Using Competition-Based Regulation to Bridge the Toxics Data Gap

by Wendy Wagner

A person unfamiliar with the intricacies of chemical regulation in the United States might assume that regulators are hard at work weeding out dangerous products, requiring warnings on thousands of others, and collecting copious toxicity research on the rest. In truth, however, the regulatory regime in the United States works nothing like this. There is little information available to regulators for evaluating the possible hazards of chemicals, and even for the limited research that does exist, some unspecified portion of the scientific studies is at risk of being biased or otherwise unreliable. Moreover, since the U.S. Environmental Protection Agency (EPA) focuses most of its firepower on regulating individual chemical substances rather than chemical mixtures, consumers have little notion of the comparative toxicity of the chemical products on the market and lack adequate instructions regarding their proper use. There is simply no way to sugarcoat the ugly truth: chemical regulation in the United States has been a dismal failure.

The basic structure of the law governing toxic substances—the Toxic Substances Control Act (TSCA)—deserves much of the blame for this regulatory dysfunction. In the regulation of chemicals, manufacturers are not required to do any testing unless commanded by EPA, and EPA must justify its demand with some scientific evidence. Due in part to this formidable burden, in the nearly thirty years of its regulatory authority, EPA has issued testing mandates for fewer than 200 chemicals. Most of the remaining chemicals, which include approximately 83,000 individual chemical substances, are effectively unrestricted and often unreviewed with regard to their health and environmental impacts. Even when there is considerable information indicating that a chemical is unsafe, as there was in the case of asbestos, EPA still must engage in a long and difficult regulatory struggle before imposing the “death penalty” on the hazardous chemical.

If it isn’t bad enough that TSCA provides inadequate chemical screening, the Act contributes one more black eye to the manufacture of safe chemicals: it inadvertently reinforces adverse selection for under-tested chemicals. Without regulatory certifications or rewards for extensive testing, there is no market recognition or other trustworthy validation of a manufacturer’s conscientious research investment. Cost-cutting manufacturers can thus out compete rival manufacturers who invest heavily in testing to ensure the safe and efficacious use of their chemicals. In fact, good manufacturers, who invest in researching the effectiveness and safety of their products, may not only lose the money spent on testing but could also inadvertently trigger interest from plaintiffs’ attorneys and regulators since there will be some toxicity information available that flags their products as potentially hazardous. In such a regime, testing can become a negative

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5. Except for chemicals produced in high volumes and posing a substantial risk of exposure, see, for example, 15 U.S.C. §2603(a), ELR Stat. TSCA §4(a).
7. See, e.g., EPA, What Is the TSCA Chemical Substance Inventory?, http://www.epa.gov/opptinni/newchems/pubs/invntory.htm (last visited June 1, 2009).
8. See, e.g., Corrosion Proof Fittings v. EPA, 947 F.2d 1201, 1215, 22 ELR 20037 (5th Cir. 1991).
attribute, and the chemicals about which little is known are
given a competitive advantage over chemicals subjected to
extensive research or green innovations.

While such a counterproductive regulatory scheme would
seem at first blush to be a perfect candidate for public-
spirited reform, the political system is poorly equipped to
redress the perverse incentives for chemical ignorance.
The highest-stakes participants in toxics policy are the chemical
manufacturers and, not surprisingly, they have become well
organized and fortified against reform of a regulatory scheme
that they find quite congenial to their interests. The diffuse
public, whose views are loosely represented by a few public
interest groups, cannot begin to match this strong manufac-
turer block with a vested interest in the status quo.9 With
the exception of a few highly publicized near-crises that spark
majoritarian activity, chemical regulation is likely to be para-
lized in its existing dysfunctional state.

This article considers the entrenched failure of chemical
regulation and offers a different angle for regulatory reform
that taps into market competition between rival firms to pro-
duce relevant information about the toxicity of certain chem-
ical products on the market.10 By repositioning the regulatory
decision as an adjudication between rival manufacturers,
the proposed regulatory process is fueled by the expertise,
information, and energies of manufacturers of safer products
eager to put their competitors’ more hazardous products out
of business. This shift in regulatory approach also breaks
up the unified political coalition of manufacturers into two
groups—those that might enjoy competitive benefits from
such a proposal because they have been vigilant in testing
their products and those that will lose because they have not.
While this shift does not guarantee that some manufactur-
ers will be persuaded to support a competition-based reform
of toxics policy, it at least provides some hope of an altered
configuration of stakeholders that are less resilient in oppos-
ing reform.

The proposal for a competition-based approach to chemi-
cal regulation unfolds in three sections. The first section
details the ways that TSCA exacerbates adverse selection in
the chemical market by failing both to encourage adequate
toxicity testing and to reward elaborate testing when it does
occur. The second section offers a competition-based pro-
posal that redresses this problem by rewarding manufac-
turers who prove that their products are environmentally
superior to identified competitor products. The final section
looks beyond the regulation of chemicals to other regulatory
arenas—including the regulation of pesticides, nanotechnol-
ogy, drugs, and polluting activities—to consider how com-
petition-based regulation might advance these programs.

I. Why Chemical Regulation Has Failed in
the United States

The regulation of chemicals in the United States is based on
a familiar cops-and-robbers model that pits regulators and
regulated parties against one another. Under such a regime,
it is ultimately up to the cops (EPA) to find the robbers (the
problematic chemicals) and develop evidence against them
before taking regulatory action. The effectiveness of toxics
policy thus depends in large part on how many cops there
are relative to robbers and how easy it is to amass evidence
against them.

More specifically, TSCA creates a presumption of inno-
cence for a chemical unless EPA establishes that it may
pose an “unreasonable risk” to human health or the envi-
ronment.11 Unlike the regulatory programs governing drugs
and pesticides, chemical manufacturers are not automatically
required to test their products as a condition to marketing. In
fact, the Act actually places the burden on EPA to justify not
only the need for regulatory action, but also any demands
for basic testing in circumstances where little information is
available. EPA thus faces a classic Catch-22: the agency can
require a manufacturer to conduct testing on a chemical in
order to evaluate its safety, but in order to require testing,
EPA must have some scientific information that shows evi-
dence of a risk.12

EPA’s formidable burden of proof, coupled with a universe
of tens of thousands of chemicals, many of which lack basic
toxicity tests, is clearly not a blueprint for regulatory success.
Without a large team of regulators, which EPA lacks, the
game is essentially over before it begins.13 While EPA has
managed to take some regulatory action, including requiring
additional testing on approximately 10% of new chemicals
through its more rigorous premanufacture notice regulatory
program,14 it has demanded testing or imposed regulatory
restrictions on less than two percent of chemicals that were
in the TSCA inventory as of 1979.15 Even the most vigilant
public interest groups find it difficult to fill these large gaps in
regulatory oversight since they are similarly impeded by the
extensive uncertainties and the correspondingly large invest-
ment of scientific expertise needed to determine whether and
which chemicals are most hazardous.

