Massachusetts v. EPA:  
A Change of Climate at EPA Clouds the  
D.C. Circuit's Review of Risk-Based  
Policy Decisions

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It is well established that the Administrator of the Environmental Protection Agency has broad policy-making discretion when responding to uncertain environmental risks. Yet there are important limitations to that principle. An agency can exercise policy judgments only to the extent that Congress delegates such power, and only where doing so furthers the regulatory process. A useful analytical tool for evaluating whether agency policy-based decisions meet this test is the risk assessment/risk management framework. Risk assessment and risk management represent two phases of the regulatory process, each entailing a different set of relevant policy considerations. Where an agency bases its decisions on considerations relevant to the wrong phase it may thwart the regulatory scheme developed by Congress as well as exceed the scope of its delegated authority. A 2005 climate change litigation case, Massachusetts v. EPA, provides a case in point, illustrating the importance of the risk assessment/risk management framework to judicial review of agency policy-making. There, the court held that the Administrator may look to both science and general policy concerns when judging whether a pollutant poses a threat to public health and welfare. Interpreting the provision of the Clean Air Act at issue in that case in view of the risk assessment/risk management framework, this Note argues that the court misconstrued the range of policy factors the Administrator may cite as a basis for such a finding.

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J.D., University of California, Berkeley School of Law (Boalt Hall), 2006. I extend a heartfelt thanks to Michael Gadeberg and Alice Bodnar for their invaluable editorial assistance and kind encouragement. Thanks also to Professors Holly Doremus, Daniel Farber, and Anne Joseph for their suggestions and advice.

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INTRODUCTION

Evidence is mounting that climate change may prove to be one of the most pressing social problems of the century before us, affecting both national and regional interests.1 As our understanding of climate change has improved, the scientific debate has steadily shifted from a question of whether the phenomenon will happen at all, to questions of timing and severity.2 Even these remaining uncertainties may not persist for long—scientists report that the effects of climate change are already observable in several U.S. states considered most at risk.3 Nonetheless, the federal government places no direct mandatory caps on greenhouse gas (GHG) emissions that contribute to this problem.

2. See, e.g., Climate Action Report, supra note 1, at 81.
Alarmed by persistent federal inaction, the Attorneys General of nearly a dozen states warned the Bush Administration that they would take the lead in addressing climate change if the federal government did not. State governments have followed through on that warning, joining forces in a series of efforts to fill the "regulatory gap" on climate change by going to the courts. Massachusetts v. EPA represents one of the earliest of these efforts. The case was sparked by EPA's refusal, largely on public policy grounds, to regulate GHG emissions from new motor vehicles despite an apparent mandate to do so under section 202(a)(1) of the Clean Air Act (CAA).

Siding with EPA, the Court of Appeals for the D.C. Circuit held that, assuming the CAA even governs GHG emissions (a threshold question the court conspicuously ducked), the EPA Administrator acted within the bounds of her discretion in refusing to regulate under section 202(a)(1). The court acknowledged that under the terms of the statute regulation is mandatory where the Administrator determines that a pollutant endangers the public health and welfare, but explained that this determination may be premised as much on public policy concerns as on science. Accordingly, the court held that the Administrator's policy-based objections to regulation of GHG emissions were valid factors in determining whether such emissions actually pose a threat.

The Supreme Court recently granted a petition for writ of certiorari to review the D.C. Circuit's decision. Oral arguments will likely be heard sometime during the 2006–2007 term.

6. Massachusetts, 415 F.3d 50.
8. Massachusetts v. EPA, 126 S. Ct. 2960 (2006). The Court granted certiorari on two questions:

1. Whether the EPA Administrator may decline to issue emission standards for motor vehicles based on policy considerations not enumerated in section 202(a)(1). [and] 2. Whether the EPA Administrator has authority to regulate carbon dioxide and other air pollutants associated with climate change under section 202(a)(1).

This Note maintains that the Massachusetts majority exaggerated the extent to which the Administrator may look to policy when making an endangerment finding by conflating two discrete categories of policy-based judgments: risk assessment and risk management. Although policy judgments inhere to both functions, each entails a different set of considerations. Risk assessment policy considerations are primarily grounded in the objective of securing the most reliable estimates of environmental risks. In contrast, risk management policy considerations involve broad, normative judgments about the best course of action once risks are appraised.\textsuperscript{9}

The distinction between risk assessment and risk management policy considerations is critical because environmental statutes often delegate to agencies broad policy-based discretion within one category, while withholding it in another. Thus, where an agency transposes policy considerations relevant solely in one area to another it may exceed the scope of its authority and thwart the regulatory scheme developed by Congress. This potential conflict between agency policy-making and congressional purposes has been a long recurring problem: as the National Research Council (NRC)\textsuperscript{10} observed over twenty years ago, "[a]t least some of the controversy surrounding regulatory actions has resulted from a blurring of the distinction between risk assessment policy and risk management policy."\textsuperscript{11}

Such was the case in Massachusetts v. EPA, where the EPA Administrator wrongly interposed the public policy preferences of the executive branch where section 202(a)(1) calls for an objective, science-based risk assessment alone. Viewing the case through the lens of the risk assessment/risk management analytical framework, this Note argues that two related errors account for the Massachusetts decision. First, in upholding the Administrator's decision, the D.C. Circuit misinterpreted the scope of agency discretion implied in its prior decision in Ethyl Corp. v. EPA, and did so in a way that effectively extinguished the risk assessment/risk management distinction.\textsuperscript{12} That misinterpretation, in turn,

\textsuperscript{9} See, e.g., COMM. ON THE INST'L MEANS FOR ASSESSMENT OF RISKS TO PUB. HEALTH, NAT'L RESEARCH COUNCIL, RISK ASSESSMENT IN THE FEDERAL GOVERNMENT: MANAGING THE PROCESS 3 (1983) [hereinafter NAS/NRC Red Book] ("Risk assessment is the use of the factual base to define the health effects of exposure of individuals or populations to hazardous materials and situations. Risk management is the process of weighing policy alternatives and selecting the most appropriate regulatory action, integrating the results of risk assessment with engineering data and with social, economic, and political concerns to reach a decision.").

