

ARTICLES

# BEHIND THE CURTAIN: INSIDERS' VIEW OF DEVELOPING AND ENFORCING STATE CLIMATE CHANGE LAWS

by Sue Reid and Jennifer K. Rushlow

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## SUMMARY

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This Article highlights the role of advocates in pushing government to step up to the challenges of reducing greenhouse gas (GHG) emissions and remaining steadfast through continued policy enforcement. The authors, who participated in the development of the Massachusetts Global Warming Solutions Act, provide insights regarding climate legislation, regulation, and litigation in a state committed to addressing climate change. They conclude by sharing lessons learned and recommendations for how state governments can shape future climate laws to take into account the necessary near-term and longer-term GHG emission reductions, and establish mandates that maximize enforceability.

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The ever-escalating urgency of the climate crisis,<sup>1</sup> and the increasingly acute need to address both its diverse drivers and impacts, call for action at every

*Authors' Note: The authors want to recognize the significant contributions of David Ismay to this Article during his tenure at Conservation Law Foundation. The authors also thank Elliot Boyle (Vermont Law School J.D. expected 2021, Yale School of Forestry M.E.M. expected 2021), research assistant to Associate Dean Jennifer Rushlow; Christine Saul, executive assistant to the Environmental Law Center at Vermont Law School; and the participants of the Online Workshop for Environmental Scholarship, the students in the Vermont Law School LL.M. Seminar, and Profs. John Echeverria and Jonathan Rosenbloom for their thoughtful review and comments.*

conceivable level—including via individuals, the private sector, and policymakers. Particularly in light of recent, widespread attempted clean energy and climate policy roll-backs at the federal level in the United States, the role of individual states in addressing climate change has never been more important. For policymakers and advocates looking for state-based regulatory solutions, there is much to be learned from the groundbreaking efforts of the Commonwealth of Massachusetts, which adopted the Massachusetts Global Warming Solutions Act (GWSA) in 2008.<sup>2</sup>

To illuminate lessons learned and help facilitate robust action in other states, this Article explores the legislative history and enactment of the Massachusetts GWSA<sup>3</sup>; the

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1. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, GLOBAL WARMING OF 1.5°C. AN IPCC SPECIAL REPORT ON THE IMPACTS OF GLOBAL WARMING OF 1.5°C ABOVE PRE-INDUSTRIAL LEVELS AND RELATED GLOBAL GREENHOUSE GAS EMISSION PATHWAYS, IN THE CONTEXT OF STRENGTHENING THE GLOBAL RESPONSE TO THE THREAT OF CLIMATE CHANGE, SUSTAINABLE DEVELOPMENT, AND EFFORTS TO ERADICATE POVERTY (Valérie Masson-

Delmotte et al. eds. 2018); U.S. GLOBAL CHANGE RESEARCH PROGRAM, FOURTH NATIONAL CLIMATE ASSESSMENT (2018).

2. The advocate authors in this Article offer their own perspective on these developments. A government perspective on this and other coincident statutes is discussed in an article written by Ken Kimmell and Laurie Burt, former regulators in Massachusetts: Laurie Burt & Ken Kimmell, *Massachusetts Takes on Climate Change*, 27 UCLA J. ENVTL. L. & POL'Y 295 (2009).

3. Climate Protection and Green Economy Act, MASS. GEN. LAWS ch. 21N (2020).

broad contours of successful litigation<sup>4</sup> to enforce one of its central rulemaking provisions—resulting in a Massachusetts Supreme Judicial Court (SJC) decision requiring implementation by Massachusetts authorities; highlights of ensuing regulatory proceedings; and an overview of follow-on litigation that resulted in another SJC decision<sup>5</sup> reinforcing the strength and reach of the law.

This Article is written in five parts. Part I describes the legislative process that led to the passage of the GWSA in Massachusetts. Part II describes a lawsuit filed against the state to enforce the provisions of the statute. Part III describes the regulatory process that followed the successful outcome of that lawsuit. Part IV discusses lessons learned from this process of legislation and enforcement, and provides recommendations for future state climate change policies to maximize enforceability and beneficial impact. Part V concludes.

## I. The Legislation: Massachusetts GWSA Comes to Life

The Commonwealth of Massachusetts has long been on the front lines of climate change and climate action. As a low-lying coastal state on the north Atlantic, Massachusetts is particularly vulnerable to climate impacts such as sea-level rise. This part provides insight into the legislative process that resulted in adoption of the Massachusetts GWSA just as awareness of exposure to climate impacts was on the rise. We pay particular attention to unique and instructive parts of the legislative process that distinguish it from the typical legislative process, including the significant involvement of the executive branch of state government.

Vulnerability to climate impacts prompted Massachusetts to join with a dozen other states in taking legal action to spur the U.S. Environmental Protection Agency (EPA) to regulate greenhouse gas (GHG) emissions via the Clean Air Act (CAA).<sup>6</sup> This challenge ultimately led to the U.S. Supreme Court's seminal decision enshrined in *Massachusetts v. Environmental Protection Agency*,<sup>7</sup> finding that EPA has the authority to regulate carbon dioxide (CO<sub>2</sub>) and other GHGs as pollutants under the CAA.

Even with its climate litigation success before the nation's highest court, the Commonwealth continues to have significant exposure to risks associated with climate impacts as well as substantial opportunities associated with advancing clean energy and other climate solutions. This vulnerability to climate change, as well as the Commonwealth's long-standing leadership on innovation and commitment to environmental protection, has provided a compelling foundation for state-based climate action.

Against this backdrop, the well-publicized, devastating effects of climate-fueled Hurricane Katrina in 2005 in Louisiana and environs, as well as former Vice President Al Gore's stirring global warming documentary, *An*

*Inconvenient Truth*, prompted an influential state senator, Marc Pacheco, to participate in a Climate Reality Project training that was designed to foster and enable political leadership on climate action. The senator left the training motivated to prompt Massachusetts to take climate action at a speed and scale commensurate with the challenges and opportunities. As he recognized, his district in southeastern Massachusetts, including communities located directly on Buzzards Bay, is among those literally on the leading edge of exposure to climate-fueled sea-level rise, with much at stake.

In early 2007, Senator Pacheco called environmental advocates from two Boston-based nonprofit organizations, the Conservation Law Foundation (CLF) and Environment Massachusetts, into his office. He pledged to champion climate leadership, and called on the advocates to provide their best ideas immediately so that climate action legislation could be timely filed at the beginning of the new legislative session.<sup>8</sup>

At that time, Massachusetts already had a strong regulatory foundation for climate action. It was one of the first states in the nation to adopt a renewable portfolio standard (RPS) in 1997 to require electric utilities to supply a modest amount of renewable energy to Massachusetts customers as part of a comprehensive set of reforms to restructure and deregulate the electric power sector.<sup>9</sup> Massachusetts also had one of the strongest energy-efficiency programs in the nation, focused on both electric efficiency as well as oil and natural gas used for heating.<sup>10</sup> Massachusetts also had the Renewable Energy Trust Fund (RETF), leveraging income from a modest charge on customers' electric bills to invest in new clean energy projects.<sup>11</sup> When they were first adopted, the RPS, the efficiency programs, and the RETF had been principally intended to promote objectives other than addressing climate change (e.g., promoting diversification and resilience of energy supply while reducing environmental impacts),<sup>12</sup> but nonetheless, these programs have served a key role in incrementally decarbonizing the Commonwealth's electric power supply by promoting low and zero emissions renewable energy and by curbing energy demand.

Around this time, Massachusetts was welcoming new leadership into the gubernatorial office. In early 2007, one of the first acts of then-newly inaugurated Gov. Deval Patrick was to direct that Massachusetts join the Regional Greenhouse Gas Initiative (RGGI), a regional cap-and-trade system for reducing electric power plant GHG emissions across the Northeast. In his early days in office, Governor Patrick also signed Executive Order No. 494, Leading by

4. *Kain v. Department of Env'tl. Prot.*, 474 Mass. 278, 46 ELR 20094 (2016).

5. *New Eng. Power Generators Ass'n v. Department of Env'tl. Prot.*, 480 Mass. 398, 399 (2018).

6. 42 U.S.C. §§7401-7671q, ELR STAT. CAA §§101-618.

7. 549 U.S. 497, 37 ELR 20075 (2007).

8. Attendees at that meeting included author Sue Reid, then an advocate at CLF, and Frank Gorke, representing Environment Massachusetts.

9. Renewable Energy Portfolio Standard for Retail Electricity Suppliers, MASS. GEN. LAWS ch. 25A, §11F (2020).

10. An Act Relative to Restructuring the Electric Utility Industry in the Commonwealth, Regulating the Provision of Electricity and Other Services, and Promoting Enhanced Consumer Protection Therein, 1997 Mass. Acts 164, §37 (amending MASS. GEN. LAWS ch. 25 to add §19).

11. Massachusetts Renewable Energy Trust Fund, MASS. GEN. LAWS ch. 23J, §9 (2020).

12. Section 1 of the Massachusetts Restructuring Act emphasizes that "affordability" was the central driver for reforming the electric utility sector.

Example—Clean Energy and Efficient Buildings, geared at promoting clean energy and addressing climate change across the executive branch of state government.<sup>13</sup> With these developments, it was becoming clear that climate and clean energy leadership was emerging at the highest levels of Massachusetts state government.

Notwithstanding these efforts, Massachusetts was missing a state law establishing a comprehensive framework for climate action across all sectors, including transportation, land use, and other major sources of GHG emissions. In addition, the state did not have a system for ensuring that it would actually reduce GHG emissions from electric power generation facilities located in Massachusetts rather than relying on other states' efforts through the use of credits or offsets in connection with the RGGI program. At that time, few states had yet incubated such a comprehensive framework. California was the clear leader, having just adopted the California Global Warming Solutions Act, A.B. 32, in 2006.<sup>14</sup> Meaningful implementation of A.B. 32 had not even begun. One obvious gap with California's A.B. 32 is that it did not set a longer-term target that could guide permitting, investment, and other decisionmaking around long-lived infrastructure,<sup>15</sup> but A.B. 32 did establish a comprehensive framework for the state to regulate and reduce GHG emissions, with clear implementation authority for state government agencies.<sup>16</sup>

The advocates from CLF and Environment Massachusetts thus worked with Senator Pacheco to use California's A.B. 32 as the model for draft legislation. The legislation that was filed, in short order, at once borrowed ruthlessly from the California law—even in name (i.e., an Act Relating to Global Warming Solutions)—while also building upon the California foundation, such as by adding a comprehensive 2050 GHG reduction target set at 80% below 1990 levels, consistent with then-current recommendations from the scientific community.

The bill thus was the first in the nation to lay out mandatory near- and long-term science-based targets for GHG reductions across all sectors. Once filed, it enjoyed immediate and enthusiastic support from many other legislative leaders, including Massachusetts House of Representatives member Frank Smizik, co-chair of the Joint Committee on Agriculture, Natural Resources, and the Environment. However, as with almost any bill filed for the first time, the fate of the Massachusetts GWSA bill was far from certain as it began to wend its way through the usual processes of committee hearings, amendments, and debate.

Grassroots activism in support of the bill ballooned over the ensuing year, with tens of thousands of supportive postcards, letters, and e-mails sent to state legislators across both the Senate and the House, with a particular focus on legislative leadership including Speaker of the House

Salvatore DiMasi and Senate President Therese Murray. One of the highlights of this visible grassroots push was an Earth Day rally on the iconic Boston Common, a stone's throw from the gold-domed State House, complete with a gigantic inflated ball—perhaps 30 feet in diameter—emblazoned, so to speak, with an image of the earth on fire. The rally drew impassioned calls for favorable action on the GWSA bill from a range of advocates and legislative leaders alike.<sup>17</sup>

Behind the scenes, Senator Pacheco and environmental advocates—led by CLF and Environment Massachusetts, and ultimately joined by the Environmental League of Massachusetts, Mass Audubon, the Union of Concerned Scientists, Environmental Entrepreneurs, and many others—were engaged in dialogue with key Patrick Administration officials at the Executive Office of Energy and Environmental Affairs (EOEEA). EOEEA leaders expressed support for strong and comprehensive climate policy, but they wanted more flexibility than the draft bill afforded. The pending bill had included a GHG reduction target of 20% below 1990 levels by 2020, consistent with then-current recommendations from the scientific community, but EOEEA officials objected to such a firm target that was without precedent at the time. They quietly expressed concerns based on a lack of confidence in the feasibility of achieving reductions greater than 10% by 2020, and sought assurances around the achievability of deeper emission reductions.

