CLIMATE PROTECTIONS IN THE BAY AREA (Jan. 2017), [http://www.baaqmd.gov/~media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a\\_proposed-final-cap-vol-1-pdf.pdf?la=en](http://www.baaqmd.gov/~media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_proposed-final-cap-vol-1-pdf.pdf?la=en) [https://perma.cc/YC5T-AQYC].

229. *Id.* at ES-4.

230. *Id.* at 1–3.

231. *Id.* at ES-5.

needs. As such, strategies developed for air quality and climate change planning should be coordinated to make the most efficient use of limited resources and the time needed to develop cleaner technologies.”<sup>232</sup> Although the vision document focused on transportation emissions, the agencies stated that “[s]imilar analyses will be necessary for industrial and other emission sources to develop a complete foundation for integrated planning.”<sup>233</sup>

The SCAQMD’s subsequent 2016 Air Quality Management Plan did not take an overt multipollutant approach to meeting the region’s challenging air quality requirements. Nonetheless, a key goal of SCAQMD’s plan is to “[i]nvest in strategies and technologies meeting multiple objectives regarding air quality, climate change, air toxics exposure, energy, and transportation.”<sup>234</sup> SCAQMD’s plan notes that many control efforts combine planning to achieve multiple co-benefits, and that efforts to clean the air will also reduce GHG emissions.<sup>235</sup> More specifically, the single most significant strategy for controlling stationary source emissions is a “transition to zero or near-zero emission technologies,”<sup>236</sup> a strategy that clearly achieves both GHG and co-pollutant emission reductions. And the Ports of Los Angeles and Long Beach, the largest single polluters in the South Coast—polluters whose actions will significantly impact the region’s air pollution—have acknowledged the close connection between GHG and co-pollutant emissions and have set complementary GHG and co-pollutant reduction goals.<sup>237</sup> These

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232. See CAL. AIR RES. BD., SOUTH COAST AIR QUALITY MGMT. DIST., SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DIST., PUBLIC REVIEW DRAFT, VISION FOR CLEAN AIR: A FRAMEWORK FOR AIR QUALITY AND CLIMATE PLANNING (June 2012) ES-1, <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2012-air-quality-management-plan/vision-for-clean-air-2012/draft-vision-for-clean-air-a-framework-for-air-quality-and-climate-planning.pdf?sfvrsn=4> [<https://perma.cc/39H6-5J7X>].

233. *Id.*

234. SOUTH COAST AIR QUALITY MGMT. DIST., FINAL 2016 AIR QUALITY MGMT. PLAN ES-5 (Mar. 2017), <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/executive-summary.pdf?sfvrsn=4> [<https://perma.cc/JZC8-FFNC>].

235. See *id.* at 10-6, <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/chapter10.pdf?sfvrsn=4> [<https://perma.cc/G3VN-BTYJ>]. The Plan further recognized the need “for integrated energy strategies that achieve GHG emission reductions and commensurate reductions of criteria pollutants and toxic air emissions.” *Id.* at 10-7.

236. *Id.* at 4-11, <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/chapter4.pdf?sfvrsn=4> [<https://perma.cc/AZ5W-QV2N>].

237. The Plan states that “strategies to reduce GHGs often help to reduce criteria pollutants, an approach that has been embraced by state and regional air agencies; thus, the strategies put in place to achieve the 2030 and 2050 GHG reduction goals will also help us achieve our 2023 NO<sub>x</sub>, DPM, and SO<sub>x</sub> emission reduction targets and continue to make further progress. More importantly, the GHG reduction goals align with local, regional,

multipollutant initiatives demonstrate the value of developing emission reduction strategies that recognize the close link between co-pollutants and GHG emissions.

*b. Generalized versus Place-Based Controls*

California has largely embraced the co-objectives of reducing GHG and co-pollutant emissions, but most of the climate programs have done so through generalized approaches, setting sector-wide policies rather than location- or source-specific controls. Because disadvantaged communities are disproportionately located close to emitting stationary and mobile sources, at least some of the policies are likely to provide benefits to the state's most disadvantaged residents.

Nonetheless, the lack of source-specific controls is an environmental justice concern; direct controls in polluted communities would provide more certain benefits.<sup>238</sup> The general approaches taken to date have not led to emissions reductions in all heavily-impacted communities.<sup>239</sup> However, measures to achieve the much more demanding 2030 goals are likely to have a greater impact on emissions everywhere than the modest 2020 goals and implementing programs. In other words, continued efforts to control diesel emissions should lead to air quality improvements along ports, rail, and roadways, benefitting neighboring disadvantaged communities. Similarly, the additional emissions reductions expected from the energy sector could potentially inure to the benefit of communities close to electricity-generating sources.<sup>240</sup> Although the tighter target and ensuing reductions are not certain

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and State mandates and commit the Ports to a long-term path toward sustainability and improved air quality.” SAN PEDRO PORTS, *supra* note 225, at 26.

238. See California Environmental Justice Alliance, *Justice Deferred: A Break Down of California's Cap & Trade Bill from the Environmental Justice Perspective*, <https://caleja.org/2017/07/justice-deferred-a-break-down-of-californias-cap-trade-bill-from-the-environmental-justice-perspective/> [<https://perma.cc/X9W7-UGAR>] (noting that “reduction[s] at the source are the most direct way to lower greenhouse gas emissions, and have an additional benefit of improving local air quality in frontline communities”).

239. See *supra* section I(D)(2)(a).

240. The likelihood of reductions from energy-generation sources close to disadvantaged communities is somewhat less predictable than the likelihood of reductions in communities impacted by diesel emissions. Key issues will be the degree to which reductions occur from in-state electricity sources rather than out-of-state sources, the location of reductions from in-state sources (since not all in-state sources are in disadvantaged communities), and the degree to which generators turn to biomass, which could achieve some GHG benefits, but could have adverse co-pollutant consequences. See *supra* note 209 (discussing the risks of biomass as a GHG reduction strategy).

to reduce emissions in the most impacted communities, they are more likely to do so than the existing 2020 target.

While communities facing impacts from mobile and energy-generation sources are likely to see emissions reductions, it is less clear that the state's approach to industrial emissions—heavy reliance on cap-and-trade—will lead to significant reductions. The lack of direct measures in the industrial sector could lead sources in that sector to disproportionately purchase allowances or offsets rather than engaging in emissions reductions, an issue discussed further below, in section III(B)(1).

However, AB 617, the co-pollutant control bill adopted as part of the deal to extend cap-and-trade in 2017,<sup>241</sup> directly responded to the environmental justice community's concern that generalized controls do not necessarily improve localized conditions. By improving monitoring of potential hot spots and requiring strategies to address them, AB 617 adds an important element missing from the state's more generic and traditional approach to GHG, criteria, and toxic pollution.

Moreover, the dedication of 35 percent of auction revenue to disadvantaged communities provides another mechanism to finance emission-reducing activities in burdened communities. To make these efforts more coherent, the transformative communities' program provides resources to help communities identify their needs and develop integrated plans to address them.<sup>242</sup> Although these initiatives cannot fundamentally alter the major transportation and industrial sources—and socioeconomic drivers—that have led to cumulative burdens, they could nonetheless provide significant revenue for incremental improvements in areas unlikely to have their own resources.

### *c. Access to Opportunities and Economic Justice*

Who will benefit from a clean energy transition? Will wealthy citizens install solar arrays and drive Teslas, while poor citizens, lacking the resources to invest in greener options, continue to rely on an increasingly expensive grid and continue to drive old cars that pollute their neighborhoods? Environmental justice advocates have focused not only on pollution control rules, but on access to the benefits of a clean energy transition.<sup>243</sup> Numerous

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241. See *supra* notes 186–94 and accompanying text.