\textsuperscript{10} The National Research Council is the principal operating agency for the National Academy of Sciences, a private, nonprofit organization that advises the federal government on scientific and technical matters. COMM. ON THE SCIENCE OF CLIMATE CHANGE, supra note 1, at preface.

\textsuperscript{11} NAS/NRC Red Book, supra note 9, at 3.

\textsuperscript{12} Ethyl Corp. v. EPA, 541 F.2d 1 (D.C. Cir. 1976) (en banc).
led the court to overlook the way that the plain text of section 202(a)(1) constrains the scope of the Administrator's judgment along risk assessment/risk management lines.

Part I of this Note begins by providing a brief overview of CAA section 202(a)(1), the statutory provision at issue in Massachusetts. It then details the factual history of Massachusetts and summarizes the court's rationale for upholding the Administrator's refusal to regulate GHG emissions. Part II then presents a brief primer on the risk assessment/risk management distinction, including a discussion of the range of policy considerations relevant to each, and of the D.C Circuit's prior approach to reviewing government agencies' risk-based policy decisions. Part III explains the key errors in the majority's analysis that led it to wrongly conclude that the Administrator has unfettered policy-based discretion in making an endangerment finding. Finally, in light of the importance of the risk assessment/risk management distinction, this paper identifies three considerations that courts should weigh when reviewing agency risk-based policy-making.

I. A CHANGE OF CLIMATE AT EPA: THE STORY OF MASSACHUSETTS V. EPA.

This Part begins by providing an overview of CAA section 202(a)(1), and describes the legal basis for the proposition that the CAA authorizes regulation of carbon dioxide and other GHG emissions. Because the critiques of the Massachusetts decision presented here do not depend on the premise that the CAA provides such authority, this Part offers a preliminary analysis of that issue as legal background only.13 This Part then describes how EPA reversed its position regarding its statutory authority to regulate GHG emissions, a reversal which prompted the agency to deny the petition at issue in Massachusetts. This Part concludes by summarizing the Massachusetts court's rationale for upholding the Administrator's refusal to regulate GHG emissions.

A. Overview of Section 202(a)(1) of the Clean Air Act

Section 202 falls within Title II of the CAA, which governs regulation of mobile sources of air pollution such as cars and airplanes. In contrast to Title I, which sets National Ambient Air Quality Standards

(NAAQS) for "criteria pollutants" emitted from stationary sources,14 Title II seeks to limit emissions through performance standards and fuel-related requirements. Specifically, section 202(a)(1) states:

The Administrator shall by regulation prescribe ... standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles ... which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.15

Whether this language extends to GHG emissions that contribute to climate change has long been an unresolved question. However, a plain reading of two key statutory definitions offers support for the proposition that it does. First, under CAA section 302(g), "air pollution" is defined broadly, encompassing "any physical, chemical, biological, radioactive ... substance or matter which is emitted into or otherwise enters the ambient air."16 The fact that carbon dioxide and other GHGs are naturally present in the ambient air does not exclude them from this definition—many naturally occurring substances are considered pollutants under the CAA, allowing EPA to prevent human activities from raising concentrations to harmful levels.17 Second, the definition of "welfare" provided under section 302(h) explicitly includes effects on weather and climate.18 The absence of any qualifiers in either of these definitions suggests that Congress intended the CAA to have a broad regulatory reach—broad enough to capture environmental hazards that may have been unforeseen at the time the statute was enacted.

Given the textual basis for regulation of GHG emissions, any conclusion that the CAA does not reach such emissions must be founded on evidence that, as a matter of historical fact, Congress could not have possibly meant what it appears to have said.19 The prevailing argument against regulation of GHGs under the CAA is that in drafting the 1990 Amendments to the CAA, Congress considered but ultimately rejected all proposed references to regulating carbon dioxide or other GHG

15. Id. § 7521(a)(1).
16. Id. § 7602(g).
18. 42 U.S.C. § 7602(h) ("[a]ll language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate").
emissions. That decision ostensibly reflects the will of the amending Congress to exclude GHG emissions from the CAA.

There are, however, a number of factors that weigh against the significance of the legislative history of the 1990 Amendments. To begin with, the Supreme Court has long been skeptical of subsequent legislative history as basis of statutory interpretation because it says nothing about the intent of the earlier enacting Congress. Moreover, even if one accepts subsequent legislative history as a valid interpretive device, there are a number of events in the history of the CAA that tend to support regulation of GHG emissions. The debates preceding both the 1965 and 1970 Amendments show that legislators have associated the CAA with carbon dioxide and global climate change since the very early years of the statute. Later, in the 1977 Amendments, Congress set forth the current, expansive definition of "air pollutant" out of concern that the original definition could be narrowly construed to exempt certain environmental threats. Finally, members of the 106th Congress failed to pass a bill that would have explicitly denied EPA authority to promulgate regulations to limit emissions of carbon dioxide. Thus, the considered-but-rejected argument cuts both ways.

In sum, it would be overreaching to say that the CAA's complex legislative history points to the existence of a clear legislative intent either for or against regulation of GHG emissions. If anything, the mixed historical record reflects the inability of competing legislators to negotiate through the political process a consistent, uniform expression of legislative intent. Where such legislative impasses occur, courts generally resolve the matter by regarding as conclusive the unambiguous language

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22. During the debates on the 1965 Amendments, Congressman Helstoski stated that "[i]t has been predicted that by the year 2000, the amount of atmospheric carbon dioxide may have increased by about fifty percent; and many believe that this will have a considerable effect on the world’s climate." 111 CONG. REC. 25,061 (1965). During the debate on the 1970 Amendments, Senator Boggs introduced into the record a White House report stating that: "Air pollution alters climate and may produce global changes in temperature ... [T]he addition of particulates and carbon dioxide in the atmosphere could have dramatic and long-term effects on world climate." 116 CONG. REC. 32,912, 32,914, 32,916 (1970).