Once a regulatory system fails, other institutions may pick
up the slack, but in practice, both the market and the tort
system serve in many instances only to compound the per-
verse incentives for chemical ignorance. For its part, the mar-
et offers few comparative advantages to manufacturers who

9. See, e.g., Neil K. Komesar, Imperfect Alternatives: Choosing Institu-
10. For the first and apparently the only discussion of using competition as a regu-
laratory tool, see David Driesen, The Economic Dynamics of Environmental
1988).
13. See, e.g., Office of Tech. Assessment, U.S. Congress, Screening and
11.
chems/pubs/accomplishments.htm (last visited Feb. 11, 2009). Moreover, the
EPA estimates that only about twenty percent of new chemicals submitted as
pre-manufacture notices get a detailed review. Chemical Regulation, supra
note 6, at 12.
15. See, e.g., Chemical Regulation, supra note 6, at 17–18.
conduct rigorous toxicity tests to ensure the safety of their chemicals. Corporate self-proclamations that a chemical is safe or green—even when true—generally cannot be verified by consumers and thus may be discounted as “cheap talk,” even when consumers may be otherwise receptive to this type of information.16

Tort law similarly provides little corrective in reversing the perverse incentives for ignorance and instead similarly tends to exacerbate the problem.17 Much like regulation, tort law requires plaintiffs to bear the burden of proving that the defendant’s products or pollutants more likely than not caused their diseases.18 Unless there are scientific links between the product and a particular disease, such as the association of asbestos exposure with a rare cancer like mesothelioma, victims are generally without recourse. When virtually no toxicity information is available on a chemical product, the manufacturer has little to fear from tort liability.19 The tort system thus compounds the perverse incentives of the regulatory and market systems favoring ignorance and seems capable of counteracting them only in highly unusual cases where plaintiffs have just the right mix of information regarding potential hazards and manufacturer neglect.

The cops-and-robbers approach not only allows the “robber” (or untested chemical) to hide in the weeds, it also neglects to provide rewards for those manufacturers who do rise above this rational course by testing their chemicals for long-term hazards. TSCA makes no effort to distinguish the well-tested, environmentally benign chemicals from the under-tested yet potentially very toxic products.20 Since tested chemicals are not distinguished from untested chemicals but are more costly to produce, they are likely to be less competitive in a nondiscriminatory market.21 Indeed, instead of counteracting this perverse feature of the market, regulatory requirements and tort law may ultimately reinforce the resulting market for lemons by singling out and imposing heavier demands on chemicals for which some testing exists but where the resulting risks remain quite uncertain. In such a regime, nice guys finish last, or they at least find it tough to compete with their cost-cutting competitors.

These multiple, entrenched incentives for ignorance help explain the substantial lack of toxicity testing for most chemicals in the United States. Virtually every prominent expert panel convened to consider the topic has expressed alarm at the dearth of research and basic information about the potential adverse effects of products, wastes, and industrial activities.22 For example, as of 1984 no toxicity testing existed for more than 80% of all toxic substances used in commerce,23 and by 1998 at least one-third of the toxic chemicals produced in the highest volumes still failed to satisfy the minimal testing standards recommended by an international expert commission.24

For the uninitiated in toxics regulation, the most curious part of this regulatory saga is the unhappy ending—why has such a badly structured program been tolerated for more than thirty years? The answer is grim. Somewhat perversely, the multiple, overlapping incentives for toxic ignorance seem to have solidified within the regulated community a resolve to resist legislative change. Currently, the benefiting stakeholders—namely chemical manufacturers—have a strong interest in keeping the dysfunctional program in place, in part because the disincentives for undertesting are tightly interconnected. Requirements that demand additional testing, lower EPA’s burden of proof, or otherwise subject chemical manufacturers to greater regulation risk subjecting them to a greater probability of tort liability and marketplace stigma. Mandatory toxicity testing thus becomes a dreaded part of this regulatory saga is the unhappy ending—why has such a badly structured program been tolerated for more than thirty years? The answer is grim. Somewhat perversely, the multiple, overlapping incentives for toxic ignorance seem to have solidified within the regulated community a resolve to resist legislative change. Currently, the benefiting stakeholders—namely chemical manufacturers—have a strong interest in keeping the dysfunctional program in place, in part because the disincentives for undertesting are tightly interconnected. Requirements that demand additional testing, lower EPA’s burden of proof, or otherwise subject chemical manufacturers to greater regulation risk subjecting them to a greater probability of tort liability and marketplace stigma. Mandatory toxicity testing thus becomes a dreaded development since there is no telling what such testing might ultimately reveal.

II. A Different Approach: Competition-Based Regulation

The lessons from TSCA are incontrovertible: The cops-and-robbers approach to regulation is a failure and alternative approaches are desperately needed. In this section, I propose a competition-based approach to chemical regulation that divides and conquers by setting manufacturers against one another and rewarding the good guys within the chemical industry at the expense of the dirtier, unsafe chemicals.

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

16. Mary L. Lyndon, Information Economics and Chemical Toxicity: Designing Laws to Produce and Use Data, 87 Mich. L. Rev. 1795, 1816 (1989). At least one commentator has suggested that some manufacturers are also worried about exposing themselves to Federal Trade Commission enforcement if that agency later determines that their “green” claims are in error. E. Howard Barnett, Green With Envy: The FTC, the EPA, the States, and the Regulation of Environmental Marketing, 1 Envtl. Law. 491, 507–08 (1995).


23. See Toxicity Testing, supra note 22, at 118 fig.2.

regard to health or environmental consequences, 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.

This regulatory power is justified by EPA’s authority to make "unreasonable risk" determinations under TSCA. By identifying the superior qualities of its product, a competitor effectively establishes that the inferior, more risky chemical product presents an unreasonable risk: The benefits of the inferior chemical, in light of an effective substitute, approach zero and do not offset the product’s risks. Competition-based regulation carries the unreasonable risk calculation one step further, however, by rewarding the superior product. This certification of superiority operates almost like a patent or other intellectual property reward for first-movers who demonstrate socially positive innovations relative to more dangerous competitor products. Government procurement decisions could even be tethered—by rule—to require the government to purchase only these superior products if they are available, or at least require government purchasers to stop purchasing inferior chemicals.

The key attribute of this approach is its ability to dredge up more comprehensive and accurate information on chemical risks and safer substitutes than the traditional command and control approach. Rather than rely on manufacturers to produce unflattering information about their own products’ risks—an approach that has arguably failed—the competition-based approach enlists competitors to do the dirty work. As a result, far more useful information regarding chemical risks and exposures is likely to come forward. The striking similarity of this proposal with recent proposals for competition-based reform of the patent system—where non-patent-holders could file petitions to cancel a patent as invalid—attests to the increasing recognition by policymakers of the valuable role market competitors can serve in informing regulatory decisions. Undoubtedly, manufacturers will sometimes overstate the risks of competitor products, but adversarial adjudications help protect against this overstatement by providing competitors with a full opportunity to rebut or disprove allegations of risk. Even the requirements of the European Community’s Registration, Evaluation, and Authorisation of Chemicals (REACH) regulation and other proposals for more rigorous substitute analyses rely primarily on manufacturers to produce the incriminating information on their own chemical’s risks.

