

# The Spirit of the Law in the Anthropocene: A Massachusetts v. Environmental Protection Agency Casenote

*Victoria DePalma\**

## ABSTRACT

The Earth changes and science evolves. We now live in the time of the Anthropocene, a period where our actions as humans have had a central influence on the natural world, including the climate.<sup>1</sup> Climate change is a major consequence of humans emitting greenhouse gases—especially carbon dioxide—into the atmosphere.<sup>2</sup> This Article considers *Massachusetts v. Environmental Protection Agency* and the decisions made therein, speaking to the spirit of the law versus the letter of the law and how the former is needed to fully adopt and apply the law as intended to our rapidly changing landscape. Acting in accordance with the spirit of the law helps protect human welfare as mandated under the Clean Air Act.<sup>3</sup>

## INTRODUCTION

In his State of the Union address on January 20, 2015, Former President Barack Obama stated, “no challenge . . . poses a greater threat to future generations than climate change.”<sup>4</sup> If this is true, why is there little mandated regulation to mitigate its

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\* B.S. Biochemistry, 2014, from Whitworth University Ph.D. Environmental Science, May 2019, from University of Idaho; Current position: Assistant Professor of Honors and Sustainability, Coastal Carolina University, Conway, SC

<sup>1</sup> Katie Pavid, *What is the Anthropocene and why does it matter?*, NAT. HIST. MUSEUM, <https://www.nhm.ac.uk/discover/what-is-the-anthropocene.html> (last viewed Apr. 1, 2022) [<https://perma.cc/WG4Y-7HXA>].

<sup>2</sup> *Causes of Climate Change*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/climatechange-science/causes-climate-change> (last viewed Apr. 1, 2022) [<https://perma.cc/LY57-QVBQ>].

<sup>3</sup> See Clean Air Act, 42 U.S.C. § 7401(b)(1) (1970) (stating that the purpose of the Clean Air Act is “to protect and enhance the quality of the Nation’s air resources . . . to promote the public health and welfare . . .”).

<sup>4</sup> *Remarks by the President in State of the Union Address | January 20, 2015*, THE WHITE HOUSE, OFF. OF THE PRESS SEC’Y (Jan. 20, 2015), <https://obamawhitehouse.archives.gov/the-press-office/2015/01/20/remarks-president-state-union-address-january-20-2015> [<https://perma.cc/6J4G-KKZ9>].

effects? Over 97 percent of scientists support the claim that anthropogenic climate change is happening.<sup>5</sup> Massachusetts recognized this claim and pressured the Environmental Protection Agency (“EPA”) to regulate greenhouse gases—namely carbon dioxide, the most prevalent greenhouse gas—as air pollutants.<sup>6</sup> According to § 7521(a)(1) of the Clean Air Act,

The [EPA] shall by regulation prescribe . . . standards applicable to the emission of any air pollutant from any class . . . of new motor vehicles . . . which in [the EPA Administrator’s] judgement cause[s], or contribute[s] to, air pollution . . . reasonably . . . anticipated to endanger public health or welfare.<sup>7</sup>

While there are several issues raised in *Massachusetts v. EPA*, the major issues decided on were (1) whether Massachusetts had standing to bring a case against the EPA; (2) whether carbon dioxide could indeed be defined as a pollutant; and (3) if it could be defined as a pollutant, did the EPA have the authority to deny regulating it?<sup>8</sup>

At the time of the case, the EPA believed that the Clean Air Act did not authorize the agency to regulate greenhouse gases, and even if the Act did give this authorization, it would be impractical to uphold greenhouse gas regulations due to uncertainty about the link between carbon dioxide and an increase in global average temperatures.<sup>9</sup> The EPA also claimed regulating automobile emissions would run the risk of interfering with the President’s

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<sup>5</sup> See *Scientific Consensus: Earth’s Climate is Warming*, NASA, <http://climate.nasa.gov/scientific-consensus/> (last viewed Apr. 1, 2022) [<https://perma.cc/9MB7-Q9PB>].

<sup>6</sup> See *Massachusetts v. EPA*, 549 U.S. 497, 505 (2007) (noting that Massachusetts argued that the EPA “abdicated its responsibility under the Clean Air Act to regulate the emissions of four greenhouse gases . . .”).

<sup>7</sup> Clean Air Act, 42 U.S.C. § 7521(a)(1).

<sup>8</sup> *Massachusetts v. EPA*, 549 U.S. at 514–20 (discussing the issue of standing); *Massachusetts v. EPA*, 549 U.S. at 528–32 (discussing whether carbon dioxide can be defined as a pollutant under the Clean Air Act); *Massachusetts v. EPA*, 549 U.S. at 528–32 (discussing whether the EPA has the authority to deny regulating carbon dioxide emissions).

<sup>9</sup> See *id.* at 528 (noting the EPA argued that “[b]ecause Congress did not intend it to regulate substances that contribute to climate change . . . carbon dioxide is not an ‘air pollutant’ within the meaning of [the Clean Air Act.]”); See *id.* at 534 (noting that the EPA argued that it was unreasonable to regulate carbon dioxide because of “uncertainty surrounding various features of climate change . . .”).

plan to create nonregulatory programs incentivizing voluntary reductions in the private sector, as well as interfering with his ability to negotiate with developing nations about reducing their carbon emissions.<sup>10</sup>

This case is of great importance because it was the first of its kind insofar as the Supreme Court of the United States had never ruled on the requirements of greenhouse gas emission regulations.<sup>11</sup> This case has the potential to become powerful precedent towards future legislation necessitating the regulation of carbon dioxide and other greenhouse gases as air pollutants. However, because the ruling is somewhat controversial, governing bodies may challenge the Court's decision in the future.<sup>12</sup>