242. See *supra* note 75 and accompanying text.

243. See Deborah Behles, *From Dirty to Green: Increasing Energy Efficiency and Renewable Energy in Environmental Justice Communities*, 58 VILLANOVA L. REV. 25 (2013); see also BEN BOVARNICK, ET. AL., CENTER FOR AMERICAN PROGRESS, STATE POLICIES TO INCREASE LOW-INCOME COMMUNITIES' ACCESS TO SOLAR POWER (Sept. 2014), at <https://cdn.americanprogress.org/wp-content/uploads/2014/09/LowIncomeSolar-brief.pdf> [<https://perma.cc/9QFU-NUYG>]; see also Uma Outka, *Fairness in the Low-Carbon Shift*:



California programs are designed to extend access and reduce impacts. Auction revenues from the GGRF not only fund pollution reduction, they can also be used to finance distributed renewables, consumer energy efficiency, or lower-polluting vehicles, and so facilitate the participation of disadvantaged residents in a clean energy transition. Other provisions will also facilitate access to opportunities, including the state's decision to target all rebates for low-emissions vehicles to low-income residents and the requirement that utilities use revenue from the sale of GHG allowances to finance solar on multi-family affordable housing. Some of these opportunities could also generate economic benefits. Investments in energy efficiency, renewables, and clean infrastructure in disadvantaged communities could generate clean energy jobs in poor communities.

California has also adopted measures to address economic justice concerns. Transitioning to a low-carbon future will entail costs that would have the greatest impact on low-income households and communities in light of their limited resources.<sup>244</sup> California's climate and energy policies have been attuned to these issues. Dedicated funding from auction revenue in disadvantaged communities will finance investments in energy efficiency and renewables that are intended to reduce the impact of likely increases in electricity rates associated with the clean energy transition.<sup>245</sup> The critical issue is not electricity rates, but electricity bills: if rates go up but solar panels and energy efficiency investments allow electricity use to go down, actual bills could remain the same or decrease. More directly, utilities must use the revenue they derive from GHG allowances for ratepayer benefit, a responsibility they are accomplishing by providing all California residents with climate credits twice per year.<sup>246</sup> And, independent of the cap-and-trade program, longstanding programs to assist low-income California residents with their energy bills could mitigate the impact of potentially increasing electricity and natural gas costs.<sup>247</sup>

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*Learning from Environmental Justice*, 82 BROOKLYN L. REV. 791 (2017); Shelley Welton, *Clean Electrification*, 88 U. COL. L. REV. 571, 631–36 (2017).

244. See Welton, *supra* note 243, at 630–33.

245. See Julian Gattaciecca et. al., *Protecting the Most Vulnerable: A Financial Analysis of Cap-and-Trade's Impact on Households in Disadvantaged Communities across California* 4, UCLA LUSKIN SCHOOL OF PUB. AFF. (2016), <http://innovation.luskin.ucla.edu/sites/default/files/FINAL%20CAP%20AND%20TRADE%20REPORT.pdf> [<https://perma.cc/83VC-DVF9>].

246. See Gattaciecca et. al., *supra* note 245, at 4. Recent credits were \$25–30. See *id.*

247. See *id.* at 5 (describing the “California Alternate Rates for Energy” and Family Electric Rate Assistance Programs”). See also Cal. P.U.C. *Income Qualified Assistance*

The range of resources California has parlayed to increase access to clean energy opportunities and to alleviate economic risks demonstrates that a clean energy transition can be inclusive and does not have to jeopardize the economic well-being of disadvantaged communities.

## 2. *Procedural Environmental Justice Provisions*

California's procedural approach also offers lessons to other states. As a threshold matter, the scoping plan process, which entails sector-by-sector assessments of emissions, existing controls, and future opportunities, provides a model for comprehensive and transparent planning.<sup>248</sup> That foundation, coupled with extensive public hearings around the state and opportunities to submit comments,<sup>249</sup> allows all stakeholders, environmental justice and otherwise, the opportunity to provide meaningful feedback.

Given the greater participation challenges that marginalized disadvantaged communities face due to a lack of time and resources for research and lobbying, a lack of technical expertise in comparison with industrial commenters, and language barriers, California's specific procedural mechanisms to enhance environmental justice participation have been important.<sup>250</sup> Although the Environmental Justice Advisory Committee may be frustrated that many of its recommendations have not been adopted, the Committee has provided a platform to systematically assess CARB's steps, gather members of the environmental justice community, interact with agency staff, and include environmental justice concerns on the CARB website and in CARB proceedings. Requirements to hold public hearings in environmental justice communities facilitate access for residents without the time and resources to travel to Sacramento and further extend participatory opportunities to marginalized communities. As one environmental justice advocate stated, "[e]nvironmental justice groups are advocating for a democratization of policymaking" and "[w]e must move from a small cabal of folks determining a path for California's climate policies to the broad base of California's

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*Programs*, <http://www.cpuc.ca.gov/iqap/> [<https://perma.cc/F3QQ-H6G6>] (last visited Dec. 16, 2017).

248. See, e.g., NOVEMBER 2017 SCOPING PLAN, *supra* note 10 (revealing the state's sector-by-sector carbon reduction plans).

249. See *id.* at 6 (providing overview of public outreach); Cal. Air Res. Bd., *AB 32 Scoping Plan Events* (archiving public workshops on the Scoping Plan), <https://www.arb.ca.gov/cc/scopingplan/meetings/meetings.htm> [<https://perma.cc/L5WK-84Y8>] (last visited Apr. 6, 2018).

250. In addition to the programs re-capped here, A.B. 398, the cap-and-trade extension bill, included a requirement that the new Compliance Offsets Protocol Task Force include environmental justice representatives (and many other stakeholders). See Cal. A.B. 398, at sec 7 (2017) (amending CAL. HEALTH & SAFETY CODE sec. 38591.1(a)).

electorate being engaged and providing solutions for California’s climate policy future.”<sup>251</sup>

Participation does not, of course, guarantee influence. The addition of two members with environmental justice experience to the Air Resources Board could, however, increase the environmental justice voice in the decision making process. Given the complexities of the issues California confronts, there is no assurance that environmental justice proposals will suddenly hold sway. Nonetheless, the state’s procedural mechanisms have provided opportunities to amplify voices that, due to the marginalized nature of the communities at stake, have often been little heard.

### *B. Economic and Political Constraints: Less Direction for Industry*

Integrating environmental justice has, however, been constrained by economic and political forces, constraints most evident in the state’s treatment of industry emissions. Looking to the future, as the state works to meet its 2030 target, the 2030 Scoping Plan indicates the state’s current intent to continue to rely primarily on cap-and-trade in the industrial sector, leaving other potential options for future development.<sup>252</sup> More substantive proposals, including measures to reduce fossil fuel use, are described as “potential additional actions” that could be explored “in the years following finalization of the Scoping Plan.”<sup>253</sup> It is unclear if and when CARB would adopt more substantive measures.

#### *1. Political, Environmental, and Economic Factors Impacting Industry Strategies*

California’s reluctance to impose fewer direct expectations on industry is likely driven by economic, leakage, and political factors. Although the state anticipates economic benefits from transitioning to clean energy as

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251. Debra Kahn, *Environmental justice: From the margins to the mainstream*, CLIMATEWIRE (Nov. 2016).

252. See NOVEMBER 2017 SCOPING PLAN, *supra* note 10, at 72–73. The state will continue to rely on a couple of direct industrial measures: controls on high-global warming gases used in refrigeration and high-technology operations, as well as recently-adopted controls on oil and gas distribution and storage. See *id.* at 72. Otherwise, the Scoping Plan states only that ARB will “[c]ontinue and strategically expand research and development efforts to identify, evaluate, and help deploy innovative strategies that reduce GHG emissions in the industrial sector.” *Id.*

253. *Id.* at 73.

