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## Regulatory Capacity and State Environmental Leadership: California's Climate Policy

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# REGULATORY CAPACITY AND STATE ENVIRONMENTAL LEADERSHIP: CALIFORNIA'S CLIMATE POLICY

*Ann E. Carlson\**

## INTRODUCTION

When the *Fordham Environmental Law Review* began 20 years ago, California was an environmental leader. It still is. But the nature of its leadership in the last decade is a story in and of itself, one of the most significant domestic environmental stories since the *Review's* inception. California has enacted what is arguably the world's most ambitious policy to tackle greenhouse gas emissions. Its program to achieve this – and some musings on the reasons for its leadership – is the focus of this essay.

California's climate policy seems categorically different from its past environmental leadership. The state is not simply regulating a single product (say, automobiles) or a particular sector of the economy (say, electric utilities). Nor is it tackling a problem of particular importance to the state (say, air pollution). Instead, the effort to regulate climate change is truly an economy-wide one. And the state is engaging in this extensive regulatory activity even though reducing greenhouse gas emissions will produce very few environmental benefits for California given the global nature of the problem of climate change.<sup>1</sup>

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1. See J.R. DeShazo & Jody Freeman, *Timing and Form of Federal Regulation: The Case of Climate Change*, 155 U. PA. L. REV. 1499, 1516-20

Scholars have long puzzled over why some states emerge as environmental leaders. Explanations range from the political benefits such leadership can produce for political actors,<sup>2</sup> to perceived economic benefits,<sup>3</sup> to the political preferences of a state's voters.<sup>4</sup> All of these seem to explain at least a portion of California's climate change leadership.

In a separate article I have suggested that still another part of the causal story is that federal law has created state environmental leaders through a complex dynamic I call iterative federalism – the idea here is that federal law has singled out a state, or group of states, to engage in regulatory experimentation. This experimentation has then led to federal adoption of the policies that have emerged from the experiment, which has in turn led to state innovation, and so forth. The two notable examples of iterative federalism are both contained in the Clean Air Act: California's designation as the regulatory leader on automobile emissions and the Northeastern states' authority to regulate ozone pollution on a regional basis. These designations have, I argue, led to state and regional leadership on climate change.<sup>5</sup>

Here I want to concentrate on a related – but distinct – part of the story about climate change leadership in California. The story is less about *why* California has taken the lead (voter preferences, for example, are obviously relevant), though I think my story is relevant to causality. My focus instead is on *how* California has been able to do so – not just to pass ambitious legislation but to implement, largely on time, a regulatory program of vast and complex scope. My story here is a relatively simple but, I suggest, largely overlooked one: prior to enacting ambitious climate change legislation, the state had created regulatory institutions of extraordinary sophistication and

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(2007); Kirsten H. Engel & Barak Y. Orbach, *Micro-Motives and State and Local Climate Change Initiatives*, 2 HARV. L. & POL'Y REV. 119, 120-22 (2008).

2. See DeShazo & Freeman, *supra* note 1, at 1519.

3. See Engel & Orbach, *supra* note 1, at 132; Barry G. Rabe, Mikael Roman & Arthur N. Dobelis, *State Competition as a Source Driving Climate Change Mitigation*, 14 N.Y.U. ENVTL. L. J. 1, 32-42 (2005).

4. See Richard L. Revesz, *Federalism and Environmental Regulation: A Public Choice Analysis*, 115 HARV. L. REV. 553, 636-41 (2001).

5. See Ann E. Carlson, *Iterative Federalism and Climate Change*, 103 NW. U. L. REV. 1097, 1099-1100 (2008).

capacity and real political agility. Without such regulatory capacity, the state simply could not lead as ably or quickly as it has.

My claim, then, has relevance to the larger debate about federalism and environmental leadership. In addition to already proffered theories about why some states engage in aggressive environmental regulatory activity, I suggest that a state's regulatory capacity is an important part of the story. Regulatory capacity does not, of course, exist in a vacuum. States lead in a particular environmental area and develop regulatory expertise necessary to implement their environmental policies. But that regulatory expertise can, in turn, lead to further environmental leadership, which can in turn solidify and enhance regulatory expertise. Regulatory expertise and environmental leadership, in other words, are mutually reinforcing in ways we have previously overlooked.

Of course an important factor in a state using its regulatory capacity to engage in additional environmental policy making is earlier regulatory success. A state is less likely to engage in ambitious new environmental regulation unless its previous efforts have succeeded, both politically and in measurable environmental outcome. Such past regulatory success – particularly in air pollution regulation – helps explain why California has been willing to lead on climate change regulation. In repeatedly achieving demonstrable regulatory success by reducing automobile emissions, California's Air Resources Board has won the confidence of both the public and of elected officials. Federal law has played an important role here: by singling out the state to lead on mobile source emissions under the Clean Air Act, the federal government has encouraged the development of significant regulatory expertise.<sup>6</sup> That regulatory expertise has, in turn, led to the state legislature relying on the Air Resources Board to develop ambitious climate policy.

But there is also more to the story. While federal law granted California special status, it did not require the state to actually use that status, nor did the federal government direct California in how to use its leadership role. In the 40 years of experience under the Act, California's air board has developed into one of the most sophisticated and well-regarded environmental agencies in the world. The agency has managed to remain popular through most of its

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6. See Carlson, *supra* note 5, at 1138.

decades of existence. Why and how, then, has the agency managed to develop such independence and expertise?

I briefly suggest several possible explanations in this article. These explanations are meant to stimulate a broader conversation about what creates effective bureaucratic administration and about what makes certain states environmental leaders in a broader federal system.<sup>7</sup> For example, the structure of the Air Resources Board (CARB) – which is also the agency implementing California’s climate change legislation – has been important to the state’s regulatory successes. CARB is regulated by an independent board comprised of political appointees that come from a variety of pre-designated professional backgrounds.<sup>8</sup> This structure appears both to insulate the board from intense political partisanship and agency capture while at the same time providing it with politically accountable leadership. The agency is also well-funded, with a dedicated revenue stream financed by regulated parties. This funding mechanism has largely, though not completely, insulated the agency from California’s fiscal woes and has provided the agency with the budget necessary to fund a large and professional staff.<sup>9</sup> And the agency has had continued and visible success in its primary mission – reducing air pollution – that has made it trusted and popular among legislators. Finally, the agency has avoided being captured by the principal industry it regulates, the auto industry. This avoidance of agency capture has occurred for several reasons, including that California is not home to an indigenous auto industry; an independent

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7. See generally David A. Dana, *One Green America: Continuities and Discontinuities in Environmental Federalism in the United States*, 24 *FORDHAM ENVTL. L. REV.* 103, 104 (2013) (discussing the large role California has played and the regulatory independence the state has exerted in air pollution and climate change regulation).

