2009

Competition: The Next Generation of Environmental Regulation?

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Risk. In the environmental arena, when determining *whether* to regulate or *how* to regulate activities or products, policymakers must begin by assessing the level of risk presented by the activity or product. Although essential information about the level of risk is often in the hands of the actors or producers, they may be reluctant to provide this information to policymakers, unless they are compelled to do so, because the disclosure of information about the risk presented by their activity or product could reduce demand for their activity or product, increase potential liability for harm caused by their activity or product, or spur additional government regulation of their activity or product.[1] Consequently, policymakers often face an "information deficit" or "data gap" as they determine whether and how to regulate activities and products.[2]

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[1] *See infra* notes 20-28 and accompanying text.

[2] *See infra* note 23.

In the environmental arena, government regulators have had limited success when called upon to fill those gaps in implementing command-and-control regulatory programs that require environmental standards to be set at levels to reduce harm or risk by a specific amount.[3] Because the harm-based standard setting process is very time consuming and expensive and the resulting standards are often difficult to defend in court, agencies frequently decide to avoid setting standards altogether.[4] Information disclosure programs and other recent market-based environmental reforms have not fared much better in addressing the information deficit problem because the programs have generally not required the disclosure of information about the harm or risk created by activities or products.[5] In a recent article, Professor Wendy Wagner suggested policymakers might be able to reduce the information deficit in some cases by adopting a "competition-based" regulatory approach that provides actors or producers with an incentive to provide information about the environmental health and safety benefits of their products and activities and the risks presented by their competitors.[6] Addressing the regulation of chemicals, Professor Wagner proposed an adjudicatory process between rival manufacturers, whereby the Environmental Protection Agency ("EPA") could certify one product as environmentally "superior" to another product and the agency could ban or limit the use of the "inferior" product.[7] Professor Wagner argued the competitive process would spur manufacturers to disclose information to EPA that the manufacturers would not disclose otherwise.[8] She also suggested such a competition-based regulatory approach could be extended to other areas, such as regulation of pesticides or nanotechnology.[9]

By combining a certification of superiority with a ban or limit on the use of inferior products, Professor Wagner's proposal is a hybrid of command-and-control regulation and information disclosure programs. Like command-and-control regulatory programs, a ban or limit on the use of an inferior product will more directly drive riskier products out of the market.[10] Like information disclosure or labeling programs, Professor Wagner's

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[3] *See infra* notes 152-162 and accompanying text.
[4] *Id.*
[5] *See infra* notes 62-68 and accompanying text.
[6] Wendy Wagner, *Using Competition-Based Regulation to Bridge the Toxics Data Gap*, 83 IND. L.J. 629, 640 (2008) [hereinafter Wagner, *Competition-Based Regulation*].
[7] *Id.* at 640-41.
[8] *Id.* at 641. Wagner argues that instead of relying on the manufacturers "to produce unflattering information about their own products' risks," a competition-based system will allow the manufacturers' competitors to report to EPA, thereby "do[ing] the dirty work." *Id.*
[9] *Id.* at 655-58.
[10] *See id.* at 653-54.

certification of superiority is designed to provide information to the public that will increase the demand for the superior product and eventually drive riskier products out of the market.[11]

Unfortunately, Professor Wagner's proposal would be very difficult to implement for several reasons. Most importantly, the proposal requires EPA to make a decision to certify a product as superior based on a vague, largely undefined standard.[12] Because federal agencies have already had difficulty setting "harm-based" standards under other command-and-control regulatory programs because of information deficits, EPA is likely to have difficulty making the harm-based determination of whether one product is superior to another product with regard to its environmental and health impacts. Ultimately, therefore, EPA might avoid certifying products as superior, except in extreme circumstances. In the event EPA implements the program more aggressively and is more willing to certify products as superior, it can only do so by resolving many difficult policy decisions regarding the

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[11] *See id.* at 653-54; *see also* Roger D. Wynne, *The Emperor's New Eco-Logos?: A Critical Review of the Scientific Certification Systems Environmental Report Card and the Green Seal Certification Mark Programs*, 14 VA. ENVTL. L.J. 51, 55-56 (1994) (addressing the effects of early efforts to label products with eco-certification).

[12] Wagner, *Competition-Based Regulation*, *supra* note 6, at 640-41. While Professor Wagner provides no ascertainable standard, she does describe the regulatory process from which such determinations would be made:

> In competition-based regulation, regulators provide a venue for the "better" chemicals to prosper at the expense of the "worse" (untested or unnecessarily risky) chemicals by adjudicating claims of environmental superiority. If a competitor establishes that there are measurable and significant differences between its product and a competitor's product with regard to health or environmental consequences, the EPA may not only certify this environmental superiority, but in some cases it might also restrict the inferior chemical with regard to its range of uses or even ban it entirely.

Id. (citations omitted).

definition of "superiority."[13] Professor Wagner's proposal, though, limits opportunities for public input into the resolution of those issues.[14]

Beyond the vague superiority standard, the other major impediment to the success of Professor Wagner's proposal is the process, her recommended competition-based regulation. She recommends formal rulemaking for the fact-sensitive, adjudicatory decisions at the heart of her proposal.[15] Unfortunately, formal rulemaking has long been out of favor with agencies and Congress because it is expensive and time consuming.[16] It is also not a good vehicle for resolving the questions of policy or fact that will generally be central to EPA's determination of the superiority of one product over another.[17] The cumbersome process, combined with the vague standard for superiority also raises significant environmental justice concerns.[18]

Part I of this article examines Professor Wagner's proposal for a competition-based regulatory approach. Part II explores the similarities between her approach, command-and-control regulation, and information disclosure programs. Part II also analyzes some of the advantages and disadvantages of her proposal over those alternatives. Finally, Part III examines the challenges inherent in implementing her proposal and explores whether the proposal could be modified in any way to minimize those

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[13] *Id.* at 642-43. Wagner purposefully provides an unclear and open-ended definition of superiority, so as to limit inhibition of the potential for technical advancements:

> This claim of competitive superiority could encompass any number of different factors involving health or environmental effects. For example, a product could be characterized as superior if it provides the same service at the same cost, but involves fewer health risks to users, to the workers who manufacture it, or to the environment through leaching or volatilization. One could also imagine claims of environmental superiority with regard to life cycle costs where a product that is otherwise identical to a competitor may be superior because it can be more safely disposed into landfills or is biodegradable. Keeping the idea of "superiority" open-ended might actually spur product innovation in unforeseeable, environmentally positive ways.

Id.

[14] *See id.* at 647-48. Professor Wagner justifies the potential exclusion of the public from such adjudicative hearings on the basis that a "diffuse public, whose views are loosely represented by a few public interest groups, cannot begin to match this strong manufacturer block with a vested interest in the status quo." *Id.* at 631 (citing NEIL K. KOMESAR, IMPERFECT ALTERNATIVES: CHOOSING INSTITUTIONS IN LAW, ECONOMICS, AND PUBLIC POLICY 167-68, 192 (1994) (noting that where the potential for harm to individuals is serious, "'[t]he skewed distribution can lead and, in this context, appears to have led to overrepresentation of the position of the potential injurer group' in the political process")).

[15] *See id.* at 641-42.

[16] *See* discussion *infra* Part III.B.

[17] *See id.*

[18] *See id.*

implementation challenges. The article concludes with suggested modifications and reflections thereon.

I. THE COMPETITION-BASED REGULATION PROPOSAL

Professor Wagner proposed the competition-based regulatory approach in a recent article[19] that explored the shortcomings of chemical regulation under the Toxic Substances Control Act ("TSCA").[20] Under TSCA, EPA can ban or impose other limits on a chemical if the Administrator finds there is "a reasonable basis to conclude" the chemical "presents or will present an unreasonable risk of injury to health or the environment."[21] The statute authorizes EPA to require manufacturers to test their chemicals to generate the data the agency needs to determine the appropriate way to regulate those chemicals. Mandatory tests are triggered based on a threshold determination that the chemical may present an unreasonable risk of injury to health or the environment.[22]

In many cases, though, EPA does not have sufficient information to impose limits on the use of chemicals or, more importantly, to require testing by the manufacturers to generate the data that would help the agency determine whether it is necessary to impose limits on the chemicals.[23]

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[19] Wagner, *Competition-Based Regulation*, *supra* note 6, at 640.

[20] Toxic Substances Control Act, 15 U.S.C. §§ 2601-2692 (2006).

[21] § 2605(a). In addition to an absolute prohibition, TSCA allows EPA to limit the amount of the product which may be manufactured; requires that the produce by marked or accompanied by clear and adequate warnings; requires that the manufacturer make and retain records of the processes used to manufacture and monitor or conduct tests reasonable and necessary to assure compliance; regulates the manner or method of commercial use of the product; regulates the manner of the product's disposal; and requires manufacturers to give notice of unreasonable risk of injury to distributors in commerce of the product and give public notice of such risk of injury. *Id.*

[22] In order to require testing, EPA must establish a "more-than-theoretical" probability of an "unreasonable risk of injury to health." Chem. Mfrs. Ass'n v. EPA, 859 F.2d 977, 984 (D.C. Cir. 1988); § 2603(a)(1)(A)(i).

[23] *See, e.g.*, John S. Applegate, *Bridging the Data Gap: Balancing the Supply and Demand for Chemical Information*, 86 TEX. L. REV. 1365, 1384 (2008) (noting that releasing industry-sensitive information "has negative liability, regulatory, and economic consequences, while remaining in ignorance has few negative consequences because long latency, nonsignature health effects, and diffuseness and rarity of effect make it difficult to trace health effects to their sources"); John S. Applegate, *Worst Things First: Risk, Information, and Regulatory Structure in Toxic Substances Control*, 9 YALE J. ON REG. 277, 299-300 (1992) (doubting "the practical ability of an agency to apply its expertise in the real world of scarcity of information and resources"); Bradley C. Karkkainen, *Bottlenecks and Baselines: Tackling Information Deficits in Environmental Regulation*, 86 TEX. L. REV. 1409, 1422-23 (2008) (noting that while producers are far more familiar with their products, cost concerns, and potential regulatory impact and tort liability will likely dissuade them from pursing potential toxological effects); Rena I. Steinzor, *Devolution and the Public Health*, 24 HARV. ENVTL. L. REV. 351,

Professor Wagner points out that TSCA's regulatory scheme does not require the manufacturers to provide the agency with the information it needs and neither the market nor concerns for liability provide any incentive for the manufacturers to provide that information.[24] Regarding liability, Professor Wagner notes a manufacturer is less likely to be held liable in tort lawsuits when there is little information about the link between a chemical a manufacturer produced and various harmful health or environmental effects.[25] Regarding the market, a manufacturer could lose business if the manufacturer disclosed information that suggested there was a link between the chemical it produced and various harmful health or environmental effects.[26] At the same time, Professor Wagner notes the market does not reward a manufacturer's disclosure that its product is less harmful than other products because it is difficult for consumers to validate those claims.[27] In addition, she suggests the high cost for tests required to demonstrate the health or environmental benefits of a product are often not justified by the minimal benefits obtained in the market.[28]

Professor Wagner also believes reform of the chemical regulatory system under TSCA will be difficult because the chemical manufacturers will be unified in opposing any increased testing requirements, while the proponents of reform are poorly organized and represent a diffuse public that does not understand the magnitude of the problems created by the current

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366-69 (2000) (addressing the scientific and technological challenges of "[c]losing the gap in chemical toxicity data").