These officials also expressed keen interest in indications of industry support for the legislation. The Administration, with Governor Patrick's visible leadership, had been staking out a position that a transition to a clean energy economy holds enormous economic and job-creation potential for Massachusetts, and administration officials wanted assurances that industry would support climate legislation as another tool to promote clean energy transition and its associated economic benefits. Environmental advocates worked to mobilize such support from business leaders, including via the efforts of the nonprofit organization Healthcare Without Harm, which worked to elevate supportive voices from the burgeoning health care sector that is a centerpiece of the Massachusetts economy. Clean energy investors and entrepreneurs also provided support at legislative hearings on Beacon Hill, underscoring the tremendous market-driving and economic development potential of a strong climate mandate.

Following protracted discussions, the EOEEA signaled that the Administration could get behind a bill that established a range for 2020 GHG emission reductions, from 10%-25% below 1990 levels, while sustaining a fixed 2050 target of 80% below 1990 levels. In light of the trajectory Massachusetts already was on in terms of GHG reductions, it appeared reasonably likely that a 25% reduction target could be set and achieved—an even more ambitious target than was proposed in the original bill. While the inclusion of a range, in lieu of a specific target, invoked uncertainty and brought some risk that an insufficiently ambitious

13. Leading by Example—Clean Energy and Efficient Buildings, Mass. Exec. Order No. 494 (1997).

14. California Global Warming Solutions Act of 2006, CAL. HEALTH & SAFETY CODE §25.5 (2006).

15. *Id.* §25.5 (2020) (since amended to set a more robust 2020 target as well as a 2050 target).

16. *Id.* (provided authority for the California Air Resources Board to adopt market-based compliance mechanisms).

17. Author Sue Reid's recollections and personal notes.

target might be set, the upside of the proposed range was that it presented an opportunity to make the case for—and secure—a stronger 2020 target. Legislative leaders, including Senator Pacheco and Representative Smizik, as well as environmental advocates, therefore expressed support for incorporating such a 2020 emissions limit range in the bill.

Providing significant momentum for the GHG reductions that would be required under the bill, the Massachusetts state legislature<sup>18</sup> adopted, and on July 2, 2008, Governor Patrick signed into law, a clean energy bill known as the Green Communities Act of 2008.<sup>19</sup> The Act included provisions that increased renewable energy targets, elevated energy efficiency to a clean energy resource of first recourse for utilities, required utilities to enter long-term contracts for renewable energy, set up a system for net metering small-scale renewable energy installations, and established incentive programs for cities and towns to become designated “green communities” that would promote clean energy deployment, clean transportation, and energy conservation.

Individually and collectively, these measures held tremendous potential for reducing GHG emissions in Massachusetts, thus creating an even stronger foundation for adoption of the Massachusetts GWSA. Likely due to its breadth, detail, and reach into highly regulated sectors such as electric utilities, the Green Communities Act legislation consumed the lion’s share of stakeholder and legislator attention during the 2007-2008 Massachusetts legislative session when the GWSA bill also was pending. Ironically, the more expansive and arguably transformative GWSA bill drew far less attention and engagement throughout its concurrent legislative process.

With the usual July 31 deadline looming for the end of the formal legislative session in 2008, the GWSA bill passed both the House and Senate unanimously in the waning days of July 2008, and the final necessary procedural vote to adopt the Massachusetts GWSA was taken on the very last day of the session—July 31, 2008. The bill was signed into law by Governor Patrick on August 13, 2008, as the Climate Protection and Green Economy Act.<sup>20</sup> The governor concurrently signed into law the Green Jobs Act to create the Massachusetts Clean Energy Center (building from the foundation of the RETF), to foster clean energy innovation and support training a more robust clean energy work force in the Commonwealth.<sup>21</sup>

With the enactment of the Massachusetts GWSA, Massachusetts became one of the first states in the nation to establish a comprehensive framework for addressing GHG emissions pursuant to mandatory targets, with clear directives for agency action. Among other requirements, the GWSA directed the EOEEA to establish the 1990 baseline (based on an assessment of actual GHG

emissions during that year), estimate 2020 emissions under a business-as-usual (BAU) scenario that would assume adoption of no new policies, and adopt the 2020 emissions limit by setting a specific target in the range of 10%-25% below 1990 levels.<sup>22</sup>

The EOEEA set to work—together with input from expert consultants, state agencies, and a broad range of stakeholders—to identify the 1990 baseline from which reductions would be measured and to estimate 2020 BAU emissions. The agency’s estimate of 2020 BAU emissions, as well as its analysis of the feasibility of emission reductions, spurred a conclusion that the Commonwealth was well-situated to adopt the strongest emissions reduction target possible under the GWSA: a 25% reduction from 1990 levels by 2020. This target and its underlying rationale were memorialized in the Massachusetts Clean Energy and Climate Plan for 2020,<sup>23</sup> which the EOEEA released in December 2010.<sup>24</sup> The plan not only set the 2020 target, but also laid out opportunities for action across sectors to bring about the necessary GHG emission reductions. The EOEEA’s plan was strikingly silent, however, with regard to critical regulatory measures that were required by the GWSA, as discussed below.

## II. The Lawsuit: Compelling Enforcement of the GWSA

Though the EOEEA began some aspects of implementation of the GWSA, as described above, other aspects of implementation of the statute were notably absent. For instance, key to the GWSA’s ultimate success in ensuring its GHG emission reductions mandate would be met was §3(d), a statutory provision requiring the Massachusetts Department of Environmental Protection (DEP) to promulgate regulations. When the deadline for these regulations came and went with no agency action, litigation ensued.

### A. Seeking Agency Action

The key mechanism in the GWSA for ensuring that the Commonwealth will achieve the GHG limits established in the statute is the regulatory requirement set out in §3(d) of the statute. Section 3(d) requires the DEP, an agency housed in the EOEEA, to “promulgate regulations establishing a desired level of declining annual aggregate emission limits for sources or categories of sources that emit greenhouse gas emissions.” Further, the GWSA mandated a time line for these regulations: the statute required that the DEP promulgate these regulations by January 1, 2012, that they take effect on January 1, 2013, and expire on December 31, 2020.<sup>25</sup>

18. The Massachusetts state legislature is formally known as the “Massachusetts General Court,” an unusual moniker given that it is the legislative, not judicial, branch of state government.

19. An Act Relative to Green Communities, 2008 Mass. Acts 169.

20. An Act Establishing the Global Warming Solutions Act, 2008 Mass. Acts 1154 (codified at MASS. GEN. LAWS ch. 21N (2020)).

21. An Act Relative to Green Jobs in the Commonwealth, 2008 Mass. Acts 307.

22. Climate Protection and Green Economy Act, MASS. GEN. LAWS ch. 21N, §3(a), (b) (2020).

23. EOEEA, MASSACHUSETTS CLEAN ENERGY AND CLIMATE PLAN FOR 2020 (2010).

24. *Id.* at ES-7 (notably finding that “[t]he limit is at the high end of the range for 2020 authorized by GWSA, but the middle of the range of possible outcomes for the policies incorporated in this Plan”).

25. An Act Establishing the Global Warming Solutions Act, 2008 Mass. Acts 298, §16. The real intended purpose of this 2020 sunset is not known to



Advocates wasted no time in seeking to enforce this provision. In November 2012, before the deadline for regulation promulgation under §3(d), several hundred Massachusetts youth submitted a petition for rulemaking asking the DEP to issue regulations as required by §3(d).<sup>26</sup> The DEP's response to this petition asserted that the agency fulfilled §3(d) through three sets of regulations: (1) sulfur hexafluoride (SF<sub>6</sub>) regulations that set leakage rates for gas-insulated switchgear (GIS) equipment (310 Code of Massachusetts Regulations (CMR) 7.72); (2) low emission vehicle (LEV) regulations addressing automobile emissions (310 CMR 7.40); and (3) regulations codifying the Commonwealth's participation in the RGGI program (310 CMR 7.70).<sup>27</sup>

Coincident with the youth petition, CLF and other advocates approached DEP leadership about the asserted failure of the agency to promulgate regulations satisfying §3(d). The DEP maintained that the advocates' legal interpretation of §3(d) was incorrect (for reasons that were not articulated until the subsequent litigation), and that even if the advocates were correct, the DEP had promulgated three sets of regulations that satisfied the mandate.<sup>28</sup> After repeated attempts to informally work with the agency, advocates filed a complaint in Superior Court on August 11, 2014.<sup>29</sup> Keep in mind, the GWSA was passed and signed into law in 2008 during Governor Patrick's first term; he was in office through 2015, and therefore, oddly, it was his administration that took this position despite his apparent support for the bill when it became law.

There were several plaintiffs in the lawsuit, including four teenagers from Massachusetts who had participated in the 2012 youth petition for rulemaking. The teenagers were represented by attorneys Dylan Sanders and Phelps Turner of Sugarman, Rogers, Barshak, and Cohen PC, a boutique litigation law firm in Boston. CLF and Mass Energy Consumers Alliance (now Green Energy Consumers Alliance) were also plaintiffs, represented by a team of CLF attorneys led by one of the present authors, Jennifer Rushlow, and the Environmental Law Clinic at Columbia

Law School, led by attorney Susan Kraham. The DEP was the sole defendant named in the lawsuit.<sup>30</sup>

Plaintiffs sought a declaratory judgment that the DEP violated the GWSA by failing to issue regulations compliant with §3(d), as well as the additional or alternative relief of a writ of mandamus compelling the DEP to issue regulations compliant with §3(d).<sup>31</sup>

## B. Arguments

Two arguments were central to the litigation: (1) what the plain language of §3(d) of the GWSA required, and (2) whether the three sets of regulations put forward by the DEP satisfied §3(d) of the GWSA.<sup>32</sup>

### 1. Statutory Interpretation

Section 3(d) required the DEP to "promulgate regulations establishing a desired level of declining annual aggregate emission limits for sources or categories of sources that emit greenhouse gas emissions."<sup>33</sup> Plaintiffs maintained a simple "plain language" argument that §3(d) mandates the DEP to promulgate new regulations that place an annually declining cap on the collective emissions of the regulated groups of sources.<sup>34</sup>

Prior to filing its Opposition to Plaintiffs' Motion for Judgment on the Pleadings in Superior Court, the DEP had not publicly shared the agency's interpretation of §3(d). The DEP had made clear that it did not agree with the plaintiffs' reading of §3(d) and what actions that interpretation would require of the DEP, but never publicly disclosed what the agency *did* think §3(d) meant.

In its November 2014 brief, the DEP finally stated its position on how to interpret §3(d). The agency claimed that the statute's use of the phrase "desired level" indicated that the legislature did not intend to require the DEP to set "actual, enforceable limits, but only regulations that establish 'a desired level of declining . . . emission limits,' i.e., emission-reduction targets."<sup>35</sup> In support of this claim, the DEP pointed to the statute's sunset provision requiring the regulations promulgated pursuant to §3(d) to expire in 2020<sup>36</sup>:

As of 2020, interim emission-reduction targets have served their sole purpose, and so it is understandable that they would expire. The same cannot be said of actual emission limits. As previously noted, it would, in fact, jeopardize the progress made in reducing GHG emissions as of 2020 if previously applicable emissions limits were

the authors. Some theorize that the legislators responsible for the final text intended for new regulations to be promulgated for the years following 2020, and certainly that would be permitted and advisable. Others assume that the 2020 sunset was a concession legislators made to appease concern from the executive branch over what might be viewed as burdensome regulatory requirements.

26. Petition from Eshé Sherley et al. to DEP for Promulgation of a Rule to Strictly Limit and Regulate Fossil Fuel Carbon Dioxide Emissions and to Establish an Effective Annual Emissions Reduction Strategy That Will Achieve Massachusetts' Statutory Obligations (Nov. 1, 2012), [https://static1.squarespace.com/static/571d109b04426270152febe0/t/57609324356fb0f59a89b317/1465946918296/2012.10.31-FINAL+MA+Petition\\_0.pdf](https://static1.squarespace.com/static/571d109b04426270152febe0/t/57609324356fb0f59a89b317/1465946918296/2012.10.31-FINAL+MA+Petition_0.pdf); Letter from Sue Reid, Vice President and Director, CLF et al., to Kenneth Kimmell, Commissioner, DEP (June 13, 2013), re: Kids v. Global Warming Rulemaking Petition to MassDEP, <https://static1.squarespace.com/static/571d109b04426270152febe0/t/5760919920c6470aeb444fe80/1465946521659/OrgLtr-DEP.pdf>.
27. DEP, THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION'S ACTION ON THE *KIDS VS. GLOBAL WARMING PETITION*, <https://static1.squarespace.com/static/571d109b04426270152febe0/t/57609155c6fc08526047381b/1465946454076/MassDEPDecision.pdf>.
28. In person meetings between CLF and DEP staff, attended by one of the authors (Sue Reid).
29. Complaint, *Kain v. Department of Env'tl. Prot.*, 32 Mass. L. Rptr. 668, 45 ELR 20058 (Super. Ct. 2015) (No. 14-2551), 2014 WL 3924998.