8. *About the Selection of Our Board*, CALIFORNIA AIR RESOURCES BOARD, <http://www.arb.ca.gov/board/about.htm> (last visited March 17, 2013).

9. For background about the fees that fund CARB, see *Environmental Protection: 3900 Air Resources Board*, GOVERNOR’S BUDGET 2013-14: PROPOSED BUDGET DETAIL (last visited Feb. 11, 2013), available at <http://www.ebudget.ca.gov/StateAgencyBudgets/3890/3900/department.html#addinfo>. AB 32 implementation is funded by a fee imposed on greenhouse gas emitters, the authorization for which was contained in the original legislation. Ca. Health & Safety Code § 38597; see also *AB 32 Cost of Implementation Fee Regulation*, CALIFORNIA AIR RESOURCES BOARD, available at <http://www.arb.ca.gov/regact/2009/feereg09/feereg09.htm> (last visited Aug. 22, 2011).

emissions technology industry has emerged in response to the state's regulatory policies; CARB has developed a professional, independent staff; and the auto industry has repeatedly undermined its own credibility by making claims about regulatory burden that have turned out to be exaggerated or untrue. In highlighting these features of California's regulatory agency, I do not mean to downplay more conventional explanations for the state's leadership. California's voters across the political spectrum, for example, are supportive of strong environmental policies – they recently turned back an initiative to halt the implementation of the state's climate policies with conservative, rural counties joining their coastal urban counterparts in doing so.<sup>10</sup> California's political leaders campaign openly on pro-environmental platforms; indeed the most notable was a Republican, Governor Arnold Schwarzenegger, who not only signed AB 32 into law but consistently championed the legislation.<sup>11</sup> And some of the state's environmental success may be explained by *sui generis* factors like individual leadership: for example by most accounts the current Chairwoman of the CARB board, Mary Nichols, has exceptional political and administrative skills that have been a significant contributor to AB 32's effective implementation.<sup>12</sup> My aim, instead, is to highlight a feature of California governance – its regulatory competence – that has helped make such leadership possible and effective.

Before describing the environmental regulatory capacity California has created, I set forth below the parameters of California's plan to implement its climate legislation. I focus in particular on one of the principal components of the plan, a cap-and-trade program to

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10. See Todd Woody, *California's Conservative Counties Voted Green on Prop 23*, GRIST (Nov 5, 2010), available at <http://grist.org/article/2010-11-05-californias-conservative-counties-voted-green-on-prop-23/>.

11. For a description of the role he played in promoting action on climate change, see Coral Davenport, *Arnold Schwarzenegger: Terminator, Body-Builder and Global Leader on Climate-Change*, NATIONAL JOURNAL (Dec. 30, 2012), available at <http://www.nationaljournal.com/energy/arnold-schwarzenegger-terminator-body-builder-and-global-leader-on-climate-change-20121230>.

12. See e.g., Dana Hull, *Mercury News Interview: Mary Nichols of the California Air Resources Board*, San Jose Mercury News, (Nov. 11, 2012) (“Nichols... is widely recognized as one of the most knowledgeable and influential clean and air and climate regulators in the United States.”).

regulate large industrial and energy sources,<sup>13</sup> in order to demonstrate the breadth and sophistication of the regulatory effort. But I first provide an overview of and background about the central components of the state's climate plan. I then turn to some of the distinctive qualities of California's lead regulatory agency on climate policy, including its funding sources, its political structure, its size, and its independence in order to provide at least a partial explanation for the state's climate accomplishments.

## I. CALIFORNIA CLIMATE POLICY

### A. AB 32

California's first significant legislation addressing climate change regulation, passed in 2002, ordered CARB to develop greenhouse gas emissions standards for automobiles.<sup>14</sup> The state followed the car standards in late 2006 with a much more sweeping bill, AB 32, the California Global Warming Solutions Act.<sup>15</sup> AB 32 required California to roll back its greenhouse gases to 1990 levels by 2020 and largely delegated the determination of how to do so to CARB. The legislation did include a number of deadlines, along with guidance to the Board about how to carry out its task, but is remarkable for its relative brevity: the entire legislation is ten pages long. By way of comparison, the only comprehensive climate bill to pass a house of Congress – the American Clean Energy and Security Act (also known as Waxman-Markey) – was 1,427 pages.<sup>16</sup>

The ten-page bill delegating broad authority to CARB contained a rather Herculean task: cut the state's emissions by 20 percent (the

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13. See generally Alexandra B. Klass, *Climate Change and the Convergence of Environmental and Energy Law*, 24 *FORDHAM ENVTL. L. REV.* 180 (2013) (arguing that environmental law has not effectively dealt with the intersection between energy and environment).

14. Cal. Health and Safety Code §§ 42823, 43018.5 (2012); For an explanation of AB 1493 and its passage, see Ann E. Carlson, *Federalism, Preemption and Greenhouse Gas Emissions*, 37 *U.C. DAVIS L. REV.* 281, 292 (2003).

15. Assembly Bill No. 32, Chapter 488 (2006), available at [http://www.leginfo.ca.gov/pub/05-06/bill/asm/ab\\_0001-0050/ab\\_32\\_bill\\_20060927\\_chaptered.pdf](http://www.leginfo.ca.gov/pub/05-06/bill/asm/ab_0001-0050/ab_32_bill_20060927_chaptered.pdf) (last visited Feb. 10, 2013).