[24] *See* Wagner, *Competition-Based Regulation*, *supra* note 6, at 635. *See also* Mary L. Lyndon, *Information Economics and Chemical Toxicity: Designing Laws to Produce and Use Data*, 87 MICH. L. REV. 1795, 1813-17 (1989) (recognizing that the "manufacturer often is the only party in a financial position to perform the research necessary to prove a causal connection," and that providing such information will only lead to increased costs and potential liability).

[25] *See* Wagner, *Competition-Based Regulation*, *supra* note 6, at 636.

[26] *See id.* at 630.

[27] *See id.* at 635-36. Such information lay with the manufacturers. *See* Wendy Wagner, *Choosing Ignorance in the Manufacture of Toxic Products*, 82 CORNELL L. REV. 773, 798-800 (1997).

[28] Wagner, *Competition-Based Regulation*, *supra* note 6, at 636. Agencies frequently face information deficits as they determine whether and how to regulate. In addition to the reasons outlined above, potentially regulated entities often prefer to avoid disclosing information because they fear that the disclosure: (1) will provide their competitors with trade secrets or confidential business information, *see* Mary L. Lyndon, *Secrecy and Access in an Innovation Intensive Economy: Reordering Information Privileges in Environmental, Health, and Safety Law*, 78 U. COLO. L. REV. 465, 470-72 (2007); (2) will raise security concerns or increase the potential for terrorism, *see* Stephen M. Johnson, *Terrorism, Security, and Environmental Protection*, 29 WM. & MARY ENVTL. L. & POL'Y REV. 107, 110-25 (2004); or (3) will trigger more stringent regulatory standards or requirements, *see* Wendy Wagner, *The "Bad Science" Fiction: Reclaiming the Debate over the Role of Science in Public Health and Environmental Regulation*, 66 LAW & CONTEMP. PROBS. 63, 92-94 (2003).

regulatory system.[29] Nevertheless, she proposes a reform she believes will divide the chemical manufacturers and provide incentives for them to provide information where there have been no incentives in the past.[30]

Under her proposal, EPA would have the authority to certify a product as environmentally superior to a competing product *for specific uses of the product* if the agency determined there were "measurable and significant differences between its product and [the competing] product with regard to health or environmental consequences"[31] and the product was "available at roughly the same price per application" as the competing product for specific uses.[32] EPA could then either require the manufacturer of the inferior product to label it as inferior for specific uses or ban or limit the use of the inferior product for specific uses.[33] Professor Wagner also suggests the government could be required to purchase only products certified as superior, or, at least, be prohibited from purchasing inferior products.[34] EPA's certification of a product as superior would, however, be "time-limited."[35]

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[29] *See* Wagner, *Competition-Based Regulation*, supra note 6, at 638. Wagner cites to powerful trade associations such as the American Chemistry Council (formerly the Chemical Manufacturers Association) and subgroups like the Chlorine Chemistry Council. *See also* Karkkainen, *supra* note 23, at 1427-30 (2008) (discussing trade associations' ability to report "gushers of information" after the passage of a California proposition placing duty on California businesses to give "clear and reasonable warning" to whomever is exposed to their products).

[30] Wagner, *Competition-Based Regulation*, *supra* note 6, at 640-46. *See also* Daniel C. Esty, *Environmental Protection in the Information Age*, 79 N.Y.U. L. REV. 115, 156-61 (2004) (addressing the benefits of increased incentives for providing and sharing information in the computerized world).

[31] Wagner, *Competition-Based Regulation*, *supra* note 6, at 640.

[32] *Id.* at 642.

[33] *See id.* at 640-42. Wagner suggests EPA may already have the legal authority to ban or limit the use of an inferior product, since under § 2604(f)(1) of TSCA, the agency is allowed to take these actions when it determines a chemical presents an unreasonable risk of injury to health or the environment. *Id.* at 641. Wagner reasons that "[b]y identifying the superior qualities of its product, a competitor effectively establishes that the inferior, more risky chemical product presents an unreasonable risk since the benefits of the inferior chemical, in light of an effective substitute, approach zero and do not offset the product's risks." *Id.* (citing § 2605(c)(1)(C)). Although Wagner argues most of the other elements of her competition-based regulation proposal could be implemented without any changes to TSCA, she concedes TSCA does not explicitly give EPA the authority to certify products as superior, and a legislative change may be necessary to give EPA this authority. *Id.* at 647.

[34] *Id.* at 641.

[35] *Id.* at 642. Professor Wagner proposes at least a two-year period during which a manufacturer may label its product as superior.

Professor Wagner envisions EPA using the formal rulemaking process for adjudicating superiority claims through adversarial hearings.[36] While the process will usually be initiated when a *company* seeks certification of *its* product as superior to a competitor's product, Professor Wagner suggests communities and interest groups could also seek certification that a particular product is superior to another product for specified uses.[37]

Under Professor Wagner's proposal, EPA's decisions to certify or limit the uses of products would be open to appellate review.[38] Although Professor Wagner does not discuss the standard of judicial review in her proposal, she noted in a previous article that "substantial evidence" would need to support EPA's factual determinations in formal rulemaking.[39] In addition, since EPA's decisions would likely revolve around difficult scientific and technical questions, courts would likely defer to the agency's resolution of those questions as long as the agency provided detailed explanations for those decisions.[40]

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[36] *Id.* Although the competitive process envisioned by Wagner seems more like adjudication than rulemaking, the Administrative Procedures Act ("APA") defines a "rule" as "the whole or a part of an agency statement of general *or particular applicability* and future effect," 5 U.S.C. § 551(4) (2006) (emphasis added), and defines "rule making" as "agency process for formulating, amending, or repealing a rule." § 551(5). EPA's determination that a product is superior to a competitor's product or the agency's decision to ban or limit the use of an inferior product would be an agency statement "of particular applicability and future effect." § 551(4). In fact, the decision would likely have little, if any retroactive effect. Thus, while the fact-sensitive inquiry central to EPA's decision making is the type of inquiry normally conducted in adjudication, the APA is broad enough to permit the decision to be made through rulemaking.

Because the decision turns on EPA's resolution of "adjudicative facts," due process would probably require the agency to provide adequate notice and opportunity for a hearing before certifying a product as superior or limiting the use of an inferior product regardless of whether the decision were made through rulemaking or adjudication, but the *formal* rulemaking procedures established in the APA should provide the minimum protections required by due process. *See infra* note 168.

[37] Wagner, *Competition-Based Regulation*, *supra* note 6, at 645-46. Wagner also proposes companies could file a petition for a superiority certification, piggybacking on a prior company's petition, but the later companies "would be required to reimburse the original manufacturer through a compulsory license." *Id.* at 642.

[38] *See id.* at 642.

[39] 5 U.S.C. § 706(2)(E) (2006). In a separate article, Professor Wagner notes substantial evidence review encourages agencies to conceal policy decisions behind scientific and technical explanations because substantial evidence review "correlat[es] the survival rate of an agency standard with the extent of technical explanations garnered in its support." Wendy Wagner, *The Science Charade in Toxic Risk Regulation*, 95 COLUM. L. REV. 1613, 1662-63 (1995) [hereinafter Wagner, *The Science Charade*].

[40] *See* Wagner, *The Science Charade*, *supra* note 39, at 1664-66. Rather than scrutinizing the accuracy of the technical explanations for agency decisions on difficult scientific questions, courts frequently prefer to require agencies to comply with procedural requirements and to

While Professor Wagner's proposal focuses most directly on regulation of chemicals, she suggests a competition-based regulation approach could be used to address other environmental issues as well.[41] She indicates that this approach is "likely to be most effective . . . when the oversight of products or polluting activities requires the compilation of a great deal of information, when regulated parties possess most of this information and/or necessary expertise, and when there are sufficient distinctions between competing products or approaches."[42] Specifically, she suggests it could be useful for regulating pesticides, nano-technology and the release of information under the federal law that creates the Toxic Release Inventory.[43]

Professor Wagner cites several ways her proposed competition-based regulatory approach would address problems that have frustrated EPA's regulation of chemicals under TSCA. First, she suggests the approach will break the "political gridlock," which prevents companies from providing health and safety information to EPA by separating the companies into competing factions - those who are likely to benefit from the certification process and those who are not.[44] Second, she suggests her approach takes advantage of market forces to encourage disclosure of information more expeditiously than would be possible through a traditional command-and-control approach and to encourage disclosure of information in areas where "dramatic improvements in the safety of chemicals are possible."[45] Third, she suggests her approach allows the government to take some action even

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consider specific factors or alternatives in making their decisions. *See* STEPHEN G. BREYER, RICHARD B. STEWART, CASS R. SUNSTEIN & ADRIAN VERMEULE, ADMINISTRATIVE LAW AND REGULATORY POLICY 354-56 (6th ed. 2006).

[41] *See* Wagner, *Competition-Based Regulation*, *supra* note 6, at 651.

[42] *Id.* at 655 (citations omitted).

[43] *See id.* at 655-58. Regarding the Emergency Planning and Community Right to Know Act, 42 U.S.C. §§ 11001-11050 (2006), Professor Wagner suggests "a statutory amendment could provide a company with competitive profit losses if they prove that their competitor failed to file timely or reliable estimates of toxic releases or otherwise enjoyed cost savings from noncompliance." *Id.* at 657. Similarly, she proposes "[i]n the related area of market-based pollution trading schemes, permit holders could also be awarded lost profits, extra permits, or other bonuses for reporting the violations of other permit holders, even for wholly past violations." *Id.* at 657.

As Professor Wagner notes, her proposal is conceptually similar to Professor David Driesen's proposed "environmental competition statute," which would authorize companies that pollute less than their competitors to sue their competitors for damages in an amount equal to the costs they spent to reduce their pollution to the lower levels plus a premium. *Id.* at 651 (citing DAVID M. DRIESEN, THE ECONOMIC DYNAMICS OF ENVIRONMENTAL LAW 153 (2003)). According to Professor Wagner, Professor Driesen's proposal would center on private claims for damages, rather than EPA adjudication of superiority claims. Wagner, *Competition-Based Regulation*, *supra* note 6, at 652.

[44] Wagner, *Competition-Based Regulation*, *supra* note 6, at 645.

[45] *Id.*

in the face of uncertainty.[46] Finally, she asserts the adversarial process outlined in her proposal will produce higher quality data than the current system for regulating chemicals.[47]

Professor Wagner's proposed approach could have significant impacts on tort litigation, though she does not discuss these implications of her proposal in detail. For instance, in a negligence lawsuit, if a defendant used or produced a product that is the cause of the plaintiff's injury and the product was identified as inferior through Professor Wagner's proposed process, it might be easier for the plaintiff to prove the defendant's conduct in using or producing the product breached a duty to exercise reasonable care. Even if the court does not consider the fact that the product was certified as inferior as evidence of the defendant's breach of duty, there may be information disclosed through the adjudicatory process resulting in the inferiority finding that would be relevant in proving the defendant in the tort lawsuit breached a duty to exercise reasonable care. Similarly, if EPA prohibited or limited the use of an inferior product, rather than merely requiring the producer to label it as inferior, EPA's decision, or evidence disclosed in the proceeding that led to EPA's decision, could be relevant, or perhaps even dispositive, in proving the defendant breached a duty to exercise reasonable care.