30. *Id.*

31. *Id.*

32. *Id.*

33. Climate Protection and Green Economy Act, MASS. GEN. LAWS ch. 21N (2020).

34. Complaint, *Kain v. Department of Env'tl. Prot.*, 32 Mass. L. Rptr. 668, 45 ELR 20058 (Super. Ct. 2015) (No. 14-2551).

35. Brief of Defendant Massachusetts DEP at 40-41, *Kain v. Department of Env'tl. Prot.*, 32 Mass. L. Rptr. 668, 45 ELR 20058 (Super. Ct. 2015) (No. 14-02551-C).

36. *Id.*

to expire that year. Therefore, that cannot have been the Legislature’s intent.<sup>37</sup>

The DEP also argued that the inclusion of the phrase “desired level” in §3(d) distinguished it from other sections of the GWSA that actually did establish limits, for example §3(d): “The [S]ecretary shall . . . adopt the following statewide greenhouse gas emissions limits . . .” and §4(a): “The secretary shall adopt the 2020 statewide greenhouse gas emissions limits pursuant to subsection (b) of §3 which shall be between 10 percent and 25 percent below the 1990 emissions level.”<sup>38</sup> Finally, the DEP argued that the legislative history demonstrated that the legislature did not intend §3(d) to require actual emission limits on the basis that earlier versions of the bill used the word “target” rather than the word “limit.”<sup>39</sup>

Plaintiffs found this interpretation of the statute to be rather tortured, perhaps explaining why the agency had not offered this interpretation earlier. In response, plaintiffs asserted that the phrase “desired level” “refers to the specific declining annual aggregate amount in GHG emissions that are to be set by the regulations the DEP must promulgate, with the purpose of complying with the Secretary’s determination that the Commonwealth must reach a 2020 emissions limit that is 25 per cent below the 1990 baseline.”<sup>40</sup> In response to the DEP’s legislative history argument, plaintiffs asserted that the legislative history demonstrated that the “GWSA’s drafters understood the difference between the meaning of the terms ‘limit’ and ‘target,’ and they would have used the word ‘target’ in the enacted §3(d) if they so intended. Further, when §3 was enacted, the term ‘target’ dropped out altogether, in favor of the term ‘limit.’”<sup>41</sup> Finally, plaintiffs argued that because the DEP’s legal interpretation of §3(d) was incorrect, it was not entitled to deference.<sup>42</sup>

## 2. The DEP’s Regulations

The DEP relied on the same three sets of regulations in litigation as it did in its response to the youth’s petition for rulemaking: SF<sub>6</sub> regulations, the LEV program, and the RGGI program. The DEP argued that these three sets of regulations apply declining emission limits to regulated sources and therefore establish “declining annual aggregate emissions limits for sources” of GHG emissions.<sup>43</sup>

□ *SF<sub>6</sub> regulations.* The SF<sub>6</sub> regulations apply to GIS equipment, which is used in utility-owned electricity

distribution systems.<sup>44</sup> SF<sub>6</sub> gas is used to safely control currents in such situations as de-energizing electric systems during maintenance work. The regulations establish maximum SF<sub>6</sub> emission leakage rates for utilities required to report to EPA.<sup>45</sup> The leakage rates decline over time, starting at 3.5% in 2015 and declining to 1% in 2020.<sup>46</sup> The SF<sub>6</sub> regulations were adopted in April 2014.<sup>47</sup> The SF<sub>6</sub> regulations do not cite the GWSA for statutory authority, but rather cite three other statutes for authority (Massachusetts General Laws ch. 111 §142A-J, ch. 21C §§4 and 6, ch. 21E §6).<sup>48</sup>

□ *LEV program.* The LEV program requires that cars produced in the identified model years must have advanced emission controls to be sold in Massachusetts.<sup>49</sup> The emissions standard established in the LEV regulations is a fleetwide, sales-weighted emissions average of all cars sold by a manufacturer in Massachusetts. The emissions standard is tied to the car’s size. A car that surpasses the emissions standard for its size earns credits that can be applied to other vehicles of the same or different size. Therefore, more-efficient cars allow for sales of less-efficient cars—it is the fleetwide average emissions that matters for regulatory compliance under the LEV program.

Massachusetts adopted the LEV program under the CAA provision allowing states to follow California’s vehicle emission standards instead of the less stringent federal standards.<sup>50</sup> Massachusetts first promulgated regulations adopting the California standards in 1990, and must periodically amend those regulations in order to stay in lockstep with California’s LEV program and thereby remain in compliance with the CAA. The DEP relied on amendments to the LEV program that were promulgated in December 2012 in its argument for compliance with §3(d) of the GWSA.<sup>51</sup> The 2012 amendments relied on two sources for statutory authority: 42 U.S.C. §7507 and the GWSA generally, not §3(d) in particular.<sup>52</sup>

□ *RGGI program.* The RGGI program is a regional program that uses market tools to reduce GHG emissions. Ten states currently participate in this cooperative interstate agreement: Connecticut, Delaware, Maine, Maryland, Massachusetts, New

37. *Id.*

38. *Id.*

39. *Id.*

40. Brief of Appellants/Plaintiffs Isabel Kain, Shamus Miller, James Coakley, Olivia Gieger, CLF, and Mass Energy Consumers Alliance at 14, *Kain v. Department of Envtl. Prot.*, 474 Mass. 278, 46 ELR 20094 (2016) (No. SJC-11961), 2015 WL 9705287.

41. *Id.*

42. *Id.*

43. Brief of Defendant-Appellee Massachusetts DEP at 41, *Kain v. Department of Envtl. Prot.*, 474 Mass. 278, 46 ELR 20094 (2016) (No. SJC-11961), 2015 WL 8546978.

44. 310 MASS. CODE REGS. 7.72 (2019).

45. *Id.*

46. *Id.*

47. *Id.*

48. *Id.*

49. *Id.* 7.40.

50. 42 U.S.C. §7507.

51. Brief of the Defendant-Appellee Massachusetts DEP at 41, *Kain v. Department of Envtl. Prot.*, 474 Mass. 278, 46 ELR 20094 (2016) (No. SJC-11961), 2015 WL 8546978.

52. 310 MASS. CODE REGS. 7.40 (2012).

Hampshire, New Jersey, New York, Rhode Island, and Vermont.<sup>53</sup> The RGGI program establishes a regional cap for emissions from power plants that have a capacity of 25 megawatts or larger in participating states.<sup>54</sup> The program issues a limited number of CO<sub>2</sub> allowances, and power plants in each state buy allowances through this regional pool.<sup>55</sup>

Massachusetts has its own “base budget” for allowances under the RGGI program, as well as a cost-containment reserve.<sup>56</sup> While power plants may purchase allowances from Massachusetts, they may also purchase allowances from other states.<sup>57</sup> For instance, if the Massachusetts state budget for allowances was already expended, a Massachusetts power plant could continue its emissions as long as it could purchase allowances from some other participating state’s allowance budget.

In this way, the RGGI program caps regional emissions, but not emissions for individual participating states. Massachusetts first agreed to implement the RGGI program by signing a memorandum of understanding with other participating states in 2005.<sup>58</sup> The first RGGI regulations in Massachusetts were promulgated in January 2008, several months before the GWSA became law in August 2008.<sup>59</sup> The DEP relied on the 2013 RGGI amendments (310 CMR 7.70) in its argument that the Massachusetts RGGI regulations satisfy the GWSA §3(d) regulatory requirement.<sup>60</sup> The amended regulations cite Massachusetts General Laws ch. 111 §142A-J and §2(a) of the GWSA (a GHG registry provision) for statutory authority.<sup>61</sup>

### C. Plaintiffs’ Regulatory Arguments

The plaintiffs found themselves in a challenging position responding to these regulatory arguments. The three sets of regulations put forward by the DEP were good regulations that made helpful progress on climate change. In fact, CLF and other environmental advocates had been among those urging the agency to promulgate those regulations

because of their positive environmental impacts. Maintaining clear support for RGGI as a successful regional program was particularly important; environmental advocates (including CLF) had fought extremely hard to get this policy established, and advocates were very concerned that this litigation might make the RGGI program look insufficient or otherwise inadequate for fully addressing climate pollution. While the plaintiffs took the position that those regulations did not comply with §3(d) of the GWSA specifically, they did not want to give the impression that these were not otherwise important environmental regulations that should remain in force.

Ultimately, plaintiffs relied on several arguments against the DEP’s assertion that the SF<sub>6</sub>, LEV, and RGGI regulations satisfied the language of §3(d). First, the utilization of a rate structure in the SF<sub>6</sub> and LEV regulations prevented them from capping emissions.<sup>62</sup> Second, RGGI’s regional nature prevents the program from capping emissions in Massachusetts, as required by §3(d).<sup>63</sup> Third, the statutory authority cited for each of these three sets of regulations excludes any reference to §3(d) of the GWSA.

#### 1. Rate-Based Regulations

Both the SF<sub>6</sub> and LEV regulations utilize rates to curb GHG emissions. The SF<sub>6</sub> regulations utilize a rate of total pounds of SF<sub>6</sub> leaked by equipment in one year divided by the total capacity of GIS equipment at a regulated facility (e.g., SF<sub>6</sub> leaked/capacity).<sup>64</sup> The LEV regulations utilize a rate for total vehicle emissions of a fleet divided by the number of cars in the fleet (e.g., total emissions/total cars).<sup>65</sup>

Plaintiffs argued that while rates increase the efficiency of individual sources, they do not cap aggregate emissions from a group of sources.<sup>66</sup> For instance, you could require each facility regulated under the SF<sub>6</sub> regulations to cut SF<sub>6</sub> emissions in half, but if the number of regulated facilities tripled, the aggregate SF<sub>6</sub> emissions would increase. Similarly, because of the rate structure in the LEV program, a fleet of two cars could have the same emissions average as a fleet of 10 cars, but the 10-car fleet would have five times more aggregate emissions. In each scenario, by failing to cap the denominator in the rate, the rate-based regulations would have failed to limit aggregate emissions from the group of regulated sources. In contrast, a mass-based regulation would cap aggregate emissions or all regulated sources, regardless of the number of sources.

Because rate-based regulations are susceptible to outside factors, like industry growth, they do not function as

53. RGGI, *Elements of RGGI*, <https://www.rggi.org/program-overview-and-design/elements> (last visited Apr. 15, 2020). Though one of the original participant states, New Jersey, was not a participant at the time of the GWSA litigation.

54. *Id.*

55. RGGI, *Allowance Distribution*, <https://www.rggi.org/allowance-tracking/allowance-distribution> (last visited Apr. 15, 2020).

56. 310 MASS. CODE REGS. 7.70(5)(a) (2019); *id.* 7.70(5)(c)(3).

57. RGGI, CO<sub>2</sub> ALLOWANCE AUCTIONS FREQUENTLY ASKED QUESTIONS (2020), available at [https://www.rggi.org/sites/default/files/Uploads/Auction-Materials/48/FAQs\\_Apr\\_7\\_2020.pdf](https://www.rggi.org/sites/default/files/Uploads/Auction-Materials/48/FAQs_Apr_7_2020.pdf).

58. RGGI Memorandum of Understanding (2005), [https://www.rggi.org/sites/default/files/Uploads/Design-Archive/MOU/MOU\\_12\\_20\\_05.pdf](https://www.rggi.org/sites/default/files/Uploads/Design-Archive/MOU/MOU_12_20_05.pdf).

59. 310 MASS. CODE REGS. 7.70 (2008).

60. Brief of the Defendant-Appellee Massachusetts DEP at 41, *Kain v. Department of Env'tl. Prot.*, 474 Mass. 278, 46 ELR 20094 (2016) (No. SJC-11961).

61. 310 MASS. CODE REGS. 7.70 (2013), available at <https://www.mass.gov/media/7141/download>.

62. Brief of Appellants/Plaintiffs Isabel Kain, Shamus Miller, James Coakley, Olivia Gieger, CLF, and Mass Energy Consumers Alliance at 14, *Kain v. Department of Env'tl. Prot.*, 474 Mass. 278, 46 ELR 20094 (2016) (No. SJC-11961).

63. *Id.*

64. 310 MASS. CODE REGS. 7.72 (2020).

65. *Id.* 7.40.