This Article will look into the Clean Air Act, specifically § 7521(a)(1), to determine if carbon dioxide can be characterized as an "air pollutant" according to its currently upheld definition.<sup>13</sup> After looking through the relevant sections of the Clean Air Act, this Article will look at the cases used as precedent within *Massachusetts v. EPA*. Then, the main case and the majority opinion will be discussed. Finally, this Article will discuss and analyze the decisions in *Massachusetts v. EPA*, including the two dissenting opinions of Chief Justice Roberts and Justice Scalia.<sup>14</sup>

*Massachusetts v. EPA* both extends a current trend and breaks new judicial and legislative ground. Regulating air pollution is one of the main reasons the Clean Air Act was drafted.<sup>15</sup> The Court upheld the Clean Air Act, yet broke new ground on the subject of what can be defined as an air pollutant.<sup>16</sup> If one believes greenhouse gases are in some other category apart

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<sup>10</sup> *Id.* at 513–514.

<sup>11</sup> See Robert Meltz, CONG. RSCH. SERV., RS22665, THE SUPREME COURT'S CLIMATE CHANGE DECISION: *MASSACHUSETTS V. EPA* 1 (May 18, 2007), [https://digital.library.unt.edu/ark:/67531/metadc808149/m2/1/high\\_res\\_d/RS22665\\_2007May18.pdf](https://digital.library.unt.edu/ark:/67531/metadc808149/m2/1/high_res_d/RS22665_2007May18.pdf) [<https://perma.cc/36TT-E7AK>].

<sup>12</sup> See, e.g., Rep. Gary Palmer, *It's time to stop the EPA's overreach*, WASH. EXAM'R (Dec. 11, 2015, 12:03 AM), <https://www.washingtonexaminer.com/its-time-to-stop-the-epas-overreach> [<https://perma.cc/3Y6N-VB3D>].

<sup>13</sup> See Clean Air Act, 42 U.S.C. § 7521(a)(1) (1970); see also Clean Air Act 42 U.S.C. § 7602(g) (defining "air pollutant").

<sup>14</sup> See *Massachusetts v. EPA*, 549 U.S. at 535–49 (Roberts, C.J., dissenting); *Massachusetts v. EPA*, 549 U.S. at 549–60 (Scalia, J., dissenting).

<sup>15</sup> See *Summary of the Clean Air Act*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/laws-regulations/summary-clean-air-act> (last viewed Mar. 7, 2022) [<https://perma.cc/MXH6-VFLE>].

<sup>16</sup> See *MASSACHUSETTS V. EPA*, 549 U.S. 497 (2007), THE U.S. DEP'T OF JUST. (Aug. 10, 2021), <https://www.justice.gov/enrd/massachusetts-v-epa> [<https://perma.cc/AXW2-2SNX>].

from “air pollutant,” then this case may appear to have further developed the Act by adding a new category which may or may not have initially been intended by the drafters of this legislation.<sup>17</sup> This contention will also be addressed within this Article. Regardless, *Massachusetts v. EPA* clarified the Clean Air Act as well as what the Act was capable of regulating, which will have continued relevance for addressing climate change in the future.<sup>18</sup>

### I. PRIOR LAW, PERSPECTIVE AND MAIN CASE

*Massachusetts v. EPA* was first tried in the United States Court of Appeals for the District of Columbia Circuit, where a divided panel ruled in favor of the Environmental Protection Agency.<sup>19</sup> Within this decision, two judges agreed that the EPA Administrator was within his authority to deny the petition for rulemaking, while one judge—Judge Randolph—avoided taking a definitive stance on the petitioners’ standing.<sup>20</sup> Judge Sentelle, on the other hand, thought Massachusetts did not demonstrate adequate standing, stating that global warming was in fact “harmful to humanity at large,” but the petitioners could not assume “particularized injuries” to themselves.<sup>21</sup> Judge Tatel dissented, stating the EPA did not challenge the facts of the petitioners’ affidavits, and that Massachusetts had met the requirements for standing under Article III of the Constitution.<sup>22</sup> Tatel cited *Lujan v. Defenders of Wildlife* as precedent.<sup>23</sup> According to *Lujan*, “a litigant must demonstrate that it has suffered a concrete and particularized injury that is either actual or imminent, that the injury is fairly traceable to the defendant, and that it is likely a favorable decision will redress that injury.”<sup>24</sup> Litigants do not need to meet all of these standards if they are accorded a procedural right.<sup>25</sup>

*Massachusetts v. EPA* was then tried in the Supreme Court of the United States, where the Supreme Court reversed the Court

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<sup>17</sup> *Massachusetts v. EPA*, 549 U.S. at 532.

<sup>18</sup> See generally *Id.*

<sup>19</sup> *Id.* at 514.

<sup>20</sup> *Id.* (citing *Massachusetts v. EPA*, 415 F.3d 50 (D.C. Cir. 2005)).

<sup>21</sup> *Massachusetts v. EPA*, 415 F.3d 50, 59–60 (D.C. Cir. 2005), *rev'd*, 549 U.S. 497 (2007).

<sup>22</sup> *Id.* at 64, 66.

<sup>23</sup> *Id.* at 64.

<sup>24</sup> *Lujan v. Defs. of Wildlife*, 504 U.S. 555, 560–61 (1992).