In addition to its usefulness in proving a breach of duty in negligence lawsuits, the information disclosed in Professor Wagner's adversarial hearings could also be useful in proving causation in those lawsuits. Competitors will likely disclose information regarding the link between products and specific health or environmental effects in the context of the adversarial hearings to determine product superiority, and this type of information could be relevant in proving a particular product caused a specific harm for purposes of a negligence lawsuit.

While Professor Wagner's competition-based regulation approach is likely to generate useful information for negligence lawsuits, it could also generate useful information for lawsuits based on strict liability involving abnormally dangerous activities. In an extreme case, the information disclosed in the adversarial hearings regarding product superiority could prove an activity or product was abnormally dangerous and that it caused specific health or environmental harms.

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[46] *See id.* at 646.
[47] *Id.*

II. COMPARING THE COMPETITION-BASED APPROACH WITH COMMAND-AND-CONTROL AND MARKET-BASED APPROACHES

A. Similarity to the Command-and-control Approach

Professor Wagner's competition-based regulatory approach is a blend of both the command-and-control and market-based approaches.[48] In some ways, the approach is a very traditional command-and-control approach. For instance, to the extent Professor Wagner's proposal authorizes EPA to ban or limit the use of products that the agency determines are inferior, the proposal seems to adopt a classic command-and-control approach.[49] The proposal authorizes EPA to set risk or harm-based standards then penalize persons who fail to meet those standards. The major difference between the approach taken in Professor Wagner's proposal and the approach taken in traditional command-and-control programs is that her proposal creates additional incentives for the regulated community to provide the information the agency needs to set standards for superior products.[50]

Unfortunately, EPA has faced significant difficulty in administering command-and-control programs to enforce risk or harm-based standards. When Congress has required the agency to set risk or harm-based standards to address hazardous air pollutants or toxic water pollutants or to implement the Clean Water Act's TMDL program,[51] EPA has frequently delayed setting standards or failed to set any standards.[52] While Professor Wagner asserts her proposal should produce more and better information for EPA to use in weighing and balancing risk and harm, it is not clear whether the delays or regulatory failures in other command-and-control risk-based

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[48] *See id.* at 640-42. *See also* Harry Moren, Note, *The Difficulty of Fencing in Interstate Emissions: EPA's Clean Air Interstate Rule Fails to Make Good Neighbors*, 39 ECOLOGY L.Q. 525, 541-46 (2009) (comparing traditional command-and-control approaches with marked-based approaches).

[49] *See* Wagner, *Competition-Based Regulation*, *supra* note 6, at 640-42. After all, under Wagner's proposal, EPA would adjudicate claims of superiority and make final rule-like determinations. *Id.* at 642.

[50] *See id.*

[51] Federal Water Pollution Control Act (Clean Water Act), 33 U.S.C. § 1313(d)–(e) (2006), requires states to identify problem areas within their boundaries and establish the total maximum daily load (TMDL) for pollutants identified by the EPA Administrator as essential to achieving water quality objectives. *See also* Theodore A. Feitshans & Kelly Zering, *Federal Regulation of Animal and Poultry Production under the Clean Water Act: Opportunities for Employing Economic Analysis to Improve Societal Results*, 10 PENN. ST. ENVTL. L. REV. 193, 205 (2002) (discussing "EPA's neglect of TDMLs" and the public reaction).

[52] *See infra* notes 153–159 and accompanying text.

programs were simply due to lack of information.[53] Even in cases where delays or regulatory failures are primarily due to lack of information, significant uncertainty regarding the risks or harms caused by products or activities would likely remain even if regulated actors disclosed all of the information in their control.[54]

The difficulties inherent in implementing a command-and-control regulatory program to enforce risk or harm-based standards have prompted many commentators, including Professor Wagner herself, to advocate the use of technology-based standards in command-and-control programs.[55] In an earlier article, she noted that technology-based standards "provide one of the most reliable methods for controlling pollution" in light of the scientific uncertainties and unclear policy directions that impede the implementation of risk and harm-based regulatory programs.[56] While technology-based standards may not be appropriate for addressing many environmental issues, it is possible that risk or harm-based regulatory approaches could create problems that cannot be solved simply by expanding the information available to government regulators through a competition-based approach.

B. Similarity to a Market-Based Approach

While Professor Wagner's competition-based regulatory approach incorporates a traditional command-and-control element, the EPA certification of superiority she proposes is similar to market-based environmental approaches like "right to know" laws or other information disclosure laws, labeling laws, and voluntary certification programs.[57] Similar to those programs, Professor Wagner's competition-based regulatory scheme is designed to complement and build upon existing command-and-

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[53] *See* Oliver A. Houck, *Tales from a Troubled Marriage: Science and Law in Environmental Policy*, 17 TUL. ENVTL. L.J. 163, 167-68 (2003) (attributing EPA failures to uniqueness and ubiquity of environmental law, and noting that despite the scientific evidence, those opposed to regulation will always look to the "unexplored factor" as a contributor since "[t]hat is the essence of science"). Politics and the costs associated with health-based standards also played an important role in the failure of those programs. *See also* Howard Latin, *Regulatory Failure, Administrative Incentives, and the New Clean Air Act*, 21 ENVTL. L. 1647, 1654 (1991) (blaming agencies' lack of widespread political support for failures in environmental regulation in Superfund cleanup cases).

[54] *See* Wagner, *The Science Charade*, *supra* note 39, at 1619-27 (describing the uncertainty inherent in scientific experimentation and the use of policy to attempt to fill these scientific gaps).

[55] *See* Wendy Wagner, *The Triumph of Technology-Based Standards*, 2000 U. ILL. L. REV. 83, 88 (2000) [hereinafter Wagner, *Triumph*].

[56] *Id.* at 85.

[57] *See* Wagner, *Competition-Based Regulation*, *supra* note 6, at 640-43.

control regulation, rather than to replace it.[58] And analogous to those programs, her program focuses on providing consumers with information to influence product purchases that produce fewer adverse environmental impacts, driving down the market for environmentally harmful products and eventually driving those harmful products off the market.[59] Her approach takes advantage of the dramatic rise, over the last fifteen years, in "green consumerism."[60] In theory, market-based environmental programs should be able to achieve pollution reductions or environmental goals more quickly and efficiently than command-and-control programs.[61]

Professor Wagner's proposal is conceptually a little different from most of the right to know and information disclosure or labeling laws currently implemented by the federal (or state) governments because her proposal provides comparative risk information to consumers.[62] The Emergency Planning and Community Right to Know Act ("EPCRA"),[63] the Safe Drinking Water Act,[64] California's Proposition 65[65] and similar laws generally require companies to disclose quantitative data, such as volumes of chemicals used, stored, or released, or to identify chemicals that are

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[58] *See id.* at 646-48.

[59] *See id.* at 640-43.

[60] *See generally* John M. Church, *A Market Solution to Green Marketing: Some Lessons from the Economics of Information*, 79 MINN. L. REV. 245, 250-54 (1994) (describing environmental attributes of products and the growing "green market"); Jamie A. Grodsky, *Certified Green: The Law and Future of Environmental Labeling*, 10 YALE J. ON REG. 147, 149 (1993) (noting the "short-comings of the current U.S. legal and regulatory framework for environmental advertising").

[61] However, in her article praising technology-based standards, Professor Wagner was skeptical that market-based programs could achieve meaningful pollution reduction more quickly than command-and-control laws, even though they could be implemented more quickly. *See* Wagner, *Triumph, supra* note 55, at 98. According to Wagner, "[p]rotracted delays in achieving desired results may be most severe with market-based approaches to pollution control because of the inevitable policy feedback that can occur with such incentive-based methods." *Id.* (citing Vivien Foster & Robert W. Hahn, *Designing More Efficient Markets: Lessons from Los Angeles Smog Control*, 38 J.L. & ECON. 19, 20, 43 (1995); Howard Latin, *Ideal Versus Real Regulatory Efficiency: Implementation of Uniform Standards and "Fine-Tuning" Regulatory Reforms*, 37 STAN. L. REV. 1267, 1295-96 (1985); Ann Powers, *Reducing Nitrogen Pollution on Long Island Sound: Is There a Place for Pollutant Trading?*, 23 COLUM. J. ENVTL. L. 137, 194-95 (1998)).

[62] *See* Wagner, *Competition-Based Regulation*, *supra* note 6, at 641-43; *see, e.g.*, 35 PA. CONS. STAT. § 6022.206 (c) (2001).

[63] Emergency Planning and Community Right to Know Act, 42 U.S.C. §§ 11001-11050 (2006).

[64] Safe Drinking Water Act, 42 U.S.C. § 300f to j-26 (2006).

[65] CAL. HEALTH & SAF. CODE § 25249.5-.13 (2006) (Proposition 65).

incorporated in products.[66] While *some* of the laws require disclosure of data regarding risks, the laws do not generally require companies to disclose information about the *degree of risk posed by one product or activity compared to another.*[67] EPA's efforts to clarify, for consumers, the relative risks of chemicals subject to reporting under EPCRA triggered strong industry resistance.[68]

Professor Wagner's proposal more closely resembles voluntary certification programs than information disclosure laws,[69] but it may spur a greater consumer response than the voluntary certification programs, because the government, rather than a non-profit entity, is certifying the products as superior.[70] Consumers may be more willing to rely on the legitimacy of the certification when the government awards it.[71]

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[66] *See* STEPHEN M. JOHNSON, ECONOMICS, EQUITY AND THE ENVIRONMENT 197-204 (2004) [hereinafter JOHNSON, ECONOMICS, EQUITY, AND THE ENVIRONMENT] (describing the information disclosure requirements of each of those laws).

[67] California's Proposition 65, which requires companies to label products containing carcinogens, probably comes the closest to requiring the disclosure of such information. *See* CAL. HEALTH & SAFETY CODE § 25249.6. However, the law does not require companies to identify the specific chemicals contained in the products, the means of exposure from those chemicals, or steps that can be taken to reduce exposure to those chemicals, other than not using the product. *Id*; *see* Clifford Rechtschaffen, *The Warning Game: Evaluating Warnings Under California's Proposition 65*, 23 ECOLOGY L.Q. 303, 325-27 (1996).

[68] *See* Stephen M. Johnson, *Economics v. Equity: Do Market-Based Environmental Reforms Exacerbate Environmental Injustice?*, 56 WASH. & LEE L. REV. 111, 151 n.245 (1999) [hereinafter Johnson, *Economics v. Equity*].

[69] For a general overview of international certification programs, like the Eco Label program, or certification programs established by states or nonprofit organizations in the United States, like the Green Seal program, see Church, *supra* note 60, at 246; Grodsky, *Certified Green*, *supra* note 60, at 149.