Although the details will require significant tweaking, a preliminary formulation of the proposal positions EPA as the certifier of competitive claims of environmental or health superiority under TSCA. EPA would adjudicate these competitive claims through adversarial hearings in formal rule-making fashion. If a company establishes that its product is significantly safer to the public health or the environment than a competitor product for an identified set of uses, and it is available at roughly the same price per application, then the product could be certified as competitively superior for those uses unless this evidence is rebutted by the competitor. A company receiving an inferior designation would, at the very least, be required to label its product by noting its inferior status relative to a superior substitute. The company receiving an inferior certification could also appeal the agency’s decision.

This claim of competitive superiority would 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.

If a product is certified as superior, the certification could be useful not only to consumers, but also to insurers, investors, and might even ward off tort litigation since it would indicate that the manufacturer produced a “reasonable alternative design.” This resolution of competitive claims will sometimes involve difficult decisions about the uses to which a product can be put, as well as the risks facing multiple users. For example, a competitor may argue that all uses are not replaced by a superior product, which in turn could potentially lead to complicated, detailed labels. A clear presumption could help streamline the decision making process in these cases; EPA could establish a presumption that once a superior substitute is established, it is considered a complete substitute for all uses of the inferior product unless the manufacturer of the inferior product rebuts this presumption.

A claim of superiority also entails the prospect of regulatory awards. Once compared against a superior substitute, some inferior, risky products will have no redeeming benefits. When such a showing has been made by a competitor, EPA may have little choice other than to ban or significantly restrict the inferior product since the evidence effectively

26. Id. §2605(c)(1)(C).
29. The criteria for when evidence establishes a "significant" difference between products and how uses and risks should be compared could be determined either on a case-by-case basis or, ultimately through a rulemaking. The scant attention given to it here does not imply that it is an easy undertaking. The best approach might rely on several years of case-by-case adjudications to develop factual scenarios from which more general agency rules or guidelines can be drawn to help channel future petitions and adjudications.
30. Such a label of “inferiority” would likely be justified under the broad authority to restrict products that EPA enjoys under §6(a) of TSCA. 15 U.S.C. §2605(a), ELR Stat. TSCA §6(a).
establishes that the inferior product presents an “unreasonable risk” to health or the environment given the ready availability and comparable cost of a superior substitute. 32

A recent experience with coal-tar based asphalt sealants illustrates how this competition-based regulation might work. Through detective work, the city of Austin learned that coal-tar based asphalt sealants leach high levels of very toxic substances, called polycyclic aromatic hydrocarbons (PAHs), into surface waters. 33 Austin officials discovered this because the PAHs were found in sediments in Barton Springs and biologists determined that the resulting toxic sediments were responsible for the decline of the endangered Barton Creek salamander population. 34 By tracing the source of the PAH contamination upstream, Austin officials isolated the culprit—a parking lot at the top of a hill that had recently been sealed with coal-tar sealant and produced very high PAH readings. Further tests revealed that coal-tar sealants typically leach very high levels of PAHs, but other types of asphalt sealants not created from coal tar are significantly less toxic to the environment and are no more expensive than the coal-tar based sealants. 35 As a result of its findings, Austin banned the use of coal-tar based asphalt sealants. 36 Several retailers, including Lowe’s and Home Depot followed Austin’s lead and refused to carry coal-tar sealants, and Dane County in Wisconsin also banned coal-tar sealants. 37 For reasons that appear to be linked to the perceived impotency of TSCA and the enormous burdens of restricting chemicals under Section 6 of that Act, EPA has not taken regulatory action under TSCA against coal-tar based sealants. 38

Under the competition-based proposal, if a petition is filed by the manufacturer of a purportedly less toxic sealant, EPA would be forced to rule on whether the coal-tar based asphalt sealants produce an “unreasonable risk.” This would be established through an adversarial hearing and buttressed by evidence supplied by the petitioner, including the availability of a safer substitute product. Even if a competitor manufacturing the non-coal-tar based sealant chose not to file a competitive claim, the city of Austin, Lowe’s, or an environmental group could advance the claim. A formal, adversarial hearing would also provide the manufacturers of coal-tar based sealants with the opportunity to defend their product; indeed, it may turn out after a fair and balanced hearing that the coal-tar based sealants are not environmentally inferior after all. By engaging in oversight of chemical safety using information generated by competitors and other adversaries, this competition-based approach to regulation surmounts several problems that currently paralyze TSCA. First and most importantly, the competitive approach breaks through political gridlock by separating the high-stakes participants into two competing factions—those that are likely to benefit from competitive, good guy rewards and those that are not. Although it is unclear how many stakeholders will land on each side of this new political fence, the proposal might generate enough defectors to support meaningful reform of TSCA.

Second, a competition-based approach uses economic inducements rather than generic statutory commands to generate useful toxicity information. This not only has the advantage of being more likely to produce information expeditiously, but is also more likely to produce information that has immediate, real world consequences in terms of public health and safety. Rather than unilaterally demand across-the-board testing, regardless of the effectiveness of substitutes or possible risks of exposure, this approach isolates the places in the market where dramatic improvements in the safety of chemicals are possible. The deployment of market forces thus focuses regulatory attention on the worst products that enjoy the largest market share. Profitable commercial products such as air fresheners, road de-icers, and fertilizers, which may contribute significantly to health and environmental hazards, might be scrutinized more intensely through this new, competitive lens if manufacturers perceive that differences in product safety are significant enough to warrant regulatory distinctions.

Third, competition-based regulation provides a mechanism for avoiding some of the scientific uncertainties that can paralyze chemical regulation, not only because competitors will produce more information on chemicals, but also because the proposal will lead to natural presumptions against suspect chemicals when well-tested and safer substitutes exist. For example, if one type of herbicide appears to disrupt hormonal systems in frogs, or is carcinogenic to animals, then a competitor’s product that lacks these risks and has no apparent offsetting risks may be certified as superior unless there is a compelling rebuttal. There need not be decisive evidence of harm in humans from the inferior product; only credible risks which are unjustified in view of the competition. Unjustified risks—relative to a substitute product—thus create a default presumption that the competitor must rebut in order to ward off a certification of inferiority.

Finally, reliance upon an adversarial hearing for a challenged chemical product would assure that the quality of the research underlying an assessment of both the inferior and superior products is better than when regulators are left to depend on self-testing provided by individual manufacturers without meaningful checks and balances. As a result, the adversarial process should provide a more robust forum for rigorous, adversarial evaluation of the quality of research as compared to the current system, which largely relies on untested information supplied to regulators by regulated parties.
As with any new approach, however, there are also several open-ended questions regarding the implementation of competition-based regulation that might impair its success in practice. First and foremost, it is not clear whether there actually will be significant distinctions in the safety of a sizable number of chemical products. In order to know in advance if there will be such distinctions, we would need to know more about the characteristics of the products on the market, which is precisely the problem competition-based regulation seeks to redress.

