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Restoring Webster’s Definition of “Best” under the Clean Air Act

*Christopher Raftery**

Two recent cases, Vigil v. Leavitt and Latino Issues Forum v. EPA, demonstrate that the Environmental Protection Agency and the courts have failed to mandate the adoption of best available control measures as required by the Clean Air Act. San Joaquin Valley, California, and Phoenix, Arizona, were each designated as serious nonattainment areas for particular matter pollution and, therefore, were each required to adopt best available control measures. The states designed menu of options schemes to provide regulated agricultural actors a flexible list of control choices to choose from.

The Environmental Protection Agency and the Ninth Circuit ruled that the menus satisfied the Clean Air Act’s statutory requirement. This Note argues that no reasonable interpretation of the word “best” leads to that conclusion. While best available control measures is not defined by the Clean Air Act, the statute, case law, and the Environmental Protection Agency’s own internal guidance documents all clearly articulate that best technology-based standards require “maximum” emissions reduction. The menus fail to maximize emissions reductions. As a result, the Environmental Protection Agency and the courts have contravened the intent of the Clean Air Act and have authorized an imprudent new regulatory approach.

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INTRODUCTION

How best to reduce air pollutants detrimental to human health and the environment is not a novel question. Even before environmental law’s “divine conception” in 1970, citizens, economists, legal scholars, and environmentalists theorized about how best to regulate the air.¹ Two recent cases, both upholding decisions by the Environmental Protection Agency (EPA), highlight that despite the significant attention paid to this question, the answer remains elusive in at least one regulatory context.

At issue in this Note are two “menu of options” schemes designed by state regulators and approved by the EPA.² The menus purport to satisfy the Clean Air Act’s (CAA) requirement that serious nonattainment areas

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1. See, e.g., KARL BOYD BROOKS, BEFORE EARTH DAY: THE ORIGINS OF AMERICAN ENVIRONMENTAL LAW, 1945–1970, at 14 (2009). Brooks argues against the traditional notion that modern environmental law instantaneously emerged following passage of the National Environmental Policy Act (“NEPA”). *Id.* at 14–15. In his view, the “divine conception” is an incorrect assessment of environmental law’s genesis. *Id.* at 14.

2. See *Latino Issues Forum v. EPA*, 558 F.3d 936, 942 (9th Cir. 2009); see also *Vigil v. Leavitt*, 381 F.3d 826, 829–30 (9th Cir. 2004).

for particulate matter adopt "best available control measures" (BACM).³ The EPA and the Ninth Circuit ruled that the menus satisfied the CAA's statutory requirement.⁴ This Note argues that no reasonable interpretation of the word "best" could lead to that conclusion.

Under the CAA, the EPA sets national ambient air quality standards (NAAQS) for air pollutants that may reasonably "endanger public health or welfare."⁵ The EPA established NAAQS for ambient particulate matter, such as dust, dirt, soot, smoke or liquid droplets, with a diameter no larger than ten micrometers (PM₁₀).⁶ As a result, states are required to develop "state implementation plans" (SIPs) demonstrating how they will attain, maintain, and enforce emissions levels of the pollutant.⁷

In the 1990 CAA amendments, Congress designated ten "moderate" PM₁₀ nonattainment areas.⁸ Two of those designations were given to San Joaquin Valley, California, and Phoenix, Arizona.⁹ The EPA subsequently reclassified both of those areas to "serious" nonattainment.¹⁰ California and Arizona were therefore required to produce SIPs that adopted the CAA's elevated requirement of BACM in order to reduce emissions levels.¹¹

As a means to attain BACM, both Phoenix and San Joaquin Valley incorporated menu of options schemes into their SIPs.¹² The menus provide lists of control practices categorized by agricultural operation.¹³ They require that regulated agricultural actors choose and implement a single control practice from each applicable control list.¹⁴ The categorical lists contain numerous control choices. In San Joaquin Valley, for

3. See *Latino Issues*, 558 F.3d at 938–39; see also *Vigil*, 381 F.3d at 830–31.

4. See *Latino Issues*, 558 F.3d at 949; see also *Vigil*, 381 F.3d at 838.

5. See 42 U.S.C. §§ 7408–7409 (2006).

6. 40 C.F.R. § 50.6(c) (2006).

7. 42 U.S.C. § 7410(a).

8. See *Designations and Classifications for Initial PM₁₀ Nonattainment Areas*, 56 Fed. Reg. 11,101 (Mar. 15, 1991).

9. See *Latino Issues*, 558 F.3d at 939; see also *Vigil*, 381 F.3d at 830.

10. See *Reclassification of Moderate PM-10 Nonattainment Areas to Serious Areas*, 58 Fed. Reg. 3334, 3337 (Jan. 8, 1993) [hereinafter *San Joaquin Reclassification*]; see also *Clean Air Act Reclassification; Arizona-Phoenix Nonattainment Area; PM₁₀*, 61 Fed. Reg. 21,372, 21,373 (May 10, 1996) [hereinafter *Phoenix Reclassification*].

11. See 42 U.S.C. § 7513a(b)(1)(B).

12. See *Latino Issues*, 558 F.3d at 938; see also *Vigil*, 381 F.3d at 835–36. The SIP at issue in *Vigil* does not specifically term its flexible list of options as a "menu of options." *Vigil*, 381 F.3d at 835–36. However, the court in *Latino Issues* found the menu of options in dispute in its case substantially similar to the list of options in the prior case. *Latino Issues*, 558 F.3d at 936. As such, this Note will refer to each list as a "menu of options."

13. See, e.g., *Revisions to the California State Implementation Plan; San Joaquin Valley Unified Air Pollution Control District*, 70 Fed. Reg. 16,207, 16,208–09 (Mar. 30, 2005) (codified at 40 C.F.R. pt. 52) [hereinafter *San Joaquin Rule 4550*] (approving the San Joaquin Valley's Rule 4550).

14. See *id.*

example, over one hundred total control options are available, with up to twenty-four different control options under a single category.¹⁵ In Phoenix, thirty-four possible control options are spread among three categories.¹⁶ In addition to providing many choices, the categorical lists likewise offer vastly different types of control choices. For instance, in San Joaquin Valley's "cropland harvest" category, agricultural operators may choose to fallow part of their land, harvest crops by hand, use balers to harvest crops, or use modified equipment.¹⁷ Selection of any one of these control measures satisfies their obligation under the SIP.¹⁸ The regulated actor may additionally select a control practice from a different category or from outside the list entirely, so long as emissions reductions will be at least equivalent to other control options on the list.¹⁹

The EPA ruled that both menus satisfied the CAA's BACM.²⁰ The EPA justified its approval by arguing that the variable nature of farming dictates providing the agricultural sector control choice flexibility.²¹ The Ninth Circuit upheld the EPA's approval of the menus in *Latino Issues Forum v. EPA*²² and *Vigil v. Leavitt*.²³

This Note explains that the respective menu of options schemes were incorrectly approved by the EPA and incorrectly upheld by the Ninth Circuit for two primary reasons. First, and most fundamentally, the menus do not adhere to the proper superlative definition of "best" available control measures.²⁴ BACM for serious PM₁₀ nonattainment areas was not statutorily defined.²⁵ However, the CAA, case law, and the EPA's own internal guidance documents all clearly articulate that best technology-based standards require "maximum" emissions reduction.²⁶

15. See *Latino Issues*, 558 F.3d at 940.

16. See *Vigil*, 381 F.3d at 835.

17. See SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, LIST OF CONSERVATION MANAGEMENT PRACTICES (2004) [hereinafter CMP LIST].

18. See *Latino Issues*, 558 F.3d at 945; see also *Vigil*, 381 F.3d at 835–36.

19. See, e.g., San Joaquin Rule 4550, 70 Fed. Reg. at 16,208.

20. See *id.* at 16,207; see also Approval and Promulgation of Implementation Plans; Arizona-Maricopa County PM-10 Nonattainment Area; Serious Area Plan for Attainment of the PM-10 Standards, 67 Fed. Reg. 48,718 (July 25, 2002) [hereinafter Arizona Menu].

21. See San Joaquin Rule 4550, 70 Fed. Reg. at 16,208–09; see also Arizona Menu, 67 Fed. Reg. at 48,730.

22. See *Latino Issues*, 558 F.3d at 938.

23. See *Vigil*, 381 F.3d at 836.

24. See WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 208 (3d ed. 1993) (defining "best" as the "most productive of good").

25. See 42 U.S.C. § 7513(a)(b)(2)(B) (2006).

26. See *id.* § 7479(3) (defining "best available control technology"); *Alaska Dep't of Envtl. Conservation v. EPA*, 540 U.S. 461, 498–99 (2004) (applying best available control technology's definition under the CAA); State Implementation Plans for Serious PM-10 Nonattainment Areas, and Attainment Date Waivers for PM-10 Nonattainment Areas Generally Addendum to the General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990, 59 Fed. Reg. 41,998, 42,010–14 (Aug. 16, 1994). Cost and other considerations may also be

The menus fail to meet that requirement because they allow agricultural operations to select any control choice, regardless of the degree to which emissions will be reduced. Second, the EPA's argument that agricultural sources will better select emissions reducing control measures relies on the faulty premise that they will do so without being asked to.

Part I of the Note highlights the context of air pollution control. Part II introduces the CAA and details the relevant regulatory issues. Part III introduces *Vigil*, *Latino Issues*, and menu of options schemes generally. Finally, Part IV presents the Note's argument that the menu schemes, as found in *Latino Issues* and *Vigil*, do not amount to "best" available control measures.