[70] Professor Wagner also asserts her program is superior to the other certification programs because her program stigmatizes inferior products with an increased risk of market, regulatory, or tort liability while the other programs merely promote products that exceed the average standards of their industry. Wagner, *Competition-Based Regulation*, *supra* note 6, at 653.

[71] Regardless of the identity of the certifying entity, third party certification programs increase the effectiveness of information disclosure as a tool to reduce environmental risk or harm. In the absence of certification, consumers must rely on the truthfulness of companies and the limited federal oversight provided by the green marketing guidelines issued by the Federal Trade Commission. *See* Guides for the Use of Environmental Marketing Claims, 16 C.F.R. § 260 (2009). As Professor John Church suggests, in the absence of a certification program, sufficiently guaranteeing the truthfulness of a company's environmental claims will often require consumers to gather more information and will cost consumers more. Church, *supra* note 60, at 287-88 ("[A] third party evaluation . . . may correct the high cost of guaranteeing truthfulness in the market of information. . . . Most importantly, third party evaluators 'have little incentive to distort the facts or steer the consumer to a particular product.' In essence the seller relies upon the reputation of the third party evaluator to convey the veracity of its claim."). *See also* Grodsky, *Certified Green*, *supra* note 60, at 208-09.

Professor Wagner's proposal, like information disclosure, labeling, and certification programs, offers some additional benefits traditional command-and-control programs frequently do not offer. Specifically, it can take advantage of both the "identifiability effect" and "norm activation" to spur environmentally beneficial actions by individuals. Regarding the identifiability effect, Professor Shi Ling Hsu and others have observed that the effect frequently discourages regulation and the implementation of government programs to protect the environment and natural resources.[72] The identifiability effect is the human "propensity to have stronger emotions regarding identifiable individuals or groups than for abstract unidentifiable ones."[73] Professor Hsu notes that, in environmental or ecological disputes, it is often easy to identify the workers and industries impacted by government regulation but much harder to identify the abstract communities that will benefit from regulation.[74] Consequently, there is bias against imposing regulations on identifiable victims to benefit abstract unidentifiable groups.[75] Professor Wagner's proposal, like information disclosure laws, attempts to reverse this dynamic. Identifying the environmental and health benefits one product offers over another makes it easier to identify who will benefit from the manufacture, sale and use of the superior product. The industries that produce the inferior product will still be identifiable victims under Professor Wagner's regulatory program; however, the number of those victims will be small, because she envisions a certification arising from adjudication between competing companies, as opposed to an industry-wide regulatory program.[76] Accordingly, the identifiability effect could generate public support for Professor Wagner's certification program.[77]

Regarding norm activation, Professor Michael Vandenbergh and others have noted individuals' actions are a major cause of a variety of

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[72] Shi-Ling Hsu, *The Identifiability Bias in Environmental Law*, 35 FLA. ST. U. L. REV. 433, 494 (2008); *see also* Robin Kundis Craig, *Removing "The Cloak of a Standing Inquiry": Pollution Regulation, Public Health, and Private Risk in the Injury-In-Fact Analysis*, 29 CARDOZO L. REV. 149, 208-10 (2007).

[73] Hsu, *supra* note 72, at 437.

[74] *See id.* at 440-46.

[75] *See id.*

[76] *See id* at 645.

[77] Just as the identifiability effect could generate public support for certification of superior products in Wagner's proposal, it might also generate support for the ban of inferior products envisioned by Wagner because the adjudicative process will identify, more concretely, the persons who will benefit from the manufacture, sale, and use of superior products as well as the persons who will be harmed by the manufacture, sale and use of the inferior products. As with the certification of superior products, the universe of persons who will be harmed by a ban in Wagner's system will be small. The end result of any adjudication will be a ban on a single company, rather than on an industry.

environmental problems, but traditional command-and-control regulation is ill-suited to target individuals.[78] Building on Robert Ellickson's groundbreaking work in *Order without Law*,[79] Professor Vandenbergh argues activation of personal norms is the best approach for changing individual behavior.[80] According to Vandenbergh, information disclosure efforts can be used to activate personal norms in favor of environmental protection or personal responsibility. Once those norms are activated, individuals will reduce their environmentally harmful behavior.[81] Vandenbergh asserts that when individuals learn their actions cause specific harms to the environment and public health and they can reduce those harms by taking different actions, this knowledge will activate norms to encourage behavior changes.[82] Professor Vandenbergh suggests disclosure of "persuasive information" is more likely to activate norms and motivate changes in individual behavior than disclosure of "descriptive information."[83] Professor Wagner's proposal seems to be precisely the type of program that would take advantage of the dynamic described by Professor Vandenbergh. Professor Wagner's program provides individuals with persuasive information, information that a particular product causes specific harms to health or the environment that are not caused by a competing product, and the individual can reduce those harms by using or purchasing the superior product.[84] According to the theory advanced by Professor Vandenbergh, disclosure of this persuasive information should activate norms of environmental protection and personal responsibility in individual consumers and trigger decisions to buy the superior product.[85]

Although Professor Wagner's proposal offers many of the benefits that right to know, information disclosure, labeling, and certification programs offer, it also shares many of the limitations of those programs. For instance,

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[78] *See* Michael P. Vandenbergh, *Order Without Social Norms: How Personal Norm Activation Can Protect the Environment*, 99 NW. U. L. REV. 1101, 1103 (2005) [hereinafter Vandenbergh, *Social Norms*]. *See also* Stephen M. Johnson, *Is Religion the Environment's Last Best Hope?*, 24 J. ENVTL. L. & LITIG. 119 (2009).

[79] *See* ROBERT C. ELLICKSON, ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE DISPUTES (Harvard Univ. Press 1991).

[80] *See Social Norms*, *supra* note 78, at 1107.

[81] *Id.*

[82] *Id.* at 1121-25.

[83] *See* Michael P. Vandenbergh, *From Smokestack to SUV: The Individual as Regulated Entity in the New Era of Environmental Law*, 57 VAND. L. REV. 515, 610-12 (2004) [hereinafter Vandenbergh, *Smokestack to SUV*].

[84] *Compare* Vandenbergh, *Smokestack to SUV*, *supra* note 83, at 610-12, *with* Wagner, *Competition-Based Regulation*, *supra* note 6, at 639-43.

[85] *Compare* Vandenbergh, *Smokestack to SUV*, *supra* note 83, at 610-12, *with* Wangner, *Competition-Based Regulation*, *supra* note 6, at 639-43.

information disclosure and labeling programs like EPCRA's Toxic Release Inventory and California's Proposition 65 receive criticism on the grounds that the information provided by those programs is incomplete, inaccurate, or confusing.[86] Professor Wagner's proposal could receive similar criticisms. The information provided by her program would be incomplete because EPA's certification of a product as superior to another product would not give consumers any information regarding the performance of the superior product compared to other products not reviewed by EPA.[87] It would also be incomplete because EPA would not provide consumers with any information regarding the basis for the agency's determination that one product is superior to another.[88] While this information is available in the record for the agency's decision, it will not likely be included on any product labels. Furthermore, it is incomplete because under Professor Wagner's proposal EPA would certify a product as superior to a competitor only if the product is superior and is available at "roughly the same price."[89] If a product offers significant environmental benefits over a competitor but is not available at roughly the same price, EPA would not certify the product as superior, and consumers will not be made aware of those benefits.[90] Finally, to the extent EPA certifies a product as superior to another product for some uses but not for others, the information provided to consumers could be confusing. This confusion is particularly likely if EPA certifies products as superior to some products for some uses, inferior to the same products for other uses, and inferior to other products for other uses that they were certified as superior to other products.

Similarly, information disclosure and labeling programs are frequently criticized on the grounds that such programs will have little effect on persons who are undereducated, elderly, or poor because they will not have access to or understand the information.[91] Although the information

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[86] *See* JOHNSON, ECONOMICS, EQUITY, AND THE ENVIRONMENT, *supra* note 66, at 214-19.

[87] Wagner, *Competition-Based Regulation, supra* note 6, at 642, for an overview of the program where producers submit competitive claims of environmental superiority. Professor Wagner argues, though, there is less risk of misleading consumers in her program because the comparison in her program "is a narrow one between two or a few specific competing products." *Id.* at 654. She also argues that the quality of the information upon which the agency bases its decision is better than information often available to the agency because of the adversarial nature of the certification process. *Id.*

[88] *See id.* at 642-43.

[89] *Id.* at 642.

[90] *See id.* at 642-43.

[91] *See* JOHNSON, ECONOMICS, EQUITY, AND THE ENVIRONMENT, *supra* note 66, at 223. Information disclosure laws have been criticized more broadly for the lack of public access to the information required to be disclosed under the programs, and not simply due to the lack of access by undereducated, the elderly and the poor. *See id.* at 222. Supporters of information

Professor Wagner's proposal provides will be more accessible than the information provided in other information disclosure programs.[92] To the extent the information is incomplete and confusing, the requirements are unlikely to eliminate the disparate impact on undereducated, elderly or poor consumers.

Information disclosure programs receive criticism on other grounds as well. Professor Cass Sunstein and others have noted information disclosure and labeling laws are limited in their effectiveness because the public has limited capacity to process and understand the information provided through those laws, even if it is accurate, complete and presented in a coherent, straightforward manner.[93] Sunstein notes persons often minimize risk information they receive because they prefer to reduce cognitive dissonance; they feel frustrated by probabilistic information and prefer certain answers, and they treat a large amount of information as no information at all ("information overload").[94] Further, they often believe themselves to be immune from risks they acknowledge are significant and real with respect to others, and they are reluctant to change initial beliefs, even when new information contradicting them is presented.[95] To the extent the certification and labeling provisions of Professor Wagner's proposal provide incomplete or confusing information, as described above, consumers are likely to discount the risk information for all of the reasons advanced by Professor Sunstein.[96]

Information disclosure programs also receive criticism because compliance costs, concerns regarding disclosure of confidential business information, and limited enforcement provisions create obstacles to information collection and disclosure.[97] As discussed in the following section, companies may avoid Professor Wagner's certification process because it could be quite expensive and time consuming.[98] In addition,

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disclosure programs frequently point out, though, "only a small number of motivated persons actually need to access the information to provide the benefits of information disclosure laws." *Id.* at 223.

[92] Companies whose products are certified as superior will have greater incentives to publicize information and companies whose products are inferior will be required to label their products, and EPA may even prohibit the use or sale of their products for specific uses. *See* Wagner, *Competition-Based Regulation, supra* note 6, at 642.

[93] *See* CASS R. SUNSTEIN, FREE MARKETS AND SOCIAL JUSTICE 337-39 (Oxford Univ. Press 1997). *See also* JOHNSON, ECONOMICS, EQUITY, AND THE ENVIRONMENT, *supra* note 66, at 219-222.

[94] *See* SUNSTEIN, *supra* note 93, at 337-39.

[95] *Id.*

[96] *Id.*

[97] *See* JOHNSON, ECONOMICS, EQUITY, AND THE ENVIRONMENT, *supra* note 66, at 224-25.