23. As the House Committee Report explained: "In the committee’s view, it is not appropriate to exempt certain pollutants or certain sources from the comprehensive protections afforded by the Clean Air Act." H.R. REP. NO. 95-294, at 42 (1977).

24. Small Business, Family Farms, and Constitutional Protection Act, H.R. 2221, 106th Cong. (1999). Section 3(b) states: "Notwithstanding any other provision of law, no Federal Agency has authority to promulgate regulations to limit emissions of carbon dioxide unless a law is enacted after the date of enactment of this Act that specifically grants such authority."
of the statute at issue. Accordingly, the expansive definition of "pollutant," as well as the CAA's explicit concern with the climate, provide a reasonable argument that GHG emissions are subject to regulation under section 202(a)(1).


In 1999, the International Center for Technology Assessment (ICTA) and nineteen other organizations petitioned EPA to regulate GHG emissions from new motor vehicles pursuant to section 202(a)(1). In doing so, the petitioners called upon EPA to formally resolve whether it had authority under the CAA to regulate carbon dioxide and other air pollutants associated with climate change, as well as whether such emissions "may reasonably be anticipated to endanger the public health or welfare."

Prior to this petition, EPA had sent a series of signals suggesting it had statutory authority to regulate GHG emissions. The issue first became prominent in 1998, when members of Congress expressed concerns that EPA would look to other means of regulating GHG emissions once it became clear that Senate approval of the Kyoto Protocol would not be forthcoming. In response to questions raised by Representative Tom DeLay during EPA's fiscal year 1999 appropriations hearings, EPA General Counsel Jonathan Z. Cannon presented a memorandum (the "Cannon Memo") concluding that carbon dioxide met the statutory definition of an "air pollutant" and therefore might be subject to regulation, provided it met criteria in other provisions of the statute. The following year, new EPA General Counsel Gary Guzy endorsed the Cannon Memo conclusions before a Joint Hearing of the House of Representatives, adding that threats to the climate explicitly fall within the protective concern of secondary NAAQS.

In addition to statements by its general counsels on regulation of GHG emissions, EPA itself has long been a prominent voice among the


29. Cannon Memo, supra note 17, at pt. III.

numerous governmental and scientific agencies weighing in on the risks of climate change. In the summer of 2002, EPA co-issued an interagency report to the United Nations describing the link between anthropogenic GHG emissions and climate change.\(^3\) Since then, EPA has continued to advise the public of the dangers of climate change. The agency’s website, for instance, spells out in elaborate detail the anticipated effects of climate change, warning, “[t]here is no doubt [that] atmospheric buildup of carbon dioxide and other GHGs is largely the result of human activities,” and that “[s]cientists have identified that our health, agriculture, water resources, forests, wildlife and coastal areas are vulnerable to the changes that global warming may bring.”\(^3\)\(^2\)

These statements by EPA regarding the CAA and the risks of climate change were central to the petition to regulate GHG emissions from new motor vehicles under section 202(a)(1). Citing EPA’s own analysis in the Cannon Memo, the ICTA and its co-petitioners argued that anthropogenic emissions of carbon dioxide and other GHGs fall within the broad statutory definition of “air pollutant” under section 302(g).\(^3\) Likewise, EPA’s ongoing warnings of the adverse effects of GHG emissions indicated that it had already “judged” that such emissions are reasonably anticipated to endanger public health or welfare. The petitioners contended that under the terms of the statute, such a judgment triggers mandatory regulatory action.

The Clinton Administration EPA did not rule on the petition, leaving the matter to the Bush Administration to resolve. In August 2003, EPA denied the section 202 petition and simultaneously released a new General Counsel memorandum (the “Fabricant Memo”) addressing the climate change question. In a sharp reversal of the agency’s earlier position, the Fabricant Memo declared that the CAA provides no authority whatsoever to regulate GHG emissions, and formally withdrew the agency’s earlier statements to the contrary.\(^3\)\(^4\) The formal denial of the petition closely followed the Fabricant Memo, incorporating many of the

\(^3\) Climate Action Report, supra note 1; see also Andrew C. Revkin, U.S. Sees Problem in Climate Change, N.Y. TIMES, June 3, 2002, at A1.


\(^3\) 42 U.S.C. § 7602(g) (2006) (defining “air pollutant” to include “any physical, chemical, biological [or] radioactive . . . substance or matter which is emitted into . . . the ambient air”).

memorandum's passages verbatim.\textsuperscript{35} The denial never refuted that GHG emissions and climate change may reasonably be anticipated to endanger human health and welfare. Instead, the denial asserted that in light of the Administrator's discretionary authority to consider "important policy issues," there was no mandatory duty to act, even if she were to make an endangerment finding with respect to GHG emissions.\textsuperscript{36} Emphasizing an array of policy objections to compulsory standards, EPA explained that it did not "make sense" to regulate automobiles, and any effort to do so would only thwart other ongoing domestic and international efforts to reduce GHG emissions.\textsuperscript{37} Instead, EPA endorsed President Bush's voluntary emissions reductions programs as the better approach to the climate change problem.\textsuperscript{38}

\section{C. The D.C. Circuit Ruling in Massachusetts v. EPA.}

In response to the denial, twelve states, three cities, a U.S. territory, and numerous environmental advocates petitioned the U.S. Court of Appeals for the D.C. Circuit to review both EPA's position as stated in the Fabricant Memo and the Rulemaking Denial.\textsuperscript{39} The D.C. Circuit faced a two-part issue in \textit{Massachusetts v. EPA}: first, whether EPA had authority under the CAA to regulate GHG emissions at all; and second, assuming EPA had such authority, whether the current data on the hazards of GHG emissions and climate change, as well as EPA's prior recognition of those hazards, created a statutory \textit{duty} to take regulatory action.\textsuperscript{40}