I. AIR POLLUTION IN THE UNITED STATES

A. *America's Unhealthy Skies: A Brief History*

America's remarkable leap to industrialization in the nineteenth and early twentieth centuries produced enormous societal benefits, yet also yielded never before experienced air hazards.²⁷ Industrial-based cities produced considerable amounts of air pollution, typically associated with the type of fuel used in the region.²⁸ For instance, Chicago suffered severe smoke inundation from burning soft coal in early twentieth century.²⁹ Los Angeles, with its love of the automobile, experienced "a mysterious malady" settling over the city on warm days in the 1940s.³⁰ American cities endured calamities such as killer smog,³¹ and as a result, public concern grew over the country's air pollution problem.

The precise origin of modern environmental law, and the resulting push to regulate air pollution, is debated.³² In the early twentieth century, women's clubs protested against worsening urban air pollution.³³ The

appropriately included in a best technology-based regime. *See, e.g.*, *Entergy Corp. v. Riverkeeper, Inc.*, 129 S. Ct. 1498, 1510 (2009) (ruling that cost-benefit analysis is appropriate under "best technology available" requirements under the Clean Water Act).

27. GEORGE A. GONZALEZ, *THE POLITICS OF AIR POLLUTION: URBAN GROWTH, ECOLOGICAL MODERNIZATION, AND SYMBOLIC INCLUSION* 36 (2005).

28. *See* ARNOLD W. REITZE JR., *STATIONARY SOURCE AIR POLLUTION LAW* 4 (2005).

29. GONZALEZ, *supra* note 27, at 37.

30. *See id.* at 75 (identifying "mysterious malady" as an elaborate description of "smog").

31. *See* Sean D. Hamill, *Unveiling a Museum, a Pennsylvania Town Remembers the Smog That Killed 20*, N.Y. TIMES, Nov. 1, 2008, at A22, available at <http://www.nytimes.com/2008/11/02/us/02smog.html>.

32. *See generally* BROOKS, *supra* note 1 (Brooks notes that while the Rachel Carson's book *Silent Spring* in the early 1960s and Earth Day in 1970 are often considered the starting points of the environmental movement, he argues that environmentalism and environmental law predate that era).

33. REITZE, *supra* note 28, at 4.

medical community additionally lobbied against the country's air quality deterioration, noting increased nasal, throat, bronchial, and pulmonary ailments.³⁴ Despite the growing focus on air pollution and its adverse health and environmental effects, early legal action depended primarily on a patchwork of common law tort remedies.³⁵ Tort claims, however, were unreliable.³⁶ After 1945, as argued by Professor Karl Brooks, environmental law began the slow path towards effective state and federal environmental regulation of air pollutants.³⁷

The Clean Air Act Amendments of 1970 eventually revolutionized air pollution control, putting the EPA in charge of setting NAAQS.³⁸ The CAA will be a significant point of discussion for the remainder of the Note; however, for the present purposes, it is sufficient to note that air pollution concerns and law predate the CAA.

B. Particulate Matter and Its Health Effects

Particulate matter, an abundant pollutant in the United States, is defined as "tiny liquid and solid particles of varying size and composition."³⁹ Particulate matter is either emitted directly from its source, as is the case with dust, dirt, smoke, or soot, or is formed in the atmosphere through transformation of gaseous emissions, such as sulfur oxides, nitrogen oxides, and volatile organic compounds.⁴⁰

The size of the particulate largely determines the effects of the pollutant.⁴¹ In particular, size determines whether the particulate will "fall to the ground, stay suspended, or [be] capable of being breathed into the tracheobronchial system."⁴² Total suspended particulates are those stable enough to stay in the air, and generally range from one to one hundred micrometers in diameter.⁴³ While larger particulates are not easily inhaled, particulates ten micrometers in diameter or less (PM₁₀) are

34. *See id.*

35. *See id.* at 3 (tort action included public nuisance, private nuisance, and trespass).

36. Daniel A. Farber, *Toxic Causation*, 71 MINN. L. REV. 1219, 1220 (1987) (noting that proving causation is difficult in the context of toxic pollution); *see also* REITZE, *supra* note 28, at 3 (explaining that the transactional costs of the tort system, the complexity of identifying the source of the pollutant, and a default bias for the polluters made successful environmental action difficult during this period).

37. BROOKS, *supra* note 1, at 14–15.

38. *See* REITZE, *supra* note 28, at 10; *see also* 42 U.S.C. § 7407(d)(1)(B) (2006) (NAAQS were designed to establish emissions caps on pollutants deemed harmful to public health and welfare).

39. *See* STEVEN P. CROLEY, REGULATION AND PUBLIC INTERESTS: THE POSSIBILITY OF GOOD REGULATORY GOVERNMENT 164 (2008).

40. *See id.*

41. *See* REITZE, *supra* note 28, at 27.

42. *See id.*

43. *See id.*

considered easily inhalable.⁴⁴ Small particulates of less than two and a half micrometers (PM_{2.5}) are considered especially easy to inhale and pose a serious health danger.⁴⁵

As particulates are not necessarily classified as emissions themselves, and may in fact be formed in the atmosphere, they derive from a variety of different sources.⁴⁶ Chemical reactions, through transformations of sulfur oxides, nitrogen oxides, and volatile organic compounds, among other gaseous emissions, remain a prominent cause of particulate matter pollution.⁴⁷ Such gases are emitted from a host of sources.⁴⁸ Fuel combustion, such as burning coal, wood, or diesel, is also a major source of particulate pollution.⁴⁹ Industrial processes and agriculture, such as plowing and field burning, can also contribute significantly.⁵⁰ And finally, unpaved roads, which kick up dust, also heavily contribute to particulate pollution.⁵¹

Particulate pollution is linked to serious health problems.⁵² The microscopic solid particles or liquid droplets in PM₁₀ may become embedded deep into the lungs when inhaled.⁵³ As a consequence, scientific studies have linked particulate pollution to increased respiratory symptoms, such as irritation of the airways or difficulty breathing.⁵⁴ Studies have also tied particulate matter to decreased lung functioning, aggravated asthma, development of chronic bronchitis, irregular heartbeat, nonfatal heart attacks, and premature death in people with heart or lung disease.⁵⁵

The environmental and aesthetic effects of particulate pollution are likewise significant. Particles are carried over long distances by wind before settling on ground or water.⁵⁶ Particulate pollution therefore inflicts harm upon ecosystems by increasing acidity in lakes and streams, altering the nutrient balance in coastal waters and river basins and

44. See EPA, Particulate Matter: Basic Information, <http://www.epa.gov/air/particlepollution/basic.html> (last visited Mar. 16, 2010) (PM₁₀ is also defined as "coarse particulates").

45. See *id.* (PM_{2.5} is also defined as "fine particulates").

46. See CROLEY, *supra* note 39, at 164.

47. See *id.*; see also EPA, OFFICE OF AIR QUALITY PLANNING AND STANDARDS, NATIONAL AIR QUALITY: STATUS AND TRENDS THROUGH 2007, at 5 (2007) [hereinafter NATIONAL AIR QUALITY].

48. See NATIONAL AIR QUALITY, *supra* note 47, at 5.

49. See *id.* at 7.

50. See *id.* at 5.

51. *Id.*

52. *Id.*

53. See EPA, *supra* note 44.

54. See EPA, Particulate Matter: Health & Environment, <http://www.epa.gov/air/particlepollution/health.html> (last visited Mar. 15, 2010).

55. See *id.*

56. See *id.*

damaging sensitive forests and farm crops.⁵⁷ Particulate matter is also a major cause of reduced visibility, through haze, in many parts of the United States.⁵⁸ Aesthetically, particle pollution stains and damages materials such as stone.⁵⁹

Thanks to the country's regulatory efforts, particulate pollution is declining nationwide.⁶⁰ Both PM_{2.5} and PM₁₀ pollution have shown improvements in most of the EPA's monitoring locations.⁶¹ For example, the EPA estimates PM₁₀ emissions declined nationally by 33 percent between 1990 and 2007 when measured by twenty-four hour levels.⁶² These decreases have contributed to significant health benefits.⁶³ However, California, which already experiences dangerous levels of particulate pollution in many parts of the state, possesses roughly the same ambient particulate matter level as it did in 1990.⁶⁴ Considering the danger that particulate pollution poses to both human and environmental health, particulate matter remains a serious problem.

II. THE CLEAN AIR ACT AND AIR POLLUTION REGULATION

A. *Introduction to the Clean Air Act*

First enacted in 1963, and given teeth in the 1970 Amendments, the CAA created a state-federal scheme to improve the nation's air quality.⁶⁵ Under the CAA, the EPA publishes a list of air pollutants and then sets NAAQS for pollutants that may reasonably endanger public health or welfare.⁶⁶

States are primarily responsible for assuring that air quality standards are met.⁶⁷ Organized by "air quality control regions," states submit SIPs providing for the "implementation, maintenance, and

57. *See id.*

58. *See id.*

59. *See id.*

60. *See* CASS R. SUNSTEIN, *THE COST-BENEFIT STATE: THE FUTURE OF REGULATORY PROTECTION* 3 (2002).

61. *See* EPA, *Particulate Matter: Air Pollution Trends*, <http://www.epa.gov/airtrends/pm.html> (last visited Mar. 15, 2010).

62. *See* NATIONAL AIR QUALITY, *supra* note 47, at 8. *But see* Maximilian Auffhammer, Antonio M. Bento & Scott E. Lowe, *Measuring the Effects of the Clean Air Act Amendments on Ambient PM10 Concentrations: The Critical Importance of a Spatially Disaggregated Analysis*, 58 J. ENVTL. ECON. & MGMT. 15, 25 (2009) (raising questions about the accuracy of the EPA's analysis of PM₁₀ reductions in nonattainment areas).