[98] *See infra* Part III.A.3.

companies marketing superior products may avoid the process because they do not wish to disclose details of their process to competitors in the course of the certification adjudication.[99] Companies whose products are challenged as inferior may also wish to limit the disclosure of information about their process or products and may choose to avoid the certification process without strong limits on the disclosure of confidential information, unless the costs of an inferior label outweigh the necessary disclosure of the information.

III. CHALLENGES IN IMPLEMENTING THE COMPETITION-BASED APPROACH

While Professor Wagner's competition-based approach fails to overcome many of the limitations inherent in the command-and-control and market-based approaches upon which it is based, it would be difficult to implement in the format that she proposed for several other reasons. The primary obstacle to successful implementation of the program is the lack of clear standards for determining (1) when there are "measurable and significant differences between ... product[s] ... with regard to health or environmental consequences;"[100] or (2) what constitutes "roughly the same price per application."[101] The other obstacles to successful implementation of the program are (1) the cumbersome, expensive and time consuming formal rulemaking process planned for adjudications in the program; (2) the environmental justice implications of the proposal; and (3) the limitations identified by Professor Wagner herself, including the possibility that manufacturers will simply not participate in the process[102] or the process will not generate better information for the government or consumers.[103]

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[99] This is more likely if, as Professor Wagner suggests, there would be what amounts to a presumption against certification, so that certification of superiority would only be granted if there is "an unambiguous showing of superiority." *See* Wagner, *Competition-Based Regulation*, *supra* note 6, at 648.

[100] *Id.* at 640.

[101] *Id.* at 642.

[102] *Id.* at 648. Professor Wagner suggests manufacturers might decide to forego seeking certification of products because of an "unwritten allegiance between chemical manufacturers to resist regulatory intervention." *Id.* at 648. Also, the process might be more expensive than any benefits that the certification will provide, or because manufacturers fear that pursuing certification might disclose information about their products competitors could use against them, perhaps by identifying previously unrecognized hazards associated with their products. In addition to those concerns, it seems likely a manufacturer might avoid seeking certification of a product as superior because the manufacturer believes the filing could spur similar actions by other manufacturers against them.

[103] Professor Wagner notes, "it is not clear whether there actually will be significant distinctions in the safety of a sizable number of chemical products." *Id.* at 648. If there are very few certifications, the program will not provide much information to consumers. In

Philosophically, Professor Wagner's proposal moves into a realm where Congress and EPA have been reluctant to tread; it appears to involve EPA in regulating the production processes and technology choices of businesses at a much deeper level than in the past.[104] Traditionally, when EPA sets technology-based standards under environmental laws, it merely requires companies to reduce pollution to levels met by using particular technologies but does not mandate companies use particular technologies.[105] Similarly, in crafting a definition for "solid waste" under the Resource Conservation and Recovery Act, which encourages recycling but is protective of the environment and health, EPA and courts have struggled to avoid regulating production processes.[106] Likewise, when Congress enacted the Pollution Prevention Act, it did not include mandatory throughput requirements for industrial processes but focused, instead, on voluntary measures.[107] Finally, when Congress has given EPA the authority to ban a company's products or otherwise heavily regulate the production process, as in TSCA, EPA has

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addition, as noted previously, Professor Wagner envisions a program that could result in consumer confusion because a product could be certified as superior to other products for some uses, but not for all uses, while other products could be certified as superior to it for uses for which it has been certified as superior to another product. *See supra* notes 91-94 and accompanying text. While the process might not generate better information for consumers, it might not generate better information for the government, either, if manufacturers do not participate in the process. *See supra* note 68. Professor Wagner suggests that interest groups or communities could seek certification of a product as superior to another product even if the product manufacturer does not. Wagner, *Competition-Based Regulation*, *supra* note 6, at 644-646. However, interest groups and communities would not have access to the information from the manufacturer that would seem to be central to EPA's evaluation of superiority in most cases.

[104] *See infra* notes 105-106 and accompanying text (explaining Congress' goal to minimize direct regulation of production); *see also* Wagner, *Competition-Based Regulation*, *supra* note 6, at 646-47 (discussing the potential for the EPA to be hesitant to implement a more adjudicatory role in regulating the certification process of manufacturers).

[105] *See, e.g.*, 40 C.F.R §§ 400-471 (2009) (implementing the Clean Water Act technology-based standards required by 33 U.S.C. § 1311 (2006)).

[106] The legislative history of RCRA indicates Congress' goal of minimizing direct regulation of production processes. *See* H.R. Rep. No. 94-1491, 94th Cong., 2d Sess., at 26 (1976). Consequently, in a series of cases, the D.C. Circuit has held materials that are part of a continuous production process in the generating industry cannot be solid waste under RCRA. *See* Safe Food & Fertilizer v. EPA, 350 F.3d 1263 (D.C. Cir. 2003); Ass'n of Battery Recyclers v. EPA, 208 F.3d 1047 (D.C. Cir. 2000); Am. Mining Cong. v. EPA, 824 F.2d 1177, 1193 (D.C. Cir. 1987). EPA's regulations also include a mechanism for determining that a material is not a waste because it is part of a continuous production process. *See* Standards and Criteria for non-Waste Determinations, 40 C.F.R. § 260.34(b) (2009). *See also* Jeffrey M. Gaba, *Rethinking Recycling*, 38 ENVTL. L. 1053, 1083-84 (2008).

[107] *See* Stephen M. Johnson, *From Reaction to Proaction: The 1990 Pollution Prevention Act*, 17 COLUM. J. ENVTL. L. 153, 182-89 (1992). The law does, however, include some mandatory reporting requirements. *See* 42 U.S.C. § 13106 (2006).

rarely done so.[108] In light of this history of regulation, as well as the other implementation challenges outlined above, it is unlikely that EPA would aggressively utilize the new authority proposed by Professor Wagner.

A. The Standard

Although Professor Wagner's competition-based regulatory approach revolves around EPA's determination that a product is superior to a competitor's product, she proposes a broad and vague standard for the agency to use to make this determination.[109] As has been the case with most of the environmental laws that focus on requiring agencies to set risk-based standards, the uncertainty in the standard will likely delay decision-making or perhaps prevent decision-making altogether, leading to paralysis by analysis. When EPA makes decisions and determines one product is superior to another, the vague standard provides the agency with broad discretion to hide policy decisions behind scientific and technical fact justifications. Additionally, as described below, the agency will be making those policy decisions through a process with limited public participation. Finally, the lack of a clear standard frustrates judicial review.

1. The Ambiguity

Professor Wagner suggests EPA should be authorized to certify a product as superior to another product if the agency determines there are "measurable and significant differences" between the products such that one is "significantly safer to the public health or environment" and is "available at roughly the same price per application."[110] She proposes superiority be defined broadly to spur innovation.[111] She suggests "a product could be characterized as superior if it ... involves fewer health risks to users, to the workers who manufacture it, or to the environment through leaching or volatilization."[112] She further asserts "[o]ne could also imagine claims of environmental superiority with regard to life cycle costs where a product otherwise identical to a competitor may be superior because it can be more

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[108] EPA has not banned any chemicals under its TSCA authority since its attempt to ban asbestos under the law was overturned by the U.S. Court of Appeals for the Fifth Circuit in 1991. Corrosion Proof Fittings v. EPA, 947 F.2d 1201 (1991); *see also* David M. Driesen, *Is Cost Benefit Analysis Neutral*, 77 U. COLO. L. REV. 335, 347-48 (2006).

[109] Wagner, *Competition-Based Regulation*, *supra* note 6, at 642 (claiming "superiority could encompass any number of different factors").

[110] *Id.* at 641-42.

[111] *See id.* at 643.

[112] *Id.* at 642.

safely disposed [of] into landfills or is biodegradable."[113] However, her standard gives little to no guidance to the agency regarding how to address questions like the following. If Product A is significantly safer to *public health* than Product B, but Product B is significantly safer to the *environment* is either product superior to the other? What if Product A is *significantly safer* to *public health* and Product B is *moderately safer* to the *environment*? Or, if Product A involves fewer health risks to users than Product B, but more health risks to workers, is either product superior? Or, if Product A involves fewer health risks to users and fewer health risks to workers, but the production of Product A involves greater health risks to the community surrounding the facilities producing Product A, is either product superior? Should it make any difference whether the facilities producing Product A or B are located in low income or minority communities disproportionately impacted by pollution?

Furthermore, in many cases, it is not clear whether one product causes greater risks of specific health or environmental harms than another product. Scientific uncertainty frequently frustrates environmental decision-making and increases in scientific knowledge can exacerbate, rather than simplify, the analysis in many cases.[114] For instance, in a recent article exploring genetics and environmental law, Professor Jamie Grodsky noted it is becoming easier to detect subtle responses to chemicals that could predict an increased likelihood of diseases in persons with specific genetic backgrounds.[115] In light of these advances, she questions whether such subclinical events in the disease process caused by chemical exposure are "adverse health effects" that would trigger regulatory responses under environmental laws that require government standards to limit adverse health effects.[116]

Professor Wagner recognizes her proposal could lead to "multiple risk-risk tradeoffs" between competitors and attempts to address concerns regarding the level of uncertainty inherent in risk or harm-based standard setting by proposing, as a "modest anticipatory correction" to her program, that a product might be certified only upon "an unambiguous showing of superiority and . . . rigid limitations on evidence and briefs."[117] Although her modest anticipatory correction addresses the level of evidence or the

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[113] *See* Wagner, *Competion-Based Regulation*, *supra* note 6, at 642-43.

[114] *See, e.g.*, Jamie A. Grodsky, *Genetics and Environmental Law: Redefining Public Health, Genetics, and Environmental Law*, 93 CAL. L. REV. 171, 178 (2005) [hereinafter Grodsky, *Genetics and Environmental Law*] (discussing scientific uncertainty of genetic clues that may complicate regulatory choices).

[115] *See id.* at 176.

[116] *Id.* at 177.

[117] Wagner, *Competition-Based Regulation*, *supra* note 6, at 648.

burden of proof necessary to satisfy the standard, it does not address the deeper underlying policy questions regarding what the standard means - how the agency should resolve the multiple risk-risk tradeoffs if the data regarding the risks provided by each product are clear.[118]

In light of the uncertainty inherent in identifying the health and environmental risks presented by different products and the lack of a clear standard to guide EPA in balancing the risks against each other, Professor Wagner's suggestion that claims of superiority could be resolved with regard to life cycle costs is particularly frustrating. Life cycle analysis often exacerbates, rather than cures, the problems created by uncertainty in identifying risks and the lack of a clear standard for balancing risks.[119] Because scientists have not reached consensus on appropriate standards for conducting life cycle analyses, the analyses frequently reach significantly different conclusions depending upon the identity of the interest group sponsoring the analyses.[120]

One of the most difficult issues that must be addressed in preparing a life cycle analysis is the identification of the boundaries of the analysis.[121] For instance, in conducting a life cycle analysis of the impacts of cloth diapers versus disposable diapers, commentators have questioned whether it is necessary to include the energy necessary to produce the fertilizer to grow the cotton for cloth diapers.[122] Professor Wagner's proposal does not

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[118] Perhaps Professor Wagner is suggesting a product will not be certified as superior when there are multiple risk-risk tradeoffs under her "modest anticipatory correction" because it will not be possible to make the unambiguous showing of superiority when there are such tradeoffs. However, in her article, she also proposes once a product is certified as superior to another product for one use, it should be presumed to be superior to the other product for all uses. *Id.* at 643. Thus, once a product is certified as superior for one use, to the extent there are multiple risk-risk tradeoffs involved in the comparison of the products for other uses, her proposal, in essence, may eliminate her "unambiguous showing of superiority" requirement for the other uses. If there is any ambiguity in the balancing of risks created by the products for the other uses, the product certified as inferior for one use may be unable to overcome the presumption of an inferior certification for all other uses.