16. See American Clean Energy and Security Act (2009), available at <http://www.govtrack.us/congress/billtext.xpd?bill=h111-2454>, version passed by the House (last visited Feb. 10, 2013).

amount necessary to achieve 1990 levels) with no adjustment for population or economic growth. California is expected to add more than 4 million people between 2010 and 2020, according to the state's Department of Finance (significantly lower than pre-recession projections but still an increase of 11.5 percent).<sup>17</sup> CARB is to achieve these reductions by 2020 and to have a fully operational mandatory cap in place by January 1, 2012. The legislation also required CARB to meet several other important deadlines, including setting the overall emissions budget to be achieved (set by the Board in Dec 2007 at 427 million metric tons of CO<sub>2</sub>e); the preparation and approval, by January 1, 2009, of a scoping plan setting forth the measures the state will take to achieve the emissions budget (approved in Dec of 2008);<sup>18</sup> and the adoption of a mandatory reporting rule by January 1, 2008 (approved).<sup>19</sup>

### B. AB 32 Implementation

The magnitude of CARB's scoping plan to implement the state's emissions goals is impressive. It includes a Renewable Electricity Standard of 33% by 2020;<sup>20</sup> a Low Carbon Fuel Standard;<sup>21</sup> Regional Transportation Targets for local governments (required by a separate bill, SB 375);<sup>22</sup> vehicle efficiency measures including the use of low friction oil and solar reflective automotive paint and window glazing;<sup>23</sup> power requirements for ocean-going vehicles while in

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17. *State Projected to Add 4.3M people by 2020*, CALIFORNIA WATCH (last visited June 24, 2011), available at <http://californiawatch.org/dailyreport/state-projected-add-43m-people-2020-11066>.

18. See *AB 32 Scoping Plan*, CALIFORNIA AIR RESOURCES BOARD (last visited March 17, 2013), available at <http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm>.

19. See AB 32, *supra* note 14.

20. *California Renewable Energy Overview and Programs*, CALIFORNIA ENERGY COMMISSION (April 21, 2011), <http://www.energy.ca.gov/renewables/>.

21. *Low Carbon Fuel Standard Program*, CALIFORNIA AIR RESOURCES BOARD (last visited Feb. 4, 2013), <http://www.arb.ca.gov/fuels/lcfs/lcfs.htm>.

22. *Sustainable Communities*, CALIFORNIA AIR RESOURCES BOARD (last visited Jan. 15, 2013), available at <http://www.arb.ca.gov/cc/sb375/sb375.htm>.

23. *Status of Scoping Plan Recommended Measures*, CALIFORNIA AIR RESOURCES BOARD, available at [http://www.arb.ca.gov/cc/scopingplan/status\\_of\\_scoping\\_plan\\_measures.pdf](http://www.arb.ca.gov/cc/scopingplan/status_of_scoping_plan_measures.pdf) (last visited Feb. 10, 2013)



port;<sup>24</sup> a Million Solar Roofs program;<sup>25</sup> energy efficiency measures for residential, commercial and industrial sources;<sup>26</sup> and a cap-and-trade program covering 85% of the state's emissions.<sup>27</sup> In addition, the scoping plan relies on emissions reductions from automobile standards that are now federal in nature but that began as state standards developed by CARB.<sup>28</sup> Each of these programs is independently complex: the Regional Transportation Targets, for example, require CARB to develop greenhouse gas emissions targets for each of 18 metropolitan planning organizations around the state. These MPOs must then prepare plans to demonstrate how they will meet their targets; CARB must in turn approve the plan or require the MPO to submit an alternative plan.<sup>29</sup> The point here is not to catalogue the complexity of each independent scoping plan measure, but rather simply to show how far reaching and complicated CARB's regulatory efforts are.

### C. *AB 32 and Cap-and-Trade*

The cap-and-trade program is in some sense the centerpiece of CARB's efforts, covering 85% of the state's emissions.<sup>30</sup> Some of the emissions reductions required under the cap come from complementary policies that require sources to reduce emissions in mandated ways. For example, the 33% Renewable Energy Standard

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24. *See id.* at 4.

25. *California's Climate Plan*, CALIFORNIA AIR RESOURCES BOARD, available at [http://www.arb.ca.gov/cc/facts/scoping\\_plan\\_fs.pdf](http://www.arb.ca.gov/cc/facts/scoping_plan_fs.pdf) (last visited Feb. 10, 2013).

26. *Id.* at 5.

27. *Id.* at 1. Though CARB is the principal regulatory agency implementing AB 32 it does have help from the California Energy Commission and the Public Utilities Commission, both of which have authority over the Renewable Electricity Standard program. *RPS Program Overview*, CALIFORNIA PUBLIC UTILITIES COMMISSION (last modified Feb. 1, 2012), available at <http://www.cpuc.ca.gov/PUC/energy/Renewables/overview.htm>. The Energy Commission also has authority over energy efficiency programs, including appliance and building standards. *Building Energy Efficiency Program*, CALIFORNIA ENERGY COMMISSION, available at <http://www.energy.ca.gov/title24/>.

28. *See Climate Change Programs*, CALIFORNIA AIR RESOURCES BOARD, available at <http://www.arb.ca.gov/cc/cc.htm> (last visited Feb. 10, 2013).

29. *Building Energy Efficiency Program*, California Energy Commission (last visited Feb. 10, 2013), available at <http://www.energy.ca.gov/title24/> (explaining program).

30. *See California's Climate Plan*, *supra* note 25, at 1.

will require the state's utilities to shift away from carbon-intensive fuels to alternative ones, with concomitant greenhouse gas emissions reductions that will help them meet their emissions reduction requirements under cap-and-trade.<sup>31</sup> But the cap will require covered entities to make additional reductions and will ensure that the state meets its overall emissions reduction goals even if the complementary policies fail to produce their expected reductions.<sup>32</sup>

The sophistication of the state's cap-and-trade program is worth highlighting both because the program is so central to the accomplishment of the state's goals and also to illustrate the complexity of the regulatory task CARB faces.

As with all cap-and-trade programs, its basic parameters are as follows: A total amount of allowable pollution is set (the cap). Those subject to the cap are allocated allowances (in sum equal to the cap) that allow them to pollute (one ton per allowance, with the total number of allocated allowances equal to the cap). And emitters may meet their allocated amount in one of three ways. They may use all of their allowances. They may cut their pollution to levels below the amount they've been allocated and trade/sell the excess allowances to those who need them. Or they may pollute in excess of the amount of allowances allocated and make up the difference by purchasing allowances from those emitters who don't need all of theirs.<sup>33</sup>

California's program covers 600 facilities and began its coverage in 2012 with electric utilities and large industrial facilities. It will expand to include fuel distributors in 2015. The cap will decline 2 percent annually until 2015 and 3 percent annually beginning in

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31. For a discussion of the relationship between cap-and-trade programs and complementary policies and an argument that complementary policies may undermine the market incentives of cap-and-trade, see Ann E. Carlson, *Designing Effective Climate Policy: Complementary Policies and Cap-and-Trade*, 49 HARV J. LEGIS. 207 (2012). For a discussion of the controversy cap-and-trade has engendered among environmental justice advocates, see Alice Kaswan, *Environmental Justice and Environmental Law*, 24 FORDHAM ENVTL. L. REV. 149, 158 (2013).