63. *See* SUNSTEIN, *supra* note 60, at 4.

64. GONZALEZ, *supra* note 27, at 89.

65. *See* REITZE, *supra* note 28, at 8–10.

66. 42 U.S.C. § 7407(d)(1)(B) (2006).

67. *Id.* § 7407(a).

enforcement" of the NAAQS in their region.⁶⁸ SIPs must adhere to certain requirements based upon the specific language of the statute and whether the area is in attainment or nonattainment with regards to the NAAQS.⁶⁹ If a state does not submit a SIP, or does not submit a satisfactory plan, the EPA instead promulgates a "federal implementation plan."⁷⁰

B. Regulation of PM₁₀ under the Clean Air Act

The EPA established two NAAQS for PM₁₀, a twenty-four hour standard and an annual standard.⁷¹ In 1990, Congress designated ten "moderate" PM₁₀ nonattainment areas.⁷² Both San Joaquin Valley and Phoenix were each included in that designation.⁷³ The EPA is authorized to reclassify moderate PM₁₀ nonattainment areas as "serious" if it determines that the area cannot "practicably" attain the PM₁₀ NAAQS by the specified deadline.⁷⁴ San Joaquin Valley and Phoenix were both subsequently elevated to "serious" nonattainment areas.⁷⁵

The statute specifies different requirements that SIPs must satisfy for areas designated as existing in either moderate or serious PM₁₀ nonattainment.⁷⁶ For those areas classified as moderate, the SIP must include assurances that "reasonably available control measures" (RACM) will be implemented, whereas areas classified as serious require SIPs to adopt "best available control measures."⁷⁷

Defining BACM is fundamental to the question of whether the EPA should have approved San Joaquin Valley's and Phoenix's respective SIPs. The statute, unfortunately, does not expressly define the standard. Thus, following a discussion of the various regulatory philosophies that

68. *Id.* §§ 7410, 7411; *see also* REITZE, *supra* note 28, at 10.

69. 42 U.S.C. § 7502.

70. *Id.* § 7602(y).

71. 40 C.F.R. § 50.6(a) (2006) (the twenty-four hour standard limits emissions above 150 µg/m³). The EPA revoked PM₁₀'s annual standard in 2006 for lack of evidence of long-term exposure to coarse particulate matter. *See* EPA, Particulate Matter: PM Standards Revision 2006, <http://www.epa.gov/pm/naaqrev2006.html> (last visited Mar. 16, 2010). The EPA will reconsider the evidence of long-term exposure health effects during its next review of PM standards. *See id.*

72. 42 U.S.C. § 7407(d)(4)(B).

73. *Id.* *See also* List of PM₁₀ Group I and Group II Areas, 52 Fed. Reg. 29,383 (Aug. 7, 1987).

74. 42 U.S.C. § 7513(b)(1).

75. *See* San Joaquin Reclassification, 58 Fed. Reg. 3334, 3337 (Jan. 8, 1993); Clean Air Act Reclassification; Arizona-Phoenix Nonattainment Area; PM₁₀, 61 Fed. Reg. 21,372 (May 10, 1996).

76. 42 U.S.C. § 7513a.

77. *Id.* §§ 7513a(a)(1)(C), (b)(1)(B).

may underlay such terminology, the Note will revisit this question by analyzing what guidance Congress and the EPA have provided.

C. *Regulatory Philosophy and the Clean Air Act*

The CAA's requirement that states adopt BACM to combat serious PM₁₀ nonattainment areas is a "technology-based standard."⁷⁸ As technology-based standards are a central feature of the CAA's command-and-control regulatory approach to pollution control,⁷⁹ determining whether a menu of options scheme adheres to BACM requires an understanding of the regulatory backdrop.

1. *The CAA's Bread and Butter Regulatory Approach: Technology-Based Standards*

The CAA is characterized by "heavy reliance on administrative expertise and the use of uniform, categorical rules as basic regulatory building blocks"—in other words, command-and-control."⁸⁰ Under this top-down regulatory approach, expert regulators spell out how parties should behave and then enforce those specific obligations.⁸¹ As Professor Stephen Sugarman notes, the basic assumption underlying a command-and-control regulatory regime is that expert regulators *can* determine the optimal solution to the problem at issue and effectively mandate that behavior.⁸²

Technology-based standards are an important facet of command-and-control regulation. Also called "end-of-the-pipe" control, technology-based standards usually require the use of some version of best available technology.⁸³ This regulatory approach is used particularly in environmental regulation such as the CAA.⁸⁴ Under the CAA, a "survey [of] currently available . . . pollution control technologies" is

78. See REITZE, *supra* note 28, at 27 (describing technology-based standards as one method of control).

79. Cf. SUNSTEIN, *supra* note 60, at 3 (emphasizing the cost-blind and technology-driven national ambient air-quality statutory requirements in his characterization of the Clean Air Act).

80. Daniel H. Cole & Peter Z. Grossman, *When is Command-and-Control Efficient? Institutions, Technology, and the Comparative Efficiency of Alternative Regulatory Regimes for Environmental Protection*, 1999 WIS. L. REV. 887, 910 (1999).

81. See Stephen D. Sugarman & Nirit Sandman, *Fighting Childhood Obesity Through Performance-based Regulation of the Food Industry*, 56 DUKE L.J. 1403, 1409 (2007).

82. *Id.* at 1412.

83. See REITZE, *supra* note 28, at 27.

84. Wendy E. Wagner, *The Triumph of Technology-Based-Standards*, 2000 U. ILL. L. REV. 83, 88 (2000) (explaining that technology-based standards "are predominantly employed to control pollution entering surface waters, outside air, public drinking water supplies, and, to a lesser extent, workplaces and the land").

conducted.⁸⁵ The overseeing agency, be it the EPA or a state body, then selects the technologies in individual industrial categories that it determines best satisfy the goals Congress sought to achieve.⁸⁶

Technology-based standards are found throughout the CAA.⁸⁷ A classic example is the requirement that new or modified "major emitting facilities" regulated under the prevention of serious deterioration program adopt "best available control technologies" (BACT).⁸⁸ In another illustration, major sources of toxics regulated under the national emission standards for hazardous air pollutants require use of "maximum achievable control technology."⁸⁹

Scholarly debate exists as to whether technology-based standards are the correct regulatory tool to reduce air pollution. While most academics agree that technology-based standards historically have produced an "enormous amount of good" under the CAA,⁹⁰ many argue that technology standards today may be inefficient and innovation-stifling.⁹¹ Critics also argue that government regulators "too often make the wrong [regulatory] choice."⁹² According to this view, regulators impose non-optimal requirements that restrain the ability of local actors to apply innovative, efficient, and tailored control choices.⁹³ Professor Wendy Wagner, however, disputes this inefficacious characterization of technology-based standards.⁹⁴ Wagner argues that technology standards can and do produce innovations.⁹⁵ She further argues that, unlike alternative regulatory approaches, technology-based standards provide a

85. *Id.*

86. *Id.*

87. *See, e.g.*, 42 U.S.C. § 7475(a)(4) (2006).

88. *Id.* BACT, according to the CAA, is "an emission limitation based on the maximum degree of reduction of each pollutant . . . taking into account energy, environmental, and economic impacts and other costs." 42 U.S.C. § 7479(3). Debate exists as to whether the EPA can or should include cost-benefit analysis when applying "best" control technologies. *See* SUNSTEIN, *supra* note 60, at 3, 8, 19, 22–23. The Supreme Court recently ruled that cost-benefit analysis is a legitimate interpretation of best control technologies under the Clean Water Act. *Entergy Corp. v. Riverkeeper, Inc.*, 129 S. Ct. 1498, 1506 (2009) (ruling that "best" under the CWA may be considered the "most efficient"). This Note will not take any stance on the role of cost-benefit analysis or consideration of energy, environmental, or economic impacts. The sole focus here is whether BACT requires "maximum" emissions reductions and whether the menu of options schemes achieves that standard.

89. 42 U.S.C. § 7412(d).

90. *See* SUNSTEIN, *supra* note 60, at 3–4 (explaining that "no one should deny" that application of "best available technology" under the CAA produced reductions in harmful emissions that have almost certainly outweighed the costs).

91. *See, e.g.*, Cary Coglianese & David Lazer, *Management-Based Regulation: Prescribing Private Management to Achieve Public Goals*, 37 LAW & SOC'Y REV. 691, 701 (2003).

92. Sugarman & Sandman, *supra* note 81, at 1413.

93. *See id.*

94. Wagner, *supra* note 84, at 83.

95. *Id.* at 105–06.

moral imperative “that regulated entities must do their best . . . when public health and the environment are at stake.”⁹⁶ Professor Daniel Cole and Professor Peter Grossman take a nuanced, middle-ground approach, arguing that technology-based standards are neither inherently inefficient nor inherently the most appropriate regulatory tool.⁹⁷ The questions they invite are: when are technology-based standards appropriate, and when is an alternative approach better?⁹⁸

2. *Alternatives to Technology-Based Standards*

The EPA and the Ninth Circuit justify the menu of options schemes with language reminiscent of an alternative regulatory approach, and as such, it is necessary to survey briefly some of those alternatives. Regulatory instrument choice has been described as a choice between three options: technology-based standards, performance-based regulation, and management-based regulation.⁹⁹

Performance-based regulation does not mandate inputs, but rather requires that certain outcomes be achieved.¹⁰⁰ The regulated actor, as opposed to an agency expert, figures out how best to achieve the required target.¹⁰¹ The central justification for performance-based regulation is that local actors make better control choices than government regulators.¹⁰² Government regulators, the argument goes, will select solutions more costly than necessary or less effective than they could be.¹⁰³ Local actors are more sufficiently informed about the relevant information and

96. *Id.* at 92.