<sup>25</sup> *Id.* at 572 n.7.

of Appeals’ decision finding the petitioners did not have sufficient injury to grant standing.<sup>26</sup> In addition to *Lujan v. Defenders of Wildlife*, the Court also cited *Georgia v. Tennessee Copper Co.* in an effort to show that states are not typical litigants—such as private individuals—rather, states are quasi-sovereign and have “an interest independent of and behind the titles of its citizens, in all the earth and air within its domain. It has the last word as to whether its mountains shall be stripped of their forests and its inhabitants shall breathe pure air.”<sup>27</sup> Based on this precedent, the Court found that Massachusetts would have a large portion of its land affected by climate change, meaning Massachusetts did have a vested interest in a favorable outcome of the case.<sup>28</sup> The assistance that Massachusetts entreated the EPA for would likely reduce the risk of harm to the state via a decrease in greenhouse gas emissions.<sup>29</sup>

Further, although the effects of climate change are widespread, this reality does not dilute Massachusetts’ stake in the outcome of the case.<sup>30</sup> The court referenced *Federal Election Commission v. Akins* in its opinion, stating “where a harm is concrete, though widely shared, the Court has found ‘injury in fact.’”<sup>31</sup> This is sufficient reason to bring a case to the Court because only one petitioner needs to prove standing.<sup>32</sup> Therefore, if Massachusetts was awarded standing, then all petitioners would continue in the case.<sup>33</sup> The Court cited *Rumsfeld v. Forum for Academic and Institutional Rights, Inc.* as precedent for this.<sup>34</sup>

Much of the prior law that *Massachusetts v. EPA* focuses on surrounds the Clean Air Act.<sup>35</sup> Section § 7521(a)(1) says that the Environmental Protection Agency

[S]hall by regulation prescribe . . . standards applicable to the emissions of any air pollutant from any class . . . of new motor vehicles . . . which [in the

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<sup>26</sup> See *Massachusetts v. EPA*, 549 U.S. 497 (2007).

<sup>27</sup> *Id.* at 518–19 (citing *Georgia v. Tennessee Copper Co.*, 206 U.S. 230 (1907)).

<sup>28</sup> *Id.* at 519.

<sup>29</sup> *Id.* at 521.

<sup>30</sup> *Id.*

<sup>31</sup> *Id.* at 524 (citing *Fed. Election Comm’n v. Akins*, 524 U.S. 11, 24 (1998)).

<sup>32</sup> *Massachusetts v. EPA*, 549 U.S. at 518.

<sup>33</sup> See *Rumsfeld v. F. for Acad. and Institutional Rts., Inc.*, 547 U.S. 47, 52 n.2 (2006).

<sup>34</sup> *Id.*

<sup>35</sup> *Massachusetts v. EPA*, 549 U.S. at 511.

EPA Administrator's] judgement cause[s], or contribute[s] to, air pollution . . . reasonably . . . anticipated to endanger public health or welfare.<sup>36</sup>

There are two important aspects within this section of legislation, with the first being the term "air pollutant."<sup>37</sup> A large part of this case is spent determining whether greenhouse gases such as carbon dioxide fall within the definition of "air pollutant" as defined within the Clean Air Act.<sup>38</sup> The Act states that "any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air."<sup>39</sup> § 7521(a)(1) states,

The [EPA] Administrator shall by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgement cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare . . .<sup>40</sup>

Welfare is also a broad term, which includes "effects on . . . weather . . . and climate."<sup>41</sup>

The first point to address is whether greenhouse gases could be classified as air pollutants in terms of the current Clean Air Act definition. The EPA claimed greenhouse gases were not within its jurisdiction to regulate and that the Clean Air Act was not meant to address climate-changing greenhouse gases.<sup>42</sup> The court disagreed for several reasons.<sup>43</sup> As aforementioned, the definition of a pollutant is capacious and lacks specificity; it therefore does not rule out or preclude greenhouse gases from

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<sup>36</sup> Clean Air Act, 42 U.S.C. § 7521(a)(1) (1970).

<sup>37</sup> *Id.*

<sup>38</sup> *Massachusetts v. EPA*, 549 U.S. at 528.

<sup>39</sup> Clean Air Act, 42 U.S.C. § 7602(g).

<sup>40</sup> *Id.* at § 7521(a)(1).

<sup>41</sup> *Id.* at § 7602(h).

<sup>42</sup> *Massachusetts v. EPA*, 549 U.S. at 528.

<sup>43</sup> *Id.* at 529.

being defined as air pollutants.<sup>44</sup> The Court also believed this sweeping definition was written purposely, with recurring use of the word “any” so as to not render the Clean Air Act obsolete in the future.<sup>45</sup> The writers of the Clean Air Act wanted it to remain relevant as new scientific advances were discovered, such as findings that greenhouse gases cause climate change and endanger human welfare.<sup>46</sup>

Although the EPA did not believe that carbon dioxide should be considered an air pollutant, it did believe that global climate change needed to be addressed.<sup>47</sup> It also supported several voluntary emission-reduction programs.<sup>48</sup> The Court believed the EPA would not endorse such ideas if it did not believe mitigating emissions would have an effect on future climate change.<sup>49</sup> The EPA further stated that because there was uncertainty surrounding measurements concerning climate change, it should hold off on greenhouse gas mitigation.<sup>50</sup> The Court found there was little uncertainty that greenhouse gas emissions were increasing global average temperatures, despite the uncertainty surrounding the particularized effects of climate change.<sup>51</sup>

The EPA asserted that even if greenhouse gases could be considered air pollutants, it would be unwise to regulate them because it would have little to no mitigation effect when compared to other countries’ growing emissions and would interfere with the President’s emission mitigation talks.<sup>52</sup> The court found both of these assertions to be false.<sup>53</sup> A former EPA climatologist—one of the petitioner’s experts—quoting Michael MacCracken, former Executive Director of the U.S. Global Change Research Program, stated, “[a]chievable reductions in emissions of CO<sub>2</sub> and other [greenhouse gases] from U.S. motor vehicles would . . . delay and moderate many of the adverse impacts of global warming.”<sup>54</sup> The EPA said China and India’s increase in greenhouse gas emissions would offset any mitigation efforts, but the Court reasoned while a

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<sup>44</sup> *Id.*

<sup>45</sup> *Id.* at 511–13, 532.