California leads the way in green technology development and new employment opportunities in renewables and efficiency,<sup>254</sup> direct requirements on existing industry could have negative economic impacts on regulated facilities, with potential spillover effects on the state's economy.<sup>255</sup> The cap-and-trade program promotes the most cost-effective reductions, since companies facing higher costs can purchase allowances rather than reduce emissions themselves. And the availability of offsets, the decision to continue to allocate many allowances to industry for free, and AB 398's new cost containment measures represent additional signs of concern about the potential economic impact of GHG restrictions on industry.<sup>256</sup>

From an environmental perspective, direct requirements on industry could cause emissions leakage: they could push industry to move production elsewhere, by reducing or eliminating California ventures.<sup>257</sup> Although that would reduce co-pollutant emissions in California, it would lead to the worst of all worlds from a GHG perspective: California would suffer an economic loss with no concomitant GHG emissions benefit, since the GHG emissions would continue elsewhere.<sup>258</sup>

In some cases, "politics" appears to be playing a role, one most evident in AB 398's explicit restriction on CARB's ability to adopt any further GHG limits on refineries or oil and gas production, aside from methane

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254. See generally *id.* at 50 (describing anticipated economic benefits generally). The Scoping Plan's economic analysis does not take anticipated benefits from new industry into account. See *id.* at 50, 55. Even so, the economic analysis demonstrates only a slight impact on economic growth in the state. See *id.* at 50.

255. See Melanie Mason & Chris Megerian, *Bipartisan Votes Extend Cap and Trade to 2030*, L.A. TIMES (July 18, 2017), <http://www.latimes.com/politics/la-pol-ca-california-climate-change-vote-republicans-20170717-story.html> [<https://perma.cc/R4WG-3CMX>] (observing that industry viewed the cap-and-trade program "as less costly for their bottom line than other direct regulations that have been considered to reach the 2030 goal"). See also *The Climate v. Local Pollution*, *supra* note 88 (observing that cap-and-trade provides a cheaper mechanism for controlling emissions and that cap-and-trade would mean "fewer price increases for consumers").

256. See Cara Horowitz, *California Extends its Cap-and-Trade Program through 2030*, LEGAL PLANET BLOG (July 17, 2017), <http://legal-planet.org/2017/07/17/california-extends-its-cap-and-trade-program-through-2030/> [<https://perma.cc/N2KK-9688>]. These measures are not restricted to industry; the electricity sector also benefits from free allowances, though revenue derived from the allowances must benefit ratepayers. 17 CAL. CODE REG. § 95892.

257. See Harry Horder, California Carbon Info, *Regulatory Roundup: 'On the Trail' of ARB's Pointers: Cap-and-Trade, Direct Regulation, or Carbon Tax?* (Nov. 14, 2006), <http://californiacarbon.info/regulatory-round-up-on-the-trail-of-arbs-pointers-cap-and-trade-direct-regulation-or-carbon-tax/> (discussing CARB presentation on options for achieving 2030 target that emphasized how cap-and-trade reduced emissions leakage relative to direct regulation).

258. See NOVEMBER 2017 SCOPING PLAN, *supra* note 10, at 70.

and fugitive emissions.<sup>259</sup> As noted above, that provision scuttled an earlier 2017 Draft Scoping Plan’s proposed twenty percent limitation on refinery emissions by 2030<sup>260</sup> and prevents any such future limits. The oil industry reportedly exerted significant influence in the negotiations.<sup>261</sup>

Overall, efforts to directly address emissions from large sources, of significant concern to environmental justice communities, have proven challenging, as the state juggles its interest in improving environmental quality with concerns about economic impacts, emissions leakage, and struggles to build the necessary political coalitions to pass and maintain its comprehensive climate program.

Whatever the explanation for the state’s continued reliance on cap-and-trade in the industrial sector, the state’s approach appears to be in some tension with AB 197, which indicated that the state should prioritize direct reductions at large stationary sources, based on the assumption that direct reductions would be more likely to achieve certain GHG reductions and

259. See *supra* note 178 and accompanying text. Environmental justice and some environmental groups said that the “Cap-and-Trade extension was written by the oil industry . . . and allows refineries to expand indefinitely with no program for Just Transition to clean energy that is so desperately needed in EJ communities.” Climate Hawks Vote, *Press Release: California: Broad Coalition of Environmental Justice, Climate Groups Oppose Cap-and-Trade Bill* (July 13, 2017), <http://climatehawksvote.com/news/press-releases/california-broad-coalition-environmental-justice-climate-groups-oppose-cap-trade-bill/> [<https://perma.cc/WZ87-49GZ>]. In the transportation sector, oil industry opposition also reportedly doomed a provision to reduce oil consumption by fifty percent by 2030. See *supra* note 46 and accompanying text.

260. See *supra* note 178 and accompanying text. Diane Takvorian, a member of the California Air Resources Board and the head of an environmental justice group, called the limitation “a direct attack on ARB’s proposed refinery reduction measures.” Mason, *supra* note 88.

261. See CEJA, *Justice Deferred*, *supra* note 238 (asserting that the preemption provisions were “pushed into the bill by Big Oil”). Patrick McGreevy, writing for the Los Angeles Times, reported that the biggest lobbying expenditures for the three-month period ending in September, 2017 were the Western States Petroleum Association, at 2.2 million, and Chevron, at 1.1 million. See Patrick McGreevy, *Oil industry spent millions on lobbying as California lawmakers debated cap-and-trade extension*, L.A. TIMES (Nov. 2, 2017), <http://www.latimes.com/politics/essential/la-pol-ca-essential-politics-updates-oil-industry-spent-millions-on-lobbying-1509645501-htmstory.html> [<https://perma.cc/N5HE-AQZ6>]. According to McGreevy, Jamie Court, the head of Consumer Watchdog, observed that “[t]he oil companies were the biggest winners in the Legislature this year,” likely saving “tens or hundreds of millions” through their influence on the cap-and-trade bill. *Id.* “Climate Hawks Vote” wrote a press release, joined by 50 climate and environmental justice groups, opposing AB 398, quoting activists who stated that “[t]he Cap & Trade extension was written by the oil industry” and “AB 398 began as a Big Oil wish list, and it hasn’t improved since then.” Climate Hawks Vote, *supra* note 259.

more broadly distributed co-pollutant benefits than cap-and-trade.<sup>262</sup> CARB is arguably addressing the “direct reduction” requirement by relying upon AB 617, the bill requiring intensified monitoring and emission reductions of criteria and toxic pollutants, even though that bill does not address GHGs.<sup>263</sup>

Aside from compliance with AB 197, primary reliance on cap-and-trade in the industrial sector generates two issues. First is the risk that, relative to other types of sources, industry will disproportionately purchase allowances and offsets rather than reducing emissions, depriving neighboring communities of co-pollutant benefits. Second is the degree to which the state’s program is adequately helping the industrial sector decarbonize.

## 2. Industrial Emissions and the “Waterbed” Effect

The state’s combination of cap-and-trade in the industrial sector with more prescriptive measures in other sectors could be causing what is known as the “waterbed effect.”<sup>264</sup> requirements that push down emissions through regulation in some sectors (transportation and electricity) could free up more allowances, and emissions, in the less regulated sector (industry).<sup>265</sup> Of course, a wide range of factors can influence emissions, including economic activity, water availability (for hydroelectric), fuel prices, etc. Nonetheless, it is worth noting that, as the state’s climate programs took effect, transportation emissions dropped markedly between 2007 and 2015, notwithstanding slight increases in 2014 and 2015,<sup>266</sup> and electricity sector

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262. See *supra* notes 148–49 and accompanying text.