66. Brief of Appellants/Plaintiffs Isabel Kain, Shamus Miller, James Coakley, Olivia Gieger, CLF, and Mass Energy Consumers Alliance at 14, *Kain v. Department of Env'tl. Prot.*, 474 Mass. 278, 46 ELR 20094 (2016) (No. SJC-11961).



a limit without a cap on capacity. As a result, though rate-based regulations could be beneficial under certain circumstances, plaintiffs argued that they cannot be relied upon to achieve the strict requirements of §3(d) of the GWSA.<sup>67</sup>

The DEP responded to this argument by contending that this reading of the statute yields an unworkable result where (1) no new sources can come online, and (2) emissions must be allocated among existing and future sources.<sup>68</sup> Plaintiffs responded that like many other “regulatory pollution diet regimes,” §3(d) requires an annual ratcheting down of aggregate emissions.<sup>69</sup> Plaintiffs pointed to the Total Maximum Daily Load (TMDL) Program from the Clean Water Act (CWA)<sup>70</sup> as an example.<sup>71</sup> A TMDL establishes the maximum amount of a particular pollutant that a watershed can receive in order to comply with water quality standards. Individual point sources are required to obtain permits that include source-specific effluent limits. TMDLs include a “reserve capacity” that can be allocated to new or expanded sources. TMDLs also allow the use of offsets so that polluters can offset their discharges through mitigation measures that offset discharges into the watershed.<sup>72</sup>

## 2. Regional Program

Under the RGGI program, Massachusetts power plants buy allowances through a regional pool; if Massachusetts power plants want to emit more than the Massachusetts budget allows, they can purchase allowances at auction from other states. This is permitted because the RGGI program mandates a regional cap on emissions but does not cap emissions in any particular state.<sup>73</sup> For this reason, plaintiffs argued that though the RGGI program is a useful market tool regionally, it does not satisfy the requirements of §3(d), which require GHG reductions in Massachusetts.<sup>74</sup> Though the DEP disagreed in its briefs, the EOEEA admitted that the extent to which regional programs like RGGI “will specifically reduce emissions in Massachusetts is not known, since the programs are . . . regional in scope.”<sup>75</sup>

67. *Id.*

68. Brief of the Defendant-Appellee Massachusetts DEP at 15-16, *Kain v. Department of Env'tl. Prot.*, 474 Mass. 278, 46 ELR 20094 (2016) (No. SJC-11961), 2015 WL 9705287.

69. Reply Brief of Appellants/Plaintiffs Isabel Kain, Shamus Miller, James Coakley, Olivia Gieger, CLF, and Mass Energy Consumers Alliance at 14, *Kain v. Department of Env'tl. Prot.*, 474 Mass. 278, 46 ELR 20094 (2016) (No. SJC-11961), 2015 WL 9705287.

70. 33 U.S.C. §§1251-1387, ELR STAT. FWPCA §§101-607.

71. Reply Brief of Appellants/Plaintiffs Isabel Kain, Shamus Miller, James Coakley, Olivia Gieger, CLF and Mass Energy Consumers Alliance at 14, *Kain v. Department of Env'tl. Prot.*, 474 Mass. 278, 46 ELR 20094 (2016) (No. SJC-11961).

72. *Id.* at 13 n.16.

73. RGGI, *Elements of RGGI*, *supra* note 53.

74. Complaint, *Kain v. Department of Env'tl. Prot.*, 32 Mass. L. Rptr. 668, 45 ELR 20058 (Super. Ct. 2015) (No. 14-2551), 2014 WL 3924998.

75. DEP, STATEWIDE GREENHOUSE GAS EMISSIONS LEVEL: 1990 BASELINE AND 2020 BUSINESS AS USUAL PROJECTION 6 (2009), <https://www.mass.gov/files/documents/2016/08/or/1990-2020-final.pdf>.

## 3. Statutory Authority

In addition to these substantive arguments, plaintiffs also argued that it mattered that the SF<sub>6</sub>, LEV, and RGGI regulations did not cite §3(d) of the GWSA for statutory authority.<sup>76</sup> Plaintiffs argued that if the DEP had meant these three sets of regulations to comply with §3(d), they were required to give the public the opportunity for notice and comment on the issue of §3(d) compliance.<sup>77</sup> This would have created an administrative record that would illuminate the specific issues related to §3(d) compliance. Because the three regulations did not cite §3(d) of the GWSA for statutory authority, there was nothing in the administrative record for the court to review on whether the regulations satisfied §3(d).

### D. Trial Court

Judge Robert Gordon in the Suffolk Superior Court ruled against the plaintiffs, granting judgment on the pleadings in favor of the DEP. Judge Gordon reasoned that under either of the alleged interpretations of the statutory language, the regulations proffered by the DEP satisfied the requirements of §3(d).<sup>78</sup> His opinion further elaborated:

The regulatory initiatives implemented by the DEP may or may not prove effective in reducing the emission of greenhouse gases at the levels and/or in the time frames contemplated by the GWSA. If such initiatives are not successful, however, it will not be because the Department flouted the statutory directives of §3(d) by failing to promulgate reasonable emissions regulations. And in that event, it will either be for the DEP to refine its greenhouse gas programs, or for the Legislature to draft a better law. It is not, however, for this Court to rewrite the statute that the plaintiffs wished the General Court had enacted, well-intentioned though such wishes might be.<sup>79</sup>

### E. Appeals

The plaintiffs-appellants appealed the decision to the Massachusetts Court of Appeals, the mid-level appeals court in the Commonwealth.<sup>80</sup> In Massachusetts, appeals from the trial court would typically go to the appeals court next. However, in rare instances, a party will be granted the opportunity to bypass the appeals court and go straight to direct review by the SJC, the highest court in Massachusetts. Direct review was granted to the plaintiffs-appellants

76. Plaintiffs' Brief in Support of Motion for Judgment on the Pleadings at 10 n.4, *Kain v. Department of Env'tl. Prot.*, 32 Mass. L. Rptr. 668, 45 ELR 20058 (Super. Ct. 2015) (No. 14-2551).

77. Plaintiffs' Oral Argument, *Kain v. Department of Env'tl. Prot.*, 474 Mass. 278, 46 ELR 20094 (2016) (No. SJC-11961), 2015 WL 9705287.

78. *Kain v. Department of Env'tl. Prot.*, 32 Mass. L. Rptr. 668, 45 ELR 20058 (Super. Ct. 2015).

79. *Id.*

80. More information about the appeal is available through the court docket at [http://ma-appellatecourts.org/display\\_docket.php?src=party&dno=SJC-11961](http://ma-appellatecourts.org/display_docket.php?src=party&dno=SJC-11961).



in this case, bringing it directly to the SJC on an accelerated time line. The SJC heard arguments in January 2016.<sup>81</sup>

Four amicus curiae briefs addressing a range of issues were filed with the SJC in support of the plaintiffs-appellants.<sup>82</sup> The amici included an international environmental policy professor who was lead author on five Intergovernmental Panel on Climate Change (IPCC) reports; an international environmental law and administrative law professor; the town of Duxbury, a coastal town on Cape Cod Bay; Unitarian Universalist churches; a health care organization; small, community-led environmental justice organizations and other grassroots groups; renewable energy companies; architects; and a long list of environmental advocacy organizations, ranging from nationwide to townwide in scale. While there was a great deal of interest in the case from a variety of other interested parties, many would not consider participating as amici out of concern for risking relationships with colleagues working for the Commonwealth. Additionally, some advocates at other organizations opted out due to fear that they would be perceived as denigrating the three sets of environmental regulations discussed above if they supported the plaintiffs-appellees' position, particularly RGGI.

In a May 2016 opinion written by Justice Robert Cordy, the SJC reversed the judgment of the Superior Court in a sweeping victory for the plaintiffs-appellants. In the *Kain* decision, the court concluded:

[T]he unambiguous language of §3(d) requires the department to promulgate regulations that establish volumetric limits on multiple greenhouse gas emissions sources, expressed in CO<sub>2</sub> equivalents, and that such limits must decline on an annual basis. We further conclude that the sulfur hexafluoride, RGGI, and LEV regulations fall short of complying with the requirements of §3(d), because they fail to ensure the type of mass-based reductions in greenhouse gases across the sources or categories of sources regulated under each of the programs, as intended by the Legislature.<sup>83</sup>

The court further noted that “[i]t is doubtful that the Legislature would require the promulgation of regulations had it only meant for the department to set aspirational targets, and if that was its intention, it could have used the word ‘target’ or ‘goal,’”<sup>84</sup> and that the department’s interpretation of §3(d) “would tend to undermine the act’s central purpose of reducing emissions in the Commonwealth.”<sup>85</sup>

81. An archived recording of the oral argument in this case is available online through Suffolk University Law School at <https://boston.suffolk.edu/sjc/archive.php>. To search for the recording, use docket number SJC-11961.

82. Brief for Professor David A. Wirth as Amicus Curiae Supporting Appellants, *Kain v. Department of Env'tl. Prot.*, 474 Mass. 278, 280, 46 ELR 20094 (2016) (No. 11961), 2015 WL 9484765; Brief for Clean Water Action et al. as Amici Curiae Supporting Appellants, *Kain v. Department of Env'tl. Prot.*, 474 Mass. 278, 280, 46 ELR 20094 (2016) (No. 11961), 2015 WL 9484766; Brief for Dr. William R. Moomaw et al. as Amici Curiae Supporting Appellants, *Kain v. Department of Env'tl. Prot.*, 474 Mass. 278, 280, 46 ELR 20094 (2016) (No. 11961), 2015 WL 9705287.

83. *Kain*, 474 Mass. at 280.

84. *Id.* at 288.

85. *Id.* at 287.

The court agreed with the plaintiffs-appellants that “the imposition of declining rates falls short of complying with the requirement of §3(d) that regulated sources are subject to a source-wide volumetric cap on emissions. A rate, by nature of being a ratio, is different from a limit, which sets a value that cannot be exceeded.”<sup>86</sup> Further,

[t]o the extent that emissions limits may constrain new sources from coming online in the future, such a consequence is one of legislative making. We note, however, that existing regulatory schemes provide frameworks for how regulations can address future emissions from new or expanding sources while ensuring that over-all emissions limits decline.<sup>87</sup>

The court also concluded that “although the RGGI program and amendments thereto are very important to the over-all regional scheme of reducing CO<sub>2</sub> emissions, they do not qualify as a regulation under §3(d).”<sup>88</sup>

### III. Post-Kain Regulations and Industry Litigation

The SJC’s opinion in *Kain* was reported as a landmark, possibly historic, decision.<sup>89</sup> The *Boston Globe* characterized it as a “rebuff to the state” that unanimously affirmed a long-standing environmental position—that the GWSA created legally enforceable mandates that required state agencies to “enact specific policies to carry out the required emissions cuts.”<sup>90</sup> The decision had an immediate impact.

Two weeks after the SJC issued its decision, the state Senate Committee on Global Warming and Climate Change chaired by Senator Pacheco held an oversight hearing. Notably, during the pendency of the *Kain* litigation, Democratic Governor Patrick’s second term concluded, and a new governor, Republican Charlie Baker, was sworn into office in January 2015.<sup>91</sup> DEP Commissioner Martin Suuberg testified on behalf of the Baker Administration,<sup>92</sup> making one of its first—if not its first—official public statements on the decision. Unequivocally recognizing the validity of the SJC’s decision and his department’s obligation pursuant to it, Suuberg stated, “We recognize the court’s decision and fully intend to comply with it[.]”<sup>93</sup>

86. *Id.* at 294.

87. *Id.* at 295.

88. *Id.* at 296. Justice Cordy, who had served as chief legal counsel to Massachusetts Gov. William Weld earlier in his career, retired three months after the *Kain* decision was issued after 16 years as an associate justice of the SJC.

89. David Abel, *SJC Rules Mass. Failed to Issue Proper Regulations to Cut Emissions*, BOSTON GLOBE, May 18, 2016, <https://www.bostonglobe.com/metro/2016/05/18/sjc-rules-that-state-failed-issue-proper-regulations-cut-emissions/N6rAAeGAr4LrjqF8K71JJ/story.html>.

90. *Id.*

91. Attorney General Martha Coakley was in office when the litigation started, and Attorney General Maura Healey inherited and continued the litigation when she assumed office in 2015.

92. Shira Schoenberg, *All Options—Including Carbon Fee—On the Table as Massachusetts Reacts to SJC Global Warming Ruling*, MASSLIVE, Jan. 7, 2019, [https://www.masslive.com/politics/2016/05/all\\_options\\_-\\_including\\_carbon.html](https://www.masslive.com/politics/2016/05/all_options_-_including_carbon.html).

93. *Id.*

In response to questions from Senator Pacheco and committee co-chair Senator Michael Barrett, Commissioner Suuberg announced that his department was considering all options and would hold meetings in the space of a few weeks to determine how his department would comply with the court's ruling.<sup>94</sup> Plaintiff-appellant CLF also testified. After discussing several potential areas where new or revised DEP regulations could be issued in order to comply with *Kain* and §3(d),<sup>95</sup> CLF's attorney responded to questions from Senators Pacheco and Barrett regarding the organization's understanding of the scope of the SJC decision, the legal enforceability of the GWSA going forward, and the scope of existing authority regarding the imposition of a carbon price.

In anticipation of the DEP's forthcoming rulemaking effort, Massachusetts environmental groups met regularly to discuss the court's order and develop their own list of potential policy responses. It soon became clear that *Kain* had introduced a new element into the equation: time.