97. Daniel H. Cole & Peter Z. Grossman, *When is Command-and-Control Efficient? Institutions, Technology, and the Comparative Efficiency of Alternative Regulatory Regimes for Environmental Protection*, 1999 Wis. L. Rev. 887, 935–38 (1999). It should be noted that the authors found the command-and-control under the CAA to be a relatively efficient method of pollution regulation.

98. *See id.* at 937–38.

99. *See* Coglianese & Lazer, *supra* note 91, at 691–92 (explaining that these three categories encompass the variety of regulatory approaches utilized by policymakers). The authors also explain that market-based regulation is linked to either technologies or outcomes of firm behavior and therefore should not be placed in its own category. *See id.* at 691. For the purposes of this Note, market mechanisms are not addressed and therefore will not be presented here.

100. *See id.* at 701.

101. *See* Sugarman & Sandman, *supra* note 81, at 1413. Professors Stephen Sugarman and Nirit Sandman illustrate the benefits of performance-base regulation through the example of childhood obesity. *Id.* at 1410. “In a nutshell, [their] proposal assigns large firms that sell food or drink containing high levels of sugar or fat the responsibility for reducing obesity rates in a specific pool of children.” *Id.* at 1410–11. The basis of each firms responsibility “will be its share of the ‘bad’ food market, and the children assigned to it will be organized by geographically proximate schools where obesity rates are above the plan’s nationwide target rate of 8 percent.” *Id.* at 1411.

102. *See id.*

103. *See id.*

possible control alternatives and will ultimately find the most effective way to accomplish the regulatory goal.¹⁰⁴

Alternately, management-based regulation gives local actors decision-making control at the policy planning stage of regulation, earlier than both technology-based regulation and performance-based regulation.¹⁰⁵ More specifically, firms are expected to fashion plans complying with general criteria to promote certain social goals.¹⁰⁶ The justification, then, is that policy decisions should rest with those who possess the most information about the potential risks and control methods.¹⁰⁷

*D. "Best" Available Control Measures for Serious
PM₁₀ Nonattainment Areas*

Returning to particulate matter, BACM is the regulatory requirement specified for serious PM₁₀ nonattainment areas.¹⁰⁸ As such, in order to determine whether a menu of options scheme adheres to its statutory mandate in serious nonattainment areas, the obvious question is: what constitutes BACM?

In short, we do not precisely know. BACM for serious PM₁₀ nonattainment areas is not statutorily defined.¹⁰⁹ However, sufficient clues from other provisions in the CAA, case law, and nonbinding interpretations by the EPA provide a firm basis to discern the answer.

While the meaning of "best,"¹¹⁰ the adjective, seems obvious, Congress, the courts, and the EPA have allowed a broader interpretation of the word than its dictionary definition would imply.¹¹¹ "Best available

104. *See id.*

105. *See* Coglianese & Lazer, *supra* note 91, at 694–95.

106. *See id.* Professors Cary Coglianese and David Lazer demonstrate the benefits of management-based regulation through the example of food safety. *Id.* at 696. The U.S. Department of Agriculture successfully "issued new regulations requiring meat and poultry processing firms to undertake several management steps to reduce the incidence of food contamination." *Id.*

107. *See id.* at 695.

108. *See* 42 U.S.C. § 7513a(b)(1)(B).

109. *See id.*

110. This Note will not focus on the terms "available" or "measures." "Available" under environmental legislation refers to the spectrum of technologies achievable by regulated actors. *See* *Am. Petroleum Inst. v. EPA*, 858 F.2d 261, 265 (5th Cir. 1988) (in the context of the Clean Water Act). A "process is available" even if it is not in use at all. *Id.* This Note does not take issue with the available measures considered by each menu. In fact, I will argue that the very comprehensiveness of the menus is a fault. "Measures" is not analyzed because the EPA has provided a reasonable interpretation of the term that does not affect analysis of the menus. *See* *San Joaquin Reclassification*, 58 Fed. Reg. 3334, 3340 (Jan. 8 1993) (BACM includes both technologies and measures).

111. *See* WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY, *supra* note 24, at 208 (defining "best" as the "most productive of good").

control technology,” for example, is statutorily defined as a selection of emissions control technologies that results in the maximum pollutant reduction “achievable for [a] facility” in view of “energy, environmental, and economic impacts, and other costs.”¹¹² BACT, then, requires maximum pollutant emissions reductions, but allows sources to consider costs.¹¹³ The Supreme Court, in *Alaska Department of Environmental Conservation v. EPA (ADEC)*, employed the same interpretation in the context of a “major emitting facility” required to adopt BACT to reduce nitrogen oxide emissions.¹¹⁴ The Court stated that the standard requires maximum emissions reduction considering certain external factors.¹¹⁵

In the Addendum to the General Preamble for the Implementation of Title I of the Clean Air Act Amendments (Addendum to the General Preamble), the EPA issued a nonbinding interpretation of BACM similar to the above interpretations of BACT.¹¹⁶ The EPA explains that BACM requires adoption of maximum emissions-reducing measures considering environmental, energy, and cost factors.¹¹⁷

The Ninth Circuit, in both *Vigil* and *Latino Issues*, adopted the EPA’s nonbinding interpretation of BACM.¹¹⁸ In *Latino Issues*, the court then elucidated the standard, stating that its task was to determine whether the SIPs contained a regulatory program that provides for the “maximum degree of emissions reduction, all things considered.”¹¹⁹

Thus, the CAA, case law, and the EPA all agree that BACMs do not simply require use of the absolute best technology available, but require maximum emissions reduction considering certain external factors.

112. See 42 U.S.C. § 7479(3) (in the context of a major emitting facility regulated under the Prevention of Significant Deterioration program).

113. See *id.*

114. *Alaska Dep’t of Env’tl. Conservation v. EPA*, 540 U.S. 461, 498–99 (2004).

115. *Id.*

116. See State Implementation Plans for Serious PM-10 Nonattainment Areas, and Attainment Date Waivers for PM-10 Nonattainment Areas Generally; Addendum to the General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990, 59 Fed. Reg. 41,998, 41,998–42,001 (Aug. 16, 1994) (codified at 40 C.F.R. pt. 52). The Addendum to the General Preamble also provides the EPA’s four-step process for determining BACM. The EPA considers whether the state: (1) developed an inventory of the sources of PM₁₀ and PM₁₀ precursor emissions; (2) evaluated, via modeling, the effect of PM₁₀ concentrations of various sources to determine which are significant sources; (3) evaluated the technological and economic feasibility of the potential control measures; and (4) evaluated the costs, energy and environmental impacts of potential BACM. See *id.* at 42,012–13.

117. *Id.* at 42,011. The EPA also states that the term “[best]” strongly implies that there should be a greater emphasis on the merits of the measure or technology alone and less flexibility in considering other factors.” *Id.* And adding further language to bolster the notion that the “merits,” rather than the costs, should be the principal focus, the EPA states that “affordability” of the control is not a justifiable reason to deny a measure. *Id.*

118. See *Latino Issues Forum v. EPA*, 558 F.3d 936, 947 (9th Cir. 2009); *Vigil v. Leavitt*, 381 F.3d 826, 836 (9th Cir. 2004).

119. *Latino Issues*, 558 F.3d at 947; see also *Vigil*, 381 F.3d at 836.

III. *VIGIL* AND *LATINO ISSUES FORUM*: MENU OF OPTIONS SCHEMES AS BEST AVAILABLE CONTROL MEASURES?

In 2004 and 2009, the Ninth Circuit upheld the EPA's approval of menus as BACM under the Clean Air Act. As this Note posits that those rulings were incorrect, the cases will be summarized below.

A. *Vigil v. Leavitt*

In 2004, the Ninth Circuit affirmed the EPA's decision that Arizona's menu of options scheme constituted BACM in a serious PM₁₀ nonattainment area.¹²⁰

After the EPA classified Phoenix as a serious PM₁₀ nonattainment area in 1996, Arizona crafted multiple SIPs to attain both the twenty-four hour and the annual NAAQS for the pollutant.¹²¹ The EPA approved of Arizona's General Permit Rule in 2002.¹²² The petitioners, interested Phoenix area residents, filed for review of the EPA's final approval, arguing, among other things, that the rule's menu of options scheme did not satisfy the CAA's BACM requirement.¹²³

The petitioners specifically argued that a menu plan only requiring each commercial farmer to implement one best management practice (BMP) from each of three categories did not satisfy BACM.¹²⁴ Thirty-four possible BMPs were spread among the three categories.¹²⁵ Petitioners argued that the plan did not qualify as BACM since the state had determined all thirty-four BMPs feasible for implementation.¹²⁶ Thus, as implementation of multiple BMPs in each category is better than one BMP per category, the petitioners argued that the plan did not satisfy the BACM requirement.¹²⁷

The Ninth Circuit rejected the petitioners' argument, finding that the CAA does not require a state to reduce emissions "regardless of cost."¹²⁸ The court, rather, described its task as "to determine whether EPA has properly concluded that Arizona has provided for the maximum degree of emissions reduction, *all things considered*."¹²⁹ As employing more than one BMP per category would be considerably more expensive than merely employing one, the court upheld the EPA's determination that

120. *Vigil*, 381 F.3d at 838.