263. NOVEMBER 2017 SCOPING PLAN, *supra* note 10, at ES 6, ES 15, 14, 71. ARB’s originally proposed direct reduction requirements for refineries had been intended to comply with AB 197, but were scuttled by the preemption provision in AB 398. See *infra* note 315 and accompanying text.

264. See Alice Kaswan, *Energy, Governance, and Market Mechanisms*, 72 MIAMI L. REV. 476, 532 (2018) (describing waterbed phenomenon).

265. More specifically, prescriptive measures have likely driven electricity and transportation sector emission reductions, and so these sectors have relatively low demand for allowances. If allowances are freely available due to low demand from the electricity and transportation sectors, then they are likely to be inexpensive. Industry, facing few direct requirements, could well be tempted to use and purchase inexpensive allowances rather than invest in reductions. As a consequence, there may be fewer reductions in the industry sector than in the more controlled electricity and transportation sectors. So, the regulatory push on the emissions “waterbed” in the electricity and transportation sectors could maintain or increase emissions in the less-regulated industrial sector.

266. See Cal. Air Res. Bd., *2017 Edition: California Greenhouse Gas Emissions Inventory*, *supra* note 135, at 2 (Figure 3, indicating relative shifts in sectoral emissions). In 2007, transportation emissions were 184.41 million tons CO<sub>2</sub> equivalent, and decreased to 164.63 in 2015. See Cal. Air Res. Bd., *California Greenhouse Gas Inventory for 2000-2015—By Category*, *supra* note 120, at 1. Transportation emissions increased in 2015 relative to 2014, when they were 160.03 million tons CO<sub>2</sub> equivalent. *Id.* The Inventory Report

emissions dropped substantially between 2008 and 2015.<sup>267</sup> During that period, industrial emissions remained flat.<sup>268</sup> Although economic growth during this period means that industrial emissions have likely decreased relative to output,<sup>269</sup> the fact remains that industrial emissions have not decreased as much as more regulated sectors. The discrepancy could potentially be explained by mandatory reductions in the electricity and transportation sectors freeing up inexpensive allowances for use in the less regulated industrial sector.

Again, some disadvantaged communities have not seen environmental improvements from the cap-and-trade program.<sup>270</sup> Further analysis is warranted to determine if California’s regulatory scheme is creating a waterbed effect that leads to fewer reductions in the industrial sector, and, if so, whether these industrial emissions are contributing to heavier burdens in disadvantaged communities.

### 3. Pathways to Decarbonization: Challenges for Industry

CARB’s relative lack of direct industrial measures and reliance on cap-and-trade—especially if allowances are disproportionately available to the industrial sector due to the waterbed effect—could also compromise progress toward industrial decarbonization. As alluded to above, experts

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suggests that “population growth, lower fuel prices, and improved economic conditions and higher employment rate are potential factors that may increase fuel use.” Cal. Air Res. Bd., *2017 Edition: California Greenhouse Gas Emissions Inventory*, *supra* note 135, at 5.

267. See Cal. Air Res. Bd., *2017 Edition: California Greenhouse Gas Inventory*, *supra* note 135, at 2 (Figure 3, indicating relative shifts in sectoral emissions). Electricity emissions were 120.14 million tons of CO<sub>2</sub> equivalent in 2008 and decreased to 83.67 million tons of CO<sub>2</sub> equivalent in 2015. See Cal. Air Res. Bd., *California Greenhouse Gas Inventory for 2000-2015—By Category*, *supra* note 120, at 1. Although 2008 represented a slight spike in emissions, emission levels have been well over 100 million tons of CO<sub>2</sub> since 2000. *Id.*

268. See Cal. Air Res. Bd., *2017 Edition: California GHG Inventory*, *supra* note 135, at 2 (Figure 3, indicating relative shifts in sectoral emissions) and 8 (indicating flat industrial emissions). In 2007 and 2008, industrial emissions were just under 90 million tons of CO<sub>2</sub> equivalent. In 2015, industrial emissions were 91.71 million tons of CO<sub>2</sub> equivalent. Cal. Air Res. Bd., *California Greenhouse Gas Inventory for 2000-2015—By Category*, *supra* note 120, at 1. CARB noted that refineries and hydrogen production emissions have somewhat decreased while other industries have increased, reflecting a growing economy. Cal. Air Res. Bd., *2017 Edition: California Greenhouse Gas Inventory*, *supra* note 135, at 9.

269. See NOVEMBER 2017 SCOPING PLAN, *supra* note 10, at 70.

270. See *supra* notes 115–34 and accompanying text (describing studies analyzing the post-cap-and-trade distribution of emissions).

increasingly agree that, to avoid catastrophic climate change, emissions reductions of at least 80 percent below 1990 levels are necessary by 2050.<sup>271</sup> Although decarbonization is not a uniquely “environmental justice” issue, environmental justice groups have consistently called for more aggressive measures to reduce GHGs and transition to a fossil-fuel-free economy.<sup>272</sup> In addition to a generalized concern about planetary survival, they have highlighted that disadvantaged communities are more vulnerable to the effects of climate change and that a fossil-fuel-free economy would eliminate many persistent pollution hot spots.

Although California has not explicitly set a decarbonization goal, Republican Governor Arnold Schwarzenegger promulgated an executive order establishing a statewide goal of reducing emissions 80 percent below 1990 levels by 2050.<sup>273</sup> CARB and local air districts’ planning is, at least to some extent, oriented toward the longer-term 2050 goal.<sup>274</sup> In the electricity and transportation sectors, California has begun the process of strategically envisioning a pathway toward decarbonization.<sup>275</sup>

Although the state’s reluctance to impose direct requirements on industry is understandable, reliance on cap-and-trade may fail to induce industrial decarbonization. As CARB noted, most industrial emissions stem from combustion, and so reducing, if not eliminating, reliance on fossil fuel combustion will be a key strategy for decarbonizing industry.<sup>276</sup> To replace on-site combustion, industry will need to consider on-site renewables or transitioning to off-site renewables generation through direct contracts with generators or through utilities. California carbon prices have been low,<sup>277</sup>

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271. See JAMES H. WILLIAMS, ET AL., POLICY IMPLICATIONS OF DEEP DECARBONIZATION IN THE UNITED STATES 8 (2015), [http://deepdecarbonization.org/wp-content/uploads/2015/11/US\\_Deep\\_Decarbonization\\_Policy\\_Report.pdf](http://deepdecarbonization.org/wp-content/uploads/2015/11/US_Deep_Decarbonization_Policy_Report.pdf) [<https://perma.cc/FU3E-CJ6D>].

272. See Environmental Justice Advisory Committee, *supra* note 35 (Clauses 1–6 and 16–17 articulating the environmental and equity drawbacks to relying on fossil fuels and the necessity of transitioning to cleaner fuels more quickly than is currently occurring).

273. See Executive Order S-3-05, <https://www.gov.ca.gov/news.php?id=1861> [<https://perma.cc/5UDT-UV76>].

274. See NOVEMBER 2017 SCOPING PLAN, *supra* note 10, at 18 (noting that the Scoping Plan anticipates efforts needed to achieve the 2050 goal, not just the 2030 goal).

275. The 50 percent RPS by 2030 and aggressive energy efficiency standards are intended to provide a strong push to facilitate a transition away from fossil fuels in the electricity sector, and CARB recognizes the need to transition away from fossil-based natural gas. *Id.* at 65–69. In transportation, the Scoping Plan notes that: “It is critical to support and accelerate progress on transitioning to a zero carbon transportation system.” *Id.* at 74. The Scoping Plan outlines plans for reducing transportation emissions through renewable fuels, electrification, land use planning, and other measures, and is considering the cross-sector implications of that transition. See *id.* at 73–81.