The case had presented a narrow question to the SJC regarding the proper interpretation of §3(d) of the GWSA and the DEP's obligations under it, and the ruling was clear. Reading the section together with §16 of the session law that enacted it,<sup>96</sup> §3(d) clearly required the DEP to issue, by January 1, 2012, regulations designed to achieve the GWSA's initial 2020 emissions reduction mandate.<sup>97</sup> As a result, although the law gave the DEP and other state agencies wide authority to regulate GHG emissions as needed to achieve the law's ultimate 2050 mandate,<sup>98</sup> the SJC's order regarding §3(d) only required the state to issue regulations establishing declining annual emission limits sufficient to ensure the law's initial limit, a 25% reduction below 1990 levels by 2020, was met.

Given the timing of the court's decision, in May 2016, it presented a challenge for climate advocates and regulators alike. What policies could be successfully designed and implemented within a short time—perhaps six months to one year—that would be capable of achieving substantial emission reductions in, at most, three-and-a-half or four years' time?<sup>99</sup> Not just any policy or regulation would suffice. In responding to and ultimately rejecting the DEP's argument that the GWSA established only aspirational

emissions reduction targets, the court explained that §3(d) rulemaking must effectively meet five criteria. The regulations must:

- [1] address multiple sources or categories of sources of emissions, [2] impose a limit on emissions that may be released, [3] limit the aggregate emissions released from each group of regulated sources or categories of sources, [4] set emissions limits for each year, and [5] set limits that decline on an annual basis.<sup>100</sup>

#### A. Concerns Raised Regarding Regional Action

The SJC decision also raised, for some,<sup>101</sup> a serious concern regarding the state's ability to use regional programs like RGGI to achieve its climate goals. In disagreeing with the DEP's contention that the RGGI program qualified as a §3(d) regulation, the court made two observations. First, at the time the GWSA was enacted, the RGGI program was already in place, accounting for some 18% of the GHG cuts in the state's "business as usual" emissions reduction projection.<sup>102</sup> Referenced elsewhere in the GWSA by name,<sup>103</sup> the RGGI program was already known to the legislature as a "preexisting mandate" that §3(d) was intended to supplement.<sup>104</sup> Second, because the RGGI program allowed power plants in Massachusetts to comply by purchasing available allowances from other RGGI states after the Commonwealth's own program budget for CO<sub>2</sub> allowances had been exhausted, the RGGI program itself does not "ensure mass-based reductions in CO<sub>2</sub> emissions from power plants in the Commonwealth" as the GWSA expressly requires.<sup>105</sup>

It was the latter observation that troubled certain commentators,<sup>106</sup> particularly given its accompanying footnote. In the note, the SJC explained that in rejecting the DEP's argument that the RGGI program qualified as a §3(d) regulation, it was also rejecting the department's argument "that regulations promulgated pursuant to §3(d) need not achieve greenhouse gas reductions specific to the Commonwealth, but may be regional in nature."<sup>107</sup> Such an argument, according to the court, was not only "inconsistent with the statute's central purpose of reducing

94. *Id.*

95. *Id.*

96. An Act Establishing the Global Warming Solutions Act, 2008 Mass. Acts 298, §16.

97. *Kain v. Department of Env't. Prot.*, 474 Mass. 278, 300, 46 ELR 20094 (2016) ("The purpose of [Massachusetts General Laws ch. 21N] is to attain actual, measurable, and permanent emissions reductions in the Commonwealth, and the Legislature included §3(d) in the statute to ensure that legally mandated reductions are realized by the 2020 deadline.")

98. *See, e.g.*, MASS. GEN. LAWS ch. 21N, §6 (2008) (requiring the Commonwealth and its agencies to "promulgate regulations that reduce energy use, increase efficiency and encourage renewable sources of energy in the sectors of energy generation, buildings and transportation" in order to achieve GHG limits).

99. At least one initial estimate suggested that in the aggregate, the regulations would have to achieve just over three million metric tons of CO<sub>2</sub> equivalent of annual emission reductions by the end of 2020. Liz Stanton, *By the Numbers: The Massachusetts Kain Decision on Greenhouse Gas Reduction Targets*, SYNAPSE ENERGY ECON., Aug. 2, 2016, <https://www.synapse-energy.com/about-us/blog/numbers-massachusetts-kain-decision-greenhouse-gas-reduction-targets>.

100. *Kain*, 474 Mass. at 292; *accord id.* at 280 ("For the reasons discussed herein, we conclude that the unambiguous language of [§3(d)] requires the department to promulgate regulations that establish volumetric limits on multiple greenhouse gas emissions sources, expressed in carbon dioxide equivalents, and that such limits must decline on an annual basis.")

101. *See, e.g.*, Ron Gerwatowski, *SJC Decision Raises Emissions Questions*, COMMONWEALTH MAG., June 15, 2016, <https://commonwealthmagazine.org/environment/sjc-decision-raises-emissions-questions>; *accord* Seth Jaffe, *The Global Warming Solutions Act Requires MassDEP to Promulgate Declining Annual GHG Emissions Limits for Multiple Sources: Yikes!*, LAW & ENV'T, May 18, 2016, <https://www.lawandenvironment.com/2016/05/18/the-global-warming-solutions-act-requires-massdep-to-promulgate-declining-annual-ghg-emissions-limits-for-multiple-sources-yikes>.

102. *Kain*, 474 Mass. at 296-97.

103. MASS. GEN. LAWS ch. 21N, §3(c) (2008).

104. *See Kain*, 474 Mass. at 296-97.

105. *Id.* at 297-98.

106. Gerwatowski, *supra* note 101.

107. *Kain*, 474 Mass. at 298 n.25.

emissions in the Commonwealth, but it also presumes the department has authority to promulgate regulations that have force outside the Commonwealth.”<sup>108</sup>

That language led some to conclude that the court might, if asked, hold that the Commonwealth was unable to consider regional emissions or use regional regulations, which, if it were the case, would seriously undermine its ability to regulate electric-sector emissions,<sup>109</sup> given that Massachusetts typically imports more than 50% of its electricity from neighboring states and Canadian provinces.<sup>110</sup> The issue would become the centerpiece of the main legal challenge in late 2017 to the DEP’s §3(d) rulemaking, discussed below.

## B. Executive Order No. 569

The Commonwealth’s formal response to the *Kain* decision came in the form of Executive Order No. 569, issued by Governor Baker on September 16, 2016,<sup>111</sup> four months after the court’s ruling. Styled as establishing for Massachusetts an “integrated” approach to addressing climate change, Executive Order No. 569 addressed not only the reduction of GHG emissions including as required by §3(d) and the *Kain* case (i.e., climate mitigation), but also the future ability of the state to adapt to the “serious threats presented by climate change and associated extreme weather events” (i.e., climate adaptation).<sup>112</sup>

Regarding the former, Executive Order No. 569 committed the state to a significant amount of new activity. Governor Baker set deadlines for the EOEEA to establish interim statewide GHG emission limits for 2030 and 2040, as called for by the GWSA. He announced that Massachusetts would begin working on a regional strategy to reduce transportation-sector emissions “consistent with meeting the GWSA’s 2050 and interim emissions limits,” and called for publication (within two years) of a new “comprehensive energy plan” (to be published every five years thereafter) in addition to the state’s existing GWSA-required Clean Energy and Climate Plan.<sup>113</sup> Responding directly to

*Kain*,<sup>114</sup> the governor ordered the DEP to issue regulations required by §3(d) in just over one year.<sup>115</sup> In developing the regulations, the department was to

consider limits on emissions from, among other sources or categories of sources, the following: (i) leaks from the natural gas distribution system; (ii) new, expanded, or renewed emissions permits or approvals; (iii) the transportation sector or subsets of the transportation sector, including the Commonwealth’s vehicle fleet; and (iv) gas insulated switchgear[.]<sup>116</sup>

Regarding climate adaptation, Executive Order No. 569 required the state to develop, for the first time (and also within two years), a “Climate Adaptation Plan” with the assistance of new “Climate Change Coordinators” in each executive secretariat.<sup>117</sup> Importantly, the order required that the new statewide adaptation plan incorporate “policies and strategies for ensuring that adaptation and resiliency efforts complement efforts to reduce greenhouse gas emissions and contribute towards the Commonwealth meeting the statewide emission limits established pursuant to the GWSA[.]”<sup>118</sup>

## C. The DEP’s Rulemaking

Early in November 2016, less than three months after Executive Order No. 569 was issued, the DEP initiated its §3(d) rulemaking by convening public stakeholder meetings in Boston and Worcester. In a series of short presentations, the DEP described in each meeting the department’s understanding of its obligations under §3(d), as interpreted by the SJC, as well as Executive Order No. 569.<sup>119</sup> It also discussed its own GHG Emissions Inventory, a tool required by the GWSA,<sup>120</sup> to establish that, based on its latest full year of emissions data (2013), the state was required to reduce its annual rate of statewide GHG emissions by another 5.3% of 1990 emissions (or just over the equivalent of five million metric tons CO<sub>2</sub>) in order to meet the 2020 emissions limit. Against that requirement, the DEP outlined seven existing, new, and amended regulations—two of which were not expressly “Section 3(d) regulations” (i.e., regulations that would establish enforceable, declining annual volumetric emission limits)—that it estimated

108. *Id.*

109. Gerwatowski, *supra* note 101:

This was a startling conclusion—with significant implications for the wider electric sector. The court’s decision leaves the distinct impression that regional emissions reductions occurring in locations physically located outside the borders of Massachusetts—even if caused by deliberate actions taken within the Commonwealth—cannot count toward emissions reductions under the GWSA.

*accord Jaffe, supra* note 101 (“But where does this leave MassDEP? In a deep hole, for sure. Unless it wants to ditch RGGI, it can’t regulate power generation, because the type of program that the SJC said is required would simply be incompatible with RGGI.”).

110. See, e.g., U.S. Energy Information Administration, *Massachusetts Electricity Profile 2017*, <https://www.eia.gov/electricity/state/massachusetts> (last visited Apr. 15, 2020) (indicating total state generation of about 32,200,000 megawatt hours and approximately 52,500,000 megawatt hours of retail electricity sales).

111. Establishing an Integrated Climate Change Strategy for the Commonwealth, Mass. Exec. Order No. 569 (2016) [hereinafter Exec. Order No. 569].

112. See *id.*

113. *Id.* §1; MASS. GEN. LAWS ch. 21N, §§3(b)(2)-(3) (2008) (interim limits), 4(h) (2008) (emissions reduction plan).

114. Exec. Order No. 569, *supra* note 111:

WHEREAS, on May 17, 2016, the Supreme Judicial Court ruled that the steps mandated by the GWSA include promulgation of regulations by the Department of Environmental Protection “that establish volumetric limits on multiple greenhouse gas emissions sources, expressed in carbon dioxide equivalents, and that such limits must decline on an annual basis . . . .”

115. *Id.* §2.

116. *Id.*

117. *Id.* §§3-4.

118. *Id.* §3(1).

119. DEP, Stakeholder Discussion Slides, Remarks at the GWSA Regulations Stakeholder Meeting 3-5 (Oct. 28, 2016) (on file with authors).

120. MASS. GEN. LAWS ch. 21N, §2(c) (2019). The state has to date revised its GHG Inventory annually. See DEP, *MassDEP Emissions Inventories*, <https://www.mass.gov/lists/massdep-emissions-inventories#greenhouse-gas-base-line,-inventory-&-projection> (last visited Apr. 15, 2020).



would achieve between a 7.3% and 8.2% reduction in statewide emissions as compared to the 1990 baseline.<sup>121</sup>

The DEP would revise, to include *Kain*-compliant declining volumetric limits, its existing regulation governing SF<sub>6</sub> emissions from GIS,<sup>122</sup> and its existing regulation limiting the aggregate GHG emissions of its sister agency, the Massachusetts Department of Transportation.<sup>123</sup> And it would issue four new regulations creating a new “clean energy standard” (CES) for retail electricity sellers (proposed 310 CMR 7.75, a non-§3(d) regulation), while capping CO<sub>2</sub> emissions on large, in-state electricity generators (proposed 310 CMR 7.74) and state executive-owned vehicle fleets (proposed 310 CMR 60.06), and capping methane emissions from the state’s utility-controlled gas distribution system (proposed 310 CMR 7.73).

The DEP stated that it would, after additional public meetings, issue each new or amended regulation in mid-December 2016. All public hearings and the time for submission of public comment would conclude on February 24, 2017, with final regulations to issue no later than August 11, 2019, in accordance with Executive Order No. 569.