<sup>46</sup> *Id.* at 532.

<sup>47</sup> *Id.* at 526.

<sup>48</sup> *Massachusetts v. EPA*, 549 U.S. at 534.

<sup>49</sup> *Id.* at 526.

<sup>50</sup> *Id.* at 513–14, 523–24.

<sup>51</sup> *Id.* at 524.

<sup>52</sup> *Id.* at 511.

<sup>53</sup> *Id.* at 533–34.

<sup>54</sup> *Massachusetts v. EPA*, 549 U.S. at 515.

small incremental step would not solve the entire problem, it was a step towards improving the problem.<sup>55</sup> The Court cited *Williamson v. Lee Optical of Oklahoma, Inc.*, stating, “a reform may take one step at a time, addressing itself to the phase of the problem, which seems most acute to the legislative mind.”<sup>56</sup> The Court in *Massachusetts v. EPA* also mentioned *Larson v. Valente* to highlight that every injury need not be redressed, so long as some part of the injury is redressed.<sup>57</sup> The court quoted the case stating, “a plaintiff satisfies the redressability requirement when he shows that a favorable decision will relive a discrete injury to himself. He need not show that a favorable decision will relive his every injury.”<sup>58</sup> Regulating vehicle emissions to mitigate the effects of climate change will likely not solve global climate change outright, but it will likely help. The EPA may have underestimated the contribution of the United States transportation sector on global greenhouse gas emissions.<sup>59</sup>

An affidavit highlighted in *Massachusetts v. EPA* stated that over 1.7 billion metric tons of carbon dioxide were emitted into the atmosphere in 1999—solely by the United States transportation sector.<sup>60</sup> At the time of the hearing, this sector accounted for 6 percent of the world’s carbon dioxide emissions.<sup>61</sup> Today, emissions from the transportation sector account for the largest share of carbon dioxide emissions in the United States, and was the largest emitter of carbon dioxide from 1990–2019.<sup>62</sup> Thus, the U.S. transportation sector is a substantial greenhouse gas emitter, and a reduction in emissions from this sector would likely decrease global greenhouse gas emissions.<sup>63</sup>

The second point postulated by the EPA suggested regulating carbon dioxide as an air pollutant would interfere with the President’s talks with other nations regarding emissions mitigation plans.<sup>64</sup> The Court did not believe the President’s

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<sup>55</sup> *Id.* at 509.

<sup>56</sup> *Id.* at 524 (citing *Williamson v. Lee Optical of Oklahoma Inc.*, 348 U.S. 483 (1955)).

<sup>57</sup> *Id.* at 525.

<sup>58</sup> *Id.* (citing *Larson v. Valente* 456 U.S. 228 (1982)).

<sup>59</sup> See generally *Id.* at 523.

<sup>60</sup> *Massachusetts v. EPA*, 549 U.S. at 524.

<sup>61</sup> *Id.*

<sup>62</sup> *Carbon Pollution from Transportation*, United States U.S. ENV’T PROT. AGENCY, <https://www.epa.gov/transportation-air-pollution-and-climate-change/carbon-pollution-transportation> (last viewed Apr. 2, 2022) [<https://perma.cc/35AS-XKFF>].

<sup>63</sup> *Id.*

<sup>64</sup> *Massachusetts v. EPA*, 549 U.S. at 533–34.



authority in foreign affairs was a reason to neglect the execution of domestic laws or form scientific judgements.<sup>65</sup> Furthermore, Congress did not mandate the EPA consult with other agencies when making its own internal policies.<sup>66</sup> The Court found the EPA used a myriad of excuses in order to disregard its obligation to either regulate carbon dioxide as an air pollutant or run adequate scientific studies that reveal carbon dioxide does not affect climate change.<sup>67</sup> Either way, the EPA had a statutory obligation to do *something*.<sup>68</sup>

While the EPA can use discretion in its judgement of whether or not an air pollutant “may reasonably be anticipated to endanger public health or welfare,” the Clean Air Act does not give the EPA the authority to ignore the statutory text.<sup>69</sup> If carbon dioxide is considered a pollutant under the Clean Air Act definition, the EPA would be required to regulate it as an air pollutant.<sup>70</sup> However, the EPA could avoid regulating carbon dioxide in a few ways. First, if it provided scientific evidence that carbon dioxide does not influence climate change, the EPA could avoid regulation. Second, the EPA could provide a statement explaining why it cannot—or will not—exercise its discretion to determine whether carbon dioxide affects climate change.<sup>71</sup>

Both Chief Justice Roberts and Justice Scalia had their own dissenting opinion in this case.<sup>72</sup> In Roberts’s dissenting opinion, he asserted petitioners did not have standing to bring their case to court.<sup>73</sup> Before the Court decided whether petitioners had standing or not, it decided that states are not normal litigants and therefore are assigned special status to protect their quasi-sovereign interests.<sup>74</sup> Roberts further asserted that the Court treated public

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<sup>65</sup> *Id.* at 534.

<sup>66</sup> *Id.*

<sup>67</sup> *Id.*

<sup>68</sup> *See* Clean Air Act, 42 U.S.C. § 7401(b)(1) (1970) (stating that the purpose of the Clean Air Act is “to protect and enhance the quality of the Nation’s air resources . . . to promote the public health and welfare . . .”).