The \textit{Massachusetts} court reached a fractured decision on these issues.\textsuperscript{41} The majority opinion sidestepped entirely the threshold question of whether EPA has statutory authority to regulate carbon dioxide and

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36. \textit{Id.} at 52,929 ("EPA also disagrees with the premise . . . that if the Administrator were to find that GHGs, in general, may reasonably be anticipated to endanger public health or welfare, she must necessarily regulate GHG emissions from motor vehicles.").
38. \textit{Id.} at 52,931–32.
40. The \textit{Massachusetts} court also addressed two other issues: standing, and whether the Fabricant Memo qualified as "final agency action." \textit{Id.} at 53–56.
41. In a dissenting and concurring opinion, Judge Sentelle agreed with EPA's rejection of the petition, but stated that he would do so on the basis that petitioners lacked standing because they failed to articulate a concrete and particularized injury from climate change. \textit{Id.} at 59 (Sentelle, J., concurring and dissenting in part). In contrast, Judge Tatel's lengthy dissenting opinion argued that the petitioners had standing, that the Clean Air Act authorizes EPA to regulate GHG emissions generally, and that the EPA failed to offer a lawful explanation for its decision to refrain from regulating GHG emissions under section 202(a)(1). \textit{Id.} at 61–82 (Tatel, J., dissenting).
\end{flushright}
other GHGs. Instead, the court assumed *arguendo* that such emissions fell within the regulatory ambit of the CAA, but held that EPA properly exercised its discretion under section 202(a)(1) to reject the petition for rulemaking.\textsuperscript{32} Writing for the majority, Judge Randolph did not dispute that the terms of the statute mandate regulation where the Administrator finds that a pollutant "may reasonably be anticipated to endanger public health and welfare." Nonetheless, under Randolph's analysis, the Administrator retains "considerable discretion" to decide whether a pollutant is harmful enough to trigger mandatory regulation under section 202(a)(1), and that the scope of that discretion is broad enough to encompass both scientific and policy inquiries.\textsuperscript{43}

Using increasingly expansive language, Judge Randolph further explained that EPA has the power to make "the sort of policy judgments Congress makes when it decides whether to enact legislation regulating a particular area."\textsuperscript{44} Accordingly, the determination of whether a pollutant endangers public health need not strictly turn on an objective, scientific inquiry into harm and causation; instead, the decision may also be founded on broad policy considerations freed from "the procedural or the substantive rigor proper for questions of fact."\textsuperscript{45} In light of that discretion, EPA was within the bounds of its authority to cite a wide range of policy considerations—efficiency, technological feasibility, economics, alternatives to regulation, and even diplomatic concerns—as a basis for judging whether GHG emissions could reasonably be anticipated to endanger the public health or welfare.

II. RISK ASSESSMENT AND RISK MANAGEMENT

In holding that the EPA Administrator could invoke general policy considerations as the basis for its threshold endangerment finding, *Massachusetts* overlooked the distinct role science plays in setting environmental policy. To clarify that role, this Part describes a conceptual model that parses the regulatory process into two discrete phases: risk assessment and risk management. The basic insight of this model is that the scientific and political dimensions of environmental regulation are informed by different sets of relevant policy considerations, some of which may lie beyond the province of the EPA Administrator's policy-making discretion. Accordingly, the risk assessment/risk management distinction is a useful analytical tool for reviewing which policy considerations influence a decision, at what point in the regulatory process that influence is brought to bear, and whether such influence is

\textsuperscript{32} *Id.* at 56, 59.

\textsuperscript{43} *Id.* at 57, 58.

\textsuperscript{44} *Id.* at 58.

\textsuperscript{45} *Id.* (citing Ethyl Corp. v. EPA, 541 F.2d 1, 24 (D.C. Cir. 1976) (en banc)).
appropriate under the circumstances. This Part concludes by showing that this distinction has played a role in prior D.C. Circuit cases reviewing agency policy decisions—including the principal case relied upon in the Massachusetts opinion.


EPA’s response to environmental hazards, particularly where the true risks posed by such hazards are uncertain, is an enterprise prone to spark furious disagreement among stakeholders over what, if anything, to do. In part, the potential for controversy flows from the concern that purely political considerations unduly influence science-based appraisals of risk—obscuring what should be, at least in the ideal, a transparent and objective decision-making process.

In 1983, the NRC established a framework intended to improve the transparency of risk-based decision-making by dividing the regulatory process into two discrete functions: risk assessment and risk management.46 Broadly, risk assessment is the use of scientific evidence to evaluate the probability and magnitude of adverse effects of environmental hazards.47 Once environmental threats are appraised, the next step, risk management, balances political, social, economic, and technological considerations in order to select an appropriate regulatory response.48 EPA was an early and enthusiastic proponent of maintaining a clear conceptual distinction between assessment of risks and consideration of risk management alternatives, and continues today to cite it as an “important Agency organizing principle.”49

Distinguishing between risk assessment and risk management is important because each function calls upon EPA to make different kinds of policy choices. Risk assessment is fundamentally a science-driven process. As such, policy judgments in that area generally seek to bridge gaps in scientific evidence.50 For instance, while the integrity of the regulatory process hinges on “good science,” determining the best available data is a matter largely left to agency discretion.51 Agencies also

46. NAS/NRC Red Book, supra note 9.
47. Id. at 3 (“Risk assessment is the use of the factual base to define the health effects of exposure of individuals or populations to hazardous materials and situations.”).
48. Id. (“Risk management is the process of weighing policy alternatives and selecting the most appropriate regulatory action, integrating the results of risk assessment with engineering data and with social, economic, and political concerns to reach a decision.”).
50. NAS/NRC Red Book, supra note 9, at 37.
51. Howard Latin, Good Science, Bad Regulation, and Toxic Risk Assessment, 5 Yale J. on Reg. 89, 89–90 (1988) (arguing that agency discretion in determining the best available data at the risk assessment stage is an area particularly prone to politicization).
make discretionary judgments when characterizing environmental risks in terms of the probability and magnitude of potential harm. Should the risk of catastrophic harm be termed significant where the probability is minute? Should a nominal impact be characterized as a risk where it is certain to occur? Judgments on questions such as these are matters of policy because they are informed as much by risk tolerance as by raw numbers, and because stakeholders often disagree about risk even when presented with the same data. Numerous other facets of the risk assessment process call for agency discretion, most of which, like the above examples, promote EPA’s ability to evaluate risk despite scientific uncertainty.