32. For example, a federal district court has enjoined the state from implementing Low Carbon Fuel Standard, a decision currently on appeal to the Ninth Circuit Court of Appeal.

33. For an explanation of cap-and-trade, see Robert N. Stavins, *A U.S. Cap-and-Trade System to Address Global Climate Change*, 8-9 The Brookings Institution (2007).

2015.<sup>34</sup> The state has decided, for the most part, to distribute allowances to covered entities for free rather than auctioning them. The stated rationale is to prevent leakage in the industrial sector of emissions from California to other jurisdictions and to protect utility ratepayers who would otherwise see prices rise as utilities include the cost of purchasing allowances in the rate base.<sup>35</sup> The cap-and-trade program will allow emitters to bank allowances for use in future years and will allow a three year compliance period in order to allow for year over year changes in production and output.<sup>36</sup>

The cap-and-trade program will also allow emitters to use offsets – emissions reductions from outside the capped sector – to meet a portion of their compliance obligations (up to 8 percent). CARB has adopted four offset protocols: Urban Forestry, Livestock Manure, Ozone Depleting Substances destruction and Forest projects.<sup>37</sup>

The genesis of these offset protocols comes out of a regulatory background that also demonstrates the state's interesting regulatory capacity. Climate Action Reserve (CAR) is a non-profit organization that began as a sister organization to California's Climate Action Registry, established by state law in 2001 to begin voluntary greenhouse gas emissions reporting.<sup>38</sup> CAR is incorporated as a non-profit and includes on its board leading state officials, including the California Secretary for Environmental Protection and the Governor's Executive Secretary for Legislation, Appointments and Policy. Additional members include local California officials, representatives of stakeholder groups like the California Farm Bureau, Shell Oil, local utilities and the Natural Resources Defense

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34. See *Overview of ARB Emissions Trading Program*, CALIFORNIA AIR RESOURCES BOARD (last revised Oct. 20, 2011), available at [http://www.arb.ca.gov/newsrel/2011/cap\\_trade\\_overview.pdf](http://www.arb.ca.gov/newsrel/2011/cap_trade_overview.pdf).

35. See *Overview of ARB Emissions Trading Program*, CALIFORNIA AIR RESOURCES BOARD (last revised Oct. 20, 2011), available at [http://www.arb.ca.gov/newsrel/2011/cap\\_trade\\_overview.pdf](http://www.arb.ca.gov/newsrel/2011/cap_trade_overview.pdf).

36. See *id.*

37. Compliance Offset Program, CALIFORNIA AIR RESOURCES BOARD (last visited Feb. 1, 2013), available at <http://www.arb.ca.gov/cc/capandtrade/offsets/offsets.htm>.

38. See *About Us*, CLIMATE ACTION RESERVE, available at <http://www.climateactionreserve.org/about-us/> (last visited Feb. 10, 2013.).

Council and international officials from Canada and Mexico.<sup>39</sup> Its funding comes from account holders who register with the Climate Action Registry.<sup>40</sup> CAR's task is to develop stringent offset protocols through a multi-stakeholder process for use in North American carbon markets.<sup>41</sup>

CARB has adopted but modified four of CAR's offset protocols. Many, but not all, of the changes are technical ones designed to incorporate the offset protocols into a regulatory system. Some, however, are more substantive: CARB modified the Urban Forestry protocol, for example, to disallow greenhouse gas emissions reductions from building energy use that CAR believes will result from an increase in urban tree planting.<sup>42</sup>

In addition to the substantive provisions of its cap-and-trade program, the state has adopted a sophisticated suite of measures to maximize the liquidity and transparency of its cap-and-trade market. These include emissions registries requiring annual reporting of emissions, the reporting of spot market prices, quarterly auctions, a requirement that investor-owned utilities sell their allowances and receive the proceeds, and the establishment of an allowance reserve that will make a certain number of allowances available at a pre-established price in the event that prices spike.<sup>43</sup>

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39. See *Board of Directors*, CLIMATE ACTION RESERVE, <http://www.climateactionreserve.org/about-us/board-of-directors/> (last visited Feb. 10, 2013).

40. See *California Climate Action Registry*, CLIMATE ACTION RESERVE, available at <http://www.climateactionreserve.org/about-us/california-climate-action-registry/> (last visited Feb. 11, 2013).

41. *Climate Action Reserve Program Manual*, CLIMATE ACTION RESERVE, <http://www.climateactionreserve.org/about-us/california-climate-action-registry/> (last visited at Feb. 11, 2013).

42. *Compliance Offset Program*, CALIFORNIA AIR RESOURCES BOARD, available at <http://www.arb.ca.gov/cc/capandtrade/offsets/offsets.htm> (last visited Feb. 10, 2013).

43. For an analysis of the risk of market manipulation that California's cap-and-trade system could face, see Bowman Cutter, M. Rhead Enion, Ann Carlson, and Cara Horowitz, *Rules of the Game: Examining Market Manipulation, Gaming and Enforcement in California's Cap-and-Trade Program*, EMMETT CENTER ON CLIMATE CHANGE AND THE ENVIRONMENT (2011); for a description and analysis of CARB's allowance reserve containment system, see *Appendix G, Allowance Price Containment Reserve Analysis*, CALIFORNIA AIR RESOURCES BOARD, available at <http://www.arb.ca.gov/regact/2010/capandtrade10/capv3appg.pdf> (last visited Feb. 11, 2013).

Though one can quarrel with certain of the provisions CARB has adopted – many observers support the auctioning of allowances rather than giving them to emitters, for example, the question of offsets remains a controversial one, and the environmental justice community in California opposes the general idea of cap-and-trade<sup>44</sup> – the agency appears to have used the experience of other cap-and-trade programs to learn from the mistakes of those programs and to borrow their best practices. For example the most controversial cap-and-trade program to date, at least among Californians, is the South Coast Air Quality Management District’s (“SCAQMD”) Regional Clean Air Incentives Market (“RECLAIM”) program. RECLAIM established a cap-and-trade program for utilities and large industrial facilities to limit NOx and Sox emissions.<sup>45</sup> The program is notable for being the only cap-and-trade program to date to breach its cap – when total pollutants emitted exceeded the capped amount allowable – during the 2001 energy crisis in California. Allowance prices per ton of pollutant had averaged below \$2,000 per ton but in 2001 – with record temperatures and an energy market reeling from partial deregulation – demand for energy spiked while out-of-state imports were, for complicated reasons, constrained. The state’s utilities then increased their reliance on in-state natural gas facilities, which in turn increased utility emissions of the capped pollutants but utilities lacked sufficient allowances to meet their allocated amounts under the program. The fact that RECLAIM did not allow for the banking of allowances contributed to the shortage of allowances. Allowance prices spiked to a high of \$124,000 in 2000. Rather than cutting emissions, the utilities breached the cap. In response, SCAQMD pulled the utilities out of the program.<sup>46</sup>

CARB appears to have heeded lessons learned from the RECLAIM program by building in several mechanisms to avoid unanticipated allowance price spikes. These including allowing for banking, which provides flexibility to emitters to meet their allowance allocation burdens; using a three year compliance period; establishing an allowance reserve program to provide a set percentage of allowances

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44. See Kaswan, *supra* note 31, at 174.