#### D. Initial Critiques of the Proposed Rulemaking

In response to its draft regulations, issued on December 16, 2016, the DEP received approximately 930 pages of public comments by the end of February 2017, filed by more than 150 separate entities including almost all of the Commonwealth’s environmental nongovernmental organizations, commercial electricity generators, and municipal and investor-owned electric and gas utilities as well as a host of private citizens and local and state elected officials.<sup>124</sup> While we do not aim to provide a comprehensive summary of the comments, or the agency’s response to them, the following four major lines of comment are worth mentioning.

At one end of the spectrum, some 24 of the state’s more than 40 municipal electric and gas utilities challenged the DEP’s statutory authority to regulate them at all. Known as “municipal light plants” or MLPs under state law, these town-owned and managed utilities asserted, in response to the DEP’s inclusion of MLPs in its proposed new 310 CMR 7.75 CES, that the DEP lacked authority to regulate them at all under the GWSA. The legislature had expressly exempted MLPs from complying with the state’s more than decade-old RPS and, according to the MLPs, the GWSA

did not expressly state that it applied to MLPs.<sup>125</sup> These comments argued that, as a result, the DEP’s inclusion of MLPs in its proposed CES was not only “misdirected and counterproductive,” it was “contrary to law” such that it could not be sustained.<sup>126</sup>

At the other end of the spectrum, numerous commenters urged the DEP to use this rulemaking as an opportunity to regulate to the fullest extent of its delegated GWSA authority, targeting anticipated post-2020 emissions—particularly in the transportation sector<sup>127</sup>—rather than simply those that would ensure the state’s 2020 limit was achieved.<sup>128</sup>

In the middle were commenters who critiqued the proposed regulations, arguing either that the DEP must do more or do less in order to stay within the confines of the *Kain* decision and the GWSA. Among those, two lines of comment stand out.

The first were the comments of CLF, which were closely scrutinized both by other environmental groups and by the DEP, given its central role in the *Kain* case.<sup>129</sup> CLF’s comments focused on the DEP’s emissions accounting, arguing that the proposed regulations must “address the significant, documented risk [in the state’s latest Clean Energy and Climate Plan update] that the Commonwealth’s 2020 emissions will exceed the equivalent of 70.8 million metric tons of CO<sub>2</sub>” by as much as 5%, or about five million metric tons, and do so with publicly available, record evidence.<sup>130</sup> Sizing total rulemaking emission reductions to protect against that risk, CLF argued, was the only way the DEP’s post-*Kain* effort could reasonably be held to “ensure that legally mandated reductions are realized by the 2020 deadline” as the SJC had ordered.<sup>131</sup> Pursuant to expert testimony filed with CLF’s February 2017 comments, the environmental group argued that, as proposed by the DEP, the rulemaking could only meet that legal standard if the DEP tightened, or reduced, the proposed 310 CMR 7.74 in-state power plant emission caps for 2020 by about 1.6 million metric tons.<sup>132</sup>

The second were the comments filed by owners of most of the 23 large electric power-generating plants that the proposed rule would regulate. In individually filed comments and via comments filed by their regional trade association, the New England Power Generators Association (NEPGA), the power generators argued that the electricity

121. DEP, *supra* note 119, at 6-10 (In its presentation, DEP included just over 3% of 1990-level emissions reduction that it attributed to existing vehicle emission standards, which it was not planning, and did not amend. Massachusetts, together with 13 other states and the District of Columbia, has adopted California’s low emission vehicle GHG emission regulations. See Massachusetts Clean Air Act, MASS. GEN. LAWS ch. 111, §142K (2019).

122. 310 MASS. CODE REGS. 7.72 (2014).

123. *Id.* 60.05.

124. The DEP also received some 645 individually signed comment letters in response to a form-letter campaign designed and executed by the Union of Concerned Scientists. Copies of the DEP’s compilation of public comments, originally available on and downloaded from the DEP’s website, are on file with the authors.

125. See, e.g., Comments of Belmont Municipal Light Department et al. re: Proposed 310 CMR §7.75 “Clean Energy Standard” 3-5 (Feb. 24, 2017).

126. *Id.* at 5, 8.

127. The more than 600 individual comment letters orchestrated by the Union of Concerned Scientists urged the DEP to adopt “solutions like more efficient cars, electric vehicles, cleaner fuels, and a robust transportation system.” See, e.g., Letter from Neal Merbaum to DEP (Feb. 16, 2017).

128. See, e.g., Environment Massachusetts, Testimony on Proposed Regulations Under the Global Warming Solutions Act 2 (Feb. 6, 2017) (urging adoption of mandates for all light-duty vehicles in the state to be zero emissions by 2020, and to achieve 100% renewable electricity by 2050).

129. Following the SJC decision, CLF led several meetings among Massachusetts environmental groups to discuss the scope of the decision and potential §3(d) regulations. Its attorneys also met on several occasions with regulators at the DEP.

130. CLF, Comments re: GWSA §3(d) Regulations 2-6 (Feb. 24, 2017).

131. *Id.*

132. *Id.* at 10-12.



sector could only be regulated pursuant to GWSA §3(c) authority, rather than pursuant to §3(d), and that, regardless, the proposed cap on in-state power plant emissions was bad—even potentially counterproductive and arbitrary—policy. According to NEPGA, pursuant to §3(c), “regulation of GHG emissions in the electric generation sector must be ‘based on consumption and purchases of electricity from the regional electric grid, taking into account the regional greenhouse gas initiative[,]’” something NEPGA asserted the DEP could not do while fashioning declining annual emission limits pursuant to §3(d).<sup>133</sup>

The state’s commercial power generators also warned that the proposed limit on in-state power plant emissions would be overwhelmed by “leakage,” that is increased emissions from out-of-state power plants run to make up for reduced in-state production in the face of steady in-state electricity demand.<sup>134</sup> The likelihood of such leakage was, according to NEPGA, high enough as to be considered a logical necessity resulting from the regional grid operator’s power plant dispatch procedures.<sup>135</sup>

As anticipated, and on schedule, the DEP issued its finalized new and amended regulations as required by §3(d) and *Kain* on August 11, 2017. Included with the regulations were approximately 200 pages of the DEP’s responses to received public comments together with a 70-page study detailing the “Electricity Bill and CO<sub>2</sub> Emissions Impacts” of the new 310 CMR 7.74 and 7.75 regulations. A month later, NEPGA and two individual power plant owners filed suit in Superior Court challenging the rulemaking.<sup>136</sup>

### E. NEPGA’s Legal Challenge

The NEPGA complaint for declaratory relief attacked the in-state power plant emissions cap regulation, 310 CMR 7.74, repeating as allegations the same issues it had raised in its earlier public comments. In its first count, NEPGA claimed regulatory §7.74 was unlawful because the GWSA only gave the DEP authority to regulate the electricity sector pursuant to §3(c), not §3(d), of the statute. It also claimed the regulation was arbitrary and capricious because in practice, §7.74 would necessarily result in an increase, rather than a decrease, in GHG emissions.<sup>137</sup> In its second count, NEPGA argued that §7.74—which set annually declining emission limits for covered in-state power plants through 2050—was unlawful because the GWSA only

gave authority to the DEP to promulgate regulations effective through December 31, 2020.<sup>138</sup>

As introduced above, the core of NEPGA’s challenge mirrored elements of the discussion regarding the RGGI program in (and after) the *Kain* case. Both involved claims regarding the proper interpretation of §3(c), which expressly referenced the electricity sector and the RGGI program, and §3(d), which did not. Both also raised the issue of to what extent and how must Massachusetts account for, and potentially regulate, emissions associated with electricity generated out-of-state to serve in-state consumption.

Before the SJC,<sup>139</sup> NEPGA argued that in rejecting the DEP’s claim that its RGGI regulations satisfied the requirement of §3(d),<sup>140</sup> the court in *Kain* had recognized §3(c) to be a limitation on the DEP’s GWSA authority, ostensibly a legislative command that the DEP could only regulate the electricity sector pursuant to that subsection and no others.<sup>141</sup> According to NEPGA, that was a limitation the DEP could not avoid by simply issuing §7.74 pursuant to both §3(c) and §3(d).<sup>142</sup> Because the new regulation included declining annual emission limits emblematic of §3(d), it ran afoul of the legislature’s command that the DEP “must treat the electricity sector differently.”<sup>143</sup>

On the issue of out-of-state emissions related to in-state electricity consumption, NEPGA argued that, because of how the regional grid operator dispatches electric power, any state-specific restriction of power plant emissions must necessarily cause both Massachusetts’ and regional emissions to increase. This was, according to NEPGA, “the precise result that RGGI and the GWSA are intended to avoid,”<sup>144</sup> making §7.74 “illegal and unenforceable.”<sup>145</sup> For NEPGA, the two arguments were essentially flip sides of the same coin.

### F. The SJC Upholds §7.74

In a unanimous decision,<sup>146</sup> the SJC rejected all of NEPGA’s claims. Regarding the interaction of §§3(c) and 3(d), the court agreed with—and deferred to—the DEP’s inter-

133. Seth Jaffe, NEPGA Comments on Proposed Regulations Under Global Warming Solutions Act §3(d), 310 CMR 7.74, at 12 (Feb. 24, 2017).

134. *Id.* at 14-16.

135. *Id.* at 9, 17.

136. See Suffolk County Superior Court Cases: Calpine Corp. v. Department of Envtl. Prot., No. 1784CV0291 (Mass. Super. Ct. 2017); New Eng. Power Generators Ass’n v. Department of Envtl. Prot., No. 1784CV02918 (Mass. Super. Ct. 2017). Power plant owner GenOn Energy, Inc. was a co-plaintiff in the latter case. Calpine’s case did not progress after the parties reached an agreement with the DEP regarding the emission allocations given to its power plants in the new 310 CMR 7.74 regulation. On February 3, 2018, the case was stayed on the request of the parties pending the DEP’s planned initial revision of the regulation in August 2018. The case was dismissed on August 7, 2018.

137. Complaint, New Eng. Power Generators Ass’n v. Department of Envtl. Prot., No. 1784CV02918, paras. 58-65 (Mass. Super. Ct. 2017).

138. *Id.* paras. 66-69.

139. At the time NEPGA filed its Superior Court complaint, three CLF appeals regarding unit-specific power plant emission caps imposed by the state were pending before the SJC. See SJC Case Nos. SJ-2016-0509; SJ-2017-0290; SJ-2017-0328. Pursuant to a motion by CLF to consolidate and stay those appeals pending the resolution of NEPGA’s challenge, and subsequent agreement of the parties that NEPGA’s case involved no disputed issues of fact, the SJC removed the NEPGA case from the Superior Court for its own immediate consideration after granting CLF’s motion.

140. *Kain v. Department of Envtl. Prot.*, 474 Mass. 278, 296-98, 46 ELR 20094 (2016).

141. Brief of Plaintiff-Appellant at 28-33, *New Eng. Power Generators Ass’n v. Department of Envtl. Prot.*, 480 Mass. 398 (2018) (No. SJC-12477).

142. *Id.*

143. *Id.* at 33 (citing *Kain*, 474 Mass. at 297-98).

144. *Id.* at 37.

145. *Id.* at 33.

146. See, e.g., *New Eng. Power Generators Ass’n*, 480 Mass. at 399 (“Its name speaks its ambitions. The Global Warming Solutions Act . . . is designed to make Massachusetts a national, and even international, leader in the efforts to reduce the greenhouse gas emissions that cause climate change. It thus establishes significant, ‘ambitious,’ legally binding, short- and long-term restrictions on those emissions.”) (internal citation omitted); *id.* at 406 (“[The GWSA] is designed to go well beyond business as usual in terms of reducing emissions: to upend, rather than to uphold, the status quo.”).

pretation that “although §3(c) sets out specific procedures and requirements for regulation of the electric sector, it does not prohibit the department from imposing a declining emissions cap on that sector pursuant to §3(d), as long as the limits satisfy the requirements of §3(c).”<sup>147</sup> There is “no express exclusion of the electric sector from §3(d),” the court explained, and the record made clear that the regulation of electricity-sector emissions was necessary “in order to achieve its goal of reducing emissions by at least eighty per cent by 2050.”<sup>148</sup> More specifically, the court recognized that limits like those imposed by §7.74 were fully consistent with, rather than contrary to, its ruling in *Kain* because the RGGI program alone could not “ensure mass-based reductions in carbon dioxide emissions from power plants in the Commonwealth.”<sup>149</sup>

Finding there were “multiple conceivable bases to support the rule,” the court was similarly unconvinced by NEPGA’s out-of-state emissions argument, which it characterized as being based on “the possibility that the [§7.74] may cause modest emissions leakage.”<sup>150</sup> There was substantial evidence in the record that the rule would in fact “reduce emissions generated *within* the Commonwealth,” from some 9.15 million metric tons in 2018 to just over 8.5 million metric tons in 2020.<sup>151</sup> And §7.74’s impact “cannot be analyzed in a vacuum,” as NEPGA’s argument effectively required. Assessing §7.74 together with §7.75 and other state mandates for increasing levels of clean and renewable power, the DEP’s analysis suggested that “little or no leakage will occur[ ] because it will be unnecessary to shift to out-of-State producers in order to comply with the [§7.74].”<sup>152</sup>

Finally, the court dismissed NEPGA’s second claim—that the DEP’s authority to issue regulations under §3(d) would expire at the end of 2020—with an expansive interpretation of the DEP’s authority under the GWSA. Given the Act’s purpose, that is “to ensure that the Commonwealth meets the 2050 Statewide emission limit of at least eighty per cent below the 1990 level,” NEPGA’s interpretation would “create an absurd result: a long-term 2050 Statewide emissions goal without, after December 31, 2020, any tools to reach it.”<sup>153</sup> Thus, rather than limiting the DEP’s regulatory authority, the law required the DEP “to promulgate new regulations at that time, based on updated information, to ensure that the future Statewide limits for 2030, 2040, and 2050 will be met.”<sup>154</sup>

147. *Id.* at 404-05.