276. See *id.* at 69, 70.

277. For example, at the November 2017 allowance auction, the median price per ton for current allowances was \$14.88, and the mean allowance price was \$16.38 (relative to the auction reserve price of \$13.57/allowance). California Cap-and-Trade program and



and though they are likely to increase with a more stringent emissions target, it is unclear whether a carbon price will provide industry with sufficient incentives. In addition, transitioning to fossil-free energy will likely require adequate transmission and coordination with utilities and other entities, coordination that would benefit from governmental facilitation.

The state has recognized the need for careful planning and coordinated efforts to decarbonize electricity and transportation. The same level of planning, coordination, and support will be needed to decarbonize the industrial sector. A hands-off approach that waits for industry to make the right decisions, prompted by the carbon price, is unlikely to be sufficient; a more affirmative state role is likely to be necessary.

As noted above, state officials have selected cap-and-trade for industry because of its “cost-effectiveness.”<sup>278</sup> Cap-and-trade encourages low-cost emission reducers to do the reducing (so they can sell extra allowances) and lets those facing high emission reduction costs purchase allowances and offsets, thus lowering the overall cost of achieving a given reduction.<sup>279</sup> That may work when incremental change is needed; when some can continue to pollute as long as others cut back. But decarbonization will require across-the-board shifts, from high- as well as low-cost reducers. Delaying change for higher-cost reducers will not necessarily represent the wisest or most effective decarbonization strategy.<sup>280</sup>

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Quebec Cap-and-Trade System November 2017 Joint Auction #13, *Summary Results Report* (Nov. 21, 2017), [https://www.arb.ca.gov/cc/capandtrade/auction/nov-2017/summary\\_results\\_report.pdf](https://www.arb.ca.gov/cc/capandtrade/auction/nov-2017/summary_results_report.pdf) [<https://perma.cc/A7VV-X3QY>]. In comparison, a recent international economic analysis of the carbon prices necessary to induce dramatic emission reductions estimated that a price of US \$40–80 per ton would be necessary by 2020. CARBON PRICING LEADERSHIP COALITION, REPORT OF THE HIGH-LEVEL COMMISSION ON CARBON PRICES at 5 (2017), <https://static1.squarespace.com/static/54ff9c5ce4b0a53deccfb4c/t/5949402936e5d3af64b94bab/1497972781902/ENGLISH+EX+SUM+CarbonPricing.pdf> [<https://perma.cc/QX5W-2LLB>].

278. See NOVEMBER 2017 SCOPING PLAN, *supra* note 10, at 71. On the importance of cost-effectiveness in climate strategies, see generally Ann E. Carlson, *Designing Effective Climate Policy: Cap-and-Trade and Complementary Policies*, 49 HARV. J. ON LEGIS. 207, 229 (2013).

279. See David M. Driesen, *Does Emissions Trading Encourage Innovation?*, 33 ENVTL. L. REP. 10094 (2003).

280. See WILLIAMS, ET AL, *supra* note 271, at 81, 82 (observing that initiating only low-cost measures could impede the long-term path to decarbonization); Benjamin Görlach, *Emissions Trading in the Climate Policy Mix: Understanding and Managing Interactions with Other Policy Instruments*, 25 ENERGY & ENV'T 735, 743 (2014); see also Kaswan, *Energy, Governance, and Market Mechanisms*, *supra* note 264, at 528–30.

A desire for “cost-effective” reductions thus does not provide a reason to refrain from pursuing industrial reductions more directly. Of course, the state cannot ignore the potential risks associated with aggressive action, like economic harm and leakage. Supportive strategies that provide incentives, direct financial resources, technical assistance, and strategic investments in accessible renewables and appropriate transmission will likely all be needed to effectively decarbonize the industrial sector. While electrification of industry is unlikely to eliminate all co-pollutant emissions, particularly from production processes, a more direct effort to envision and facilitate industrial sector decarbonization would nonetheless help California realize the co-pollutant reductions it had hoped would follow from its GHG controls.

The challenges facing industrial controls raise larger questions, and ones that are largely beyond the scope of this essay. One is the difficulty states face when they go it alone: California controls on industry risk leakage, and the associated failure to reduce GHG emissions, when other states do not impose similar restrictions. States do not want to incur the economic consequences of industry controls if those controls will only lead to shifts, rather than reductions, in GHG emissions. As a result, states, including California, may be reluctant to take necessary actions unless and until we have federal, if not international, controls that reduce the risk that industry will simply move elsewhere.<sup>281</sup>

Another critical issue is the role of direct regulatory controls within a cap-and-trade system, a topic I have developed in a recent article, *Energy, Governance, and Market Mechanisms*.<sup>282</sup> There I suggest that market-based mechanisms have an important role to play in climate governance, but that they are best seen as a complement to more direct measures. Because decarbonization requires careful strategies building a long-term trajectory toward a fossil-fuel-free future, market signals facilitating one-off individual industry decisions are unlikely to trigger the necessary change. Direct and deliberate planning, coordination, and support will also be necessary.

### *C. Emerging Retrenchment on a Multipollutant Approach? Or Not?*

Although one of the hallmarks of California’s approach to climate change has been its multipollutant goals of achieving both GHG and co-pollutant reductions,<sup>283</sup> that integration has faced recent challenges. Prominent scholars have argued that local pollution should be addressed separately from greenhouse gases. While recognizing communities’ frustration with continuing cumulative

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281. See generally Jonathan B. Wiener, *Think Globally, Act Globally: The Limits of Local Climate Policies*, 155 U. PA. L. REV. 1961 (2007).

282. See *supra* note 264.

283. See *supra* notes 207–37 and accompanying text.

pollution burdens and arguing that they should be addressed more aggressively, Severin Borenstein, of UC Berkeley’s Haas Energy Institute, states that “we should not count on, or expect, GHG policies to control local pollution emissions. We should pursue separate policies to reduce those local pollutants.”<sup>284</sup> One reporter has commented that “[p]rivately, some mainstream environmentalists and state regulators express frustration with environmental justice groups, saying that the state’s climate policies are not the right venue to address problems related to conventional pollution.”<sup>285</sup>

The progression of bills to address the extension of cap-and-trade reflected this tension. Lawmakers rejected AB 378, which extended cap-and-trade but included limits on trading in burdened communities. Instead, the winning legislative package extended the GHG cap-and-trade program in one bill (AB 398),<sup>286</sup> and laid out a pathway for reducing pollution in communities suffering from cumulative burdens in another (AB 617).<sup>287</sup> Although the two were related in the sense that support for one was likely essential to obtain support for the other, the bills treated the pathways to achieving environmental progress separately.<sup>288</sup>

And CARB appeared to at least partially embrace the idea of separate pathways for GHGs and co-pollutants in the “industry” section of the

284. Severin Borenstein, *Fight Both Local and Global Pollution, But Separately*, ENERGY INSTITUTE BLOG (Jan. 17, 2017), <https://energyathaas.wordpress.com/2017/01/17/fight-local-and-global-pollution-but-separately/> [<https://perma.cc/PJ9X-H3YT>]; see also Meredith Fowlie, *Is Cap and Trade Failing Low Income and Minority Communities?*, ENERGY INSTITUTE BLOG (Oct. 10, 2016), <https://energyathaas.wordpress.com/2016/10/10/is-cap-and-trade-failing-low-income-and-minority-communities/> [<https://perma.cc/6PX7-KQDB>] (suggesting that exposures to local emissions should be addressed by “strengthening regulations of local pollutants” rather than “distorting climate change policy”).