45. See *Regional Clean Air Incentives Market (RECLAIM)*, SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (last updated Feb. 14, 2008), available at <http://www.aqmd.gov/reclaim/reclaim.html>.

46. See Cutter et al., *supra* note 43 at 18, 43-46 (for an extensive analysis of RECLAIM).

at a pre-established price in case of a price spike; independent market monitoring and so forth.<sup>47</sup> EPA had criticized the RECLAIM program for, among other things, failing to build in sufficient flexibility for emitters to meet their allocation obligations and CARB appears to have followed EPA's recommendations by building in more flexibility.<sup>48</sup> In a recent study of the potential for gaming and market manipulation in CARB's cap-and-trade program, we concluded that "CARB's proposed carbon market is much less vulnerable to market manipulation than the California power market was in 2000-01."<sup>49</sup>

The RECLAIM example is but one of several that illustrate the ways in which CARB has structured its program to avoid mistakes of other programs and to use their best practices. CARB has taken measures to improve offset integrity, learning from mistakes made by the European Union in its European Trading System; improve transparency in emissions reporting, again learning from the ETS experience; and improve the regulation of the allowance spot market based on the experiences of several cap-and-trade programs, including the Acid Rain Trading Program and the ETS.<sup>50</sup>

Of course until the cap-and-trade program is up and running and fully functional it is impossible to know whether it will accomplish its goals of cutting emissions cost-effectively and in a manner that allows for a relatively smooth functioning of the market it is creating. And cap-and-trade programs are controversial for other reasons.<sup>51</sup> The point here is not to single CARB out for praise for adopting a cap-and-trade program, but merely to demonstrate that the agency has approached the task with sophistication and timeliness, and to date appears to have adopted a well-designed program.

#### *D. AB 32 Accomplishments*

The preceding section is meant to show that CARB's accomplishments in implementing AB 32, to date, demonstrate rather remarkable regulatory capacity. The agency has in five years put together an economy-wide plan to cut carbon emissions dramatically

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47. *Id.* at 5-7.

48. *Id.* at 18.

49. *Id.* at 45.

50. *Id.* at 15-17.

51. See Kaswan, *supra* note 31 at 161.

through an array of sophisticated policy mechanisms that will touch virtually every sector of the economy. The mechanisms include land use regulations, a low carbon fuel standard, automobile standards, a Renewable Electricity standard, a cap-and-trade program and sector-specific measures aimed at large sources like ocean-going vessels.<sup>52</sup>

Three other observations are worth making about the five-year process to implement AB 32. First, CARB has implemented AB 32 on time. Indeed the agency has met virtually all the deadlines established in the original AB 32 legislation: to adopt mandatory reporting of emissions by January 1, 2008 (Health & Safety Code Sec. 38530(a)); to set a statewide emissions limit both for 1990 and 2020 (since the statutory goal is to cut greenhouse gases to 1990 levels by 2020) by January 1, 2008 (H&S Sec 38550); to identify by June 30, 2007 and adopt implementing regulations by January 1, 2010 for “discrete, early action greenhouse gas emission reduction measures that can be implemented prior to the” implementation of the statewide cap (H&S Sec. 38560.5); to prepare a scoping plan setting out “the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions...by 2020” (H & S Sec. 38561); to adopt regulations by January 1, 2011 to implement the measures that will be required to meet total emissions limits, with the regulations becoming effective January 1, 2012. (H & S Sec 38562).<sup>53</sup>

Though meeting statutory deadlines may seem like an unremarkable achievement, CARB’s actions contrast rather dramatically with the Environmental Protection Agency, which is notorious for missing deadlines. Indeed before issuing its performance standard to reduce greenhouse gas emissions from electric utility steam generating units, the EPA faced a deadline set

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52. See John R. Nolon, *Shifting Paradigms Transform Environmental and Land Use Law: The Emergence of the Law of Sustainable Development*, 24 *FORDHAM ENVTL. L. REV.* 242, 243 (2013) (noting that there are new paradigms emerging in the land use context where environmental issues, such as emissions, can be tackled at the local level).

53. The cap-and-trade program has been delayed slightly because of a successful lawsuit holding that CARB did not fully comply with the California Environmental Quality Act (CEQA). The lawsuit required CARB to revise its Environmental Impact Report in order to consider alternatives to cap-and-trade more fully. As a result, the cap-and-trade program began as scheduled on January 1, 2012 and included at least two auctions during the 2012 calendar year, but emitters did not face compliance obligations until January 1, 2013.

by court order. The parties agreed to extend the deadline but the EPA failed to meet the second deadline as well.

Equally impressively, CARB has managed to stay on schedule in implementing AB 32 through two different gubernatorial administrations, one Republican (Schwarzenegger) and one Democratic (Brown), and through four different Board Chairs (Dr. Alan Lloyd, Cindy Tuck, Dr. Robert Sawyer and current chair Mary Nichols).<sup>54</sup> Again as a point of contrast, it is hard to imagine the EPA experiencing a change in presidential and secretarial leadership when the executive branch changes political parties without experiencing significant upheaval and delay in implementing a major policy change.<sup>55</sup>

CARB has also stayed on schedule – with only a minor blip – despite facing legal challenges. One lawsuit, brought by environmental justice advocates, alleged both substantive and procedural deficiencies in the state's program. The state successfully defended against the substantive challenges, lost the procedural challenge alleging that it had failed to consider a carbon tax as an adequate alternative to the cap-and-trade program, but managed nevertheless to satisfy the procedural requirements and remain on schedule except for the delay of the first auction of allowances.<sup>56</sup> Another legal challenge – also from environmental groups – alleged that the state's offset protocols were illegal. It, too, was dismissed.<sup>57</sup> A third, challenging the state's Low Carbon Fuel Standard as unconstitutionally discriminatory against out-of-state fuel producers,

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54. *Former Chair ARB Board Chair Persons*, CALIFORNIA AIR RESOURCES BOARD, (last visited Apr. 18, 2008) available at <http://arb.ca.gov/board/priorchairs.htm>.