In contrast, policy choices inherent to risk management reflect the reality that science alone is never an adequate basis for a regulatory decision, because once an environmental threat is identified, there still remains the question of what to do about it. The threshold policy-based decision falling under the realm of risk management is whether to regulate at all. Once a decision maker chooses to regulate, it faces a wide array of options in designing and implementing a regulatory plan. While science may play a part in narrowing the field of regulatory options, ultimately it is politics, not science, which determines the final decision.

Given that the risk assessment and risk management phases of the regulatory process generally call for different types of policy determinations, this two-tiered paradigm offers a practical framework for ensuring that EPA’s policy choices are in harmony with the environmental statutes it administers. Specifically, it sheds light on two areas. First, the framework emphasizes that the efficiency of any regulatory scheme largely depends on the quality and accuracy of the

52. Ethyl Corp. v. EPA, 541 F.2d 1, 18 (D.C. Cir. 1976) (en banc) ("Danger... is set not by a fixed probability of harm, but rather is composed of reciprocal elements of risk and harm, or probability and severity.").

53. See Paul Slovic, Perception of Risk, 236 SCIENCE 280 (1987) (describing psychological research showing that personal bias and intuition contribute to wide disparity among experts' judgments on risk assessment, even when they are presented with the same information).

54. Other areas requiring judgment calls include: determining which health effects to consider and group together; the type of models and assumptions to use in the risk assessment; and how to extrapolate data from one small segment of a population to the entire population. NAS/NRC Red Book, supra note 9, at 29-33.

55. For example, risk management policy decisions inhere in: writing and enforcing regulations; providing information and technical assistance; establishing market incentives for risk reduction; setting standards; and setting deadlines for compliance. NAT'L ACAD. OF PUB. ADMIN., SETTING PRIORITIES, GETTING RESULTS: A NEW DIRECTION FOR THE ENVIRONMENTAL PROTECTION AGENCY 37 (1995).

56. See, e.g., WILLIAM W. LOWRANCE, OF ACCEPTABLE RISK: SCIENCE AND THE DETERMINATION OF SAFETY 75-76 (1976) ("Determining safety, then, involves two extremely different kinds of activities... Measuring risk—measuring the probability and severity of harm—is an empirical, scientific activity; judging safety—judging the acceptability of risks—is a normative, political activity.").
initial risk assessment. Over or underestimations of risk are likely to result in corresponding over- or under-regulation. Accordingly, when reviewing risk-based policy decisions courts have asked what function the policy concern serves: locating the “best” data or choosing the “best” course of action? At least some concerns—cost and technological feasibility of compliance, for example—lie squarely beyond the data-seeking objectives of risk assessment. By asking whether policy considerations speak to descriptive or prescriptive ends, courts ensure that agencies assess risks “in such a way as to capture the ‘real’ chances of various outcomes, with the statistical probabilities unweighted by the desires, fears, or mental quirks of the risk assessors.”

Second, and relatedly, this framework calls attention to the fact that an agency can exercise policy judgments only where and to the extent that Congress formally delegates such power by federal statute. The delegation of “micro-legislative” agency authority is not an all-or-nothing proposition: Congress often reserves for itself policy choices related to risk assessment or management by constraining, or even outright prohibiting, agency discretion in one area or the other. For instance, Congress limits the scope of agency policy discretion in the area of risk assessment when it identifies specific toxins for regulation. Conversely, where Congress precludes considerations of costs or technological feasibility in setting environmental standards, it sharply constrains the scope of an agency's policy discretion in the area of risk management. In short, to say that an agency holds “broad authority” tells only half the story—it is necessary to scrutinize the text of statutes to understand in which respects the agency holds that authority.

57. See, e.g., Natural Res. Def. Council, Inc. v. EPA, 824 F.2d 1146 (D.C. Cir. 1987) (en banc) (reversing EPA emission standards on grounds that they were improperly based on technological concerns rather than a finding of the risk to health).

58. E.g., Whitman v. Am. Trucking, 531 U.S. 457, 469 (2001) (explaining that costs are insufficiently related to public health and “full of potential for canceling the conclusions drawn from direct health effects”).


60. As the Supreme Court put it, “Congress is the ultimate regulator,” and the concept of broad policy discretion does not relieve administrative agencies of a duty to give reasoned consideration to pertinent factors and comply with statutory commands. Indus. Union Dep't, AFL-CIO v. Am. Petroleum Inst., 448 U.S. 607, 663 (1980) (Burger, C.J., concurring).

61. For example, under section 112 of the Clean Air Act, as amended in 1990, Congress specified a list of 189 Hazardous Air Pollutants (HAPs) and instructed EPA to develop regulations, called National Emission Standards for Hazardous Air Pollutants (NESHAPs), for the industries that used them. 42 U.S.C. § 7412 (2006).

62. See, e.g., Tenn. Valley Auth. v. Hill, 437 U.S. 153, 172–74 (1978) (holding that under the Endangered Species Act, the Secretary of the Interior had authority to determine whether a species is endangered, but where such an endangerment finding was made, Congress mandated regulation, affording no room for agency consideration of costs or social utility).
Critics argue that the sharp demarcation between risk assessment and risk management works better in theory than in practice. The thrust of this critique is that policy considerations invariably influence—even dominate—the risk assessment process, just as they do risk management decisions. Additionally, in certain instances policy considerations relevant to risk assessment may overlap with considerations relevant to risk management.