<sup>69</sup> *Id.* at § 7411(a)(1)(A).

<sup>70</sup> *Regulatory and Guidance Information By Topic*, U.S. ENV’T PROT. AGENCY, [\(https://www.epa.gov/regulatory-information-topic/regulatory-and-guidance-information-topic-air#:~:text=The%20Clean%20Air%20Act%20\(CAA\)%20requires%20EPA%20to%20regulate%20emissions,volatile%20organic%20compounds%20\(VOCs\)](https://www.epa.gov/regulatory-information-topic/regulatory-and-guidance-information-topic-air#:~:text=The%20Clean%20Air%20Act%20(CAA)%20requires%20EPA%20to%20regulate%20emissions,volatile%20organic%20compounds%20(VOCs)) (last viewed Apr. 2, 2022) [<https://perma.cc/WG8X-GSG5>].

<sup>71</sup> *Massachusetts v. EPA*, 549 U.S. at 501, 533.

<sup>72</sup> *Id.* at 535.

<sup>73</sup> *Massachusetts v. EPA*, 549 U.S. at 535–36 (Roberts, C.J., dissenting).

<sup>74</sup> *Id.* at 536.

and private litigants differently, but it should not have.<sup>75</sup> He argued that the majority misanalysed *Georgia v. Tennessee Copper Co.* because the case has nothing to do with Article III standing and petitioners were not able to “. . . demonstrate injury in fact, causation, and redressability.”<sup>76</sup> Chief Justice Roberts believed that the entire concept of global warming related to injuries to humans at large rather than particularized injuries.<sup>77</sup>

Further, the only explanation petitioners give for their injuries is the loss of Massachusetts coastline caused by increased sea levels due to climate change, but the declarant stated that the loss of coastline is actually due to land subsidence rather than climate change.<sup>78</sup> Additionally, computer programs relied on by petitioners predicted that twenty to seventy centimeters of future coastline loss due to an increase in sea levels had a significant margin of error (between thirty and seventy centimeters) that severely reduced the confidence in the model.<sup>79</sup> Even with a more accurate model, allegations of possible future injury are not sufficient to satisfy the requirements of Article III of the Constitution.<sup>80</sup> If a state asserts quasi-sovereign interests as *parens patriae*, it still must show that it has sustained particularized injury which can be redressed under the Article III requirement.<sup>81</sup> In this case, Massachusetts would have to show how a loss of coastline was a direct result of the EPA’s failure to regulate greenhouse gas emissions on new motor vehicles.<sup>82</sup> Because stricter EPA standards would have limited only a “fractional amount of global emissions,” the connection between the loss of Massachusetts coastal land and greenhouse gas emissions from motor vehicles was “far too speculative to establish causation.”<sup>83</sup> Additionally, emissions by China and India were projected to increase enough during this time to overwhelm any decrease in emissions by the United States transportation sector.<sup>84</sup>

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<sup>75</sup> *Id.* at 537.

<sup>76</sup> *Id.* at 540.

<sup>77</sup> *Id.* at 541.

<sup>78</sup> *Id.* at 541–42.

<sup>79</sup> *Massachusetts v. EPA*, 549 U.S. at 542 (Roberts, C.J., dissenting).

<sup>80</sup> *Id.*

<sup>81</sup> *Id.* at 538.

<sup>82</sup> *Id.*

<sup>83</sup> *Id.* at 544–45.

<sup>84</sup> *Id.* at 545.

A change due to EPA regulations would therefore have made little difference.<sup>85</sup>

Chief Justice Roberts believed the actual aim of this case was “more symbolic over anything else.”<sup>86</sup> According to the Chief Justice, the Court used the direness of global warming to justify its finding of standing.<sup>87</sup> If the Court ordered the EPA to regulate vehicle emissions, it would only regulate new vehicles—which represented a small portion of the 4 percent of global emissions for which the U.S. transportation sector was accountable.<sup>88</sup>

The second dissent was written by Justice Scalia, who was joined by Chief Justice Roberts, Justice Thomas, and Justice Alito.<sup>89</sup> Justice Scalia noted that the Clean Air Act gives the Environmental Protection Agency the “option of determining that the science is too uncertain to allow it to form a ‘judgment’ as to whether greenhouse gases endanger public welfare.”<sup>90</sup> Should the EPA make such a determination, it is required to say so.<sup>91</sup> While the Court believed that the EPA had not made or published its determination, Justice Scalia believed that it had done so through the 2001 report, “*Climate Change Science: An Analysis of Some Key Questions*,” by the National Research Council.<sup>92</sup>

Justice Scalia further stated that carbon dioxide is not necessarily an air pollutant under the Clean Air Act.<sup>93</sup> Although carbon dioxide meets the first part of the Act’s definition of “air pollutant,” as it is “any physical, chemical, . . . substance or matter which is emitted into or otherwise enters the ambient air,” it does not meet the further requirement of being an “air pollution agent or combination of such agents.”<sup>94</sup> Whether carbon dioxide can be classified as an air pollutant was therefore in question. Justice Scalia believed—similarly to the EPA—that carbon dioxide emissions bore little resemblance to emissions typically considered air pollutants.<sup>95</sup> Carbon dioxide’s contribution to global warming

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<sup>85</sup> Massachusetts v. EPA, 549 U.S. at 545 (Roberts, C.J., dissenting).

<sup>86</sup> *Id.* at 546–57.

<sup>87</sup> *Id.* at 543.

<sup>88</sup> *Id.* at 544.