121. *Id.* at 832.

122. *Id.*

123. *Id.* at 835.

124. *Id.* at 836.

125. *Id.* at 835.

126. *Id.* at 836.

127. *Id.*

128. *Id.*

129. *Id.* 836–37 (emphasis added).

the additional obligation would be unreasonable.¹³⁰ Further, the court confirmed the EPA's conclusion that the "variable nature of farming and the varying economic circumstances of farmers" justify providing regulated agricultural operators flexibility in their selection of control choices.¹³¹ Farmers, the EPA argued and the court concurred, will best analyze the many regional variables such as climate, soil, water availability, and proximity to urban centers and select the most appropriate control measure.¹³²

B. Latino Issues Forum v. EPA

Five years after *Vigil*, the Ninth Circuit again upheld the EPA's approval of a SIP containing a menu of options scheme in a serious PM₁₀ nonattainment area.¹³³

San Joaquin Valley was classified by Congress as a moderate PM₁₀ nonattainment area in 1990.¹³⁴ Because the San Joaquin Valley Unified Air Pollution Control District (District) failed to meet its first attainment deadline for PM₁₀, and based on an evaluation that the District would miss the second deadline as well, the EPA reclassified the area as a serious nonattainment area in 1993.¹³⁵ After a series of missed deadlines in the 1990s, the District submitted to the EPA its revised SIP in 2003.¹³⁶

The revised SIP established Rule 4550—a menu of options scheme—which applies to agricultural operations with one hundred or more contiguous acres and to certain concentrated animal feeding operations.¹³⁷ Rule 4550 mandates agricultural operations to choose one control practice from each applicable category.¹³⁸ The menu offers over one hundred total control options and up to twenty-four different control options under a single category.¹³⁹ The regulated actor may additionally select a control practice from a different category or from off the list entirely so long as emissions reductions will be at least equivalent to

130. *Id.* at 837–38.

131. *Id.* at 838 (referring to EPA, FINAL TECHNICAL SUPPORT DOCUMENT FOR APPROVAL OF THE SERIOUS AREA PM-10 STATE IMPLEMENTATION PLAN 239 (2002)).

132. *Id.*

133. *Latino Issues Forum v. EPA*, 558 F.3d 936, 949 (9th Cir. 2009).

134. *Id.* at 939.

135. *Id.* at 940.

136. *Id.*

137. *Id.*

138. *Id.* (there are five categories for cropland and poultry, and four categories for beef and dairy operations).

139. *Id.*

other control options on the list.¹⁴⁰ The EPA approved the menu of options scheme on February 14, 2006.¹⁴¹

The petitioners, the Latino Issues Forum and the Sierra Club, challenged the EPA's approval of Rule 4550, arguing that the ruling was arbitrary, capricious, and contrary to law under the Administrative Procedures Act.¹⁴² Among other arguments, the petitioners asserted that Rule 4550's menu of options for controlling agricultural PM₁₀ emissions does not satisfy the CAA's requirement that the plan incorporate BACM.¹⁴³

The Ninth Circuit ruled that Rule 4550's menu may in fact satisfy the BACM standard.¹⁴⁴ As to the petitioners' contention that the EPA did not adequately follow its own four-step process for determining BACM,¹⁴⁵ the court held that the administrative record demonstrated otherwise.¹⁴⁶ Further, the court ruled that providing control measure flexibility to agricultural sources is a valid justification for the menus given the "variable nature of farming . . . throughout the San Joaquin Valley."¹⁴⁷ Local complexity means that farmers will best select the control measure "most appropriate for [their] situation."¹⁴⁸ And finally, the court explained that the Ninth Circuit's previous approval, in *Vigil*, of a similar menu in a serious PM₁₀ nonattainment area supports the proposition that menu of options schemes may be a valid form of BACM.¹⁴⁹

140. San Joaquin Rule 4550, 70 Fed. Reg. 16,207, 16,208 (Mar. 30, 2005) (codified at 40 C.F.R. 52).

141. *Latino Issues*, 558 F.3d at 940.

142. *Id.* at 942.

143. *Id.*

144. *Id.* at 946–49.

145. *See supra* Part II.D; *Latino Issues*, 558 F.3d at 942.

146. *Latino Issues*, 558 F.3d at 946–47. The court explained that the District provided a detailed emissions inventory of source categories for PM₁₀; an evaluation of emissions sources was conducted; an evaluation of the technological and economic feasibility of the control measures was likewise satisfied; and, finally, a detailed analysis of the costs, feasibility, and effects of implementing the potential control measures was completed. *Id.*

147. *Id.* at 945.

148. *Id.*

149. *Id.* at 948. The petitioners sought to distinguish the menu scheme in *Vigil* from menu scheme in *Latino Issues*. *Id.* Specifically, the petitioners argued that, contrary to *Latino Issues*, the issue in *Vigil* related to "whether the EPA demonstrated that the controls included in the rule's menu meet the stringency requirement of BACM." *Id.* The court did not find the distinction sufficiently meaningful. *Id.*

*C. A Closer Look at the Menu of Options Plans in
Vigil and Latino Issues Forum*

While the cases have been presented, the central role of the menus in this Note makes a more thorough explanation of the menus themselves useful. In particular, clarification of the content of the various categorical lists in each menu is important.

Each menu of options scheme, as explained above, consists of a list of control options organized by specific categories. San Joaquin Valley's Rule 4550 contains over one hundred total control options.¹⁵⁰ There are five categories for cropland and poultry operations, and four categories for dairy and feedlot operations.¹⁵¹ Arizona's General Permit Rule contains thirty-four control options spread among three categories.¹⁵² The three categories consist of "tillage and harvest," "cropland," and "non-cropland."¹⁵³ Under both menu schemes, agricultural actors select a single control choice from each applicable category.¹⁵⁴

Within each category, the menus offer vastly different control options. For example, San Joaquin Valley's "cropland harvest" category, which consists of thirteen control choices, includes fallowing part of the land, harvesting by hand, using balers to harvest crops, and using modified equipment.¹⁵⁵ The "cropland-other" category consists of twenty-four options as varied as planting cover crops, mulching, and night farming.¹⁵⁶ Arizona's General Permit Rule offers similarly diverse control options. The "tillage and harvest control" category, for instance, includes precision farming, limited activity during high winds, and cessation of night tillage.¹⁵⁷ The "cropland" category contains sixteen different control options, including using artificial wind barriers, planting cover crops, and engaging in integrated pest management.¹⁵⁸

As is clear from the examples discussed above, control choices differ significantly under the menus in terms of both emissions reductions and implementation costs.¹⁵⁹ Considering that agricultural sources may substitute from other categories, or may implement a control option from

150. *Id.*

151. CMP LIST, *supra* note 17, at 2–22.

152. *Vigil v. Leavitt*, 381 F.3d 826, 835 (9th Cir. 2004).

153. ARIZONA'S GUIDE TO AGRICULTURAL PM10 BEST MANAGEMENT PRACTICES: AGRICULTURE IMPROVING AIR QUALITY 8–14 (2008), *available at* <http://lists.azdeq.gov/environ/air/plan/download/webguide.pdf> [hereinafter ARIZONA'S GUIDE].

154. *See Vigil*, 381 F.3d at 835; *see also* CMP LIST, *supra* note 17, at 2–22.

155. *See* CMP LIST, *supra* note 17, at 5–6.

156. *Id.* at 6–7.

157. ARIZONA'S GUIDE, *supra* note 153, at 8–14.

158. *Id.*

159. *See infra* Part IV.A.

outside the list entirely, it becomes apparent that "flexibility" truly is central to the menu schemes.

IV. RESTORING THE ACCURATE MEANING OF "BEST"

This Note disputes the Ninth Circuit's ruling that menu of options schemes, as they appear in *Vigil* and *Latino Issues*, may constitute BACM. The argument will proceed by demonstrating that the menus do not sufficiently adhere to the emissions-reducing standard required by the term "best." The argument will follow with a rebuttal of the EPA's primary justification, which asserts that the diversity of conditions necessitate a flexible menu scheme for approving the menus as BACM. Finally, the Note will suggest slight modifications to the menus to allow them to achieve the BACM standard.

A. "Best" Requires Maximized Pollution Reduction under the Clean Air Act

"Best" is a superlative. Webster defines "best" as "the most productive of good."¹⁶⁰ The menus at issue here, though, do not require regulated actors to select the most productive emissions reduction measures. As such, the EPA's approval of the menus as BACM for PM₁₀ emissions ignores the plain meaning of "best."¹⁶¹

The menus in both *Latino Issues* and *Vigil* provide regulated agricultural actors tremendous flexibility in their choice of emissions controls.¹⁶² The menus likewise allow sources to consider costs.¹⁶³ Those two factors, however, are not the central problems with the menus. The definition of "best" in the context of technology-based standards permits external considerations.¹⁶⁴ Despite the CAA's incorporation of flexibility and cost consideration into the definition of best technology-based standards, however, the menus fail their statutory mandate because they do not require maximized emissions reductions. The CAA, the EPA, and the courts have not specifically applied the dictionary definition of "best." Nevertheless, each has recognized the adjective's meaning by requiring sources to "maximize" pollutant reduction.¹⁶⁵

160. See WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY, *supra* note 24, at 208.

161. This Note will not focus on the terms "available" or "measures." See *supra* note 111.

162. See *Vigil*, 381 F.3d at 836; see also *Latino Issues*, 558 F.3d at 944–45.

163. See *Vigil*, 381 F.3d at 836; see also *Latino Issues*, 558 F.3d at 945.

164. See, e.g., *Alaska Dep't of Env'tl. Conservation v. EPA*, 540 U.S. 461, 468 (2004).

165. See *id.*; see also 42 U.S.C. § 7479(3) (2006); State Implementation Plans for Serious PM-10 Nonattainment Areas, and Attainment Date Waivers for PM-10 Nonattainment Areas Generally; Addendum to the General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990, 59 Fed. Reg. 41,998, 42,010–14 (Aug. 16, 1994) (codified at 40 C.F.R. pt. 52).