While these are fair observations, they do not disprove the practical utility of the risk assessment/risk management distinction. This Note presupposes that certain policy considerations play a central role to the risk assessment stage, arguing only that courts should—and ordinarily do—scrutinize whether a statute authorizes an agency to cite a particular policy consideration as a basis for regulatory action or inaction. Similarly, even though some policy considerations may be difficult to compartmentalize as purely risk assessment or purely risk management, that does not preclude courts from recognizing where such crossover occurs, and where it does not.


Prior to Massachusetts, the D.C. Circuit reviewed agency risk-based policy decisions mindful of risk assessment’s descriptive, rather than prescriptive, role, and of statutory limitations on risk management prerogatives. Such was the case in Ethyl Corp. v. EPA, the principal case cited by the Massachusetts majority in support of its policy analysis. In Ethyl, manufacturers of automobile fuel additives petitioned the court to set aside low-lead gasoline regulations promulgated by EPA, arguing that the risks of lead emissions were too speculative to justify regulation. Siding with EPA, the court emphasized the functional relationship between the Administrator’s discretionary judgment in assessing risks and the precautionary nature of the CAA. As the court explained, given that “speculation, conflicts in evidence, and theoretical extrapolation typify [EPA’s] every action,” the Administrator must have the flexibility to make an endangerment finding based on his own judgment of the

63. See, e.g., Sheila Jasanoff, Relating Risk Assessment and Risk Management: Complete Separation of the Two Processes is a Misconception, 19 EPA J. 35, 35 (1993) (“[R]isk assessment . . . requires the exercise of subjective judgment . . . [which] must remain sensitive to the policy context.”); Latin, supra note 51, at 90 (arguing that “social policy considerations must play as prominent a role in the choice of risk estimates as in the ultimate determination of which predicted risks should be deemed unacceptable.”).

64. See generally Latin, supra note 51.

65. Ethyl Corp. v. EPA, 541 F.2d 1 (D.C. Cir. 1976) (en banc).

66. Id. at 12.

67. Id. at 17, 20–23 & nn.37–38.
scope and probability of harm—an exercise that necessarily entails policy judgments.\footnote{68}

This is not to say the \textit{Ethyl} court held that the Administrator had unfettered policy-making discretion extending to all areas of the statute.\footnote{69} The court distinguished risk assessment and management, describing the former as a "threshold finding" preceding and distinct from regulatory action.\footnote{70} Recognizing that Congress did not uniformly delegate the same scope of authority in each area, the court looked to the text of the statutory provision at issue in order to discern those aspects of the regulatory scheme that allowed for agency discretion from areas that did not.\footnote{71}

Later, in \textit{Natural Resources Defense Council v. EPA} (hereinafter \textit{Vinyl Chloride}), an en banc D.C. Circuit opinion written by Judge Bork endorsed a two-step methodological requirement designed to ensure that agencies sever technological and economic considerations from risk assessment considerations.\footnote{72} At issue was whether EPA could consider cost and technological feasibility when setting emission standards for carcinogenic pollutants pursuant to section 112 of the Clean Air Act.\footnote{73} The court first held that section 112 allows the agency to consider such factors in selecting levels for pollutant standards, a risk management function.\footnote{74} Nonetheless, the \textit{Vinyl Chloride} court struck down EPA's standards, holding that EPA had "ventured into a zone of impermissible action" by substituting cost and technological considerations for the required risk assessment.\footnote{75} As Judge Bork explained, "the congressional mandate to provide 'an ample margin of safety' 'to protect the public health' requires the Administrator to [first] make an initial determination of what is 'safe.'"\footnote{76} Such a determination "must be based solely upon the risk to health."\footnote{77} Thus, by conflating risk management and risk

\footnote{68. \textit{Id.} at 18–21, 24.}
\footnote{69. The court explained:}
\footnote{All of this is not to say that Congress left the Administrator free to set policy on his own terms. To the contrary, the policy guidelines are largely set, both in the statutory term 'will endanger' and in the relationship of that term to other sections of the Clean Air Act. These prescriptions direct the Administrator's actions.}
\footnote{\textit{Id.} at 29.}
\footnote{70. \textit{See}, \textit{e.g.}, \textit{id.} at 14 ("before ordering [regulatory action], Congress demanded a threshold determination that the pollutant causes actual harm").}
\footnote{71. \textit{See id.} at 20 n.37 (contrasting sections 211 and 202 of the CAA to illustrate the different levels of agency discretion delegated in each).}
\footnote{72. \textit{Natural Res. Def. Council, Inc. v. EPA}, 824 F.2d 1146, 1164 (D.C. Cir. 1987) (en banc).}
\footnote{73. \textit{Id.} at 1147–48; 42 U.S.C. § 7412 (2006).}
\footnote{74. \textit{Vinyl Chloride}, 824 F.2d at 1163.}
\footnote{75. \textit{Id.}}
\footnote{76. \textit{Id.} at 1164 (quoting CAA section 112).}
\footnote{77. \textit{Id.} at 1165.}
assessment considerations, EPA had impermissibly acted beyond the terms of the statute.

In sum, *Ethyl* and *Vinyl Chloride* demonstrate that even though there may not always be clean demarcations between the realms of science and policy, the courts have historically promoted the transparency of agency decision-making by viewing the problem through analytical models roughly approximating the risk assessment/risk management framework. In doing so, they have recognized that the scope of the EPA Administrator's policy-making discretion, although typically broad, is cabined by the text of the statute and in the underlying purposes Congress sought to achieve by delegating authority to the agency in the first place.