<sup>89</sup> Massachusetts v. EPA, 549 U.S. at 549 (Scalia, J., dissenting).

<sup>90</sup> *Id.* at 553.

<sup>91</sup> *Id.*

<sup>92</sup> *Id.* at 553–55.

<sup>93</sup> *Id.* at 557–58.

<sup>94</sup> *Id.* at 556.

<sup>95</sup> Massachusetts v. EPA, 549 U.S. at 557 (Scalia, J., dissenting).

seemed to fall outside the usual effects of air pollution.<sup>96</sup> Generally, the EPA is concerned with regulating substances that “cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.”<sup>97</sup> Additionally, carbon dioxide does not settle in the air closest to the surface of the earth—it instead moves towards the upper atmosphere and lower stratosphere, so it is not “polluting the air” in the traditional sense.<sup>98</sup> The main concerns surrounding carbon dioxide emissions are their potential warming effects rather than negative health impacts, which are the focus of the Clean Air Act.<sup>99</sup>

## II. ANALYSIS

*Massachusetts v. EPA* demonstrated the tension between legal formality and legal realism when courts are faced with complex and controversial issues like climate change. While legal formalists uphold the letter of the law, legal realists uphold the spirit of the law. Which approach is more appropriate depends on the facts of the case and its potential effects. This analysis will demonstrate the necessity of following the spirit of the law by analyzing the issues discussed in *Massachusetts v. EPA*, and the importance of using legal realism for future cases related to climate change injuries and mitigation efforts. The main sections that will be covered are (1) whether the petitioners have standing and (2) whether carbon dioxide can be considered an air pollutant.

### A. *Whether Petitioners Have Standing*

As stated in the case, only one petitioner must have standing for a case to undergo judicial review.<sup>100</sup> This case specifically looked at Massachusetts’s standing to meet this requirement.<sup>101</sup> The Court gave Massachusetts slightly different standards than those afforded to private individuals in reviews of standing, in that it received status as the representative of its people.<sup>102</sup> This, in effect, gave Massachusetts a better opportunity

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<sup>96</sup> *Id.* at 558–59.

<sup>97</sup> *Id.* at 552.

<sup>98</sup> *Id.* at 559.

<sup>99</sup> *Id.* at 553.

<sup>100</sup> *Massachusetts v. EPA*, 549 U.S. at 518.

<sup>101</sup> *See id.*

<sup>102</sup> *Id.* at 520.

to prove it had standing. The Court also believed Massachusetts coastline was decreasing because of increased water levels due to anthropogenic climate change.<sup>103</sup> Further, the Court agreed that if the EPA began to regulate carbon emissions from vehicles, the petitioners' injuries would be at least partially redressed.<sup>104</sup>

Justice Roberts, in his dissent, believed that even if Massachusetts had incurred injuries due to climate change, these injuries could not be directly linked to the EPA's lack of regulation on vehicular emissions.<sup>105</sup> The transportation sector accounted for only 6 percent of the world's total carbon dioxide emissions at the time—a relatively small portion of the emissions causing climate change.<sup>106</sup> In a legal sense, Roberts was correct in stating that one cannot prove the EPA (1) emitted the certain carbon dioxide molecules that entered the atmosphere; which (2) created a greenhouse effect that rapidly warmed the Earth; (3) which in turn raised the sea level; and (4) decreased the Massachusetts coastline.<sup>107</sup> In another light, however, the dissenters were mistaken. The EPA was at fault because it did not regulate carbon emissions where it could have, and because of this, it secondarily supported a large portion of carbon emissions that intensified, and continues to intensify, climate change.<sup>108</sup> If carbon emissions cause climate change, and an entity emits carbon, that entity is at least partly responsible for climate change.<sup>109</sup> If being partly responsible for an injury exonerates said party from accountability, will any party be held accountable for climate change?<sup>110</sup> As was discussed earlier, the Court persuasively cited *Larson v. Valente* as precedent for the notion that these partially responsible parties should still be held accountable, which broke significant ground in extending this understanding to *Massachusetts v. EPA*.<sup>111</sup>

Climate change is a unique problem to which the full implications are difficult to grasp—one of many reasons why climate change is considered a “wicked problem.”<sup>112</sup> Although one

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<sup>103</sup> *Id.* at 522.

<sup>104</sup> *Id.* at 526.

<sup>105</sup> *Massachusetts v. EPA*, 549 U.S. at 544 (Roberts, C.J., dissenting).

<sup>106</sup> *Id.*

<sup>107</sup> *Id.* at 545.

<sup>108</sup> *Massachusetts v. EPA*, 549 U.S. at 523.

<sup>109</sup> *See id.* at 524.

<sup>110</sup> *Id.*

<sup>111</sup> *Id.* at 525 (citing *Larson v. Valente* 456 U.S. 228 (1982)).

<sup>112</sup> Richard J. Lazarus, *Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future*, 94 CORNELL L. REV. 1153, 1159 (2009).

cannot directly link their emissions to specific climate change-caused injuries, an individual can directly link their emissions to contributing to climate change at large.<sup>113</sup> In effect, while one straw may not have been the one to break the camel's back, it still participated in the lead up to that back-breaking event. The Court understood that climate change was an important issue and that *Massachusetts v. EPA* was a case worth deciding that would have long-term significance.<sup>114</sup> While there was novelty to the case, it needed not be immediately shut down in terms of petitioners' standing.<sup>115</sup> Those following the letter of the law—such as the Justices that dissented here—may have found it most appropriate to deny standing to Massachusetts based on a strict interpretation of standing and the vagueness of injuries allegedly caused (at least in part) by the EPA's failure to regulate vehicular carbon dioxide emissions.<sup>116</sup> By strictly upholding the letter of the law, the dissenters upheld the separation of powers and remained within the realms of the judicial branch, as was their duty.<sup>117</sup> Though this does beg the question of how climate change injuries will be redressed, both now and in the future, if these injuries are considered at large rather than particularized.<sup>118</sup> If following the letter of the law quashes the spirit of the law that was intended for a particular piece of legislation, justice is not being upheld.