Second and relatedly, it is possible that an enormous amount of information and resources will be required by regulators to preside over each competition-based claim. A single claim of product superiority might not only be technically complex, but it might also be rebutted by showing that the allegedly superior product is actually environmentally inferior in other ways. Ultimately, multiple risk-risk tradeoffs between two competitors could be thashed out for weeks in highly technical hearings, only to end in a standoff that proves irreconcilable.\(^{39}\) One modest anticipatory correction to limit some of these administrative costs is to require an unambiguous showing of superiority and to impose rigid limitations on evidence and briefs. If regulators insist on a clear showing of environmental superiority, then they may be able to quickly dispose of cases that involve apples-oranges comparisons.

Third, even if bright lines can be drawn between some inferior and superior chemicals on the market, manufacturers may still choose not to file competitive claims. Underutilization of the process could result from an unwritten allegiance between chemical manufacturers to resist regulatory intervention, but it more likely could emerge out of a perception that filing the claims will involve more costs than benefits. It is also unclear as a political matter whether manufacturers will actually fracture or whether they will instead remain united against regulatory or legislative change, even when it involves competition-based regulation. Nevertheless, even if manufacturers unite and block change from EPA or Congress, it is possible that a respected nonprofit could still preside over claims of competitive superiority and, in so doing, provide better market information.\(^{40}\)

Despite these and undoubtedly a number of other open questions,\(^{41}\) there seem to be few risks to at least experimenting with competition-based regulation. Competition-based regulation does not displace existing regulation; it simply adds to it. Except for modest staffing of EPA to preside over the competitive claims, there is little to lose and possibly a great deal to gain. Experimentation may ultimately reveal that there are too many kinks, some of them unforeseeable, to make the proposal workable. Alternatively, the approach could be highly successful, leading to the creation of so much information that a larger forum and staffing for the adjudications would be necessary.

### III. Beyond Toxic Products

Competition-based regulation falls outside the existing system of incentive-based regulatory tools. By combining property-types of rewards through the certification of superiority with increased risks of market stigma, regulatory restrictions, and an increased risk of tort liability for inferior products, competition-based regulation rolls several features of other incentive-based regulatory tools into a single approach. Competition-based regulation thus deserves its own unique label in the regulatory toolbox.

In practice, competition-based regulation is likely to be most effective, relative to other regulatory tools, 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. Competition-based regulation is also particularly useful in situations where nonprofit organizations or the diffuse public are unlikely to be able to counter the political power of the high stakes regulated communities and where adverse consequences of under-regulation are unlikely to materialize in visible catastrophes that spark public outrage.

Pesticide regulation fits this profile and is an ideal candidate for competition-based regulation. Although EPA has forced the generation of considerable information about the risks of pesticides in recent years through the Food Quality Protection Act,\(^{42}\) there is still little effort by EPA to compare pesticide substitutes or translate existing toxicity information in a way that provides meaningful information to consumers’ purchasing decisions.\(^{43}\) In fact, although a comparison of substitutes is arguably allowed under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA),\(^{44}\) EPA does

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\(^{39}\) Cf. generally John D. Graham & Jonathan Baer, Wiener, Risk Versus RISK: TRADE-OFFS IN PROTECTING HEALTH AND THE ENVIRONMENT (1995). (Note that even then, however, the resultant glut of information might move the market forward through improved information about various product-related risks.)

\(^{40}\) See, e.g., Jamie A. Grodsky, Certified Green: The Law and Future of Environmental Labeling, 10 Yale J. Reg. 147, 209-10 (1993).

\(^{41}\) There is also the possibility that challenges could arise under the First Amendment with respect to agency requirements for labeling or from antitrust law with regard to certifying one product as superior to another product. A closer look at both sets of concerns, thanks to work by Professor Grodsky in the eco-labeling context, suggests that these types of challenges are unlikely to be successful as long as the regulator’s decision of superiority involves significant health or environmental improvements between competitors, follows a robust evidentiary process, and is not otherwise arbitrary and capricious. See id. at 183-84. This is not to say that these types of challenges to competition-based regulation cannot be filed, but at this point they do not appear to present meaningful impediments.


\(^{44}\) See, e.g., 7 U.S.C. §136d(bb), ELR Stat. FIFRA §2(bb) (defining “unreasonable adverse effects” to include “taking into account the economic, social, and environmental costs and benefits of the use of any pesticide,” which would seem to include consideration of the available substitutes); id. §136d(bb) (requiring the EPA to make an “unreasonable adverse effects” determination as a prerequisite to canceling or otherwise restricting a pesticide registration). On the other hand, FIFRA seems to actively protect worthless pesticides, at least at the registration stage. See, e.g., id. §136a(c)(5), ELR Stat. FIFRA §3(c)(5) (prohibiting the administrator from making the “lack of essentiality” of a pesticide a basis
not require data on the effectiveness of a pesticide during the registration process when assessing whether the pesticide constitutes an "unreasonable risk." Under the competition-based approach, EPA would be forced to make these important comparisons between competitor products, which could in turn create incentives for the production of more environmentally sensitive pesticides.

The oversight of health and environmental risks of nanotechnology is another regulatory area that might benefit from competition-based regulation. A number of scholars have expressed great concern that the available information is insufficient to evaluate the health and safety consequences of manufacturing, using, and disposing of products made with nanotechnology. Because the manufacturing community benefits from this unregulated state, moreover, it has been difficult to generate pressure for greater regulatory oversight. Competition-based regulation might provide a backdoor to encourage the generation of this type of information if the risks of competitor nanotechnology products are sufficiently divergent from one another or from substitute products not made with nanotechnology to support credible claims of environmental superiority between rival products.

The regulation of pollution is also amenable to competition-based regulation. David Driesen suggests a competitive, private claims approach to encourage further pollution reductions for classic pollution problems. Under Driesen’s proposal, firms that pollute less (for example, by devising cleaner processes) would be entitled to a private claim for damages against their dirtier competitors. The damages would include not only the costs expended in achieving the lower pollutant levels (i.e., switching to more expensive, but cleaner-burning fuels), but also a premium charge levied against the dirtier firm(s). Other permutations of competition-based regulation are also possible that may not encourage innovation, but at least might strengthen incentives for compliance with pollution-related requirements. In the Toxic Release Inventory disclosure program or standard pollution discharge requirements, for example, 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 non-compliance. A more novel extension of competition-based regulation would allow competitor manufacturers to report unjustified adverse health consequences from a rival’s unso-phisticated handling of toxic materials, as compared with their own superior substitute processes or technologies that result in lower amounts of toxic releases. Again, the superior manufacturer would be rewarded the profits that they would have enjoyed had their inferior competitor used these more expensive, but less environmentally risky superior processes or technologies.

IV. Conclusion

The important but still seemingly unobtainable goal for chemical regulation is to generate a great deal of useful information which in turn informs decisions about the risks of chemicals on the market. When set against a regulatory community that enjoys asymmetrical information regarding their products and that is well-organized and well-staffed, the few overburdened environmental groups and regulators who represent the diffuse public cannot begin to keep up.