III. ANALYSIS OF THE MASSACHUSETTS MAJORITY OPINION.

In holding that EPA gave appropriate reasons for denying the petition for rulemaking, *Massachusetts* wrongly allowed EPA to proffer generalized policy objections to regulating GHG emissions in lieu of a formal endangerment finding. This error is due to the majority seizing on language in *Ethyl* that, when read out of context, suggests that the EPA Administrator's policy-making authority is unconstrained by the text or purposes of the CAA. That, in turn, blinded the court to constraints on agency policy-making authority that are built into the language of section 202(a)(1): specifically, constraints reflecting the risk assessment/risk management distinction.

A. Massachusetts Misinterpreted *Ethyl Corp. v. EPA*.

Grounded almost exclusively on *Ethyl*, the *Massachusetts* court's analysis can be distilled down to the following reasoning: Congress gave the Administrator considerable discretion over whether to regulate; that discretion is broad enough to encompass both scientific and political judgments; accordingly, the Administrator may cite any (presumably reasonable) policy judgment as a basis for its endangerment finding. The touchstone for the court's interpretation of the scope of the term "judgment" was the *Ethyl* opinion, rather than the actual semantic context provided by the language of section 202(a)(1). The hitch is that *Ethyl* does not support a single step of the majority's reasoning in *Massachusetts*. First, *Ethyl* did not hold that the Administrator has broad discretion over whether to regulate under the CAA generally, but only that the Administrator has such discretion


79. See id. (citing *Ethyl Corp. v. EPA*, 541 F.2d 1, 20, 24, 26 (D.C. Cir. 1976) (en banc)).
under section 211, the provision at issue in that case. More importantly, Ethyl specifically identified section 202 as an area of the statute that denies full administrative discretion. Contrasting the "permissive" language of section 211 against the mandatory terms of section 202, Ethyl identified an "important difference" between the two: namely, that, unlike section 211, the mandatory regulation under section 202 requires reviewing courts to distinguish those aspects of the provision that allow for agency policy-making discretion (risk assessment) from areas that do not (risk management).

Second, Ethyl did not endorse a view of agency discretion so broad as to encompass all matters of "policy." Ethyl simply acknowledged that certain policy issues inhere in risk assessment, and that, accordingly, the Administrator must be free to exercise policy-making discretion within that phase of the regulatory process. The Administrator's discretion in assessing risks may constitute de facto discretion over whether to regulate at all, at least where regulation turns on an endangerment finding. However, the Ethyl court did not understand that to mean that the Administrator is free to replace judgments related to risk assessment with freestanding judgments about whether regulation "makes sense." As that court explained, "Congress [did not leave] the Administrator free to set policy on his own terms." Instead, the policy guidelines are fixed, "both in the statutory term 'will endanger' and in the relationship of that term to other sections of the [CAA]." The Massachusetts decision ignored these important limiting principles in Ethyl, with the result that it failed to root its policy analysis in the specific terms of section 202(a)(1).

B. Massachusetts Overlooked the Limits to Agency Policy-making Authority Built into CAA Section 202.

The language of section 202(a)(1) creates a two-step framework reflecting the risk assessment/risk management paradigm, and signals that the EPA Administrator has a different range of discretionary authority within each phase of the regulatory process. Section 202(a)(1) states: "The Administrator shall by regulation prescribe . . . standards applicable to the emission of any air pollutant from . . . new motor vehicles . . . which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare."

80. Ethyl, 541 F.2d at 23.
81. See id. at 20 n.37.
82. See id.
83. Id. at 29.
84. Id.
Giving proper grammatical effect to the relationship of the terms "judgment" and "cause or contribute," section 202(a)(1) delegates to the EPA Administrator broad discretionary authority in the area of risk assessment. When assessing uncertain environmental threats such as climate change, section 202(a)(1) authorizes the Administrator to choose which scientific evidence to consider, to weigh the scope and probability of harm, and to make other policy choices directed at capturing the "real" chances that adverse environmental affects will occur. Within this function, risk management considerations such as non-regulatory alternatives or diplomatic implications are impermissible bases for the Administrator's decision because they have no direct bearing on the question of anticipated threats to public health or welfare.\(^8\)

In the area of risk management, the scope of the Administrator's authority is constrained by the word "shall," a term that courts ordinarily interpret to exclude discretion to take account of equitable or policy factors.\(^7\) In short, the Administrator has ultimate authority over whether to make an endangerment finding, but once such a finding is made, the term "shall" mandates regulation, foreclosing EPA's discretion to cite risk management considerations as a basis for regulatory forbearance.\(^8\)

That is not to say that section 202(a) provides for no agency discretion in the realm of risk management. Once mandatory regulation is triggered under section 202(a)(1), subsection (a)(2) provides for considerable discretion by authorizing the Administrator to set compliance deadlines based on costs and technological feasibility.\(^9\) However, the fact that Congress authorized these considerations only after the completion of an endangerment finding means that reviewing courts must be particularly careful that questions of cost and technological feasibility do not creep into the threshold risk assessment.\(^10\)

Yet in denying ICTA's petition to regulate GHG emissions under section 202(a)(1), these and other similarly restricted considerations did much more than just "creep" into EPA's threshold risk analysis—they

87. See, e.g., Escondido Mut. Water Co. v. La Jolla Band of Mission Indians, 466 U.S. 765, 772 (1984) (holding that the mandatory nature of the term "shall" in the statutory provision at issue required the government agency to accept without modification license conditions, even if it disagrees with them).
88. See Her Majesty the Queen in Right of Ontario v. EPA, 912 F.2d 1525, 1533 (D.C. Cir. 1990) (holding that the word "shall" precludes agency discretion over whether to regulate a pollutant).
89. 42 U.S.C. § 7521(a)(2) (2006), states that:
Any regulation prescribed under paragraph (1) of this subsection . . . shall take effect after such period as the Administrator finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period.
90. See Am. Trucking, 531 U.S. at 469.
appeared to be the central concern. EPA's denial of the petition outlined numerous policy rationales in support of the Administrator's judgment that non-regulatory approaches to reducing GHG emissions were the preferable response to the climate change problem. Among those rationales, EPA duly cited scientific uncertainties regarding the magnitude and timing of harm posed by climate change—concerns falling squarely within the realm of risk assessment. The problem is that EPA's denial seamlessly folded these concerns in with considerations of technological feasibility, costs, and, more generally, whether regulation under the CAA was "sensible."