Climate change warrants special consideration as a collective action problem.<sup>119</sup> While it can be a challenge to assign accountability, it does not preempt us from the ability or, more importantly, the obligation to do so. It may always be difficult to determine particularized injuries caused by greenhouse gas-emitting entities because of the characteristics unique to collective action problems, but this case exemplifies how the law can and should hold accountable those entities that are in fact partially responsible.<sup>120</sup> The Court in *Massachusetts v. EPA* did not break the law or commit any unconstitutional act to achieve this result. Precedent shows that states can be understood as quasi-sovereign

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<sup>113</sup> See *Massachusetts v. EPA*, 549 U.S. at 543.

<sup>114</sup> See *id.* at 546–47.

<sup>115</sup> *Id.* at 521.

<sup>116</sup> See *Massachusetts v. EPA*, 549 U.S. at 542 (Roberts, C.J., dissenting).

<sup>117</sup> *Id.* at 547.

<sup>118</sup> See generally *Id.* at 540–41.

<sup>119</sup> See Lisa Schenck, *Climate Change "Crisis" – Struggling for Worldwide Collective Action*, 19 COLO. J. INT'L ENV'T. L. & POL'Y 319, 321 (2008).

<sup>120</sup> See generally *Massachusetts v. EPA*, 549 U.S. at 525.

and can act as *parens patriae*.<sup>121</sup> Therefore, a state can bring a case to court if it meets the standards of the adversarial process.<sup>122</sup> Massachusetts was losing coastline, and several scientific documents showed that sea levels were increasing due to climate change.<sup>123</sup> The dissenters pointed out that the petitioners claimed land subsidence was the cause for lost coastline; however if the dissenters took a broader perspective, they may have understood that regardless of this, sea levels were increasing and would continue to increase for decades, causing many states—as well as countries around the world—to lose coastline.<sup>124</sup> The likelihood that Massachusetts lost at least some of its coastline due to rising sea levels driven by climate change is high, and that likelihood only increases with time.<sup>125</sup>

If we look at the greater crisis that is a globally changing climate, this case is significant, and the injuries caused to Massachusetts are occasioned by the accumulation of all carbon emissions.<sup>126</sup> If death by one thousand cuts is caused by one thousand unique individuals, do we prosecute no one, or start by prosecuting someone? The Court upheld the spirit of the law in order to show that, although climate change is a unique problem to which we may not have fully formed laws and worldviews, we are able to adapt to a changing reality regardless of what temporal context our laws were written under. If the world is changing and science is progressing, the law should progress with it if the alternative is to abandon the spirit of the law for which the law was originally written: to protect the welfare of the people.

The Court should be commended for its progressive thinking that remained solidly within the parameters of lawful decision-making. Climate change is a novel problem, and if people cannot entertain the concept as well as how it fits within current law, the injustices of climate change will remain camouflaged and unchecked.

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<sup>121</sup> *Id.* at 519 (citing *Alden v. Maine*, 527 U.S. 706 (1999)).

<sup>122</sup> *Id.* at 520–21.

<sup>123</sup> *Id.* at 521–22.

<sup>124</sup> *Massachusetts v. EPA*, 549 U.S. at 541–42 (Roberts, C.J., dissenting); *Massachusetts v. EPA*, 549 U.S. at 523 n.21 (discussing the disagreement with the dissent regarding Massachusetts's claim to injury).

<sup>125</sup> *Id.* at 523 n.21.

<sup>126</sup> *See generally Id.* at 511.

*B. Whether Carbon Dioxide Should Be Considered an Air Pollutant*

The *Massachusetts v. EPA* Court decided that carbon dioxide should be considered an air pollutant due to the capacious definition of the term “air pollutant.”<sup>127</sup> The Clean Air Act is supposed to protect individuals from air pollutants that would endanger human health and welfare.<sup>128</sup> Greenhouse gases such as carbon dioxide largely contribute to a changing climate that is projected to (and currently is) harming human health and welfare.<sup>129</sup> The term “air pollutant” was presciently written with vagueness to allow for novel accounts of the term and to protect the health and welfare that it was originally drafted to protect in the first place.<sup>130</sup> The dissenters believed that carbon dioxide should not be considered an air pollutant because it does not pollute the air that we breathe—that in effect, it is not a breathing hazard.<sup>131</sup> Rather, carbon dioxide is most prevalent in the upper atmosphere and stratosphere, where it participates in the greenhouse effect and warms the Earth.<sup>132</sup> This is not the air we breathe, but rather the out-of-scope stratified part. While the Court came to the correct decision, it did not come to the correct decision for the most meaningful reasons.

The most important aspect of the definition of “air pollutant” is whether it endangers people’s health and welfare.<sup>133</sup> After all, if a gas did not harm human health and welfare, would it be categorized as an air pollutant? While the Court did bring light to the fact that the Act’s definition of “air pollutant” is capacious, it should have narrowed its assertion to the term “welfare” being capacious, specifically.<sup>134</sup> The definition of “air pollutant” makes no reference as to how it affects the health or welfare of the public—it only defines “welfare” itself in a separate definition.<sup>135</sup> As the Court pointed out, when Congress drafted the Clean Air Act, they made it broad enough to avoid obsolescence.<sup>136</sup>

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<sup>127</sup> *Id.* at 532.