As discussed in Part II.D, references to “maximum”¹⁶⁶ emissions reduction for best technology-based standards abound in the CAA. BACT, in another context of the CAA, is defined as “an emission limitation based on the maximum degree of reduction of each pollutant.”¹⁶⁷ In *ADEC*, the Supreme Court likewise interpreted BACT to require maximum emissions reduction.¹⁶⁸

The EPA’s interpretation of BACM in serious PM₁₀ nonattainment areas mirrors the definition of BACT. The Addendum to the General Preamble, which presents the EPA’s reading of the CAA’s PM₁₀ provisions, states that BACM requires maximum emissions reductions.¹⁶⁹ Further, the EPA interprets “best” to “strongly impl[y] that there should be a greater emphasis on the merits of the measure or technology alone and less flexibility in considering other factors.”¹⁷⁰

The Ninth Circuit’s interpretation of BACM, in both *Vigil* and *Latino Issues*, does not conflict with the above definitions of “best” technology-based standards.¹⁷¹ BACM, according to the Ninth Circuit, requires the “maximum degree of emissions reduction, all things considered.”¹⁷² While this statutory interpretation of BACM in *Vigil* and *Latino Issues* is correct, the EPA and the Ninth Circuit failed to apply that interpretation when approving the menu schemes. The menus fail the agreed-upon definition of BACM because they permit selection of any control measure without considering whether the selection maximizes emissions reduction relative to other choices.¹⁷³

The critical flaw in the regulatory regime is that the menus contain lists of control measures that differ in effectiveness, yet are all equal

166. “Maximum” has not been specifically interpreted; however, like “best,” it is clearly an adjective signifying a superlative meaning. See WEBSTER’S THIRD NEW INTERNATIONAL DICTIONARY, *supra* note 24, at 1396 (defining “maximum” as “the greatest quantity or value attainable in a given case”). The Supreme Court applied the maximum emissions-reducing interpretation of BACT, ruling that a state cannot classify, absent cause, a 30 percent emissions reducing mechanism as a BACT where a 90 percent emissions reducing mechanism exists. *Alaska Dep’t*, 540 U.S. at 498–99. Thus, like “best,” “maximum” possesses a numerical and hierarchical definition.

167. 42 U.S.C. § 7479(3).

168. *Alaska Dep’t*, 540 U.S. at 498–99.

169. State Implementation Plans for Serious PM-10 Nonattainment Areas, 59 Fed. Reg. at 42,010–14. More specifically, the Addendum to the General Preamble states that the term “[best] strongly implies that there should be a greater emphasis on the merits of the measure or technology alone and less flexibility in considering other factors.” *Id.* at 41,011.

170. *Id.*

171. See *Latino Issues Forum v. EPA*, 558 F.3d 936, 947 (9th Cir. 2009); see also *Vigil v. Leavitt*, 381 F.3d 826, 836 (9th Cir. 2004).

172. *Latino Issues*, 558 F.3d at 947.

173. See *Latino Issues*, 558 F.3d at 950 (Thomas, J., concurring) (“Nothing in the plan prevents a grower from choosing the least effective measures in each category, even if it would be as feasible and less expensive to implement a more effective measure.”)

under the eyes of the menu. The EPA boasts of San Joaquin Valley's and Arizona's "comprehensive" lists of control measures, but it does not prove nor allege that each measure equally reduces emissions.¹⁷⁴ No two sources of particulate matter are the same. Sources vary in size, geological condition, crop variety, and geography, among other characteristics.¹⁷⁵ The control measures themselves vary wildly. Under San Joaquin Valley's Rule 4550, for instance, a large agricultural operation engaged in crop cultivation may choose to reduce PM₁₀ emissions originating from its property by employing an alternate till, conserving irrigation, or planting cover crops.¹⁷⁶ In Phoenix, a farmer engaged in tillage or harvest may choose control options as different as precision farming, limited activity during high winds, and cessation of night tillage.¹⁷⁷ Control choices under the menus do not differ merely by brand or model, but consist of entirely different practices. As necessarily follows, particulate emissions generated from those control practices will not be equal.¹⁷⁸ Thus, a scheme that approves *any* emissions reducing measure on the list, including the least effective, does not apply the proper superlative definition of "best" available control measures.

In fact, the menus are principally geared towards creating "minimum" standards of emissions reduction. As explained in the above paragraph, San Joaquin Valley farmers engaged in crop cultivation may choose to employ alternate tillage, conserve irrigation, or plant cover crops.¹⁷⁹ No justification for the selection is required.¹⁸⁰ The sources likely will select their emissions control choices based on cost or convenience factors rather than emissions purposes. Nevertheless, while the above choices may be equivalent to the second, fifth, or least effective emissions reducing options on the lists respectively, they all constitute BACM.¹⁸¹ As such, the menus only guarantee that the list's least emissions-reducing

174. See *id.* at 945 (majority opinion) (discussing San Joaquin Valley's one hundred control measure list); see also San Joaquin Rule 4550, 70 Fed. Reg. 16,207 (Mar. 30, 2005) (codified at 40 C.F.R. pt. 52); Arizona Menu, 67 Fed. Reg. 48,718 (July 25, 2002) (codified at 40 C.F.R. pt. 52).

175. See, e.g., *Latino Issues*, 558 F.3d at 945 (EPA explaining the "variable nature of farming . . . throughout the San Joaquin Valley").

176. CMP LIST, *supra* note 17, at 2–5.

177. ARIZONA'S GUIDE, *supra* note 153, at 8–14. The control choice options for both San Joaquin Valley and Phoenix in the text are not unrepresentative extreme examples. See *id.*; see also CMP LIST, *supra* note 17, at 2–5.

178. Judge Sidney Thomas, who wrote a concurring opinion in *Latino Issues*, agreed that control choices under the plan do not equally reduce emissions. *Latino Issues*, 558 F.3d at 950 (Thomas, J., concurring) ("Nothing in the plan prevents a grower from choosing the least effective measures in each category . . .").

179. CMP LIST, *supra* note 17, at 2–5.

180. See San Joaquin Rule 4550, 70 Fed. Reg. 16,207, 16,208 (Mar. 30, 2005) (codified at 40 C.F.R. pt. 52).

181. See *id.*

measure will be adopted. Further, sources may substitute a control choice not on the list if they show that the control measure will result in reductions at least equivalent to any of the control measures on the list.¹⁸² The menus therefore only prevent selection of control choices that do not meet a minimum bar of emissions reduction.

BACM does not necessarily command adoption of the highest emissions reducing measure. As the courts in *Vigil* and *Latino Issues* adeptly phrased it, BACM require the “maximum degree of emissions reduction, *all things considered*.”¹⁸³ The problem with the menus is that, while external considerations are accounted for, maximum reductions are not part of the equation.

B. The EPA’s Argument that Agricultural Sources Better Select Control Measures Likewise Fails

Part IV.A of this Note argues that the EPA and the courts have not applied a reasonable interpretation of “best available control measures.” The menus do not seek maximum emissions reduction considering economic, environmental, and energy factors. The EPA, however, justifies the menu program by asserting that regulated sources know their own situations better than the state and federal agencies and will therefore better select the appropriate control measures.¹⁸⁴ Under the EPA’s logic, the process of allowing agricultural sources to choose their own control measures will lead to the “best” control outcomes. While it is arguably true that sources *can* select better emissions-reducing control options,¹⁸⁵ it must be explored whether they likely *will* under the menu regime.

The EPA’s argument that local actors will best select emissions-reducing control measures sounds reasonable on the surface. Ultimately, however, deeper analysis reveals a muddled regulatory approach that mixes certain elements of technology-based standards and certain elements of performance-based regulation without retaining the vital features of each that allow the approaches to actually work.

182. See *id.* at 16,207. The ability to substitute control choices is specifically included in the San Joaquin Valley SIP. Regulated Phoenix area farmers may likewise select from off the list; however, they are required to get approval by the local air pollution board. The practices must be “proven effective through on-farm demonstration trials.” See ARIZ. ADMIN. CODE § R18-2-611 (2000); see also *Vigil v. Leavitt*, 381 F.3d 826, 836 (9th Cir. 2004). Exactly what factors are taken into consideration by the board, though, is not entirely clear.

183. See *Latino Issues Forum v. EPA*, 558 F.3d 936, 947 (9th Cir. 2009) (emphasis added); see also *Vigil*, 381 F.3d at 836 (emphasis added).

184. See *Latino Issues*, 558 F.3d at 945; see also San Joaquin Rule 4550, 70 Fed. Reg. at 16,208.

185. See, e.g., Sugarman & Sandman, *supra* note 81, at 1413 (explaining the philosophy that local actors better select control methods than government regulators).