55. See generally Thomas O. McGarity, *EPA At Helm's Deep: Surviving the Fourth Attack on Environmental Law*, 24 FORDHAM ENVTL. L. REV. 205 (2013) (noting that the EPA has undergone numerous assaults since the Reagan Administration).

56. For a description of the lawsuit and its procedural history, see Sean Hecht, *California Court of Appeal Upholds AB 32 Scoping Plan for Greenhouse Gas Reduction*, LEGAL PLANET, (June 19, 2010), available at [legalplanet.wordpress.com/2012/06/19/california-court-of-appeal-upholds-ab-32-scoping-plan-for-greenhouse-gas-reduction/](http://legalplanet.wordpress.com/2012/06/19/california-court-of-appeal-upholds-ab-32-scoping-plan-for-greenhouse-gas-reduction/)

57. See Chris Clarke, *State's Cap and Trade Program Survives Court Challenge*, KCET REWIRE, (Feb 29, 2013), available at <http://www.kcet.org/news/rewire/climate-change/states-cap-and-trade-program-survives-court-challenge.html> (last visited March 17, 2013).



has to date succeeded and remains a large unknown in the success of the state's program.<sup>58</sup> Nevertheless, even if the program fails, the state should meet its overall emissions target because the cap-and-trade-program captures the same sectors subject to the LCSF but allows them more flexibility in determining their compliance options. Thus even if not required to meet the LCFS, fuel distributors will face limits on their emissions under the cap-and-trade program. Finally, a fourth legal challenge, alleging that the cap-and-trade auction CARB has adopted is an illegal tax under the California constitution, has yet to be heard.<sup>59</sup> Though the state may not succeed in turning back every legal challenge, CARB appears to have been very careful in its program design and has managed to remain on schedule even in the face of legal challenge.

## II. CARB AND REGULATORY CAPACITY

My point in recounting CARB's experience in implementing AB 32 is not that the choices CARB has made are perfect, or even the best choices they could have made. I mean simply to demonstrate that their technical and political success in implementing a program of extraordinary complexity has required significant agency competence that is a necessary underpinning of California's climate leadership.<sup>60</sup> Put a different way, my claim is that California could not have implemented such wide-ranging climate policy without the extraordinary regulatory capacity it has developed over the past several decades.

Indeed it is not at all clear the California legislature would have passed AB 32 without the confidence that its lead agency on the

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58. Rocky Mountain Farmers Union v. Goldstene, <http://www.scribd.com/doc/76767308/Rocky-Mountain-Farmers-Union-v-Goldstene-2-EDCA-09-2234> I (last visited March 17, 2013).

59. California Chamber of Commerce v. California Air Resources Board, [http://www.calchamber.com/GovernmentRelations/Documents/FILED\\_MPA\\_11-13-12.pdf](http://www.calchamber.com/GovernmentRelations/Documents/FILED_MPA_11-13-12.pdf) (last visited March 17, 2013).

60. See generally, Robin Kundis Craig, *Learning To Think About Complex Environmental Systems in Environmental and Natural Resource Law and Legal Scholarship: A Twenty-Year Retrospective*, 24 *FORDHAM ENVTL. L. REV.* 87, 89 (2013) (arguing that environmental and natural resources law have long treated environmental resources such as public land and landscapes, as capable of being managed for individual components despite the fact that they are part of complex systems).

legislation possesses such extraordinary capacity. One of the most influential environmental legislators in the state, Senator Fran Pavley (author of AB 1493, California's mobile source greenhouse gas legislation), was a member of the Assembly at the time of AB 32's passage and a leading co-author of the bill.<sup>61</sup> Pavley has expressed certainty that the bill might never have passed had it contained a detailed plan for reducing emissions. She also believes that the Legislature's confidence in the competence of CARB is what made passage possible.<sup>62</sup> It seems hard to imagine that the Legislature would have vested power in CARB to devise an economy-wide program that will regulate virtually all aspects of the state's economy unless it had tremendous confidence in CARB's regulatory capacity. And whether or not the sophistication of CARB is what led to the bill's success, it seems uncontroversial to say that its regulatory capacity has made possible the on-time implementation of an extraordinarily ambitious program to reduce greenhouse gases.

What is less clear is exactly how the state has built such sophisticated capacity. I offer several preliminary suggestions that merit further exploration in future work.

#### A. Budget Protection

CARB's budget structure plays an important role in its regulatory success. Between the time AB 32 passed in 2006 and the implementation of the cap-and-trade program CARB adopted as part of its delegated authority, California experienced one of the worst budget crises in its history. Each of the fiscal years beginning in 2009 required the closing of massive budget deficits in the tens of billions of dollars. The state made huge spending cuts to virtually every program in the state, from education to the judiciary.<sup>63</sup> CARB,

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61. See *California Lawmakers Adopt Tough Climate Rules*, NATIONAL PUBLIC RADIO (aired August 31, 2006), transcript available at <http://www.npr.org/templates/story/story.php?storyId=5744849>.

62. Conversation between Senator Fran Pavley and author, September 11, 2011, confirmed in email between Senator Pavley and author, January 15, 2013 (on file with author).

63. *California Budget Crisis*, NEW YORK TIMES (updated January 11, 2013), available at [http://topics.nytimes.com/topics/news/national/usstatesterritoriesandpossessions/california/budget\\_crisis\\_2008\\_09/index.html](http://topics.nytimes.com/topics/news/national/usstatesterritoriesandpossessions/california/budget_crisis_2008_09/index.html).

however, was largely (though not completely) immune from the budgetary crisis facing other state programs.