285. Kahn, *supra* note 251.

286. See *supra* notes 172–85 and accompanying text.

287. See *supra* notes 186–94 and accompanying text.

288. It should be noted that one possible explanation for the bifurcation is that lawmakers were seeking a two-thirds vote for the cap-and-trade extension to insulate it from legal challenge, and could not obtain the two-thirds vote with the co-pollutant provisions included. California law requires a two-thirds vote for all taxes, and some have argued that the costs associated with the cap-and-trade program constitute a tax. Although this argument has failed in California courts to date, see *supra* note 144, the state has sought the two-thirds vote to avoid any future litigation threats.

In addition, the separate legislative tracks in the 2017 legislative session were more significant than the separate tracks in the 2016 session. Although the 2016 legislative package also featured bifurcated bills, the distinct environmental justice bill, AB 197, affected the operation of the GHG program, rather than establishing a separate track for co-pollutants. In the 2017 bills, in contrast, AB 617, the local pollution bill, does not mention the operation of the GHG control program.

November 2017 scoping plan. CARB notes its agreement with the EJAC that “more can and should be done to reduce emissions of criteria pollutants and toxic air contaminants.”<sup>289</sup> However, the agency states that “[s]tate and local agencies must evaluate and implement additional measures that directly regulate and reduce emissions of criteria and toxic air pollutants through other programs.”<sup>290</sup> The agency appears to justify this approach by noting “there is not always a direct correlation between emissions of GHGs, criteria pollutants, and toxic air contaminants.”<sup>291</sup>

Nonetheless, there are many indications that, notwithstanding CARB’s and the legislature’s reluctance to integrate multiple pollutant concerns into the cap-and-trade program, CARB is not relinquishing its commitment to a multi-pollutant approach as part of its overall GHG strategy. In general terms, the November 2017 Scoping Plan observes that “[t]he State’s climate goals require a comprehensive approach . . . [and that] existing efforts . . . can complement each other while providing multiple environmental benefits, including air quality and climate benefits.”<sup>292</sup> The plan further states that “collective consideration of these efforts illuminates the synergies and conflicts between policies.”<sup>293</sup> There is little question that an integrated approach will continue in the transportation sector; many of the state’s transportation GHG programs grew out of and extended existing air quality programs.<sup>294</sup>

While the Scoping Plan embraces a multipollutant approach generally and in its transportation proposals, the primary controversy has centered around certain multipollutant approaches for stationary sources, particularly in the industrial sector. In addition to suggesting that GHG and co-pollutant emissions are not correlated,<sup>295</sup> scholars, and CARB, have been concerned that direct facility GHG limits or trading restrictions intended to simultaneously reduce co-pollutants from large sources will lead to leakage: that they will simply shift GHG emissions to other facilities, likely out-of-state, rather than reducing net GHG emissions.<sup>296</sup>

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289. NOVEMBER 2017 SCOPING PLAN, *supra* note 10, at 71.

290. *Id.* It is not clear whether, by “other programs” the agency means non-GHG programs, or, more narrowly, means only non-cap-and-trade programs (which could include GHG programs that take co-pollutants into account).

291. *Id.*

292. *Id.* at 12–13.

293. *Id.* at 13.

294. *See supra* note 43 and accompanying text.

295. *See supra* note 291 and accompanying text.

296. *See Borenstein, supra* note 284. CARB’s reference to this concern is somewhat indirect. The November 2017 Scoping Plan states that relocation of emissions outside of the state would fail to achieve desired reductions and would have adverse economic impacts; the text does not state, but implies, that control mechanisms that would shift emissions out of state should be avoided. NOVEMBER 2017 SCOPING PLAN, *supra* note 10, at 70.

However, concerns about the desirability of these particular reduction strategies—facility caps, or trading limits—do not justify relinquishing a multi-pollutant approach. If caps or trading limits would lead to substantial leakage,<sup>297</sup> then, under a multipollutant approach, that option would be undesirable due to its failure to address GHG emissions, even if they would succeed at reducing co-pollutants. Thus, concerns about particular regulatory strategies, like emissions caps or trading restrictions motivated by co-pollutant aspirations, may be subject to the charge that they will fail to reduce GHGs emissions due to leakage, but that does not justify relinquishing multipollutant analysis.

And if GHG and co-pollutant emissions were not correlated, that would be a second reason to reject such limits on the merits. The degree of correlation does not provide a reason for or against taking a multipollutant approach. If emissions are not correlated, then a multipollutant approach facilitates consideration of potential tradeoffs. If they are correlated, then the same controls can achieve multiple benefits.

And, ultimately, notwithstanding some language expressing doubts about a multipollutant approach for stationary sources, the Scoping Plan’s industry section simultaneously recognizes that most GHG emissions result from combustion, that GHG and co-pollutant emissions are correlated, and that industrial controls will lead to shared multi-pollutant benefits. CARB states that industry emissions

“are mainly due to fuel combustion . . . [.]” and . . . [m]oving toward a cleaner economy . . . requires us to address GHG emissions in this sector, which has the potential to provide local co-benefits in criteria pollutant and toxic air contaminant reductions in immediate surrounding locations, especially in vulnerable communities.<sup>298</sup>

CARB further notes that, as the industrial “sector is dominated by combustion-related emissions, policies and measures to supply cleaner fuels and more efficient technology are the key to reducing GHG emissions.”<sup>299</sup> The agency specifies that “[t]he predominant paths to reducing GHG emissions for the Industrial sector are: fuel switching, energy efficiency improvements, and

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297. I assume for the sake of argument that these approaches would lead to leakage that would undermine the GHG reduction program, without resolving that contested question.

298. NOVEMBER 2017 SCOPING PLAN, *supra* note 10, at 69. Studies indicate that industries vary in the degree of correlation. See BOYCE & PASTOR, *supra* note 10 (analyzing co-pollutant intensity variations in numerous industries). Their study found a high degree of correlation for refineries, and less correlation for power plants.

299. NOVEMBER 2017 SCOPING PLAN, *supra* note 10, at 70.

process modifications[.]” all measures likely to reduce both GHG and co-pollutant emissions.<sup>300</sup>

In its goals for the industrial sector, the agency continues to list its intent to “[m]aximize air quality co-benefits.”<sup>301</sup> And, under “potential additional actions” to be explored, the agency lists increasing renewables and, consistent with AB 617, partnering “with California’s local air districts to effectively use BARCT to achieve air quality and GHG reduction co-benefits at large industrial facilities.”<sup>302</sup>

The multipollutant character of California’s climate policies continues to be one of its defining and most valuable features. While some may have concerns about the desirability or efficacy of integrating co-pollutant measures into specific GHG control strategies like cap-and-trade, those concerns should not derail California’s larger multipollutant agenda. And, taken as a whole, and notwithstanding some conflicting language, the Scoping Plan appears to have retained its multipollutant focus, a focus that is likely to be more effective and efficient than measures that treat each aspect of that transition in isolation.

#### *D. Growing Industrial Pushback: Preemption*

AB 398’s preemption provisions were highly controversial. As noted above, the law featured two forms of preemption: (1) preemption of all local controls on stationary sources under the cap-and-trade program (but preserving CARB authority to impose controls on these sources); and (2) preemption of all future direct controls on oil and gas refineries, production and storage, whether at the local or state level.<sup>303</sup> The preemption provisions reveal the power of industry groups to trade their approval (and influence over members of the state legislature) for preemption of state and local controls on their industries.

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300. *Id.* And, before AB 398 precluded direct controls on refinery emissions, CARB’s January 2017 scoping plan had included efficiency improvements that would lead to a 20 percent reduction in refinery GHG emissions. CARB had planned to “partner with California’s local air districts, which traditionally permit these facilities for criteria pollutants and toxic air contaminants.” CAL. AIR RESC. BD., THE 2017 CLIMATE CHANGE SCOPING PLAN UPDATE (Jan. 20, 2017) [hereinafter JAN. SCOPING PLAN UPDATE], [https://www.arb.ca.gov/cc/scopingplan/2030sp\\_pp\\_final.pdf](https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf) [<https://perma.cc/X8Y8-TEE9>]. CARB had anticipated that these measures would not only reduce GHGs, they would also lead to reductions in traditional pollution, benefitting “some of the most polluted and disadvantaged communities in the State.” JAN. SCOPING PLAN UPDATE, *supra*, at 38.