The Clean Air Act is historically a technology-based standard statute.¹⁸⁶ BACM, like BACT, is clearly a technology-based standard.¹⁸⁷ However, the EPA's justification for the menus is bursting with performance-based regulation references.¹⁸⁸ For instance, the states and the EPA argue that flexibility is required because sources make better decisions than government regulators.¹⁸⁹ Similarly, decision-making deference is granted to the agricultural sources under the menus because "the variable nature of farming and the widely varying economic circumstances of farmers" necessitate such deference.¹⁹⁰ A philosophy that local actors make better decisions, because they are more fully equipped with the relevant information, is suggestive of performance-based regulation, not technology-based standards.¹⁹¹

The menus themselves exhibit many characteristics of performance-based regulation as opposed to technology-based standards. The government—the states in this case—has provided a list of technologies to use, but the agricultural sources are not required to adopt any specific one of those measures.¹⁹² Technology-based standards typically mandate the use of a certain type of technology.¹⁹³ Because sources may select from dozens of control options on the list, or select any minimally emissions-reducing control measure not on the list, there certainly is no technological mandate here.¹⁹⁴ The menus only mandate that sources choose *a* control option under each applicable category.¹⁹⁵ As local actor choice is a signature characteristic of performance-based regulation,¹⁹⁶ and it appears evident that local agricultural actors have enormous choice under the menus, performance-based regulation seems infused into the menu schemes.

The relevant question therefore becomes, how does this performance-based approach affect the CAA's requirement that SIPs achieve maximum emissions reductions?

There are undoubtedly many credible scholars who would advocate for the validity of a performance-based regulatory approach to PM₁₀

186. See SUNSTEIN, *supra* note 60, at 3.

187. See *id.*

188. See San Joaquin Rule 4550, 70 Fed. Reg. at 16,208.

189. See *id.*

190. See *Latino Issues Forum v. EPA*, 558 F.3d 936, 945 (9th Cir. 2009). This quote also implies that regulated actors will also make control choice decisions most cost effectively.

191. See Sugarman & Sandman, *supra* note 81, at 1413.

192. San Joaquin Rule 4550, 70 Fed. Reg. at 16,207; Arizona Menu, 67 Fed. Reg. 48,718 (July 25, 2002) (codified at 40 C.F.R. pt. 52).

193. See REITZE, *supra* note 28, at 27.

194. See San Joaquin Rule 4550, 70 Fed. Reg. at 16,207; see also Arizona Menu, 67 Fed. Reg. at 48,718.

195. See, e.g., San Joaquin Rule 4550, 70 Fed. Reg. at 16,207.

196. See Sugarman & Sandman, *supra* note 81, at 1413.

emissions reduction in serious nonattainment areas. As Sugarman contends, government regulators typically mandate technology “more costly than necessary or . . . that is less effective” than other measures.¹⁹⁷ Performance-based regulation postulates that local actors possess more information than government regulators regarding appropriate technology inputs and therefore make better control choices.¹⁹⁸ Advocates of this approach argue that placing responsibility on the regulated actor, as opposed to the agency expert, to figure out how best to achieve the required outcome is the most effective form of regulation.¹⁹⁹

Ultimately, though, incorporating performance-based regulation into the menu schemes fails because it is missing a critical element of performance-based regulation: a social goal.²⁰⁰ Local actors may better attain stated targets, but only when they are told what to accomplish and are penalized for not doing so.²⁰¹ The menus, quite simply, do not tell Phoenix or San Joaquin Valley agricultural operators what to achieve. As previously explained, the regulated actors satisfy their obligations under the menus by selecting any control measure from the list. As such, they are not told to attain a certain level of particulate emissions. Because any control measure fulfills their obligations under the menu, agricultural operators may feasibly select a control measure for reasons entirely unrelated to PM₁₀ emissions released from their property. Further, the EPA does not prove that farmers do know, or that they will be willing to put in the resources to determine, which control measure is most effective. Consequently, the logic behind granting agricultural operators such robust decision-making power is significantly reduced.

Sugarman explains that the “central difference [between technology-based standards and performance-based regulation] is best captured by the distinction between regulating inputs and outcomes.”²⁰² As argued here, the menus do not regulate either inputs or outcomes in a manner that satisfies BACM. From a technology-based standard perspective, the menus do not attain maximum emissions reductions as they lack a mandate that agricultural operators use best available technologies. From a performance-based regulatory perspective, the menus fail because sources are declared the most effective decision makers, yet are given no emissions levels to achieve. The critical element of each regulatory approach is absent from the menu schemes. Accordingly, the menus are

197. *See id.*

198. *See id.*

199. *See id.*

200. *See id.*

201. *See id.*

202. *See id.*

not appropriate to fulfill the role of a maximized emissions reducing regime.

C. Policy Solution: Adapting the Menus to Achieve Best Available Control Measures

The menus, despite the above critiques, are not inherently flawed. In fact, menus of options could provide a valuable and efficient mechanism to maximize reduction of this country's harmful ambient particulate pollution.

The EPA persuasively argues for the need to decentralize decision making where local conditions are complicated. The EPA explains that "allowing an individual source to select the control method is a 'common and accepted practice for the control of dust . . . [because] neither [it] nor the State is in a position to dictate what precise control method is appropriate for a given farm activity at a given time in a given locale.'"²⁰³ The EPA's justification for a menu of options scheme is certainly rational. However, I argue that slight, yet critical, alterations must be made in order for the menus to adhere to a "best," as opposed to any other, emissions reducing regime.

I. Two Necessary Adjustments to the Menu Scheme

In order for menus to function as BACM, two important changes are needed. First, the state and the EPA should require that regulated agricultural operators demonstrate maximized emissions reductions to the local air pollution board. Currently, agricultural operators must seek approval of their control choices.²⁰⁴ However, selection from the control list does not require an accompanying explanation of *why* the particular control option was selected.²⁰⁵ For instance, Phoenix area farmers select their control measures by implementing them.²⁰⁶ The farmers are only required to record which control measures they have adopted under each category.²⁰⁷ As such, an agricultural operator may select a control option because it is the cheapest or easiest to adopt, not because of its ability to reduce PM₁₀ emissions.²⁰⁸ As previously argued, that is a fundamental flaw in the menu regime. It is reasonable to argue that sources may better

203. See *Vigil v. Leavitt*, 381 F.3d 826, 838 (9th Cir. 2004) (quoting Approval & Promulgation of Implementation Plans, 66 Fed. Reg. 50,252, 50,269 (Oct. 2, 2001) (codified at 40 C.F.R. pt. 52)).

204. San Joaquin Rule 4550, 70 Fed. Reg. 16,207 (Mar. 30, 2005) (codified at 40 C.F.R. pt. 52); Arizona Menu, 67 Fed. Reg. 48,718 (July 25, 2002) (codified at 40 C.F.R. pt. 52).

205. See San Joaquin Rule 4550, 70 Fed. Reg. at 16,208.

206. See ARIZONA'S GUIDE, *supra* note 153, at 6.

207. See *id.*

208. See San Joaquin Rule 4550, 70 Fed. Reg. at 16,208.

select emissions control choices than government regulators²⁰⁹; however it is not reasonable to argue that self-interested sources will better select the maximum emissions reducing choice, as opposed to the cheapest, when they are not asked to do so.

Two different methods would adequately demonstrate that control choices have been selected to best reduce particulate matter emissions. First, when a source seeks approval by the local regulatory board, it should be compelled to justify its decision based on emissions-reducing grounds. The EPA and the states rationalize deferring to local actors because they better understand which “precise control method is appropriate for a given farm activity at a given time in a given locale.”²¹⁰ It therefore seems sensible that, at the minimum, local actors should be required to explain why their particular control measure will best reduce particulate matter. While the local actor may plausibly misrepresent its reasons, or, on the other hand, incorrectly estimate emissions reductions, the process will at least force consideration of the issue and provide a basis for the state to review control choices.²¹¹ Second, the EPA and the states should consider requiring local actors to self-monitor particulate emissions stemming from their property. In order to determine whether sources are maximizing emissions reductions, localized, hard data would be of enormous value.²¹² Self-monitoring, admittedly, may prove to be

209. That sources better select regulatory options is the underlying justification behind performance-based regulation. *See* Sugarman & Sandman, *supra* note 81, at 1413.

210. *See* Vigil v. Leavitt, 381 F.3d 826, 838 (9th Cir. 2004) (quoting Approval & Promulgation of Implementation Plans, 66 Fed. Reg. 50,252, 50,269 (Oct. 2, 2001) (codified at 40 C.F.R. pt. 52)).

211. This benefit is arguably parallel to the function of the National Environmental Policy Act (NEPA). Requiring the regulated actor to explain the environmental consequences of the action could increase transparency, public involvement, and awareness of particulate emissions. *See, e.g.*, COUNCIL ON ENVTL. QUALITY, THE NATIONAL ENVIRONMENTAL POLICY ACT: A STUDY OF ITS EFFECTIVENESS AFTER TWENTY-FIVE YEARS 17 (“Environmental problems are not just a government problem, they are a community problem. Prior to NEPA, however, the public had limited opportunities to engage in the debate about social, economic, and environmental costs and benefit.”). *Id.*

212. *See* EPA, PRINCIPLES OF ENVIRONMENTAL ENFORCEMENT 6-1 to 6-18 (1992) [hereinafter PRINCIPLES OF ENVIRONMENTAL ENFORCEMENT] (self-monitoring, recordkeeping, and reporting supply more and more accurate information on compliance than agency inspection). According to the EPA, other benefits of obligated self-monitoring include increased attention to management and compliance, a more balanced economic burden, and improved community education on the air pollution problem. *See id.* Extensive focus has been placed on the potential role of self-reporting and regulation. *See, e.g.*, William F. Pedersen, *Regulation and Information Disclosure: Parallel Universes and Beyond*, 25 HARV. ENVTL. L. REV. 151 (2001). Pedersen argues that “social cost disclosure programs” could have far-reaching effects on regulatory agencies, yet a major difficulty will be in ensuring information accuracy and effective presentation. *See id.* at 151–52.

prohibitively expensive.²¹³ However, in exchange for flexibility, perhaps it is a measure local actors would be willing to adopt.