From 2007-08, prior to the recession, to 2012-13, CARB's staffing went from 1151.8 positions to 1273.2 positions, with no decline in between.<sup>64</sup> Much of the increase was from the new program to implement AB 32 but the agency's other programs also held their own. That's because the agency receives the vast majority of its funding from fees raised from regulated parties. These funds include the Air Pollution Control Fund, the Vehicle Inspection and Repair Fund, and the California Ports Infrastructure, Security and Air Quality Improvement Account.<sup>65</sup> And, importantly, as of July 2010, CARB established – based on statutory authorization contained in AB 32 – the AB 32 Cost of Implementation Fee Regulation. The new regulation imposed fees on approximately 300 large greenhouse gas emitters, including natural gas distributors, cement manufacturers and electricity generators, among others. The fee funds all of CARB's program administrative needs. Additionally, prior to the implementation of the fee, CARB was allowed to borrow program start-up funds, funds it is now paying back with the AB 32 fees.<sup>66</sup>

CARB's revenue stream benefits the agency in a number of ways. It allows agency leaders to plan the implementation of programs going forward with the assurance that funds will be available to hire necessary staff. Because CARB sets the fees based on its own anticipated program needs it can set the fees at the amount necessary to cover what the agency actually needs for implementation. And

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64. See *3900 Air Resources Board: 3-Yr Expenditures & Positions*, GOVERNOR'S BUDGET 2009-10: PROPOSED BUDGET DETAIL (last visited Feb. 11, 2013), available at <http://2009-10.archives.ebudget.ca.gov/StateAgencyBudgets/3890/3900/spr.html>; *3900 Air Resources Board: 3-Yr Expenditures & Position*, GOVERNOR'S BUDGET 2013-14: PROPOSED BUDGET DETAIL, (last visited Feb. 11, 2013) <http://www.ebudget.ca.gov/StateAgencyBudgets/3890/3900/spr.html>.

65. See *Environmental Protection: 3900 Air Resources Board*, GOVERNOR'S BUDGET 2013-14: PROPOSED BUDGET DETAIL (last visited Feb. 11, 2013), available at <http://www.ebudget.ca.gov/StateAgencyBudgets/3890/3900/department.html#addinfo>.

66. See *AB 32 Cost of Implementation Fee Regulation*, CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY: AIR RESOURCES BOARD (last visited Oct. 13, 2012), available at <http://www.arb.ca.gov/cc/adminfee/ab32coifactsheet.pdf>; Cal. Code. Regs. Tit. 17, § 95200 (2012), *et seq.*

guaranteed revenue streams also insulate CARB from the types of political pressures other agencies – most notably the federal Environmental Protection Agency – routinely face in the budget process. EPA's efforts to regulate greenhouse gas emissions, for example, have routinely faced drastic budget cuts by House Republicans, though to date those efforts have not succeeded.<sup>67</sup> CARB's record of on-time implementation of extraordinarily complex regulatory programs is due in no small part to the fact that the agency has the staff necessary to carry out its responsibilities. This is a luxury not afforded to government programs that lack their own protected revenue source.

### B. CARB's Organizational Structure

CARB has two additional attributes that may contribute to its regulatory competence. First, it has a board appointed by the Governor with Senate approval that includes representatives from the state's four largest air districts and requires representation by experts in automotive engineering, the health effects of air pollution and either law, science or agriculture. The board members serve part time, except for the chair, who is drawn from the board's membership and serves full time.<sup>68</sup> This combination of expertise combined with political accountability may work particularly effectively in providing leadership that is both expert and politically sensitive. Second, the agency has a staff that is highly professional and well-paid. The staff includes very technically competent engineers, sophisticated lawyers, and high level policy experts, who command salaries that can exceed \$115,000 annually, combined with generous health and pension benefits.<sup>69</sup> The professional expertise and compensation seems obviously key to attracting and keeping

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67. Evan Lehman, *House Republicans Open a Major Budget Battle, Proposing Deep Cuts into Energy, Environment, Climate Spending*, N. Y. TIMES (Feb. 14, 2011) available at <http://www.nytimes.com/cwire/2011/02/14/14climatewire-house-republicans-open-a-major-budget-battle-61602.html?pagewanted=all>.

68. See *About the Selection of our Board*, CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY: AIR RESOURCES BOARD (last visited March 17, 2013), available at <http://www.arb.ca.gov/board/about.htm>.

69. See *Classifications and Salaries*, CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY: AIR RESOURCES BOARD (last visited Nov. 30, 2012), available at [www.arb.ca.gov/personnel/transactions/clspay3.htm](http://www.arb.ca.gov/personnel/transactions/clspay3.htm).

highly competent staff, a necessity for the development of a regulatory scheme as wide-ranging as AB 32.

While independent budget lines and a well-staffed agency are important conditions for regulatory success, they do not by any means guarantee that an agency will pursue strong and well-crafted environmental policy.

### *C. Success Begets Success*

California's early and ongoing successes in regulating air pollution – with demonstrable results – provide an obvious metric for observers, including elected officials, to have faith in the agency. This faith can, in turn, translate into protection from significant budget cuts and willingness to delegate broad authority to the agency. And the positive reputation of the agency has a number of additional benefits, including the ability to attract top-notch staff and receive some political protection during pitched battles with regulated parties and other interested communities over regulatory approaches.

The successes CARB has achieved in reducing air pollution are too lengthy to describe in detail here. But several examples help illustrate the point. CARB's principle jurisdiction in regulating air pollutants is over mobile sources (local air districts have principle responsibility for stationary sources). Since 1970, the state has cut nitrous oxide emissions from cars by more than 99 percent.<sup>70</sup> More generally, a 2003 quote from then-CARB Chairman Alan Lloyd describes the success of California's Low Emissions Vehicle regulations as follows:

[W]e've seen the near impossible accomplished with gasoline vehicles: zero evaporative emissions, exceedingly clean exhaust—cleaner, in some cases, than the outside air entering the cabin for ventilation purposes, and emission control systems that are twice as durable [as] their

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70. The first nitrogen oxide standard was 4.0 grams per mile; for super-low-emissions vehicles in the state the standard is .02 grams per mile. *See* CLEAN AIR COUNCIL, *LOW EMISSIONS VEHICLES: COMPARING THE FUTURE OF VEHICLE EMISSION STANDARDS: LEV. II V. TIER 2*, at 3 (n.d.), *available at* <http://www.cleanair.org/Transportation/cleanCars/lev2.pdf>.

conventional forbearers, forecasted to last an astonishing 150,000 miles.<sup>71</sup>

The decline in automobile emissions, combined with stationary source regulation, has led to rather remarkable achievements in overall air quality. In the South Coast basin, for example, which leads the country in air pollution, the decline in the number of days in violation of the federal one-hour ozone standard is staggering. Between 1973 and 1980, the basin violated the standard 644 times between 2003 and 2011 – by contrast the district violated the standard *a total of 2 times in 8 years*.<sup>72</sup>

These successes are real and visible to political leaders and their constituents. The sky is bluer and the air easier to breathe. The exhaust from tailpipes from new cars is invisible, not black. Given these successes, it is not surprising that Californians care about environmental issues and that politicians respond to voter preferences by continuing to lead on the environment.