148. *Id.* at 405.

149. *Id.* at 406 (citing *Kain v. Department of Env’t. Prot.*, 474 Mass. 278, 297-98, 46 ELR 20094 (2016)).

150. *Id.* at 408.

151. *Id.* at 408-09.

152. *Id.* at 409. In a footnote citing to clean energy requirements in neighboring Connecticut and Rhode Island, the court observed further that even “if the Cap Regulation imposes a constraint on in-State power plants, it is mere speculation [on NEPGA’s part to assert] that out-of-State electric suppliers will necessarily generate higher rates of greenhouse gas emissions, especially given that other States have similarly committed to ambitious targets for reductions of greenhouse gas emissions.” *Id.* at 410 n.14.

153. *Id.* at 411.

154. *Id.*

#### IV. Lessons Learned and Recommendations for Future Policies

In the decade since the GWSA was enacted, much has changed in the fight to mitigate GHG emissions and avoid irreversible damage to the climate. Much of that change is positive,<sup>155</sup> but the past decade has also seen major setbacks, with partisan rancor and division over climate change arguably at an all-time high, following the election of a president who has worked diligently to erase or reverse virtually all of his predecessor’s climate mitigation policies.<sup>156</sup> Alarming, we find ourselves in a time when IPCC scientists have effectively declared a climate emergency, warning that unless dramatic and widespread emission reductions are achieved in the next 10 years, it may become physically impossible for the world community to avoid irreversible climate devastation.<sup>157</sup> Even with such dire projections, United Nations climate talks at the 25th Conference of Parties (COP25) fizzled out, and failed to result in agreement on key issues to meet the goals of the 2015 Paris Agreement.<sup>158</sup>

Particularly in that context, it is reasonable to ask what value the GWSA has had in Massachusetts and whether similar laws would be of value in other states. After all, a major enforcement action was required to activate the GWSA’s express requirement for new emissions reduction regulations, and once issued, the state’s initial GWSA regulations were subject to their own immediate legal challenge. Moreover, according to the state, a large portion of the state’s emission reductions to date—perhaps as much as 60%<sup>159</sup>—have been driven either by federal programs

155. With increasing urgency, cities and states as well as major corporations across the country have committed to dramatically reducing their GHG emissions, see BLOOMBERG PHILANTHROPIES, FULFILLING AMERICA’S PLEDGE (2018), <https://www.bbhub.io/dotorg/sites/28/2018/09/Fulfilling-Americas-Pledge-2018.pdf>, and in the service of that effort, to purchasing in increasing volumes clean and renewable energy, see NATURAL RESOURCES DEFENSE COUNCIL, CITY CLIMATE COMMITMENTS, <https://www.nrdc.org/sites/default/files/city-climate-commitments.pdf>. And at the same time, driven both by those commitments and by technological development and innovation, the costs of renewable solar and wind generation and battery storage are approaching or have eclipsed market cost parity with traditional fossil fuel generation in markets around the world, making the goal of decarbonizing the economy appear increasingly more attainable. LAZARD, LAZARD’S LEVELIZED COST OF ENERGY ANALYSIS—VERSION 12.0 (2018), <https://www.lazard.com/media/450784/lazards-levelized-cost-of-energy-version-12-0-vfinal.pdf>.

156. Livia Albeck-Ripka et al., *95 Environmental Rules Being Rolled Back Under Trump*, N.Y. TIMES, Dec. 21, 2019, <https://www.nytimes.com/interactive/2019/climate/trump-environment-rollbacks.html>.

157. *Summary for Policymakers, in GLOBAL WARMING OF 1.5°C. AN IPCC SPECIAL REPORT ON THE IMPACTS OF GLOBAL WARMING OF 1.5°C ABOVE PRE-INDUSTRIAL LEVELS AND RELATED GLOBAL GREENHOUSE GAS EMISSION PATHWAYS, IN THE CONTEXT OF STRENGTHENING THE GLOBAL RESPONSE TO THE THREAT OF CLIMATE CHANGE, SUSTAINABLE DEVELOPMENT, AND EFFORTS TO ERADICATE POVERTY* (Valérie Masson-Delmotte et al. eds., Intergovernmental Panel on Climate Change 2018), [https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15\\_SPM\\_version\\_report\\_LR.pdf](https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_SPM_version_report_LR.pdf).

158. Jocelyn Timperley, *COP25: What Was Achieved and Where to Next?*, CLIMATE HOME NEWS, Dec. 16, 2019, <https://www.climatechangenews.com/2019/12/16/cop25-achieved-next/>.

159. EOEEA, MASSACHUSETTS CLEAN ENERGY AND CLIMATE PLAN FOR 2020, 2015 UPDATE (2015); EOEEA, GLOBAL WARMING SOLUTIONS ACT 10-YEAR PROGRESS REPORT (2018) [hereinafter 10-YEAR PROGRESS REPORT].

(mainly regarding auto emissions) or by major programs and policies that pre-dated the law.<sup>160</sup>

Our unequivocal response to that inquiry is that the GWSA has brought great value to Massachusetts, and we strongly recommend the adoption of similar enforceable emission reduction mandates in other states in New England and nationwide. Others can, and should—given the press of time—learn from the Massachusetts experience. Our involvement as advocates before, during, and after the *Kain* case lead us to make the following suggestions in that regard.

### A. *Mandate > Goal*

Codified, enforceable emissions reduction mandates are crucial to achieving climate goals. This is true even where economic conditions are currently favorable, as the economy will undoubtedly change; forward-looking laws help ensure emission reductions and provide regulatory certainty, and, in theory, laws can plan ahead for economic fluctuations. Near-concurrent adoption of legislation fostering stepped-up clean energy deployment is significantly helpful to achieving GHG emission targets (e.g., elevated renewable energy and energy-efficiency programs and targets (via the Massachusetts Green Communities Act)). The changes to BAU that are required to reduce emissions can be challenging for some sectors, and thus we are convinced that anything short of mandatory reductions will not achieve the necessary emission reductions to avoid the worst effects of climate change.

The law has long been our primary tool to protect the public health and welfare, particularly in situations where individual or market action appears unlikely, insufficient, or incapable of providing such protection, or in situations such as national defense, where collective action is a legal or practical necessity. In this case, there is every indication that the deep decarbonization of our energy system is one of those situations. Moreover, there is evidence that laws like the GWSA in fact work.

With the GWSA framework and mandate in place, Massachusetts appears to have achieved essentially permanent reductions in its annual GHG emissions rate, from some 87.9 million metric tons of CO<sub>2</sub> equivalent in 2008 to 76.3 million metric tons of CO<sub>2</sub> equivalent in 2015—a 13% reduction. Critics of the Massachusetts GWSA claim that the majority of those emission reductions are due to a changing economy, not the statutory mandate. At least to some extent, this is a fair point; certainly the changing economy played a significant role in driving down emissions (e.g., market forces driving the rise of renewable energy and natural gas concurrent with closures of coal plants).

Nonetheless, evidence from related policy developments in other states does indicate that a statutory mandate is more effective in driving down emissions than a statutory goal. Take the example of Vermont: despite setting some of the nation's most aggressive emission

reduction goals two years ahead of the enactment of Massachusetts' law, Vermont's emissions have returned to 2006 levels (after significant initial reductions—a 10% drop between 2006 and 2008) in the absence of legally enforceable emission mandates.<sup>161</sup> In addition, enforceable emissions reduction laws are likely necessary to visibly establish and assert state authority within various aspects of our federated structure.<sup>162</sup>

Mandatory laws can also be effective at helping to depoliticize climate mitigation efforts. By providing not only the necessary regulatory authority for enforceable implementation action, but also concrete targets and limits that guide and constrain state agencies, the GWSA and its date-specific emission limits have driven climate action in Democratic (Governor Patrick) and Republican (Governor Baker) administrations alike. Indeed, by requiring that GHG mitigation be made fully part of the regulatory process,<sup>163</sup> laws like the GWSA assure with some durability that climate mitigation will be integrated into critical state budgeting and related resourcing mechanisms as one of many “business as usual” state governmental responsibilities.

The Massachusetts GWSA's structure, as a policy that requires mandatory emission reductions, is therefore a valuable example for other states to consider following. We recommend that advocates and legislators in other states feel empowered both to copy the best of the Massachusetts GWSA and of California's Global Warming Solutions Act embodied in A.B. 32 (2006) and S.B. 32 (2016), while at the same time updating and improving on those statutory frameworks. Our recommendations for how other states might improve upon the Massachusetts GWSA in their own statutes are discussed more fully below.

### B. *Plan for Enforcement*

Due to separation-of-powers requirements for public process in administrative decisions, and the often outsized influence of well-resourced private-sector interests in the United States, public policy decisionmaking is full of pragmatic compromise. This is particularly the case, we have observed, regarding climate policy. Despite the clear threats that climate change poses, as well as the widespread availability of cost-effective climate solutions, there are few truly easy answers given the transformations that deep cuts in emissions require—and politically sensitive trade

161. VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION, VERMONT GREENHOUSE GAS EMISSIONS INVENTORY UPDATE: BRIEF, 1990-2015 (2018), [https://dec.vermont.gov/sites/dec/files/aqc/climate-change/documents/\\_Vermont\\_Greenhouse\\_Gas\\_Emissions\\_Inventory\\_Update\\_1990-2015.pdf](https://dec.vermont.gov/sites/dec/files/aqc/climate-change/documents/_Vermont_Greenhouse_Gas_Emissions_Inventory_Update_1990-2015.pdf).

162. For example, to drive change regarding regional energy systems managed by Federal Energy Regulatory Commission-regulated regional transmission operator/independent system operator entities, and to motivate neighboring states to work together on regional solutions like the Transportation Climate Initiative.

163. *See, e.g.*, 2008 Mass. Acts 298, §7 (amending the state's Administrative Procedure Act to require state entities to consider “reasonably foreseeable climate change impacts, including additional greenhouse gas emissions, and effects, such as predicted sea level rise” when “issuing permits, licenses and other administrative approvals and decisions”).

160. 10-YEAR PROGRESS REPORT, *supra* note 159.



offs abound. One critical factor is that the relative benefits and burdens of energy transition are not inherently evenly distributed. In Massachusetts, for example, although some 50,000 new clean energy jobs have been created statewide since 2010,<sup>164</sup> the closure of the state's fleet of coal-fired power plants has presented localized challenges in several legislative districts where those plants were located.

State climate law should be drafted to bring a diverse set of legal tools to bear, given the urgent action climate change science nevertheless demands. Regulations are typically easier to promulgate than statutes, but without clearly legislated requirements and time lines, they can fall prey to the normal vagaries of gubernatorial politics. It is not clear what drove Massachusetts' position in the *Kain* case, why the DEP failed to issue enforceable regulations pursuant to §3(d)'s plain requirement—but several possibilities exist. Despite signing the GWSA into law, the Patrick Administration may have initially hoped to rely on federal legislation, such as the Waxman-Markey bill,<sup>165</sup> as the main vehicle for compliance. Or perhaps the executive branch was reluctant to issue new, potentially controversial, state regulations that could be seen as contrary to a broader nonregulatory (or possibly antiregulatory) ethos with respect to environmental regulation.<sup>166</sup>

Our experience points to the value, then, of anticipating a dynamic political landscape when designing climate law. As discussed more below, we see benefit in clear, specific, and legally enforceable time lines and substantive requirements for implementing regulations. In particular, in anticipation of likely legal challenges like that presented in the *New England Power Generators Ass'n v. Department of Environmental Protection* case,<sup>167</sup> drafters should consider including an express statutory pathway for expedited judicial review.

Although none exists in the Massachusetts GWSA, such provisions exist in other statutes where the prospect of delay from litigation is undesirable and in conflict with broader statutory goals. For example, when Massachusetts restructured its electricity sector in the late 1990s to rely more heavily on private markets and commercial providers, all challenges to energy-related decisions by the Department of Public Utilities and the Energy Facilities Siting Board were made immediately and directly appealable to the SJC, skipping both the trial and appellate courts and going straight to the highest court.<sup>168</sup> This provision was

incorporated to ensure adequate electricity availability and reliability—a broad goal of the statute.