EPA's conflation of science with sweeping policy concerns had two consequences. First, because the decision to refrain from regulation was based largely on risk management concerns, it violated the plain terms of section 202(a)(1), which denies EPA the authority to render a decision on such grounds. Second, by clouding the distinction between risk assessment and risk management considerations, the denial made what was largely a political decision appear to be dictated by the limits of current scientific knowledge.

CONCLUSION

The Massachusetts majority held that the Administrator may look to both science and general policy concerns when judging whether a pollutant poses a threat to public health and welfare. Even acknowledging that science and policy overlap in certain respects, this ruling defies the judicially recognized principle that an effective evaluation of environmental threats requires at least a minimal effort to separate the two. The Massachusetts court lost sight of that principle, and thus read section 202(a)(1) as an empty legislative command, one that essentially says: "We, Congress, will leave it to you, the Administrator, to decide whether a pollutant endangers the public health or welfare, but if you do make such a finding, regulation is absolutely mandatory—unless you prefer to do nothing."

The remarkable outcome of Massachusetts owes much to the unusual circumstances that gave rise to the dispute in the first place. Climate change is a complex problem, and whether the CAA would

92. Id. at 52,929–31.
93. Id. at 52,925, 52,931.
94. In his dissenting opinion, Judge Tatel bitterly complained that both the EPA and majority selectively quoted from the NRC Climate Change Report to exaggerate the degree of scientific uncertainty on the climate change question, implying that the decision to refrain from regulation was, in truth, purely political. See Massachusetts v. EPA, 415 F.3d 50, 78 (D.C. Cir. 2005) (Tatel, J., dissenting), cert. granted, 126 S. Ct. 2960 (2006).
provide a meaningful solution is certainly debatable. Nonetheless, if the Supreme Court upholds the Massachusetts court’s view of unfettered agency policy-making discretion, it will make it more difficult for Congress to reserve for itself certain policy decisions. This, in turn, will affect environmental issues far more mundane than climate change.

There are, therefore, at least three cautionary lessons to be gleaned from the case. First, careful analysis of the functional role of agency policy-making is just as important where agency inaction, rather than action is at issue. Agency policy decisions are likely to receive greater scrutiny where they lead to new regulatory action because courts are primarily concerned with the need for checks and controls on overzealous agencies. Regulatory restraint is less likely to raise red flags. Courts may take the view that the stakes are lower in such cases because, ostensibly, the worst that will result from a misguided decision will be the maintenance of the status quo.

The crux of the problem is that inaction is also a policy decision, entailing its own set of consequences that Congress may or may not have intended. Therefore, accurately defining the scope of an agency’s policy-making capacity is equally important where an agency invokes policy to refrain from regulation mandated by law. Given that the CAA and other environmental statutes were drafted specifically with the aim of deterring regulatory foot-dragging, courts should confirm that policy rationales for inaction are rooted in the text and purpose of the statute, just as they would rationales for action.

Second, and relatedly, although courts must be deferential to the policy-making role that agencies play, “policy” cannot be an open-ended means of rewriting a statute or reshaping policy decisions that Congress reserves for itself. In Massachusetts, the Administrator offered fair reasons for the denial. It is hard to fault her for her reluctance to regulate given the odds that the courts or Congress would reverse any attempt to do so, and that, come the next appropriations hearing, she would likely have to face the music for making such an arguably brash move.

Nonetheless, the question of whether the Administrator had good reasons to refrain from regulation is no substitute for the more fundamental question of who gets to make that call. In this case, the terms of section 202(a)(1) indicate that, for good or ill, Congress limited the scope of the Administrator’s discretion to matters related to science. If Congress made a poor decision in drafting those terms, then the interests of political transparency and accountability require that

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96. See Natural Res. Def. Council, Inc. v. Train, 545 F.2d 320, 328 (2d Cir. 1976) ("Congress sought to eliminate, not perpetuate, opportunity for administrative foot-dragging.").
Congress, not a court, correct that mistake. There is little doubt that the Massachusetts court would have provoked a raucous congressional response had it held that the terms of section 202(a)(1) required regulation of GHG emissions from mobile sources. By exposing current tensions between law and policy, such a decision would have promoted political transparency by forcing Congress to make a clear statement for or against GHG emissions regulation. Yet the Massachusetts decision did just the opposite: it hid the fact that the broad protective cover of the CAA is in tension with the federal government’s ambivalence over climate change, thereby fostering continuing uncertainty over whether the Act applies to GHG emissions.

Finally, the facts of Massachusetts hint that critiques about the lack of clarity between risk assessment and risk management may be attributed as much to the way regulatory agencies frame policy issues as to the risk analysis framework itself. In a dispute, agencies have incentive to tout their policy-making discretion in the broadest possible terms, a position that likely blurs the distinction between policy judgments appropriate for risk assessment and those reserved for risk management. That phenomenon is incompatible with the high standard of reason demanded for administrative decisions—a standard arguably higher than that demanded for judicial decision-making. If courts are to have any hope of holding agencies to that high standard, they should require agencies to clearly parse out the science and non-science policy considerations affecting their decisions. But requiring candor by administrative agencies is only the first step. The shortcomings of the Massachusetts analysis highlight the need for the courts to pay attention to the way that different types of policy considerations influence a decision. Only then can they ensure that such considerations are appropriate under the terms of the governing law.


99. See Coglianese, supra note 97, at 1258 ("To fulfill administrative law's aspiration of reason, agencies need to explain their decisions by reference not only to scientific evidence, but also to policy principles that speak to the value choices inherent in their decision making.").