On the climate change front, given the state's long history in regulating mobile sources, it is also not surprising that the state's first major foray into regulating greenhouse gases was to grant CARB broad authority to regulate emissions from cars.<sup>73</sup> Despite intense legal and political battles over whether the state had the legal authority to issue such standards, when President Obama was elected president he used the state's standards to negotiate with the auto manufacturers and extend the standards to the rest of the country.<sup>74</sup> Again, success appears to have begotten more success for the agency, lending it credibility and continued support from political leaders. The success of AB 1493 gave the Legislature confidence to entrust the much broader AB 32 to the agency. As Senator Pavley, who authored AB 1493, said about AB 32's passage: "CARB had done a great job with AB 1493... And since auto emissions are the most

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71. *ARB Modifies Zero-Emission Vehicle (ZEV) Regulation*, CAL. AIR RES. BD., (Press Release, Apr. 24, 2003), available at <http://www.arb.ca.gov/newsrel/nr042403.htm>.

72. *Ozone Trends Summary: South Central Coast Air Basin*, CALIFORNIA AIR RESOURCES BOARD (last visited Feb. 11, 2013), <http://www.arb.ca.gov/adam/trends/trends2.php>

73. CAL. HEALTH & SAFETY CODE § 43018.5(a) (West 2012).

74. For a description of the extension of the California standards to the federal fleet, see Carlson (Iterative Federalism), *supra* note 5, at 1127-28.

significant contributor to GHG emissions in the state, they could use their proven expertise on mobile sources and expand to stationary sources too.”<sup>75</sup>

In short, CARB’s success in reducing air pollution and its long experience regulating automobile emissions led the legislature to entrust it with the power to develop the country’s first greenhouse gas emissions standards for cars. When CARB accomplished that task with such success, the legislature had the faith to delegate vast amounts of regulatory power to the agency to implement an economy-wide climate program. CARB’s history, in other words, led to its future.

#### *D. Avoiding Agency Capture*

A final observation about CARB’s regulatory capacity is worth noting. Despite the fact that, until the passage of AB 32, the principal industry subject to CARB’s regulatory agenda was the auto industry, the agency appears to have avoided being dominated by its regulatory object. Instead CARB has continued to regulate the industry aggressively, virtually always over strenuous objections that auto manufacturers are being subject to overly burdensome regulations that will cost the industry vastly more than CARB estimates.

CARB’s avoidance of agency capture belies conventional accounts of agency behavior that suggest that regulated parties tend to unduly influence the information and agenda of the agency that regulates them.<sup>76</sup> What, then, accounts for CARB’s independence?

At least one factor is that the state has no indigenous auto industry. Indeed some observers contend that CARB regulates auto emissions particularly strongly because it can externalize the costs of its regulations on out-of-state parties,<sup>77</sup> though independent analyses suggest that the costs of the state’s auto regulations are in fact borne

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75. Email from Fran Pavley to author, January 14, 2013, on file with author.

76. Canonical texts about agency capture include Samuel Huntington, *The Marasmus of the ICC*, 61 *YALE L. J.* 467 (1952) and George Stigler, *The Theory of Economics Regulation*, 2 *BELL J. ECON.* 3 (1971) (“A central thesis of this paper is that, as a rule, regulation is acquired by industry and is designed and operated primarily for its benefit.”) For an excellent summary of the literature, see Nicholas Bagley and Richard Revesz, *Centralized Oversight of the Regulatory State*, 106 *COLUM L. REV.* 1260, 1285-86 (2006).

77. See Roderick M. Hills, Jr., *Against Preemption: How Federalism Can Improve the National Legislative Process*, 82 *N.Y.U. L. REV.* 1, 23, n. 74 (2007).

by Californians.<sup>78</sup> At a minimum, though, it seems implausible to envision that CARB would have regulated emissions so vigorously if thousands of members of the United Auto Workers and high-level auto industry executives were in-state constituents of state legislators.

Two other factors, highlighted above, also seem to contribute to the agency's independence. The composition of the board membership, with experts from several professions along with local elected officials, helps insulate CARB from direct political influence. And the highly professional, competent and well-compensated staff – working at one of the world's greatly respected environmental agencies – provides a bulwark against an industry that could otherwise attempt to control technical information and expertise in influencing the agency.

The state's long history of regulating auto emissions has also led to the development of an in-state industry that develops technology to foster compliance with California's tough regulatory standards. The presence of this industry helps counter arguments that CARB is bad for business in the state: to the contrary, the regulatory environment has helped create green jobs, an argument that has in turn been used extensively in support of California's climate legislation.<sup>79</sup> Indeed green businesses helped thwart Proposition 23 on the 2010 ballot, the initiative that would have halted AB 32's implementation.

Finally, the auto industry has from the beginning of California's efforts to regulate auto emissions behaved in ways that have diminished its credibility in state. At the outset of the state's efforts to regulate car emissions, the industry simply denied any connection between Southern California smog and car emissions despite strong evidence to the contrary.<sup>80</sup> The car manufacturers so badly overplayed this argument that the Legislature, in passing the first auto standards, simply stopped believing the industry altogether.

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78. See HENRY N. BUTLER & JONATHAN R. MACEY, *USING FEDERALISM TO IMPROVE ENVIRONMENTAL POLICY* 21-22 (1996).

79. See Todd Woody, *Texas Oil v. California Clean Tech: The Battle Over Proposition 23*, Grist, (Aug. 10, 2010), available at <http://grist.org/article/2010-08-17-texas-oil-v-california-clean-tech-the-battle-over-prop-23/full/>

80. See JAMES E. KRIER & EDMUND URSIN, *POLLUTION AND POLICY: A CASE ESSAY ON CALIFORNIA AND FEDERAL EXPERIENCE WITH MOTOR VEHICLE AIR POLLUTION 1940-1975*, at 185 (1977).



This pattern has repeated itself on numerous occasions, making it easier for CARB to operate independently.

#### CONCLUSION

Many factors contribute to state environmental leadership, a number of which have received significant scholarly attention. My aim here is to suggest that a state's regulatory capacity is one previously overlooked explanation for why a state may emerge as an environmental leader in a particular substantive area. I also aim to begin a conversation about what leads to successful regulatory capacity, focusing here on agency structure, revenue sources and history as potentially important variables. If my suggestions are correct, they may help predict the trajectory of state environmental leadership 20 years hence, for the fortieth anniversary issue of the *Fordham Environmental Law Review*.