<sup>128</sup> Clean Air Act, 42 U.S.C. §7521(a)(1) (1970).

<sup>129</sup> *Massachusetts v. EPA*, 549 U.S. at 523.

<sup>130</sup> *Id.* at 532 (citing *Pennsylvania Dep’t of Corr. v. Yeskey*, 524 U.S. 206 (1998)).

<sup>131</sup> *Massachusetts v. EPA*, 549 U.S. at 559 (Scalia, J., dissenting).

<sup>132</sup> *Id.*

<sup>133</sup> Clean Air Act, 42 U.S.C. § 7521(a)(1) (1970).

<sup>134</sup> *Massachusetts v. EPA*, 549 U.S. at 532.

<sup>135</sup> Clean Air Act 42 U.S.C. §§ 7602(g), 7602(h) (1970).

<sup>136</sup> *Massachusetts v. EPA*, 549 U.S. at 532.



It would have been easy enough for Congress to write a more specific definition of air pollution—one that has terms pertaining to endangerment of human safety following inhalation—but they likely avoided that because a pollutant might endanger welfare beyond that of inhalation risk.<sup>137</sup> Science has a tendency to change and shift.<sup>138</sup> At the time, Congress prudently allowed for an expansive definition of air pollution and the Court decided correctly that carbon dioxide was an air pollutant.<sup>139</sup> This decision was not derived because the definition of an air pollutant negatively connoted a lack of specificity, rather, the decision positively implied an air of adaptation intended to protect the evolving reality of human welfare, what it encompasses, and what affects it.<sup>140</sup>

Climate change will endanger the welfare of people in many ways, including via an increase in intense weather events and expanded disease-carrying insect vectors, to name a few.<sup>141</sup> The Court should have emphasized the imperilment of welfare that climate change will cause and that the cause of climate change is primarily carbon dioxide emissions.<sup>142</sup> Understanding the broadness of the term “welfare” shows that the spirit of the law is being preserved and upheld beyond the letter of the law, which is perhaps more immovable. While technicalities of the law are of utmost importance, one cannot forget to continually refer back to and understand the purpose of a piece of legislation. The Court had an opportunity to clarify the definition of welfare, especially as it relates to climate change, our evolving understanding of it, and the vocabulary that we have available to us to describe and define its characteristics.<sup>143</sup> The definition of terms will matter to future law, just as defining “air pollutant” was pivotal in this case.<sup>144</sup>

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<sup>137</sup> *Id.*

<sup>138</sup> Tania Lombrozo, *What Makes Science Science?*, NPR (Jan. 30, 2017), <https://www.npr.org/sections/13.7/2017/01/30/512402110/what-makes-science-science> [<https://perma.cc/RPR9-H7R6>].

<sup>139</sup> *Massachusetts v. EPA*, 549 U.S. at 532.

<sup>140</sup> *Id.*

<sup>141</sup> *Climate Change and Health Equity*, U.S. DEPT OF HEALTH AND HUM. SERVS. (Aug. 30, 2021), <https://www.hhs.gov/ocche/climate-change-health-equity/index.html> [<https://perma.cc/D4ED-369B>].

<sup>142</sup> *Causes of Climate Change*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/climatechange-science/causes-climate-change> (last viewed Mar. 8, 2022) [<https://perma.cc/VF65-HLXT>].

<sup>143</sup> *See Massachusetts v. EPA*, 549 U.S. at 506 (accepting a broad definition of “welfare” in the Clean Air Act).

<sup>144</sup> *Id.* at 528–29.

The spirit of the Clean Air Act is to protect the health and welfare of individuals from air pollution that would otherwise endanger these things.<sup>145</sup> Knowing what we know about climate change, and knowing that carbon dioxide is an atmospheric gas that will cause negative repercussions to people, the spirit of the law would lean in favor of including carbon dioxide as a pollutant, as it most certainly endangers human health and welfare.<sup>146</sup> While this assumes a more inclusive application of the term “welfare” than some may have traditionally assumed for the Clean Air Act, this broader definition should only serve to help those who are dealing with climate injustices in the future.<sup>147</sup>

### CONCLUSION

We live in the time of the Anthropocene, where our actions are a major influence on the natural environment and climate, and our laws still need to protect us from the injustices of those who substantially contribute to global climate change.<sup>148</sup> The spirit of the law should be a necessary consideration when dealing with climate change and the unique problem set it brings when textual law could prove too stringent to adequately address climate change. *Massachusetts v. EPA* will be a popular and referenced case in the future, especially as the effects of climate change become more obvious to the public and its consequences more directly endanger human welfare.<sup>149</sup> It can also serve as precedent in assigning responsibility to other major carbon emitters.<sup>150</sup> Holding one party accountable for its carbon emissions is a first step in creating a future where it is not foreign to do so. While it may take several years for the EPA to start substantially regulating carbon emissions, *Massachusetts v. EPA* is a major step towards upholding justice, creating mitigation techniques that adapt to climate change’s effects, and creating a common resilient future.<sup>151</sup>

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<sup>145</sup> Clean Air Act, 42 U.S.C. §7401(b)(1) (1970).

<sup>146</sup> *Id.*; See U.S. ENV’T PROT. AGENCY, *supra* note 142.

<sup>147</sup> Clean Air Act, 42 U.S.C § 7602(h) (1970).

<sup>148</sup> See PAVID, *supra* note 1.

<sup>149</sup> *Massachusetts v. EPA*, 549 U.S. 497 (2007).

<sup>150</sup> See generally *Id.* at 525.

<sup>151</sup> *Id.* at 532, 535.