Competition-based regulation helps fracture these high stakeholders and pit them against one another in generating risk-related information that will allow the best products to rise to the top as competitively superior and the worst to be singled out as inferior. Perhaps as promising as its theoretical potential for solving the regulatorily-created market for lemons problem is the practical fact that this regulatory approach can be implemented without radical changes in the existing regulatory infrastructure and with few costs associated with experimentation. Chemical regulation shows no sign of immediate reform. It is time to give the competitive capabilities of the market a try.

for denying its registration). This could support an argument that FIFRA bars the consideration of substitutes and efficacy.


47. E.g., id. at 17–32 (describing the current failure of EPA to regulate nanotechnology and the weaknesses of the TSCA in this particular effort).


49. Id. at 153.

Comment on Using Competition-Based Regulation to Bridge the Toxics Data Gap

by Mark Greenwood

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In her Article, Prof. Wendy Wagner takes on one of the core challenges of U.S. chemical management policy: how to assure that useful toxicity data is generated about chemicals in commerce. She offers a creative proposal for harnessing competitive instincts in companies to assure that such data are developed. As described below, there are important questions about whether this proposal will actually work in practice. At the same time, the history of chemical regulation in the United States has taught us that our assumptions about how the market will respond to specific regulatory policies are often wrong. In that context, this proposal and other experimentation with competition-based regulatory initiatives deserve serious attention.

At the outset of the article, Professor Wagner presents a fairly pessimistic assessment of the current state of information about chemical risk in our society. She presents her perspective on the failures of the Toxic Substances Control Act (TSCA) to generate necessary toxicity information about chemicals, arguing that the U.S. Environmental Protection Agency (EPA) is stuck in a “cops and robbers” legal framework that stymies its ability to force testing by regulation. She also indicates that the marketplace and the tort liability system provide additional disincentives for chemical producers to generate and disseminate information about their products. Her conclusion is that “multiple, entrenched incentives for ignorance help explain the substantial lack of toxicity testing for most chemicals in the United States.”

Certainly there is some reality to the disincentives she describes. At the same time, it is not the case that these existing mechanisms have been a complete failure. If one focuses on the set of chemicals that are actually in commerce, it is a misnomer to suggest that there are no toxicity data available on these chemicals. Particularly in the last several years, government programs around the world, both regulatory and voluntary, have stimulated more toxicity testing.

In addition, chemical producers have faced increasing demand for product safety information from their downstream customers. In some cases, these efforts have evolved into collaborations with a broader community of academic and non-governmental institutions.

One of the problems that have undermined policy debates on U.S. chemical regulation for several decades has been a lack of common understanding about the relevant universe of chemicals. Many commentators, including Professor Wagner, indicate that there are 75,000 chemicals in commerce in the United States. This number, however, is an estimate of the number of chemicals on the TSCA Chemical Substances Inventory, a list of chemicals that may have been in commerce since 1978. EPA has recognized, however, that this list is unlikely to represent the universe of chemicals that are actually in commerce.

Most recently, in the context of its Chemical Assessment and Management Program (ChAMP), EPA has estimated that the universe of organic chemical substances produced in a significant volume (above 25,000 pound per year), is approximately 6,750 substances. When measured against that universe, the state of available chemical toxicity testing does not appear as bleak.

The better way to frame the problem is that policymakers face a mixed picture of chemical testing. Some chemicals in commerce are well characterized, reflecting mandates and the efforts of chemical producers to provide a base set of testing information on chemicals produced at volumes of over one million pounds per year; has made publicly available over 8,000 previously unpublished studies. See U.S. EPA, Basic Information—HPV Challenge Program, http://www.epa.gov/hpv/pubs/general/basicinfo.htm (last visited June 1, 2009). In conjunction with this voluntary program, EPA has required testing under the authorities of TSCA for HPV chemicals that were not sponsored in the voluntary program. For the most recent rule of this nature, see Testing of Certain High Production Volume Chemicals; Second Group of Chemicals, 73 Fed. Reg. 43314 (July 24, 2008) (to be codified at 40 C.F.R. pt. 799).

An example of such collaborations is the Green Chemistry and Commerce Council. See http://www.greenchemistryandcommerce.org/home.php (last visited June 1, 2009).

1. Wendy Wagner, Using Competition-Based Regulation to Bridge the Toxics Data Gap, 39 ELR (Envtl. L. & Pol’y Ann. Rev.) 10789 (Aug. 2009) (a longer version of this Article was originally published at 83 Ind. L.J. 629 (2008)).

2. As an example, EPA has reported that its High Production Volume (HPV) Challenge program, which seeks voluntary commitments from chemical manufacturers to provide a base set of testing information on chemicals produced at volumes of over one million pounds per year, has made publicly available over 8,000 previously unpublished studies. See U.S. EPA, Basic Information—HPV Challenge Program, http://www.epa.gov/hpv/pubs/general/basicinfo.htm (last visited June 1, 2009). In conjunction with this voluntary program, EPA has required testing under the authorities of TSCA for HPV chemicals that were not sponsored in the voluntary program. For the most recent rule of this nature, see Testing of Certain High Production Volume Chemicals; Second Group of Chemicals, 73 Fed. Reg. 43314 (July 24, 2008) (to be codified at 40 C.F.R. pt. 799).

3. An example of such collaborations is the Green Chemistry and Commerce Council. See http://www.greenchemistryandcommerce.org/home.php (last visited June 1, 2009).


After decades of work on federal environmental policy, justice to the extensive record developed in such proceedings, the finders of fact must review large bodies of incentives that emanate from regulatory agencies and various information and formulate well-reasoned conclusions. important data needs that will not also discourage current incentives that seem to be working? Since nobody seems to have developed a comprehensive field theory that adequately guides those choices, pragmatic experimentation is the order of the day.

Professor Wagner puts forward a proposal under which a regulatory agency (presumably EPA) makes determinations about the environmental superiority of particular chemicals through an adjudicatory process. In this proceeding, competitors for an economic niche (a chemical use) would present the best case for their products and challenge the claims of competitors. After reviewing the evidence underlying the competitive claims, EPA would make a determination about whether a particular chemical substance is superior for its intended use, after considering its environmental benefits as well as its technical and economic performance. While it was not entirely clear what further actions would necessarily follow from this determination, the range of options could include product labeling changes and possibly bans on the “losing” substance.