[119] *See* Church, *supra* note 60, at 260 (discussing the complex results of life-cycle improvement analysis).

[120] *Id.* at 263-64. Toward the end of the last century, the National Association of Diaper Services and the American Paper Institute funded competing life cycle analyses regarding cloth and disposable diapers, which reached opposite conclusions regarding which diapers are less environmentally harmful.

[121] *Id.* at 261. Professor Church suggests the "lack of any principled basis for defining the boundaries casts doubt upon the usefulness" of life cycle analysis.

[122] *See* Grodsky, *Certified Green*, *supra* note 60, at 221. Similarly, Professor Jamie Grodsky notes that if parts for a product are delivered to a manufacturing facility by truck, the life cycle analyst must decide whether to account for the inputs and outputs associated with manufacturing and using the truck.

provide clear guidance regarding how broadly life cycle costs should be considered.[123]

Life cycle analyses are also frequently criticized because analysts must make assumptions regarding some of the data required for the analyses.[124] While Professor Wagner predicts her proposal will encourage companies to provide data not otherwise be available to EPA,[125] life cycle analyses will often require data not readily available to the companies seeking certification of superiority of their products. For instance, if a company is making a product from raw materials provided by another company, the company making the product may not have information regarding the manner in which those raw materials were produced and the health or environmental risks created by the production activities.[126] Similarly, if materials from the production process are sent to other companies for re-use or recycling, the original manufacturer often does not have access to information about the activities of the recycler and the impacts of those activities.[127] If those asked to provide information don't have it, they can't provide it to EPA.

In addition to the limitations outlined above, life cycle analyses often compare products that are used in slightly different ways. In order to compare the impacts of those products, analysts must develop "functional equivalency" ratios or "equivalent use" ratios to account for the different patterns of use.[128] Similar problems arise when comparing the life cycle impacts of products under Professor Wagner's proposal. For all of those

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[123] Wagner, *Competition-Based Regulation*, *supra* note 6, at 642-43.

[124] Grodsky, *Certified Green*, *supra* note 60, at 221-22. One of the major reasons for the difference in conclusions reached in the life cycle analyses regarding diapers was the difference in assumptions that the analysts for each side made regarding water use and energy use. *See* Church, *supra* note 60, at 264-65.

[125] Wagner, *Competition-Based Regulation*, *supra* note 6, at 641-43.

[126] In addition, Professor Grodsky notes that companies may find it difficult to provide accurate information even for activities over which they have complete control. *See* Grodsky, *Certified Green*, *supra* note 60, at 222-23. As she points out, companies often maintain resource use and waste generation data on a facility-wide basis, rather than on a product-specific basis, because it would be too expensive to install meters and record energy and resource use for each machine used at the facility. *Id.* When a manufacturing process generates multiple secondary or co-products through a single manufacturing process, a life cycle analyst must estimate the resource and energy use for the separate products from the data for the process or facility. *Id.* at 223.

[127] *Id.* at 223. In addition, the volatility of the recycling market can cause large shifts in the amount of materials recycled by a company, which adds to the difficulty of conducting the life cycle analysis. *Id.*

[128] *Id.* at 222. *See also* Church, *supra* note 60, at 262 (in conducting a life cycle analysis to compare the impacts of paper versus plastic bags, analysts had to account for the fact that consumers used more plastic bags than paper bags to hold the same amount of groceries).

reasons, life cycle analyses may provide little guidance to EPA in identifying superior products in many cases.

Just as Professor Wagner's proposal creates an ambiguous standard for determining when a product is "significantly safer to the public health or the environment," her proposal creates ambiguity when determining the extent to which costs should be considered in evaluating the benefits of competing products.[129] In determining whether the products are "available at roughly the same price per application,"[130] should the analysis vary depending on the difference in the benefits provided by the products? In other words, if the difference between the environmental and health risks of the two products is overwhelming, should the same standard be used to determine whether the products are available at roughly the same price, or does a sliding scale apply? If products are available at similar prices in some markets, but not others, are they available at roughly the same price? Is there a specific bright-line numerical cut-off to define what constitutes "roughly" the same price? Once again, Professor Wagner's proposal delegates these decisions to EPA.[131]

2. Policymaking by EPA

Professor Wagner's proposal delegates broad authority to EPA to make policy without sufficient oversight of the basis for those policy decisions by courts or the public.[132] It is this delegation of authority that creates the major problem in Professor Wagner's failure to articulate a clear, precise standard for determining when EPA should certify one product as superior to another or when the agency should ban a product.[133] With respect to judicial review, Professor Wagner suggests a standard that is not so broad as to constitute an unconstitutional delegation of authority to EPA.[134] However, it

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[129] Wagner, *Competition-Based Regulation*, *supra* note 6, at 642.
[130] *Id.*
[131] *Id.*
[132] *Id.* at 646-48.
[133] *See id.*
[134] The nondelegation doctrine requires Congress to provide agencies with an "intelligible principle" to guide and limit their exercise of delegated lawmaking authority. A.L.A. Schechter Poultry Corp. v. United States, 295 U.S. 495, 529-30, 540-42 (1935); Panama Refining Co. v. Ryan, 293 U.S. 388, 429-30 (1935); J.W. Hampton, Jr. & Co. v. United States, 276 U.S. 394, 409 (1928). However, courts rarely, if ever, strike down a statute on the grounds that it delegates excessive discretion to the agency in violation of the doctrine. Lisa Schultz Bressman, *Getting Beyond Cynicism: New Theories of the Regulatory State Disciplining Delegation After Whitman v. American Trucking Assn's*, 87 CORNELL L. REV. 452, 455 (2002); Abner S. Greene, *Checks and Balances in an Era of Presidential Lawmaking*, 61 U. CHI. L. REV. 123, 125 (1994); Cass R. Sunstein, *Nondelegation Canons*, 67 U. CHI. L. REV. 315, 322, 328 (2000).

provides very little guidance for judicial review of EPA's actions. While courts might require EPA to consider specific factors and follow specific procedures in making decisions by applying "hard look" review, courts would likely defer to the agency's resolution of policy issues as long as there was a reasonable explanation for those decisions due to the difficult scientific and technical nature of the questions involved.[135]

Professor Wagner herself has recognized that broad delegations to EPA often enable the agency to articulate scientific and technical justifications for decisions that are truly based on undisclosed policy determinations.[136] In an earlier article, Professor Wagner wrote:

> In a perfect world, scientists and policy specialists would strive to separate trans-scientific issues from issues that can be resolved with scientific experimentation. Policy choices would be made at each trans-scientific juncture, the basis for each ... would be explained, and the public would find the agency's policy decisions clear and accessible.
>
> Not surprisingly, in the real world a completely different picture emerges. Agency scientists and bureaucrats engage in a "science charade" by failing first to identify the major interstices left by science in the standard-setting process and second to reveal the policy choices they made to fill each trans-scientific gap. ... Major policy decisions that undergird a quantitative toxic risk standard are at best acknowledged as "agency judgments" or "health policies," terms that receive no elaboration in the often hundreds of pages of agency explanations given for a proposed or final toxic standard and appear in a context that gives readers the impression they are based on science.[137]

Professor Patricia Ross McCubbin argues similar problems have arisen for decades in EPA's development of technology-based standards under the Clean Water Act and other statutes.[138] She asserts that even when statutes

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[135] *See supra* notes 23-27 and accompanying text.

[136] *See* Wagner, *The Science Charade*, *supra* note 39, at 1628-31.

[137] *Id.* Similarly, in critiquing the unreasonable risk standard of TSCA, Professor Grodsky has noted that "'[s]ince no neutral equation or analytical tool can determine whether a risk is "reasonable" or "unreasonable," the delegation of its resolution to an expert agency both avoids and obscures the real policy decision being made.'" *Genetics and Environmental Law*, *supra* note 114, at 260 (quoting Applegate, *Worst Things First*, *supra* note 23, at 300).

[138] Patricia Ross McCubbin, *The Risk in Technology Based Standards*, 16 DUKE ENVTL. L. & POL'Y F. 1, 2-3 (2005).

seem to limit EPA's authority, the agency bases the "technology-based" standards it adopts on policy decisions regarding the appropriate level of environmental and health risk acceptable at a given cost, and these policy decisions are not subjected to judicial review.[139]

Professor Grodsky counsels that advances in science and technology may create more, rather than fewer, opportunities for agencies to base discretionary decisions regarding appropriate risk levels on policy as opposed to science.[140] While Professor Grodsky argues agencies should clearly identify the policy decisions at the basis for the risk levels that they choose,[141] programs like Professor Wagner's certification of superiority provides agencies with significant opportunities to hide the policy bases for their decisions with their broad discretion on issues involving science and technology.

If judicial review does not adequately force agencies to disclose the policy bases for their decisions, broad and open processes for public involvement in the agencies decision-making could improve transparency. However, Professor Wagner's proposal limits opportunities for public participation.[142] Under her proposal, EPA has broad authority to base its decision that a product is superior or inferior to another, or that it should be banned, on policy determinations that may not be judicially reviewable and not subjected to rigorous review in the public participation processes that lead to the decision.[143]

3. Paralysis by Analysis

In addition to the previously discussed undesirable lack of a precise standard, Professor Wagner's proposal is also troubling because it will likely result in a time-consuming process that will present strategic opportunities for delay and may result in very few certifications or bans by EPA. This opportunity for delay is a problem that has plagued EPA is administration of most programs that required the agency to set risk-based or harm-based standards, such as the programs for regulating toxic air pollutants and toxic water pollutants.[144]

To some extent, how time consuming Professor Wagner's proposed process would be depends on the stringency of judicial review of EPA's decisions. If courts adopt a hard look approach to reviewing EPA's

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[139] *Id.* at 23.
[140] Grodsky, *Certified Green*, *supra* note 60, at 221.
[141] *Id.*
[142] *See infra* notes 164-165 and accompanying text.
[143] *Id.*; *see also supra* Part I (discussing EPA's broad authority in regulating products).
[144] *See infra* notes 154-159 and accompanying text.

superiority determinations, the agency would likely need to spend substantial time explaining the factors and alternatives the agency considered in making those determinations.[145] Regardless of whether courts subject EPA's decisions to hard look review, the agency will need to support all factual determinations behind its decisions with substantial evidence.[146] Consequently, even if the standard for decision-making under Professor Wagner's proposed program were clear, EPA would need to spend a significant amount of time building a record to withstand judicial review. Furthermore, the unclear standard would require the agency to spend additional time anticipating what factors a court might find relevant to the agency's decision.