Finally, the *Kain* case highlights the important role that nongovernmental advocates play in pushing state government through and past political impasse, suggesting special attention be given to expressly addressing and allowing judicial enforcement and/or third-party standing. In the *Kain* litigation, the plaintiffs argued that they were “directly affected” by noncompliance with §3(d), which supports standing for both mandamus and declaratory judgment actions. Massachusetts also affords third-party standing in environmental disputes, through a statutory citizen suit provision along the lines of the citizen suit provisions in some federal environmental statutes like the CWA and the CAA.<sup>169</sup> The Massachusetts statute provides that

[t]he superior court for the county in which damage to the environment is occurring or is about to occur may, upon a civil action in which equitable or declaratory relief is sought in which not less than ten persons domiciled within the commonwealth are joined as plaintiffs, or upon such an action by any political subdivision of the commonwealth, determine whether such damage is occurring or is about to occur and may, before the final determination of the action, restrain the person causing or about to cause such damage; provided, however, that the damage caused or about to be caused by such person constitutes a violation of a statute, ordinance, by-law or regulation the major purpose of which is to prevent or minimize damage to the environment.<sup>170</sup>

Other states seeking to build upon or learn from the Massachusetts GWSA should assess (and possibly seek to change) the standing provisions for third parties in their state in order to ensure that citizen enforcement of climate laws is permitted.

### C. Get Specific

Reducing GHGs at the pace and scale that science tells us is necessary to mitigate climate change is without doubt a new and challenging task both for government and for industry. Paradoxically, that urgency necessitates action in the near term, *before* the most devastating effects of climate change have become fully realized, and thus within a political cycle where concerns regarding cost and maintaining the status quo are likely to dominate. This creates a political setting where pushing past the tendency to focus on short-term concerns requires a great deal of strong will and accountability. Toward this end, drafters of climate laws must be as specific as possible in describing required emissions reduction activities.

Statutory clarity and specificity are desirable regarding, but not limited to, the following:

164. 10-YEAR PROGRESS REPORT, *supra* note 159, at 14 fig.5.

165. The American Clean Energy and Security Act of 2009 (H.R. 2454), passed by the U.S. House of Representatives on June 26, 2009, would have implemented a federal cap-and-trade system. State regulations directing local compliance with such a system could have met the GWSA's §3(d) requirement.

166. *See, e.g.*, David Abel, *Mass. Is Easing Rules for Some Pollutants*, BOSTON GLOBE, Feb. 23, 2014, <https://www.bostonglobe.com/lifestyle/health-wellness/2014/02/23/environmentalists-worry-about-raising-arsenic-and-lead-levels-allowed-under-building-sites/JE8OA4eaEEtQgBPAGFtNUL/story.html>.

167. 480 Mass. 398 (2018).

168. MASS. GEN. LAWS ch. 164, §69H (2019) (directing review only of the environmental impacts of proposed new generating facilities “consistent with the commonwealth’s policy of allowing market forces to determine the need for and cost of such facilities”).

169. MASS. GEN. LAWS ch. 214, §7A (2019); 33 U.S.C. §1365 (CWA); 42 U.S.C. §7604(a)(1), (3); *see also id.* §7604(a)(2) (CAA).

170. MASS. GEN. LAWS ch. 214, §7A (2019).



1. To what extent emission reductions are mandatory versus aspirational;
  2. Which agency or entity is either enabled or delegated responsibility for emissions reduction efforts;
  3. What are the complementary duties, responsibilities, collaboration, or other involvement by sister agencies or entities;
  4. How will progress be measured and who is responsible for collecting and maintaining that data (and who has access to the data);
  5. To what agency (or agencies) should emission reductions progress be reported (e.g., the state environmental protection agency, a legislative committee, some other oversight body);
  6. Who has ultimate responsibility for the creation and enforcement of regulatory structures;
  7. How/whether cost-benefit or cost-effectiveness analysis should be considered when regulating (e.g., must actions be “least-cost” or simply “cost-effective,” and against what measure).
2. More structure to guide understanding and decisionmaking around how much of the GHG emission reductions that need to happen must be accomplished through a §3(d)-type provision versus through other means, like market forces, voluntary programs, or incentives;
  3. How the state climate policy intersects/accounts/plans/allows for existing or potential future regional, national, or international climate laws or compacts (e.g., the RGGI program);
  4. Details about expectations and tools for enforcement.

We want to draw particular attention to the following considerations for other states:

### 1. Regional Climate Strategies

The area where we received the most pushback to our enforcement strategy in *Kain* from our usually friendly peer environmental organizations was the perceived threat to the RGGI program. We received a great deal of criticism for the implication in our argument that the RGGI program was insufficient to meet the requirements of the GWSA. Some saw our arguments as an attack on the concept of regulating carbon emissions regionally versus at the state level. They also saw our arguments about RGGI as a criticism of a program they had worked very hard to bring to fruition (though CLF was instrumental in bringing the RGGI program to fruition, and had no reason to try to hurt RGGI efforts through its enforcement of the GWSA).

Our honest view on this issue, which we know is not without controversy, is that though climate change is a problem best addressed at the regional, national, and global levels, it is also true that when more stakeholders are involved in policy decisions, with more divergent interests, it becomes increasingly difficult to find consensus, avoid watering down regulatory standards due to compromise, and engage in comprehensive enforcement. Even though RGGI is an excellent program that is working well, it is based on an equilibrium that requires political like-mindedness among a fairly large group of states. A material change in politics in any one of those states can threaten the success of the program. While we hope and expect that the RGGI program will continue to succeed in its goals, its existence does not justify inaction on climate in individual states participating in the RGGI program.

To the extent that regional solutions are considered for other sectors, such as the excellent initiatives of the Transportation and Climate Initiative to explore RGGI-like compacts for the transportation sector, we proffer that state and regional solutions can and should co-exist seamlessly; nothing in our GWSA litigation experience suggested otherwise.

### 2. Stakeholder Engagement Structures

Diverse stakeholder engagement is an important part of creating public policy that will work not just in theory, but

Perhaps unexpectedly, the Massachusetts experience is instructive vis-à-vis skewed perceptions of feasibility for GHG emission reductions. Specifically, one of the sticking points with the GWSA legislation was a concern articulated by the then-secretary of the EOEEA, who questioned whether it would be possible to achieve GHG reductions of more than 10% below 1990 levels by 2020. Strikingly, the subsequent analysis commissioned by the secretariat itself found that Massachusetts already was on track to achieve deeper emission reductions in that time frame, and conceivably could cost effectively achieve reductions much greater than 25% by 2020.

While drafting, it is also valuable to consider a portfolio of climate mitigation solutions, such as those that are already in place in other states, or that experts have suggested may be necessary to achieve deep decarbonization by mid-century. With such potential transformations in mind, a state emissions reduction law can proactively grant necessary authority or command new interagency coordination to allow for such solutions to be viably considered, and potentially selected, in the future.

### D. Considerations for Other States

Based on our own experience, we see value in a provision like the §3(d) language at issue in *Kain*, and future statutes in other states could improve upon the model in Massachusetts. Specifically, and in addition to those items noted in the paragraphs above, future statutes could be even clearer than the Massachusetts GWSA about:

1. Careful attention to the statutory description of the types of regulations that are prescribed, including what sectors are subject to §3(d)-type requirements, how much, and by when;

in practice. A policy that is adopted without stakeholder engagement is likely to silence

[t]he people most in need of climate change law [who] are not even at the lawmaking table here in the United States. They are the very poor in far-removed parts of the globe and members of future generations . . . [I]n contrast, the entities skeptical of and opposed or even hostile to any such lawmaking will be extremely well represented and will also likely be supported by substantial political and economic power.<sup>171</sup>

In Massachusetts, stakeholder engagement came in the form of public participation in legislative and administrative processes through public comments. Other states have determined that different forms of stakeholder engagement are necessary—for instance, in Maine, the Climate Council is charged with creating a plan to meet the GHG emission reduction requirements in its climate statute.<sup>172</sup>

We are not close enough to the politics in Maine to know all the reasons why this approach was chosen, and it may well be that this strategy was best. However, it raises concerns for us that the legislature has included an additional layer of decisionmaking before mandatory, enforceable steps are taken to reduce GHG emissions. Adding steps in the process like this creates opportunities for conflict, sluggish progress, and political shifts that will impede progress. “Subsequent legislative amendments, limited budgets, appropriations riders, interpretive agency rulings, massive delays in rulemaking, and simple nonenforcement are more than capable of converting a seemingly uncompromising legal mandate into nothing more than a simple aspirational statement.”<sup>173</sup>

As a result, shaping robust stakeholder engagement in a manner that avoids creating opportunities for hostile forces to avoid implementation is critical. Legislatures would do well to carefully prescribe these processes and their time lines in statute to avoid getting derailed at the administrative level. Richard Lazarus points to examples of policies that have done this successfully, and unsuccessfully, in his article “Super Wicked Problems for Climate Change: Restraining the Present to Liberate the Future.”<sup>174</sup>

### 3. Political Differences

We want to fully acknowledge the political forces here. Massachusetts is known as a blue state, and the GWSA was passed under Governor Patrick, an ostensibly liberal democrat. Even so, it is a bit of a mystery even to us how this law managed to pass *unanimously* and on a relatively short time line.

171. Richard J. Lazarus, *Super Wicked Problems for Climate Change: Restraining the Present to Liberate the Future*, 94 CORNELL L. REV. 1153, 1222 (2009).

172. L.D. 1679, An Act to Establish the Maine Climate Change Council to Assist Maine to Mitigate, Prepare for, and Adapt to Climate Change, 129th Leg. (Me. 2019).

173. Lazarus, *supra* note 171.

174. *Id.*

Even in Massachusetts, extraordinary measures from third parties—as described above—were necessary to spur government to implement a law that was unanimously adopted and signed into law by two branches of government. This is not encouraging, to be sure, but while Governor Patrick is a Democrat who has been lauded for his environmental and clean energy progress, he was also an economic pragmatist and his cabinet was more of a pro-business force than some may realize. Nonetheless, the fact that Massachusetts is generally quite progressive on environmental issues and still could not enforce its own law in the absence of a judicial mandate may give other states reason to question how a similarly binding statutory framework could be successfully deployed in seemingly less supportive environments.

An enacted climate law is better than no climate law, and individual states will need to weigh the unique political factors in play when deciding how to shape a climate law that can come to fruition. In some states, politics will make the legislature the biggest hurdle, whereas the executive branch may be the political sticking point in other states. States faced with political challenges in the executive branch would benefit from reviewing the recommendations for policy design aimed at insulating agency officials from political pressures as outlined in Lazarus’ article, such as shaping agency discretion through requirements for agency official qualifications or disqualifications, tenure, removal, and term limits.<sup>175</sup>

For proponents of a mandatory framework, pointing to the existence of such statutes in other states—even so-called blue states—provides an opportunity for more skittish jurisdictions to follow suit. Speaking to regulatory personnel in a state with strong climate mandates, such as Massachusetts or California, may provide additional reassurance about how implementation has affected government and regulated entities, as well as tips for how to make implementation as seamless as possible. As evidence mounts about the impacts of these statutes, states that are new to the issue will have more reassurance about the beneficial impacts they can deliver as well as best practices for achieving optimal results.

## V. Conclusion

The IPCC special report on 1.5°C instructs that achieving a 1.5°C limit to global temperature rise is still achievable if swift action is taken, and that emissions must be reduced on the order of 45% by 2030 across all sources and all geographies, and must reach net zero emissions by mid-century. The requisite level of emission reductions estimated by the IPCC to be necessary to avert the worst impacts of climate change must be viewed as conservative. Subsequent studies have found that global warming has progressed further than previously thought.<sup>176</sup>

175. *Id.*

176. See Naomi Oreskes et al., *Scientists Have Been Underestimating the Pace of Climate Change*, *Sci. Am.*, Aug. 19, 2019.

Given what is at stake, policymakers should focus on what is necessary and set mandates to achieve the required emission reductions, rather than taking a bottom-up approach of looking at what is feasible now. We know that the vast majority of tools needed to achieve deep decarbonization are available now, as reflected in the IPCC 1.5°C report, and there is a long history of policies spurring development and deployment of necessary solutions—any gaps can be addressed through solution-forcing mandates for deep decarbonization.

State policymaking and enforcement play a critical role in achieving both the deep near-term reductions and longer-term (mid-century) complete decarbonization that are required. The Massachusetts experience passing and implementing the GWSA points to the importance of a mandatory process, with clear and efficient enforcement pathways, for reducing GHG emissions.