This proposal presents significant challenges for the agency administering the program, many of which Professor Wagner has accurately characterized. The most difficult problems to overcome include the following:

- After decades of work on federal environmental policy, we do not have established methodologies for making tradeoffs among differing environmental values. What are the metrics for determining how many British thermal units (BTUs) of increased energy demand are worth reducing a pound of pollutant emissions? When should we prefer a chemical that is less toxic to humans but presents a serious threat to wildlife?
- Replacing chemicals in complex technological settings is a difficult task. In most modern industrial settings, it is rare that we find drop-in substitutes for existing chemicals. The series of assessments necessary for switching to new chemical ingredients and process aids, often referred to as the qualification process, typically involves multiple analyses of end-product performance characteristics, compatibilities among reactants and necessary equipment modifications that can take several years and substantial cost to complete. It is not always easy to determine that a safer chemical can easily be substituted for another chemical.
- Adjudications take time. Adversarial processes typically include multiple procedural steps, rules for presenting evidence and opportunities to be heard. To do

The adjudicatory process suggested by Professor Wagner would also present many challenges to those who might participate in such proceedings, including the following:

- As a threshold matter, it is not clear that companies will initiate these proceedings to challenge their competitors. This is less a question of industry loyalties than a matter of uncertain results in an intimidating process. Companies will reasonably assume that they will face high transaction costs in challenging a competitor in an EPA proceeding. Of the three potential outcomes—win, lose or draw—two represent a waste of money and one of those is a disaster. If a company has strong data showing the comparative advantage of its product for the environment, most companies would prefer to turn that information over to their sales staff and tell them to do their job, rather than take on the high cost and uncertainty of an EPA proceeding.
- Some of the better arguments about the comparative advantage of particular chemical products may be based on information about material sourcing and cost profiles that constitute trade secrets, information that companies would be disinclined to offer as evidence in a proceeding that shares such information with competitors.
- The challenges of an adjudicatory process will be most difficult for medium and small businesses, many of which operate on the cutting edge of new technology. There is some risk that a competition-based adjudicatory process would favor larger companies with older, entrenched products who could afford to muster the resources necessary to wage effective challenges in such a process and thereby intimidate newer technologies under development by small companies.

Despite these limitations, Professor Wagner’s proposal warrants further consideration and refinement as part of a package of policy reforms that could encourage development of better risk-related information. There will be situations where a combination of factors, including the available environmental data, the market position of differing companies, customer sensitivity to health or environmental considerations, and differences in corporate culture, could produce effective results through adjudications about the environ-
mental superiority of competing chemicals. It is worth experimenting with this model and learning from the experience.

In the end, it is only through the willingness to experiment that the United States will develop a stronger national chemical management program. At times the most direct way to improve the availability of risk-related information is to mandate further testing through regulation. The European Union’s Registration, Evaluation and Authorization of Chemicals (REACH) program is certainly the current grand experiment on the world stage with this approach. We do not yet know, however, whether this highly ambitious program will be efficient in generating the right data in a timely way.

Other strategies worth considering, which share Professor Wagner’s valid emphasis on the power of market forces, are ones that emphasize the obligations of chemical manufacturers to disclose all that is known and not known about the toxicity of the materials they are offering to their customers. For example, it could make sense to enhance current hazard communication programs, including the Material Safety Data Sheets that routinely accompany chemicals in commerce.

Perhaps an even more fundamental set of policy changes could focus on reforming the basic scientific tests we use to assess human health effects, potentially reducing the cost of such testing. The world of chemical hazard assessment is undergoing substantial change as scientists develop new methods for screening chemicals, often through high-throughput mechanisms, that will allow us to obtain valuable insights on the potential toxicity of chemicals more cheaply, much faster and with a greater sensitivity to the animal welfare concerns associated with wide-scale use of existing test methodologies.

In this field of environmental policy, where the political and economic dynamics guiding behavior are difficult to characterize, it seems that a pragmatic willingness to try multiple approaches is the only sensible strategy.
Comment on Using Competition-Based Regulation to Bridge the Toxics Data Gap

by Richard A. Denison, Ph.D.

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In Using Competition-Based Regulation to Bridge the Toxics Data Gap, Prof. Wendy Wagner offers a useful and provocative proposal intended to address the many shortcomings of current U.S. policy toward industrial chemicals. The proposal derives from a diagnosis of the root causes of these policy failings with which I wholeheartedly concur. The main elements of that critique are the following:

1. Despite the fact that the Toxic Substances Control Act (TSCA) states unambiguously that it is U.S. policy that data be developed for all chemicals in commerce adequate to determine their health and environmental effects, and that manufacturers bear the responsibility to develop those data, for the great majority of chemicals, few data are available to the public or to the U.S. Environmental Protection Agency (EPA) to characterize their hazards.
2. EPA’s authority to require testing of chemicals is highly constrained and hence seldom employed.
3. Companies have little or no incentive to develop health and environmental data on their own initiative, not only for chemicals already on the market but also for new chemicals subject to pre-manufacture notification and review by EPA. And because the default in the face of data gaps or uncertainties is no action, industry has an incentive to seek to perpetuate rather than rectify them.
4. Even when EPA does manage to obtain evidence of significant risk, its authority to act to control a chemical’s production or use is even more constrained than its data gathering authority and is virtually never used.
5. EPA’s access to information, not to mention its resources, is dwarfed by those of the chemicals industry.

These failings yield a dysfunctional regulatory environment and chemicals market, ill-informed and unable to distinguish, let alone motivate or reward the development of, more benign chemicals and chemical products. It is little wonder, then, that companies have seen little need to innovate toward inherently safer chemical and product design.

Seeking to break up and recast this market dynamic is therefore entirely appropriate, and Wagner’s proposal seeks to do just that. In doing so, it also posits a pivotal role for government in the heart of the chemicals market, one that goes well beyond its traditional regulatory role: that of judge and jury in deciding which chemicals and products should succeed in that market and which should fail. Proposing such a role for government raises both major pragmatic questions (many of which Wagner herself anticipates) as to whether and how it might work in the face of government’s limited authorities and the enormity of the chemicals economy, and a more fundamental question as to the appropriate role of government in market selection and deselection of chemicals.

Wagner’s proposal is not unique in assigning a role to government in identifying and seeking to promote the substitution, let alone motivate or reward the development of, more benign chemicals and chemical products. The main elements of that critique are the following:

1. Wendy Wagner, Using Competition-Based Regulation to Bridge the Toxics Data Gap, 39 E.P.R. (ENVTL. L. & POL’Y ANN. REV.) 10789 (Aug. 2009) (a longer version of this Article was originally published at 83 Ind. L.J. 629 (2008)).
4. TSCA’s preamble states: “It is the policy of the United States that . . . adequate data should be developed with respect to the effect of chemical substances and mixtures on health and the environment and that the development of such data should be the responsibility of those who manufacture and those who process such chemical substances and mixtures.” 15 U.S.C. §2601(b)(1), E.P.R Stat. TSCA §2(b)(1).
5. Since adoption of TSCA in 1976, EPA has succeeded in mandating limited restrictions on the production or use of only five substances. The five substances are: polychlorinated biphenyls (PCBs), by virtue of a mandate from Congress; fully halogenated chlorofluoroalkanes used as aerosol propellants; dioxin in certain wastes; asbestos (limited to products no longer in commerce); and hexavalent chromium used in water treatment chemicals in comfort cooling towers. See U.S. Gov’t Accountability Office, CHEMICAL REGULATION, OPTIONS EXIST TO IMPROVE EPA’S ABILITY TO ASSESS HEALTH RISKS AND MANAGE ITS CHEMICAL REVIEW PROGRAM, (2005) REPORT No. GAO-05-458, at 58-66, available at http://www.gao.gov/new.items/d05458.pdf.
some observers illustrate a number of possible roles for government. Massachusetts’s Toxics Use Reduction Institute (TURI) provides research and technical assistance to the state’s businesses in identifying and implementing less toxic alternative materials and processes to specific hazardous chemicals. TURI also conducts formal alternatives assessments of technical and economic as well as the environmental performance of the alternatives.7