Professor Wagner acknowledges her competition-based regulatory program is likely to be time-consuming for EPA and the parties involved:

> [I]t is possible that an enormous amount of information and resources will be required by regulators to preside over each competition-based claim. . . . Ultimately, multiple, risk-risk tradeoffs between two competitors could be thrashed out for weeks in highly technical hearings, only to end in a standoff that proves irreconcilable.[147]

This acknowledgement should be anticipated in a regulatory program that requires the government to make decisions or set standards based on risk or harm. In an earlier article, Professor Wagner praised technology-based standards over risk or harm-based standards because technology-based standards require agencies to gather less information, allowing them to be promulgated much more quickly.[148] "Quickly" is a relative term, though. As Professor Wagner acknowledged, even technology-based standards are time-consuming and resource intensive for agencies to develop.[149]

Professor Wagner's program faces other obstacles that have beset risk-based and harm-based programs. Generally, programs requiring agencies to

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[145] *See* RICHARD J. PIERCE, JR., SIDNEY A. SHAPIRO & PAUL R. VERKUIL, ADMINISTRATIVE LAW AND PROCESS 413-17 (5th ed. 2009).

[146] 5 U.S.C. § 706(2)(E) (2006).

[147] Wagner, *Competition-Based Regulation*, *supra* note 6, at 648.

[148] Wagner, *Triumph*, *supra* note 55, at 95-96.

[149] *Id.* at 94-95. Although Professor Wagner attempts to address the concern about the time-consuming nature of her competition-based regulatory program by suggesting EPA should certify products as superior only upon an unambiguous showing of superiority, that modification could undermine the success of the program. *See* Wagner, *Competition-Based Regulation*, *supra* note 6, at 648. Requiring an unambiguous showing of superiority should ensure that products are certified as superior only in extraordinary circumstances, which will discourage most companies from seeking certification.

consider significant amounts of information in reaching decisions about relative risk and harm provide opponents with opportunities to obstruct and delay the government's decision-making. This obstruction or delay is carried out by (1) submitting information that may be irrelevant but must still be considered by the agency,[150] or (2) challenging the bases for scientific information considered by EPA in making its decision.[151] Companies whose products are challenged as inferior could adopt similar strategies to delay EPA's decision-making or to create sufficient doubt to prevent the agency from finding a product is either superior or inferior.

Ultimately, the ambiguous standard, the time-consuming nature of the decision-making process, and the opportunities for delay inherent in Professor Wagner's proposal could doom the program to the same paralysis by analysis that has limited the success of other risk and harm-based regulatory programs. As Professor Wagner has noted,

> When . . . harm-based standards have been employed, . . . typically only a handful of standards are promulgated for the few pollutants for which considerable information is available. The standard-setting process then tends to drift aimlessly without results for the remaining hundreds of pollutants. Indeed, over half of the major federal statutory provisions that utilize technology-based standards adopted them specifically because alternative approaches resulted in so few standards being promulgated.[152]

Similarly, Professor Grodsky has recognized, with risk-based standards, "more science can lead to less regulation."[153]

The history of federal environmental regulation is replete with examples of the failure of EPA and the states to successfully implement risk or harm-

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[150] Latin, *Ideal Versus Real*, *supra* note 61, at 1296-97.

[151] *See* David S. Caudill & Donald E. Curley, *Strategic Idealizations of Science to Oppose Environmental Regulation: A Case Study of Five TMDL Controversies*, 57 U. KAN. L. REV. 251 (2009) (noting "'[m]anufacturing uncertainty and promoting inappropriate criteria for assessing the quality of evidence . . . are central elements of a strategy for opposing regulation, impeding discussion of values and societal priorities, and closing out input from those whose health and quality of life are impacted by regulatory decisions.'" (quoting Polly J. Hoppin & Richard Clapp, *Science and Regulation: Current Impasse and Future Solutions*, 95 AM. J. PUB. HEALTH S8, S8 (Supp. 1, 2005), *available at* http://www.ajph.org/cgi/reprint/95/S1/S8)). However, Caudill and Curley ultimately concluded "sound science" challenges and similar "idealizations" of science ultimately were not particularly effective in delaying or weakening the TMDLs in the five cases that formed the basis for their study. *Id.* at 264.

[152] Wagner, *Triumph*, *supra* note 55, at 96-97.

[153] Grodsky, *Genetics and Environmental Law*, *supra* note 114, at 240.

based programs.[154] For instance, when the Clean Air Act required EPA to set limits on hazardous air pollutants at levels to provide an ample margin of safety for public health, over two decades the agency only identified eight pollutants and only established standards for a fraction of industries emitting those pollutants.[155] In response to EPA's failure to set health-based standards, Congress amended the Clean Air Act to require the agency to set technology-based standards for those pollutants.[156] Similarly, Congress ultimately amended the Clean Water Act to require technology-based standards when EPA failed to set health-based standards in a timely fashion for toxic water pollutants.[157]

EPA and the states have faced similar difficulties in implementing other provisions of the Clean Water Act authorizing water quality-based limits on pollution, rather than technology-based limits. For instance, although the Clean Water Act authorizes more stringent conditions than the normal technology-based limits in pollution discharge permits when it is necessary to further reduce pollution to meet local water quality standards,[158] permitting authorities have rarely included such limits.[159] Similarly, when Congress created the TMDL program to impose more stringent limits on polluters to meet water quality standards, EPA and the states failed to implement those requirements until litigation forced them to begin implementing them.[160] Inertia plagued all of those programs due to their

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[154] Regarding the standards Congress, in the 1970s, required EPA to set on the basis of protecting health or the environment, Professor Wagner notes by 1987, "less than fifteen percent of the necessary standards had been promulgated . . . and the development of even these few standards suffered from limited participation by the general public and charges of scientific incompetence against the implementing agencies." Wagner, *The Science Charade*, *supra* note 39, at 1614-15. Professor Latin suggests EPA's inertia is not surprising in situations where it is called upon, in essence, to "guess" about science to fill information gaps to set harm or risk-based standards. As he notes,

> EPA . . . must function in a setting where every factual finding, scientific inference, and policy choice is vigorously contested by affected parties. Agency judgments must also survive intensive judicial review . . . If agencies concede they have had to guess, their decisions may become fair game for interest-group and media ridicule; . . . Environmental protection programs often entail high regulatory costs that agencies may be reluctant to impose on the basis of speculation, but that is precisely the effect of regulation under uncertainty. Finally, . . . officials responsible for complex technical decisions will often try to protect their image of professional competence by complying with norms of the disciplines in which they are trained.

Latin, *Regulatory Failure*, *supra* note 53, at 1663.

[155] *See* McCubbin, *supra* note 138, at 30-31.

[156] *Id.* at 31-32.

[157] *Id.* at 10-11.

[158] 33 U.S.C. § 1311(b)(1)(c) (2006).

[159] *See* Latin, *Ideal Versus Real*, *supra* note 150, at 1304-14.

[160] *See* Houck, *supra* note 53, at 171-72.

vague standards, and this inertia is likely to plague Professor Wagner's competition-based regulatory program because of similar ambiguities. Obviously, if inertia plagues the program to the extent EPA cannot make decisions regarding the superiority or inferiority of products, companies will stop seeking certification or bans and the program will fail.

B. The Procedures

Although the vague, ambiguous standard for superiority presents the greatest challenges for Professor Wagner's competition based regulatory program, the procedures that she proposes for the program present significant challenges as well.[161] In order to resolve very fact-sensitive adjudications between competing parties, Professor Wagner suggests EPA should use formal rulemaking procedures.[162] For formal rulemaking, the Administrative Procedure Act requires agencies to conduct a trial-type hearing in which interested persons testify and cross-examine witnesses.[163] The agency may take depositions and issue subpoenas and the final decision must be based on the record of the formal proceeding.[164] In addition, the agency must include, in the record for the rulemaking, a response to all proposed findings, conclusions and exceptions submitted to the agency by participants for its consideration.[165] The procedures are very time-consuming and resource-intensive.[166] In addition, Professor Richard Pierce notes that even after this complicated process, agencies engaging in formal rulemaking "typically discover that they do not have an evidentiary record sufficient to permit issuance of a rule even after spending a decade or more in the rulemaking process."[167] Not surprisingly, agencies typically avoid formal rulemaking whenever possible, making new formal rulemaking "virtually nonexistent."[168]

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[161] Wagner, *Competition-Based Regulation*, *supra* note 6, at 648-50.
[162] *Id.* at 642.
[163] 5 U.S.C. §§ 556-57.
[164] *Id.*
[165] *Id.*
[166] Richard E. Levy & Sidney A. Shapiro, *Administrative Procedure and the Decline of the Trial*, 51 KAN. L. REV. 473, 485 (2003). *See also* Curtis Copeland, *Changes to the OMB Regulatory Review Process by Executive Order 13,422*, Congressional Research Service Report for Congress, CRS-12 (Feb. 5, 2007), http://www.fas.org/sgp/crs/misc/RL33862.pdf.
[167] Levy & Shapiro, *supra* note 166, at 485 (quoting PIERCE ET AL., *supra* note 145, at 316).
[168] *Id.* at 484. *See also* Copeland, *supra* note 166, at CRS-12. Professors Pierce, Shapiro and Verkuil state that "encumbering a regulatory agency with expensive, time consuming procedural requirements is functionally equivalent to withdrawing the agency's substantive power to regulate." PIERCE, ET AL., *supra* note 145, at 328-29. It is possible Professor Wagner proposed formal procedures because she felt the agency might be compelled by due process. She characterizes the agency's decision as a rulemaking, presumably because it will only have

Not only would the formal rulemaking process be time-consuming and resource-intensive for EPA, it could also limit the opportunities for public participation in EPA's decision-making. Although the formal rulemaking process is *in theory* as open to the public as the informal process, it is not as open *in practice*. As Professor Steven Croley has noted, in the formal rulemaking process,

> [M]ore is required of participating parties. They must, for example, subject their evidence to scrutiny by other parties to the rulemaking, possibly including cross-examination of those supplying facts and arguments that bear on the rule. Furthermore, participating parties are prohibited from communicating with the agency outside of the formal rulemaking procedures during the pendency . . . of the formal rulemaking process.[169]

Similarly, as Professor John Applegate pointed out, "[t]rial-like procedures do not lend themselves to broad public participation, nor are they intended to. Among other things, they effectively require the retention of lawyers to represent the parties adequately, and participation by persons other than the parties typically requires special permission."[170] Foreclosing public participation could not only harm those unable to participate in the process but could also harm the decision-making process itself by limiting the information available to the agency to use to make its policy decisions.

Finally, the formal rulemaking process may be inadequate for the competition-based regulatory program precisely because EPA's decision-making under Professor Wagner's vague and ambiguous standard will

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prospective effect. *See* Wagner, *Competition-Based Regulation*, *supra* note 6, at 641-42. Procedural due process normally does not apply to rulemaking. Bi-Metallic Inv. Co. v. State Bd. of Equalization of Colo., 239 U.S. 441, 445-46 (1915). However, *Bi-Metallic* suggested procedural due process could apply in cases where the government's decision especially affects a few people on individual grounds. *Id.* at 446. Similarly, as the iconic Administrative Law Professor Kenneth Culp Davis has noted, procedural due process may be required in cases where the government's decision is based on "adjudicatory facts," which concern who did what to whom, where, when and why. *See* Kenneth Culp Davis, *An Approach to the Problems in Evidence in the Administrative Procedure Process*, 55 HARV. L. REV. 364, 402-16 (1942). The decisions EPA will make to implement Professor Wagner's competition-based regulatory program will certainly affect a few people on individual grounds and are likely to be based on adjudicative facts. Thus, due process may require notice and an opportunity for some sort of a hearing. However, it is not clear it would require all of the procedures mandated for formal rulemaking.