301. NOVEMBER 2017 SCOPING PLAN, *supra* note 10, at 72.

302. *Id.* at 73.

303. *See supra* notes 176–78 and accompanying text.

### *1. Preemption of Local Stationary Source Controls*

The preemption of local GHG controls on all stationary sources could have implications for the local multipollutant control efforts discussed above.<sup>304</sup> For example, the Bay Area Air Quality Management District (the District) has developed a Refinery Emissions Reduction Strategy that contains measures designed to reduce all three types of refinery emissions: criteria air pollutants, toxics, and GHGs, and which contemplated setting direct GHG limits.<sup>305</sup> Because Bay Area refineries generate seventy percent of the region's stationary source GHG emissions,<sup>306</sup> local action could have had a significant impact. A District policy advisor reportedly stated that the new preemption provisions are “‘specifically designed to prevent the adoption of progressive, tough air quality regulations by agencies like the Bay Area air district against refineries[.]’”<sup>307</sup>

Additionally, the District has a “basin-wide combustion strategy” that would “prioritize sources based on the magnitude of their emissions, analyze the efficiency of combustion processes, and optimize energy-efficiency of production processes,” a strategy that inevitably implicates all types of combustion-related emissions.<sup>308</sup> To address methane emissions from multiple sources, the District has a “Basin-Wide Methane Strategy” focused on quantifying and reducing both methane and co-pollutants from all sources through a coordinated strategy.<sup>309</sup> The preemption provisions will prevent the District from effectively developing and implementing these multipollutant strategies.

Given local preemption, the local districts will have to rely on the state to impose specific controls, since only the state retains the power to impose direct controls (except in the refinery sector, where state as well as local direct controls are preempted, as discussed below). As local air districts

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304. See *supra* notes 228–37 and accompanying text.

305. BAAQMD, *supra* note 228, at 5/3. The District was considering a “Petroleum Refining Climate Impacts Limit” that would limit the carbon intensity for each refinery, effectively imposing an energy efficiency standard. *Id.* at 5/6.

306. *Id.* at 5/3.

307. Mason *et al.*, *supra* note 255. Environmental justice advocates note that the preemption “is a direct attack on a years’ long organizing effort in the Bay Area to win a cap on refinery emissions False [L]ocal air districts can no longer be more proactive in addressing climate change False” California Environmental Justice Alliance, *Justice Deferred*, *supra* note 238.

308. BAAQMD, *supra* note 228, at 5/4.

309. *Id.*

continue to develop co-pollutant reduction strategies under existing law and under AB 617's programs for reducing cumulative burdens, both co-pollutant and GHG reductions will undoubtedly be implicated. Rather than developing integrated strategies on their own, however, local air districts will have to rely on the state to develop applicable stationary source controls.

It is worth noting that the preemption of local control efforts seen in AB 398 is not an isolated compromise; it is part of a trend in state environmental policies. States increasingly preclude local governments from addressing local environmental conditions.<sup>310</sup> The trend is facilitated by groups like the American Legislative Exchange Council, an organization that promotes free markets and that has helped states adopt policies to limit a wide array of local regulations.<sup>311</sup> Moreover, AB 398's preemption of local action had recent precedent in California. A 2017 bill to increase the gas tax to fund road repairs and public transit included a general statewide preemption of truck emission requirements that effectively precludes local air district measures designed to control localized pollution.<sup>312</sup> Although GHG emissions have global, not local, effects, AB 398 could nonetheless frustrate local governments' strong local commitments to addressing climate change.<sup>313</sup>

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310. See, e.g., Uma Outka, *Intrastate Preemption in the Shifting Energy Sector*, 86 COLO. L. REV. 927 (2015).

311. See American Legislative Exchange Council, <https://www.alec.org/about/> (last visited Nov. 26, 2017). Commentators suggest that ALEC has been instrumental in facilitating state preemption of local regulation. See Henry Grabar, *The Shackling of the American City*, SLATE.COM (Sept. 9, 2016), [http://www.slate.com/articles/business/metropolis/2016/09/how\\_alec\\_acce\\_and\\_pre\\_emptions\\_laws\\_are\\_gutting\\_the\\_powers\\_of\\_american\\_cities.html](http://www.slate.com/articles/business/metropolis/2016/09/how_alec_acce_and_pre_emptions_laws_are_gutting_the_powers_of_american_cities.html) [<https://perma.cc/R87S-HXU3>]; see also Michele Swenson, *Preemption of Democracy by ALEC, its Corporate Funders, and Republican & Democratic Corporatists*, HUFFPOST (Feb. 17, 2016), [https://www.huffingtonpost.com/michele-swenson/preemption-of-democracy-b\\_b\\_9206274.html](https://www.huffingtonpost.com/michele-swenson/preemption-of-democracy-b_b_9206274.html) [<https://perma.cc/67WR-WG4F>].

312. Cal. Legislative Info., *SB-1 Transportation Funding*, sec. 18 (2017) (adding sec. 43021(a) to the California Health & Safety Code); see Patrick McGreevy, *Environmentalists oppose Gov. Brown's transportation plan for giving truckers a break on future pollution rules*, L.A. TIMES (Mar. 31, 2017), <http://www.latimes.com/politics/la-pol-sac-transportation-plan-opposition-20170331-story.html> [<https://perma.cc/JD8P-AZCR>]. The bill required the San Pedro ports, including Los Angeles and Long Beach, among the biggest polluters in the South Coast, to eliminate provisions intended to accelerate truck pollution controls. The San Pedro Bay Clean Air Action, which covers the ports of Los Angeles and Long Beach, had included provisions to accelerate the implementation of future state truck controls, but, with the preemption of new state controls, the district has turned to mechanisms to encourage and incentivize (rather than require) accelerated reductions. See SAN PEDRO BAY PORTS, *supra* note 225, at 7–8.

313. See William L. Andreen, *Federal Climate Change Legislation and Preemption*, 3 ENVTL. & ENERGY L. & POL'Y J. 261, 270–71, 280–81; see also Kirsten H. Engel & Barak Orbach, *Micro Motives for State and Local Climate Change Initiatives*, 2 HARV. L. & POL'Y REV. 119 (2008); see also Alice Kaswan, *A Cooperative Federalism Proposal for Climate Change Legislation: The Value of State Autonomy in a Federal System*, 85 DENV. L. REV. 791, 798–99 (2008).



## 2. Preemption of All Controls on Refineries and the Oil and Gas Sector

AB 398’s preemption of not only local, but also CARB controls on refineries and other oil and gas operations is significantly more restrictive than the preemption of local controls on stationary sources.<sup>314</sup> As noted above, prior to AB 398, CARB’s primary proposed direct industry reduction requirement—and a key part of its plan to comply with AB 197’s admonition to prioritize direct reductions—had been refinery requirements anticipated to achieve a 20 percent reduction in emissions.<sup>315</sup> The preemption provision has been viewed as a mechanism for stopping CARB’s proposal and preventing any future proposals.<sup>316</sup> In the refinery and oil and gas sectors, the provision also blocks CARB from fulfilling AB 197’s admonition to prioritize direct emissions controls.<sup>317</sup> Preempting direct controls on refineries has significant climate and co-pollutant implications.