The European Union’s recently adopted Registration, Evaluation, and Authorization of Chemicals (REACH) regulation requires manufacturers seeking a time-limited authorization to use certain so-called “substances of very high concern” themselves to analyze the availability, viability and risks of alternatives. If viable alternatives are identified, a substitution plan and timetable for implementation are required.8

The state of Maine adopted in 2008 a law that authorizes (but does not require) the state to ban production and sale of a children’s product containing a “priority chemical of high concern” to which children are exposed if the state finds that a safer alternative is available at “comparable cost.” The state can also require the manufacturer of a product containing such a chemical to conduct and submit an alternatives assessment, and to pay for an independent assessment if the state finds that the manufacturer’s assessment is insufficient.9

California recently enacted legislation mandating companies that make or use priority chemicals of concern in consumer products to conduct broad life-cycle-based alternatives assessments through a process subject to government oversight, although it leaves to the subsequent regulatory development process critical details as to how the outcome of such assessments will relate to the exercising of the expansive authorities granted the state to regulate such chemicals.10

These different approaches to adopting a chemicals policy that seeks to mandate or drive substitution all face a fundamental dilemma. On the one hand, producers or users of a chemical are the ones who know the most about the functionality, performance characteristics and needs and the economics of their chemical and, potentially at least, alternatives to it. On the other hand, they also likely have the highest vested interest in maintaining their ability to continue to produce or use that chemical and are likely to dispute the viability of a claimed substitute. To what extent is it desirable for government to insert itself into such a process—and could it deliver the necessary expertise and objectivity?

Wagner argues that directly pitting against each other the manufacturers of a chemical of concern and of an alternative claimed to be safer—and having EPA to adjudicate the dispute—would both bridge the data gap plaguing chemicals management and foster a robust market for safer alternatives to the most dangerous chemicals. The remainder of this comment addresses the questions: would it work and is it sufficient?

I. Would It Work?

Wagner argues that her proposal could be wholly or largely implemented using EPA’s current TSCA authority and would require minimal additional resources.11 As to authority, she essentially argues that EPA’s identification of a safer alternative would be sufficient to meet its burden to find that a chemical “presents or will present an unreasonable risk” in order to regulate it, whether merely to require labeling or to ban it outright. Yet nothing in TSCA suggests the requisite risk finding can be a relative judgment, that is, that no matter how large or small the risk a chemical poses, that risk can be deemed “unreasonable” if an alternative exists that poses less risk.12 Moreover, beyond the scientific determination of risk, TSCA requires EPA to make several other findings in order to deem a risk unreasonable: it must still find that the economic and social costs of imposing controls on the chemical are outweighed by the benefits, after exhaustively considering the benefits of the chemical, not only the existence but the viability of alternatives, and the impact of regulation on the economy, small businesses and innovation.13 It must still demonstrate that the proposed control is the least burdensome it could have proposed.14 And it must still demonstrate that no other statute could address the concern.15

There is little question that identifying one or more viable substitutes is a necessary part of TSCA’s unreasonable risk calculus. It is harder, however, to envision such a finding by itself to be sufficient to deem a risk unreasonable under

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8. See The European Parliament and the Council of the European Union, Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), Regulation (EC), No. 1907/2006, OJ L 396/1 (Dec. 30, 2006), art. 62, available at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=O J:L:2006:396:0001:0849:EN:PDF (last visited June 1, 2009). Some observers have argued that such companies will have little incentive to identify alternatives to the very chemical they seek authorization to use. Others, however, see significant advantage in compelling a search for alternatives by the party that possesses the most precise knowledge of the technical and economic performance requirements and arguably has the most to gain from an orderly transition to alternatives for a chemical under such intense scrutiny. See also Denison, Not That Innocent, supra note 2, at VI-4-5 box 5.
11. Wagner also sees competition-based regulation as a means to facilitate subsequent TSCA reform by driving wedges between companies now forming a united front that has and will otherwise continue to succeed in blocking such reform. While industry unity has indeed been an obstacle to reform, it is difficult to see why this proposal alone would drive challenger companies to embrace broad-based reform complete with expanded data requirements and regulatory authority. In practice, might it not have the opposite effect of relieving political pressure for such reform?
13. It is difficult to imagine this burden could be met merely by identifying a safer alternative. And while the adjudicants might deliver some information useful to EPA in meeting its evidentiary burdens, EPA would still need to produce its own risk, cost-benefit, alternatives and regulatory impact assessments. See 15 U.S.C. §2606(c)(1), ELR Stat. TSCA 86(c)(1).
TSCA. Nor do I see a basis in TSCA to presume that EPA has authority to require a product to be labeled as inferior to another, as opposed to bearing warnings as to its hazard or instructions for safe use or disposal.  

Beyond whether or not EPA has the requisite authority under TSCA, the proposal raises questions of feasibility, given the scale of the chemicals market. With tens of thousands of chemicals in commerce for which safety information is needed and to which safer alternatives may exist or emerge, two questions must be asked of Wagner’s proposal. First, could EPA manage the workload? Second, could chemical-by-chemical adjudications in practice yield sufficient and reliable information to “bridge the toxics data gap” for such large numbers of chemicals? These questions are intimately related and directly trade off against each other, of course: the fewer in number the adjudications that companies seek or that EPA can handle, the fewer chemicals for which data would be developed.

Wagner projects that requests for adjudications would be small in number, somehow limited only to “places in the market where dramatic improvements in the safety of chemicals are possible.” But assuming they see advantage in winning such a contest, why would competitors so restrain themselves? Competition in relation to other product attributes is certainly not so limited; brands constantly churn out new products like rabbits, look-alike products abound and marketers seek to exploit even the slightest perceived advantage. In anticipating this problem might arise, Wagner suggests that EPA could solve it by requiring “an unambiguous showing of superiority” to qualify for adjudication. But this puts the cart before the horse: while EPA could set in advance clear criteria defining what constitutes both a chemical of concern and a legitimate claim of superiority, how could it judge whether the evidence of superiority was unambiguous before agreeing to adjudicate a dispute, when that is the purpose of the adjudication in the first place? To the extent companies see market value in prevailing in EPA’s decisions, there is every reason to expect EPA would be swamped with requests to adjudicate claims (however spurious) of superiority (however small).