[169] Steven P. Croley, *Theories of Regulation: Incorporating the Administrative Process*, 98 COLUM. L. REV. 1, 110 (1998).

[170] John S. Applegate, *Beyond the Usual Suspects: The Use of Citizens Advisory Boards in Environmental Decisionmaking*, 73 IND. L.J. 901, 909 n.26 (1998).

necessarily require resolution of difficult policy questions and certain questions of broad general facts. As Professors Pierce, Shapiro, and Verkuil have noted,

> [F]ormal hearings perform poorly ... as means of resolving the broad, complicated policy issues that are the focus of most agency rulemaking proceedings. The agency becomes so enmeshed in testimony concerning specific facts that its attention is diverted from the important policy considerations that should dominate the process of formulating general rules. Moreover, it is simply impossible for an agency to resolve many controversies concerning general rules within a reasonable time if it must use trial type procedures.[171]

For those reasons, in 1976 the Administrative Conference of the United States recommended "Congress should never require trial-type procedures for resolving questions of policy or of broad or general fact."[172] Although the decision EPA must make through the formal rulemaking process in Professor Wagner's proposal may turn heavily on specific adjudicative facts, EPA will be forced to make important policy decisions in many proceedings in order to flesh out the vague and ambiguous standard Professor Wagner proposes as the basis for the agency's certification of superiority or ban based on inferiority.

C. The Environmental Justice Concerns

In addition to the other concerns discussed above, Professor Wagner's competition-based regulatory program raises some environmental justice issues. First, the vagueness of Professor Wagner's proposed standard does not *require* EPA to consider any disparate impacts on low income or minority communities resulting from a decision to certify a product as superior or to ban a product. Imagine a scenario, for instance, where one product is manufactured in factories disproportionately sited in low income or minority communities and another product is not similarly sited. EPA's decision to certify the former product as superior to the latter would likely increase production and pollution in the low income and minority communities. Similarly, if one product creates pollution problems that disparately impact the health of racial or ethnic minority groups, the

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[171] PIERCE ET AL., *supra* note 145, at 328-29.

[172] Procedures in Addition to Notice and the Opportunity for Comment in Informal Rulemaking (Recommendation No. 76-3), 41 Fed. Reg. 29,654 (July 19, 1976).

certification of that product as superior to another product will exacerbate this disparate impact. While EPA might have *discretion* to consider those disparate impacts in deciding whether one product is superior to another, it is not *required* to consider those impacts. More importantly, this kind of information might never be disclosed to EPA by either of the competing companies absent a requirement.

As noted above, the costly and time-consuming nature of the formal rulemaking process limits opportunities for public participation.[173] If environmental justice advocates are unable to participate in the agency's decision-making process, it is less likely that concerns about the disparate impacts of competing products will be raised to the agency for consideration. Low income communities might find it particularly difficult to participate in proceedings because the issue to be resolved by the agency, the environmental and health superiority of one product over another is likely to turn on difficult scientific and technical questions requiring testimony from expensive experts.

The broad delegation of discretion in the competition-based regulatory program also provides EPA with ample opportunities to ignore environmental justice concerns. As noted previously, EPA's broad authority allows it to justify its decisions on scientific and factual bases while hiding the policy decisions that are the real basis for EPA's actions.[174] And, if environmental justice advocates are not part of the decision-making process, the agency may not be held accountable for failing to consider the environmental justice concerns or a failure to disclose the policy decisions that are the true basis for the agency's decision to certify a product as superior or to ban a product. Unfortunately, the competition-based regulatory proposal is similar to most other federal environmental laws in this regard, as those laws generally do not require the government to consider or limit the impact of pollution on poor or minority communities.[175] In order to correct this oversight, Professor Wagner's proposal should address these environmental justice concerns.

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[173] *See supra* notes 163-165 and accompanying text.

[174] *See supra* Part III.A.2.

[175] *See* Richard J. Lazarus, *Pursuing 'Environmental Justice': The Distributional Effects of Environmental Protection*, 87 NW. U. L. REV. 787, 842-49 (1992). Similarly, the laws are often not clear regarding the extent to which environmental standards should protect particularly sensitive subgroups, like children and the elderly or ethnic or racial groups particularly susceptible to specific diseases. *See also* Grodsky, *Certified Green*, *supra* note 60, at 198, 206-08.

IV. CONCLUSION

While Professor Wagner recognizes "there are a number of open-ended questions regarding the implementation of competition-based regulation that could impair its success in practice,"[176] she urges "[i]t is time to give the competitive capabilities of the market a try."[177] Before we give the market "a try," perhaps a few modifications to Professor Wagner's program could address the concerns identified above. These modifications would remove the excessive discretion that Professor Wagner's vague standards give EPA, preventing it from hiding policy decisions behind fact-based scientific justifications. This change has the added benefit of pushing EPA to make its actual decisions in proceedings more amenable to public participation. EPA should be required to clarify, through informal rulemaking, the factors and their respective weights the agency will consider in determining whether one product is "significantly safer to the public health or the environment" and whether multiple products are "available at roughly the same price per application."[178] Once the standard is clarified through informal rulemaking, EPA should apply it to specific factual disputes between manufacturers in the formal rulemaking process Professor Wagner proposes for certification or bans of products.[179]

By clarifying the meaning of the standard for EPA's decision-making at the outset instead of in subsequent fact-based disputes, EPA will likely receive input on a broader range of issues. EPA will also be able to receive this input from a wider array of interested persons than just individual manufacturers.[180] Since the costs of participation in the informal rulemaking

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[176] Wagner, *Competition-Based Regulation, supra* note 6, at 648.

[177] *Id.* at 659.

[178] *Id.* at 642.

[179] Regardless of whether this certification or banning process is "adjudication" or "rulemaking," due process might trigger the need for notice and a hearing, which are provided by the APA formal rulemaking procedures Professor Wagner proposes. *See supra* note 168.

[180] Professors Pierce, Shapiro and Verkuil point out that

> First, participation in adjudication is limited by the doctrine of standing to those few people who are directly affected by the outcome of the adjudication. As a result, the agency's decision is based on the views of only a small fraction of the total number of people affected by a general rule. ... Second, decisionmaking through adjudication typically focuses on myriad facts unique to the dispute before the agency. This emphasis on what may well be idiosyncratic specific facts diverts the agency's attention from the broad policy implications of the rule under consideration.

PIERCE ET AL., *supra* note 145, at 299. While Professor Wagner proposes EPA should determine whether one product is superior to another through formal rulemaking, the process she proposes raises the same concerns raised regarding the formulation of policy through adjudication. *See* Wagner, *Competition-Based Regulation, supra* note 6, at 642.

process will be lower than for formal rulemaking, more people will be likely to participate.[181] Furthermore, it will be harder for the agency to hide policy decisions behind specific factual findings in this sort of proceeding.[182] There are other advantages to having agencies make policy in advance through rulemaking instead of making policy in case specific disputes. By defining the standard for decisionmaking through informal rulemaking, EPA can provide more notice to the regulated community regarding its interpretation of the standard, which would facilitate advance planning by the regulated community.[183] It will also be easier for courts to enforce the standard, and it is more likely the standard would be applied fairly by EPA when the standard is articulated in advance.[184] Although EPA's ultimate certifications of superiority or bans will be made in formal proceedings limiting public participation, most of the central policy decisions behind the agency's decision will be resolved through a more inclusive and transparent process.

Professor Wagner acknowledges that EPA could clarify the standard for decision-making in advance through rulemaking, but she suggests it would be better to "rely on several years of case-by-case adjudications to develop factual scenarios from which more general agency rules of guidelines can be drawn. . . ."[185] This suggestion is a traditional justification in support of an agency developing policy through adjudication rather than rulemaking.[186] Presumably, the "multiple risk-risk trade-offs" which Professor Wagner anticipates the agency will be struggling with in determining whether one product is superior to another[187] are too complicated to resolve in a vacuum.

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[181] *See supra* notes 162-168 and accompanying text (describing the high cost of formal rulemaking).

[182] *See* PIERCE, ET AL., *supra* note 145, at 298-99 (describing the National Labor Relation Board's preference for establishing establish general rules through adjudication as opposed to rulemaking because the agency can hide the policy decisions behind the rule when it is formulated through adjudication).

[183] *See* BREYER ET AL., *supra* note 40, at 500-01.

[184] *Id.* at 500; *see also* PIERCE ET AL., *supra* note 145, at 300-01.

[185] Wagner, *Competition-Based Regulation*, *supra* note 6, at 642 n.67.

[186] As the Supreme Court explained in *Securities & Exchange Commission v. Chenery Corp.*,

> Not every principle essential to the effective administration of a statute can or should be cast immediately into the mold of a general rule . . . problems may arise in a case which the administrative agency could not reasonably foresee . . . . Or the agency may not have had sufficient experience with a particular problem to warrant rigidifying its tentative judgment into a hard and fast rule. Or the problem may be so specialized . . . as to be impossible of capture within the boundaries of a general rule. In those situations, the agency must retain power to deal with the problems on a case-by-case basis if the administrative process is to be effective.

332 U.S. 194, 202-03 (1947).

[187] Wagner, *Competition-Based Regulation*, *supra* note 6, at 648.

While it may be impossible to resolve all of those policy issues in advance through informal rulemaking, this impossibility is not a justification for failing to answer those questions, which the agency can answer in advance.

In addition to the modifications outlined above, there is one additional change that should be made to Professor Wagner's proposal. In order to reduce the likelihood that the program will perpetuate the environmental injustice inherent in traditional command-and-control programs,[188] EPA should be required to consider any disparate impact of products on low income, minority or any communities or groups when determining whether there are "measurable and significant differences" between products, such that one product is "significantly safer to the public health or the environment" than another.[189] While there may still be barriers to environmental justice advocates participating in the formal proceedings,[190] the agency will be required to consider any disparate impacts and explain the basis for its decision in light of those impacts. This consideration is more than most environmental laws require.

These modifications will not address all of the issues that could impair the success of Professor Wagner's program in practice. It may be unsuccessful for the reasons that Professor Wagner anticipates or for all of the reasons many of the other risk or harm-based environmental regulatory programs have failed. The proposed modifications could actually increase the likelihood the program will fail because the agency might not be able to articulate a standard in advance. However, the modifications are necessary to ensure that (1) EPA makes the important policy decisions that are central to the program through a process involving broad public participation; (2) the agency explains the policy decisions in a transparent manner; and (3) courts can adequately supervise the agency's exercise of policy discretion.

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[188] *See supra* Part III.C.
[189] Wagner, *Competition-Based Regulation*, *supra* note 6, at 640, 642.
[190] *See supra* Part III.C.