As a second change to the menu program, agricultural operators should only substitute control measures not on the list where emissions reductions are equivalent to or greater than the highest emissions reducing option on the list.²¹⁴ The current system creates a minimum, rather than a maximum, bar.²¹⁵ In order to adhere to the proper definition of "best," the menus should maximize emissions reductions.

2. *Minor Changes, Dramatically Improved Regulatory Regime*

As long as these relatively minor alterations²¹⁶ are adopted, the menus could provide a valuable contribution to particulate matter regulation.

Part IV.B of this Note argues that the menus, as presently constituted, omit critical components of both technology-based standards and performance-based regulation and therefore do not achieve the touted benefits of either regulatory approach. The above modifications may remedy the menu schemes' deficiencies and allow the virtues of both regulatory approaches to be realized.

In keeping with the philosophy of technology-based standards,²¹⁷ requiring local actors to justify their control choices on an emissions-reducing basis will implicitly incorporate a mandate to adopt BACM. The menus still will not explicitly mandate that a certain measure be used. However, each control measure on the list will have tangible emissions-reducing benefits. As a result, the modified menus will constitute a scheme where the government provides a baseline of viable measures and the regulated actor selects the best choice from that list based on local conditions and knowledge.

213. *But see* PRINCIPLES OF ENVIRONMENTAL ENFORCEMENT, *supra* note 212, at 6-1 to 6-18 (the EPA argues that self-monitoring "has proven to be a cost-effective way for enforcement programs and sources to assure themselves that control are operating smoothly"). Additionally, at least one California area incorporated self-monitoring into its PM₁₀ emissions reduction plan. *See* SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 403, §403(g)(1)(D) (2005), available at <http://www.arb.ca.gov/drdb/sc/curhtml/r403.pdf> (certain regulated actors receive an exemption under the plan if they self-monitor PM₁₀ emissions levels).

214. San Joaquin Rule 4550, 70 Fed. Reg. 16,207, 16,208 (Mar. 30, 2005) (codified at 40 C.F.R. pt. 52).

215. *See supra* Part IV.A.

216. First, menus must require that the regulated agricultural operators demonstrate maximized emissions reductions when seeking approval from the local air pollution board. And second, agricultural operators should only substitute control measures from off the list where emissions reductions are equivalent to the highest emissions reducing options present on the lists. *See supra* Part IV.C.1.

217. Wagner, *supra* note 84, at 88.

The requirement that local actors justify the selection of their control measure on an emissions-reducing basis also solves many of the problems associated with the menu regime as a form of performance-based regulation. Requiring agricultural operators to justify their control choice incorporates a social target into the scheme.²¹⁸ This essential element was missing in the menu schemes described in *Vigil* and *Latino Issues*. Under a menu scheme that includes both a social mandate and selection flexibility, it is reasonable to argue that regulated actors will choose the most appropriate PM₁₀ control measure for their situation.

This Note does not address the question of whether technology-based standards or performance-based regulation is the better regulatory approach to reduce air pollutants.²¹⁹ Government administered technology-based standards purport to offer efficient, reliable outcomes.²²⁰ They provide the moral imperative “that regulated entities must do their best . . . when public health and the environment are at stake.”²²¹ Performance-based regulation, conversely, allows the better-informed regulated actor, rather than agency experts, to figure out how best to achieve a social target.²²² Local actors, the argument goes, will select the regulatory instrument that most effectively accomplishes the regulatory goal.²²³ A regime that combines the positive elements of both of those regulatory approaches can provide a valuable tool to reduce particulate matter.

On the other hand, there is a strong argument that this hybrid regulatory approach will only serve to undermine the assignment of pollution control responsibilities. By incorporating elements of both regulatory approaches, it is conceivable that neither the federal government nor the local actors will truly take it upon themselves to achieve maximum PM₁₀ reductions.²²⁴ As Dr. Michael Greve, perhaps cynically, argued in the context of cooperative federalism, a regulatory regime that is both centralized and decentralized “undermines political transparency and accountability . . . and erodes self-government and liberty.”²²⁵

218. See Sugarman & Sandman, *supra* note 81, at 1413 (explaining that performance-based regulation sets targets for sources to achieve).

219. See Cole & Grossman, *supra* note 80, at 935–38.

220. See Wagner, *supra* note 84, at 94.

221. See *id.* at 92.

222. See Sugarman & Sandman, *supra* note 81, at 1413.

223. See *id.*

224. See Michael S. Greve, *Against Cooperative Federalism*, 70 MISS. L. J. 557, 559 (2000); but see William W. Buzbee, *Contextual Environmental Federalism*, 14 N.Y.U. ENVTL. L.J. 108, 122–127 (2005) (arguing that “overlap of regulatory turfs . . . can provide a valuable antidote to inaction incentives”).

225. See Greve, *supra* note 224, at 559.

The modified menu regime, however, seems to strike the appropriate balance between a centralized and decentralized system. The EPA approves a list of viable control measures with the caveat that sources select the best measure for their situation. As such, the EPA is establishing a flexible national mandate. The regulated actors, by being directed to select the best emissions-reducing measure, will also be encouraged to actively take part in the regulatory effort.²²⁶ Because both parties, the government and the local actors, are required to take affirmative regulatory action, it appears unlikely that either will skirt their duty to reduce particulate matter pollution.

Thus, while perhaps not appropriate for every pollutant-reducing regime, a modified menu of options may prove to be an attractive regulatory tool to achieve BACM in serious particulate matter nonattainment areas.

CONCLUSION

Vigil and *Latino Issues* invite us to reassess fundamental questions pertaining to environmental law. How should we regulate air pollution? Do expert agency regulators know how best to achieve a certain outcome or should we defer to the regulated actors?

It is vital to recall, however, that the present situation asks us to regulate particulate pollution in areas deemed particularly harmful to human health. The EPA determined that San Joaquin Valley and Phoenix could not practicably attain safe levels of particulate pollution by the specified deadlines and therefore reclassified the moderate PM₁₀ nonattainment areas to serious nonattainment areas.²²⁷ San Joaquin Valley and Phoenix therefore require better, more effective, air pollution regulation than other, less dire, areas. Thus, the critical distinction becomes the difference between best and reasonably available control measures.

The menu schemes as presently constituted, characterized by their flexibility and deference to the regulated actors, could amount to reasonably available control measures. RACM, without its mandate to

226. See Richard B. Stewart, *Pyramids of Sacrifice? Problems of Federalism in Mandating State Implementation of National Environmental Policy*, 86 YALE L.J. 1196 (1977). Richard Stewart, in his seminal piece on environmental federalism, balances the positives of a centralized top-down regulatory regime with the positives of a decentralized regime. *Id.* at 1210–19. He explains that historically the United States has favored “noncentralized decisions.” *Id.* at 1210. Not only do local decisions better address geographical variations, but they facilitate local actor “self-determination” and active participation in the social goals of the regulatory effort. *Id.* at 1210–11.

227. See San Joaquin Reclassification, 58 Fed. Reg. 3334, 3337 (Jan. 8, 1993); see also Phoenix Reclassification, 61 Fed. Reg. 21,372, 21,373 (May 10, 1996).

maximize pollution reduction, is not critically undermined by a scheme that allows sources to select any measure from the list, regardless of whether it is the best choice.²²⁸ The menus identify control measures which reduce particulate matter emissions. As such, whatever choice the regulated actor makes, the measure will certainly reduce particulate levels to some degree. In moderate nonattainment areas, cost-effective pollution reduction may appropriately be the priority.

However, San Joaquin Valley and Phoenix, by virtue of their extreme levels of particulate matter pollution, require states to “maximize” pollution reduction. The menu schemes described in *Vigil* and *Latino Issues* do not adequately do so. The menu schemes do not mandate selection of the “best” emissions-reducing measure from the list. Quite the opposite, the menus only require that a minimum reducing measure be implemented. Further, the EPA’s justification that sources will better select emissions-reducing control choices is inappropriate because the menu schemes do not require regulated actors to achieve a social outcome.

By ignoring the plain meaning of the word “best,” the menu schemes have clouded the distinction between best and reasonably available control measures. The CAA prioritized maximum emissions reduction for particulate pollution in serious nonattainment areas. As the Supreme Court explained in *ADEC*, *absent cause*, the BACT standard requires adoption of measures that lead to maximum emissions reductions.²²⁹ In view of the Court’s opinion, the language of the CAA, the EPA’s internal guidance documents, and the dictionary definition of the word “best,” the menu schemes in both San Joaquin Valley and Phoenix should be altered to preserve the meaning of BACM.

228. See State Implementation Plans, General Preamble for the Implementation of Title I of the Clean Air Act Amendments, 57 Fed. Reg. 13,498, at *80 (Apr. 16, 1992) (codified at 40 C.F.R. pt. 52) (control measures are “evaluated for their reasonableness, considering their technological feasibility and the cost of control in the area to which the SIP applies”).

229. *Alaska Dep’t of Env’tl. Conservation v. EPA*, 540 U.S. 461, 498–99 (2004) (Alaska’s selection of a lower reducing control measure failed to satisfy BACT’s requirement).

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