While Wagner’s observation that EPA’s “cops” are greatly outnumbered by both companies and chemicals is sound, EPA’s “judges” under her proposal could be even more outnumbered by the potentially endless numbers and combinations of potential adjudicants. And because any given adjudication would necessarily apply only to that case, even slight variations on it (an additional use of a chemical, a new claimed alternative or alternative to an alternative) would compel a de novo adjudication. EPA’s workload would be further compounded by its likely having to provide an appeals process for its decisions, given that they would be adjudicated “through adversarial hearings in formal rule-making fashion.”

The proposal’s premise that it would be easier and less work for EPA to digest, judge and challenge two competing companies’ claims and counterclaims than to conduct and defend its own assessment is far from a given. While the competitors might to some extent police each other (as Wagner puts it, “do the dirty work”), what is to guard against companies generating or bringing forth only selective information biased in favor of their chemicals? And the more “open-ended” the scope of analysis as to what constitutes a “safer” alternative—while clearly desirable in order to avoid so-called “regrettable substitutions” that replace one set of hazards with another—the greater the complexity, the opportunity for conflicting data and claims and for risk-risk trade-offs, and the demand for EPA expertise, time and resources.

Finally, because it would be making a decision intended to directly influence the market, EPA would necessarily have to judge, and hence become expert in assessing not only environmental superiority, but also whether an alternative is economically and functionally equivalent to the incumbent chemical or product. And in most if not all cases, the competitions would have to be waged and EPA’s judgments rendered use-by-use, since cost and performance, and sometimes environmental preferability, are necessarily specific to a given application.

II. Is It Sufficient?

Wagner’s proposal could be made more manageable by strictly limiting the number and nature of adjudications in some fashion, imposing such limits would also curtail the proposal’s primary objective to “bridge the toxics data gap,” because information would only be developed for the relatively small number of chemicals subject to adjudications.

Even if larger numbers of adjudications were feasible for EPA to conduct, it is difficult to see how this approach would yield reliable safety data for most of the tens of thousands of chemicals in commerce—in my view a key objective of chemicals policy reform, essential to identify both “bad actors” and a broad range of potential safer substitutes. Data would be developed only for those chemicals challenged by, plus the limited alternatives made by, companies able and willing to engage in adjudications. This would limit the scope and applicability of any alternatives assessment and make it unlikely that data sufficient to identify the best among the full range of possible substitutes for a chemical of concern would be developed.

Finally, given TSCA’s overly generous allowances for companies to claim submitted information confidential, it

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16 TSCA §6(a)(3) provides EPA with authority only to require a substance, or any article containing the substance, to be labeled or accompanied by warnings and instructions for use, distribution or disposal. 15 U.S.C. § 2606(a)(3), ELR Strx. TSCA §6(a)(3).

17 Wagner, supra note 1, at 10793.

18 Id. at 10794.

19 Wagner anticipates this same problem. See id. at 10794.

20 Id. at 10792.

21 Here again, Wagner has raised a similar concern with the proposal; see id. at 10792-94. However, seeking to make EPA’s workload more manageable by “quickly dispens[ing] of cases that involve apples-oranges comparisons,” could well increase the likelihood of regrettable substitutions, thereby frustrating the proposal’s objective of facilitating the migration to truly safer alternatives. Id. at 10794.
must be asked whether this proposal would, without broader reform of TSCA's information policies, actually lead to an increase in publicly available information about chemicals of concern and their alternatives.

It is also interesting to ask—though more difficult to answer—whether or to what extent EPA's decisions would, in the absence of regulatory prohibitions on a chemical of concern, drive a sufficiently broad shift in the market to justify the effort. Even if EPA had the authority to require losers of adjudications to label their products as "inferior" to the winners, would the market respond to such labels? Other attempts by government or third parties to identify greener products, through, for example, eco-labeling and preferential procurement policies, have achieved only limited boosts in the market for alternatives.22

Finally, in the absence of broader reform that substantially lessens EPA's burdens of proof under TSCA to regulate a chemical, I worry that the current proposal's linking of a chemical of concern with alternatives to it runs the risk of exacerbating rather than alleviating one of the core flaws of TSCA: making EPA's ability to ban a chemical of concern contingent on the identification of viable alternatives for each use of the chemical.23

III. Concluding Remarks

Wagner's creative proposal for competition-based regulation is motivated by the clear need to increase both chemical information in the market and incentives and rewards for the development of safer alternatives. A role for government in promoting the market's transition to safer chemicals and products is clearly needed and appropriate. But I question whether EPA is either able or best suited to serve as exclusive judge and jury as to what constitutes a safer and viable alternative to a chemical of concern—especially given the complexity and pitfalls inherent in seeking to assess (often in advance of commercialization) the detailed economic and technical performance characteristics of each use of a chemical and its potential substitutes.24 Might not those questions be better left to the market itself to decide, with EPA's role focused on setting data and disclosure requirements, test protocols and ground rules for judging health and environmental safety, and banning or restricting chemicals that cannot be shown to be safe?

If applied in a limited fashion, competition-based regulation may contribute to accelerating a shift in current markets away from reliance on particular chemicals of high concern. But given the sheer scale of the chemicals market, I believe that only broader reform of policies will be sufficient to drive the needed changes. Paramount among these reforms is to require development of and broad public access to comprehensive and reliable safety and use information on chemicals already in and entering commerce. Only in this manner can we enlist and empower the many thousands of market participants—who make decisions on a daily basis that determine which chemicals are produced and how they are used—who must act in order to drive our chemicals economy toward safer chemicals and products. Additionally, policy reforms must shift the burden of proof from government to show harm to industry to show safety of its chemicals, and must provide government with broad authority to regulate chemicals that can harm human health or the environment.25

These reforms, in my view, are essential to fostering a truly innovative and competitive chemicals economy.

Wagner's proposal can be viewed as offering a creative means to expand on the ways in which EPA might act within its current limited authorities. When offered in 2007, it was in the face of what seemed to be insurmountable odds against achieving the needed broader reforms of TSCA. Happily, that situation has begun to change, with a remarkably diverse range of actors recognizing the need for just such reforms, encompassing environmental and consumer advocates, academic research scientists, organized labor, groups representing health professionals and health-affected individuals, and companies that both produce and use or sell chemicals and chemical products. Wagner's proposal is still useful in helping to discern a place in that broader reform for market competition as a means to accelerate the development of safer alternatives to chemicals of concern.


23. TSCA §6(c)(1) requires EPA to assess "the benefits of such substance or mixture [it seeks to ban or restrict] for various uses and the availability of substitutes for such uses." 15 U.S.C. §2606(c)(1), ELR STAT. TSCA §6(c)(1). Wagner herself suggests that, under her proposal, "regulatory restrictions would fall only on those products that are completely out-competed with regard to all uses relative to the certified superior substitute." Wendy E. Wagner, Using Competition-Based Regulation to Bridge the Toxics Data Gap, 83 Ind. L.J. 629, 643 (2008).

24. One intriguing but unexplored question raised by Wagner's proposal is: What would be the legal consequences if EPA's "safer" alternative later proves unsafe?