From an environmental justice perspective, refineries are disproportionately located in disadvantaged communities.<sup>318</sup> Recent analysis by the state Office of Environmental Health Hazard Assessment indicates that 65 percent of California’s refineries are within disadvantaged communities, while 85 percent are within 1 mile of a disadvantaged community. Communities hosting the state’s refineries have long fought for additional environmental protections,<sup>319</sup> and, as discussed above, have been disappointed that the state’s cap-and-

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314. See *supra* note 178 and accompanying text.

315. JAN. SCOPING PLAN UPDATE, *supra* note 300, at 38–39.

316. See Mason, *et al.*, *supra* note 255 (quoting a CARB Board member’s assertion that the provision is “a direct attack on ARB’s proposed refinery reduction measures”). CARB commented on its removal of the refinery measure due to AB 398 in its interim October 2017 scoping plan update. CAL. AIR RESC. BD., THE 2017 CLIMATE CHANGE SCOPING PLAN 42 (Oct. 2017) (noting removal of the refinery measure and the need for increased reliance on cap-and-trade), <https://www.arb.ca.gov/cc/scopingplan/revised2017spu.pdf> [<https://perma.cc/5CKT-CYMH>]. See also California Environmental Justice Alliance, *Justice Deferred*, *supra* note 238 (noting that the preemption provision “will overturn a measure ARB has proposed as the main focus of its AB 197 implementation”).

317. See *supra* note 148 and accompanying text. In the January draft scoping plan, ARB noted that “this refinery measure prioritizes direct GHG reductions at large stationary sources pursuant to AB 197.” JAN. SCOPING PLAN UPDATE, *supra* note 300, at 38.

318. See OEHHHA, *supra* note 7, at 16 (Table 4).

319. See e.g., *Richmond: CBE Advocates For A Just Transition From Fossil Fuels To Building A New Healthier And Thriving Economy*, COMMUNITIES FOR A BETTER ENVIRONMENT, <http://www.cbecal.org/organizing/northern-california/richmond/> [<https://perma.cc/442M-VKFZ>] (last visited Nov. 26, 2017) (describing campaign to address Richmond’s refinery emissions).

trade program has not brought more widespread local emission reductions.<sup>320</sup> AB 398 prevents CARB from imposing direct GHG limits that might affirmatively shape permissible emissions, instead letting refineries make their own choices in light of the cap-and-trade program's price signal.

Of course, over the next few years, AB 617 will establish a monitoring program that is intended to lead to state and community-based emission reduction strategies that could begin to address toxic and criteria pollutants from refineries, as well as accelerate any retrofit requirements that may remain undone.<sup>321</sup> It remains to be seen whether the addition of one tool will outweigh the loss of another.

#### IV. CONCLUSION: THE POLITICAL VALUE OF A COMPREHENSIVE VISION

Appealing to environmental justice concerns—concerns about day-to-day pollution in areas experiencing unhealthy air as well as concerns about access to the economic benefits of a clean energy transition—proved critical to the success of California climate policy. As one lawmaker stated, “framing environmental issues as an environmental justice and equity issues . . . really won the day when it came to S.B. 32 [the 2030 climate target bill].”<sup>322</sup>

For states struggling to build support for climate legislation, can California's integration of environmental justice considerations provide a model that other jurisdictions could build upon?<sup>323</sup> Some might wonder whether California, with a powerful legislative block committed to improving conditions in disadvantaged communities, has had a unique political alignment that other states cannot hope to replicate.

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320. See Emily Guerin, *Is California climate law worsening pollution in communities of color?*, KPCC RADIO (Feb. 2, 2017) (describing Wilmington, California residents' frustration with continuing emissions from local refineries and other sources), <http://www.scpr.org/news/2017/02/02/68616/is-california-climate-law-worsening-pollution-in-c/> [<https://perma.cc/J7MW-EWH3>].

321. See *supra* notes 187–94 and accompanying text. It is worth noting that AB 617 calls for accelerated implementation of Best Available Retrofit Control Technology, Cal. Legislative Info., *AB-617 Nonvehicular Air Pollution: Criteria Air Pollutants and Toxic Air Contaminants*, sec. 2 (2017) (amending sec. 40920.6 to the California Health & Safety Code). CARB's January 2017 scoping plan had suggested that the state would achieve its planned direct refinery reductions through the BARCT process, where applicable. JAN. SCOPING PLAN UPDATE, *supra* note 300, at 38–39. Although AB 398 has prevented ARB from carrying through with its refinery measures, it remains to be seen whether the AB 617 process will lead to a similar outcome.

322. See Kahn, *supra* note 251.

323. As noted at the beginning of this Article, the November 2017 Scoping Plan states that: “California's environmental justice and equity movement is establishing a blueprint for the nation and world.” NOVEMBER 2017 SCOPING PLAN, *supra* note 10, at ES 6.

There is little question that numerous factors aligned to enable California to adopt aggressive climate laws and integrate environmental and social justice considerations into the state's policies. Given the intensity of the state's concentrated air pollution, wide gaps between the haves and have nots, and a substantial political block of liberal representatives from disadvantaged communities, environmental justice proved a winning theme in California.

Even if other states face different political alignments, however, they could learn from California's approach to building political will for climate action, both in the short term and looking ahead to decarbonization trajectories. Rather than viewing climate action as a narrow question focused solely on greenhouse gas reductions, the state has recognized the larger socioeconomic and environmental issues at stake in a transition to a clean economy, and that recognition played a crucial role in building political will.<sup>324</sup>

Focusing solely on GHGs is likely to trigger political resistance from the vested interests most directly impacted, while failing to garner deep public support due to the diffuse, indirect, and speculative nature of climate impacts and public fears about the potential economic impacts of climate mitigation efforts. The larger idea behind California's success—connecting climate action to bread and butter issues like air quality, access to employment for those who are un- or under-employed, and appealing to the public's moral sense that change is necessary and inevitable, could expand support for climate action.<sup>325</sup>

In other states facing different challenges, environmental justice might not be the galvanizing issue. In other states, for example, different socioeconomic considerations, like employment opportunities for marginalized workers, could prove pivotal. The more that climate action is linked to a larger vision contemplating a just and sustainable transition, however, the greater the likelihood of citizen support.

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324. Professor John Dernbach has similarly argued that a “sustainable development” vision is critical to building political will for decarbonization strategies. See John C. Dernbach, *Legal Pathways to Deep Decarbonization: Lessons from California and Germany*, 82 BROOK. L. REV. 825, 867–70 (2017). Although the term evolved out of international environmental law, recognizing the developing world's need for development and the necessity of developing sustainably, the term is equally applicable to the environment/economy tensions sometimes encountered in domestic environmental law. Sustainable development in the domestic context couples economic, social, and environmental considerations.

325. See BOYCE & PASTOR, *supra* note 10, at vii; Alice Kaswan, *Environmental Justice and Environmental Law*, FORDHAM ENVTL. L. REV. 149, 168–73 (2013).

Of course, vested fossil-fuel interests and others reliant on fossil fuels will continue to resist deep climate action; their business model is on the line. But by building coalitions capable of achieving change independent of these interests, the resistance of fossil-fuel interests may pale in the face of calls for action. As renewable energy and other green companies continue to gain steam, voices of the new economy may begin to drown out the dominance of those from the old.<sup>326</sup> Whether or not framed as a question of “environmental justice,” a larger and more comprehensive vision for a cleaner and greener economy could facilitate the political movement for a clean energy transition.

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326. See Jonas Meckling, *et al.*, *Winning Coalitions for Climate Policy*, 349 *SCI.* 1170 (2015); David Roberts, *5 reasons there's more to climate policy than a price on carbon*, *Vox* (June 28, 2016), <https://www.vox.com/2016/6/28/12045860/carbon-tax> [<https://perma.cc/L8AA-A7QT>].